<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept and key features</td>
<td>3</td>
</tr>
<tr>
<td>Important reporting aspects</td>
<td>4</td>
</tr>
<tr>
<td>GRI content index</td>
<td>7</td>
</tr>
<tr>
<td>Other indicators</td>
<td>10</td>
</tr>
<tr>
<td>Approval of the Report by the Management Board</td>
<td>21</td>
</tr>
<tr>
<td>Auditor's opinion</td>
<td>22</td>
</tr>
<tr>
<td>Letter from the President of the Management Board</td>
<td>23</td>
</tr>
<tr>
<td>About the ORLEN Group</td>
<td>25</td>
</tr>
<tr>
<td>Shares and shareholding structure</td>
<td>31</td>
</tr>
<tr>
<td>Business model</td>
<td>34</td>
</tr>
<tr>
<td>Research and development</td>
<td>37</td>
</tr>
<tr>
<td>Operating segments</td>
<td>42</td>
</tr>
<tr>
<td>Energy</td>
<td>42</td>
</tr>
<tr>
<td>Refining</td>
<td>49</td>
</tr>
<tr>
<td>Petrochemicals</td>
<td>49</td>
</tr>
<tr>
<td>Logistics assets</td>
<td>58</td>
</tr>
<tr>
<td>Supply sources</td>
<td>59</td>
</tr>
<tr>
<td>Retail</td>
<td>61</td>
</tr>
<tr>
<td>Upstream</td>
<td>66</td>
</tr>
<tr>
<td>Corporate functions</td>
<td>69</td>
</tr>
<tr>
<td>Our products, services and brands</td>
<td>70</td>
</tr>
<tr>
<td>Our markets</td>
<td>72</td>
</tr>
<tr>
<td>Our capitals</td>
<td>73</td>
</tr>
<tr>
<td>Financial capital</td>
<td>73</td>
</tr>
<tr>
<td>Human capital</td>
<td>75</td>
</tr>
<tr>
<td>Manufactured capital</td>
<td>77</td>
</tr>
<tr>
<td>Intellectual capital</td>
<td>79</td>
</tr>
<tr>
<td>Social capital</td>
<td>81</td>
</tr>
<tr>
<td>Natural capital</td>
<td>83</td>
</tr>
<tr>
<td>Value creation</td>
<td>85</td>
</tr>
<tr>
<td>Our stakeholders</td>
<td>86</td>
</tr>
<tr>
<td>Macroeconomic environment</td>
<td>87</td>
</tr>
<tr>
<td>Market environment</td>
<td>93</td>
</tr>
<tr>
<td>Competitive environment</td>
<td>98</td>
</tr>
<tr>
<td>Regulatory environment</td>
<td>101</td>
</tr>
<tr>
<td>GOVERNANCE PRINCIPLES</td>
<td>105</td>
</tr>
<tr>
<td>Letter from the Chairman of the Supervisory Board</td>
<td>106</td>
</tr>
<tr>
<td>ORLEN Group structure</td>
<td>107</td>
</tr>
<tr>
<td>Remuneration of Management and Supervisory Board Members</td>
<td>109</td>
</tr>
<tr>
<td>Corporate governance</td>
<td>112</td>
</tr>
<tr>
<td>Corporate governance rules</td>
<td>112</td>
</tr>
<tr>
<td>Control, IMS Internal audit, risk management and compliance system</td>
<td>113</td>
</tr>
<tr>
<td>Amendments to Articles of Association</td>
<td>114</td>
</tr>
<tr>
<td>General meeting</td>
<td>114</td>
</tr>
<tr>
<td>Management and supervisory bodies</td>
<td>116</td>
</tr>
<tr>
<td>Remuneration policy</td>
<td>127</td>
</tr>
<tr>
<td>Diversity policy</td>
<td>128</td>
</tr>
<tr>
<td>Integrated Management System</td>
<td>130</td>
</tr>
<tr>
<td>STRATEGY</td>
<td>137</td>
</tr>
<tr>
<td>Strategic objectives until 2030</td>
<td>138</td>
</tr>
<tr>
<td>ESG</td>
<td>140</td>
</tr>
<tr>
<td>Climate</td>
<td>144</td>
</tr>
<tr>
<td>Environment</td>
<td>147</td>
</tr>
<tr>
<td>Corporate social responsibility</td>
<td>154</td>
</tr>
<tr>
<td>Human capital</td>
<td>159</td>
</tr>
<tr>
<td>Safety</td>
<td>164</td>
</tr>
<tr>
<td>Governance</td>
<td>174</td>
</tr>
<tr>
<td>Strategic growth directions for the business segments</td>
<td>178</td>
</tr>
<tr>
<td>Summary of Strategy implementation in 2021</td>
<td>184</td>
</tr>
<tr>
<td>Delivery of investment plans</td>
<td>186</td>
</tr>
<tr>
<td>Monitoring of strategy implementation</td>
<td>188</td>
</tr>
<tr>
<td>Market prospects in 2022</td>
<td>189</td>
</tr>
<tr>
<td>Sustainable development strategy</td>
<td>191</td>
</tr>
<tr>
<td>Information on the classification of activities in accordance with the Taxonomy</td>
<td>192</td>
</tr>
<tr>
<td>OUR RESPONSIBILITY</td>
<td>196</td>
</tr>
<tr>
<td>Our commitments</td>
<td>197</td>
</tr>
<tr>
<td>How we pursue the Sustainable Development Goals 2030</td>
<td>201</td>
</tr>
<tr>
<td>Respecting human rights</td>
<td>203</td>
</tr>
<tr>
<td>Society</td>
<td>207</td>
</tr>
<tr>
<td>Overview</td>
<td>207</td>
</tr>
<tr>
<td>Policies in place</td>
<td>208</td>
</tr>
<tr>
<td>CSR Strategy implementation</td>
<td>210</td>
</tr>
<tr>
<td>Areas of activity</td>
<td>211</td>
</tr>
<tr>
<td>Society</td>
<td>211</td>
</tr>
<tr>
<td>Environment</td>
<td>219</td>
</tr>
<tr>
<td>Employees</td>
<td>220</td>
</tr>
<tr>
<td>Clients</td>
<td>221</td>
</tr>
<tr>
<td>Business partners</td>
<td>222</td>
</tr>
<tr>
<td>Activities under the Charitable Giving Policy</td>
<td>224</td>
</tr>
<tr>
<td>Employees and subcontractors</td>
<td>226</td>
</tr>
<tr>
<td>Responsible employer</td>
<td>226</td>
</tr>
<tr>
<td>Occupational health and safety</td>
<td>236</td>
</tr>
<tr>
<td>Overview</td>
<td>236</td>
</tr>
<tr>
<td>Policies and internal regulations</td>
<td>238</td>
</tr>
<tr>
<td>Key projects in the area of occupational health and safety</td>
<td>240</td>
</tr>
<tr>
<td>Main performance indicators in the area of occupational health and safety</td>
<td>248</td>
</tr>
<tr>
<td>Process safety</td>
<td>253</td>
</tr>
<tr>
<td>Countering corruption and bribery</td>
<td>256</td>
</tr>
<tr>
<td>Suppliers and clients</td>
<td>261</td>
</tr>
<tr>
<td>Suppliers</td>
<td>261</td>
</tr>
<tr>
<td>Clients</td>
<td>262</td>
</tr>
<tr>
<td>ENVIRONMENT AND CLIMATE</td>
<td>265</td>
</tr>
<tr>
<td>Climate responsibility</td>
<td>266</td>
</tr>
<tr>
<td>Climate changes risks</td>
<td>274</td>
</tr>
<tr>
<td>Policies and internal regulations</td>
<td>280</td>
</tr>
<tr>
<td>Water and wastewater management</td>
<td>282</td>
</tr>
<tr>
<td>Air emissions</td>
<td>286</td>
</tr>
<tr>
<td>Waste</td>
<td>288</td>
</tr>
<tr>
<td>Capital expenditure</td>
<td>290</td>
</tr>
<tr>
<td>Grievances</td>
<td>292</td>
</tr>
<tr>
<td>Biodiversity protection</td>
<td>293</td>
</tr>
<tr>
<td>Feedstocks and production processes</td>
<td>295</td>
</tr>
<tr>
<td>Energy management</td>
<td>298</td>
</tr>
<tr>
<td>RISKS AND OPPORTUNITIES</td>
<td>300</td>
</tr>
<tr>
<td>Risk management</td>
<td>301</td>
</tr>
<tr>
<td>Opportunities</td>
<td>312</td>
</tr>
<tr>
<td>FINANCIAL RESULTS</td>
<td>314</td>
</tr>
<tr>
<td>Management’s discussion and analysis of 2021 financial results</td>
<td>315</td>
</tr>
<tr>
<td>OUTLOOK 2022+</td>
<td>318</td>
</tr>
</tbody>
</table>
THE ORLEN GROUP AND ITS ENVIRONMENT
Concept and key features

We present the ORLEN Group's annual report, prepared as an integrated report. This eighth integrated report is a key and comprehensive document describing the financial and non-financial activities of the ORLEN Group.

GRI Disclosures

| GRI | 101 | 102-49 | 102-50 | 102-51 | 102-52 | 102-48 | 102-49 |

Concept and key features

This Integrated Report presents the activities carried out by the ORLEN Group in 2021. The previous report for 2020, was published in July 2021. Our integrated reports are issued on an annual basis and are continuously evolving, to reflect changes within the ORLEN Group and in its environment.

Therere were no significant changes from the previous Report regarding the scope or methods of measurement other than the first-time presentation of disclosures on the proportion of Taxonomy-eligible economic activities and Taxonomy non-eligible economic activities in total turnover, capital and operating expenditure, in accordance with Annex II to Delegated Regulation of the Commission (EU) 2021/1778, together with qualitative information referred to in point 12.1 of Annex I ‘Accounting policy’ to Commission Delegated Regulation (EU) 2021/1778.

Reporting for the whole of 2021 includes the Energa Group, which has been in the ORLEN Group since May 1st 2020.

Some aspects of the non-financial activities are presented using the examples of selected ORLEN Group companies whose business scope is of key significance to the Group.

Significant changes in the organisation’s size, structure, ownership, and its supply chain during the reporting period

The changes made in the ORLEN Group’s structure were in pursuance of the strategy to focus on core business and allocate the released capital to development of the business areas that offer the greatest growth potential. In line with the business strategy adopted in 2020, the ORLEN Group’s key objectives include being a regional leader in energy transition, developing new renewable energy capacities, and pursuing decarbonisation, while preserving operational efficiency and financial strength in its traditional business segments. Given the prevailing market trends, we are consistently diversifying our business towards building a multi-utility complex. The effective acquisition of the Energia Group in 2020 and continued work on other acquisition targets, such as the ongoing merger of PKN ORLEN, the LOTOS Group and PGNiG, are part of this process. Recognising the importance of the retail segment, the ORLEN Group proceeded with expanding its service station chain in Poland and abroad, and commenced development of the non-fuel retail segment with the acquisition of the RUCH Group in 2020. The ORLEN Group also seeks to continue its strategic growth in petrochemicals and gasified energy, as well as in new business areas such as new mobility, hydrogen technologies, recycling, R&D and digital transformation.

Crude oil

PKN ORLEN supplies crude oil to the Płock refinery and to three other ORLEN Group refineries – in Lithuania and Kralupy in the Czech Republic, and in Lithuania’s Mažeikiai. In 2021, some crude oil deliveries by sea were delayed by port closures due to external factors (weather, terminal failures). In 2021, two long-term contracts for oil supply via pipeline to the Płock refinery (with Rosneft Oil Company and Tatneft Europe AG) and two contracts for oil supply by sea (a long-term contract with Saudi Arabian Oil Company and a one-year contract with Exxon Mobil Sales And Supply LLC) were in force. These contracts covered almost 75% of crude oil supplies to PKN ORLEN. The feedstock for all refineries of the ORLEN Group was procured from oil producers and other companies operating on the international oil market. The feedstock supplied to Płock came primarily from Russia and Saudi Arabia, and was also imported from Kazakhstan, Nigeria, Norway, the United States and the United Kingdom. The refineries in the Czech Republic received the feedstock from Russia, Azerbaijan, Kazakhstan, Libya, Norway and the United States. The Mažeikiai refinery was primarily supplied with Russian oil, with additional deliveries from Kazakhstan and the United States. In 2021, the share of Rosneft Oil Company in the crude supplies exceeded 10% of the ORLEN Group’s total revenue.

Natural gas

In 2021, the feedstock was supplied to the Płock refinery and to three other ORLEN Group refineries – in Lithuania and Kralupy in the Czech Republic, and in Lithuania’s Mažeikiai. The feedstock supplied to Płock came primarily from Russia and Saudi Arabia, and was also imported from Kazakhstan, Nigeria, Norway, the United States and the United Kingdom. The refineries in the Czech Republic received the feedstock from Russia, Azerbaijan, Kazakhstan, Libya, Norway and the United States. The Mažeikiai refinery was primarily supplied with Russian oil, with additional deliveries from Kazakhstan and the United States. In 2021, the share of Rosneft Oil Company in the crude supplies exceeded 10% of the ORLEN Group’s total revenue.
In 2021, the value of deliveries from none of the natural gas suppliers represented more than 10% of the ORLEN Group’s total revenue.

**Hard coal**

Hard coal is the main fuel used by the ENERGA Group to produce electricity and heat. In 2021, the ENERGA Group’s generating units used 1239 thousand tonnes of hard coal and 85,000 tonnes of biomass (2020: 826,000 tonnes and 147,000 tonnes, respectively). The key factors of hard coal supplies for the ENERGA Group were Polska Grupa Górnictwa, Lubelski Wegiel Bogdanka and Jastrzębska Spółka Węglowa.

**Reporting standards and methodologies**

This Report has been prepared in accordance with:


To comply with the requirements set out in these regulations, in March 2021 we issued the Non-Financial Statement of the ORLEN Group and PKN ORLEN S.A. for 2021.

- International Financial Reporting Standards (IFRS), including the International Accounting Standards (IAS) and Interpretations of the Standing Interpretations Committee (SIC) and the International Financial Reporting Interpretations Committee (IFRIC), as endorsed by the European Union (EU). The accounting principles applied by the Group are based on standards and interpretations endorsed by the European Union and applicable to periods beginning on or after January 1st 2020.


- GRI Standards 2016, Core option, including GRI-403 Occupational Health and Safety 2018 and GRI-303 Water and Effluents 2018. This Report presents descriptions of indicators from three Universal Standards (Foundation, GRI 101, General Disclosures (GRI 102), Management Approach (Management Approach, GRI 103) and selected topic-specific Standards from the Economic (GRI 200), Environmental (GRI 300) and Social (GRI 400) series. It also includes selected sector-specific indicators from Electric Utilities Sector Disclosures (64 EU) and Oil and Gas Sector Disclosures (64 OG).

GRI Standards 2016 are an international standard for reporting on economic, environmental and social impacts of an organisation, and the most widely used ESG (environmental, social and governance) reporting standard in the world.

The scope of information contained in this Report takes into account the expectations arising from International ESG ratings. PKN ORLEN also takes steps to consistently improve its compliance with the International ESG ratings. PKN ORLEN also takes steps to consistently improve its compliance with the non-mandatory recommendations of the European Commission (EC Communication 2019/C 393/0) and of the Task Force on Climate-related Financial Disclosures (TCFD) regarding information on climate issues.

This document presents activities aimed at achieving the UN Sustainable Development Goals 2030.
The layout and contents of this publication are based on the recommendations and guidelines of the Value Reporting Foundation.

The ESG section presents the ORLEN Group’s best practices and key ESG data.

Preparation of this Report included the following stages:

- A survey of the ORLEN Group internal and external stakeholders’ opinions on sustainable development and corporate social responsibility, held in November 2020. The project involved, among other things, a review of the reported aspects and the stakeholder map. Stakeholder consultations consisted in conducting a survey (online survey method) and individual interviews with representatives of the ORLEN Group’s key and important stakeholders. The purpose was to learn about their opinions and expectations on the scope of integrated reporting and future activities of the ORLEN Group in the area of corporate social responsibility and sustainable development. The survey was carried out in accordance with the International Accountability Stakeholder Engagement Standard – IIASO1000, providing the rules for stakeholder relations management. It addressed all external factors significant to the ORLEN Group, including the European Green Deal, the objective of achieving carbon neutrality by 2050, and COVID-19.
- Confirmation of significant business and social responsibility issues relevant to the ORLEN Group, and their materiality. Since the time of the most recent survey, there have been no material changes in the ORLEN Group’s external environment or its operations (major acquisitions of PGNiG and Grupa LOTOS Group are still in progress). As a result, there was no need to repeat the stakeholder survey in 2021. The list of relevant reporting aspects remained unchanged.
- Confirmation of the stakeholder map. The map has not changed.
- Collection of data showing implementation of the policies, strategies and objectives of corporate social responsibility, as well as the due diligence procedures and risk management policies and how they are put into effect at the ORLEN Group, prepared in accordance with the rules of the Integrated Reporting Council.
- Preparation of this ORLEN Group Report for 2021, based on the collected data in accordance with the Polish Accounting Act of December 15th 1994 (Z. U. of 2017, item 65), GRI Standards 2016 (Core option), and guidelines for integrated reporting issued by the Integrated Reporting Council.
- External assurance of this Report based on the ISAE 3000 standard.

Key functionalities

This Integrated Report is only available online, with a number of functionalities and tools facilitating access to its contents, including:

- Interactive key performance indicators reflecting current and historical data
- Glossary of financial and industry-specific terms
- Table of GRI indicators based on which the non-financial performance is reported
- All multimedia content of this Integrated Report is available in the Multimedia centre
- Key publications relating to the ORLEN Group’s operations in 2021 are downloadable from the Document centre
- Selected figures are available in the Charts and Tables Centre and ORLEN in figures.
- An instructional video on how to navigate this Report is available in the Help section.

This Report also contains interactive infographics, including the business model, the value creation model and the map of the market.

It is possible to generate a printable version in various formats.

Users can complete an interactive questionnaire to provide feedback on this Report.

Connectivity

The contents of this Report are not static. Each subsection is linked to:

- Capitals – the content may be defined by the manufactured, intellectual, natural, social, human and financial capitals. This linkage enables easier search for information on the capitals, which overlap and thus build Company value in different areas.
- GRI Standards indicators – this Report presents non-financial data in compliance with the Core option of the Global Reporting Initiative Standards. Each internal page contains information on the relevant GRI indicator, along with several other tools, such as the GRI search and the GRI content index.
- Sustainable Development Goals 2030 – each internal page includes icons for the particular Goals the implementation of which is supported by the ORLEN Group.
- Related sections – each page of this Report is linked to two other pages with similar or supplementary topics.

External assurance of this Report based on the ISAE 3000 standard.
Important reporting aspects

External and internal stakeholders were involved in the process of selecting significant aspects of reporting by the ORLEN Group.

GRI Disclosures

GRI 101  GRI 102-46  GRI 102-47  GRI 102-49  GRI 102-48  GRI 103-1

Capitals

Relevant reporting aspects identified by external and internal stakeholders

Following analyses and consultations with internal and external stakeholders, the following changes were made in the list of relevant reporting aspects relative to the prior year:

- In the group of economic aspects: ‘Expanding product range and building customer loyalty’ was replaced with ‘Efficient, high quality customer service and loyalty building’. ‘Workplace and industrial process safety’ was reclassified to social aspects. ‘Impact of changes in market and business environment’ and ‘Mega trends of the future’ were combined into ‘Trends and changes in market and business environment’. ‘Low-emission solutions and ESG’ were discussed as part of ‘Building of a multi-utility group’ and new environmental aspects. ‘Significance of the ORLEN Group’s business for the national economy’ was included in the group of economic aspects.

- In the group of social aspects:
  - ‘Responsible supply chain’ was reclassified to the group of environmental aspects.
  - ‘Respecting human rights’ and ‘Compliance with ethical standards’ were combined into a single aspect.
  - ‘Employee related issues’ were not included in the list of social topics as they are covered by other social aspects.

- The list of environmental aspects was significantly expanded through the addition of ‘Impact on natural resources and biodiversity’, ‘Impact on climate, law and zero-emission performance’, ‘Ensuring environmental compliance’, ‘Pre-environmental innovation and initiatives’, and ‘Responsible supply chain’.

For the ORLEN Group’s external stakeholders, the most material topics to be reported are:

1. Corporate social responsibility;
2. Innovation, research and development;

For the ORLEN Group employees, the most material topics to be reported are:

1. Building of a multi-utility group;
2. Corporate social responsibility;

As a result, the final list of the ORLEN Group’s relevant reporting aspects was prepared, specifying their materiality (i.e. low, medium and high) to the ORLEN Group and its stakeholders, as shown in the scheme below.

The following aspects are described in this Integrated Report of the ORLEN Group for 2021.
Aspects important for individual capitals

Financial capital
- Feedstock security
- Compliance
- Responsible supply chain
- Trends and changes in market and business environment
- The importance of the company’s operations for the development of the national economy
- Strategy implementation and financial position
- Innovation, research and development
- Pre-environmental innovation and initiatives
- Building of a multi-utility group

Human capital
- Efficient, high quality customer service and loyalty building
- Anti-corruption
- Respect for human rights and ethical conduct
- Workplace and industrial process safety
- Diversity and equal opportunities

Intellectual capital
- Compliance
- Communication with external stakeholders
- Ensuring environmental compliance
- Workplace and industrial process safety
- Innovation, research and development

Manufactured capital
- Feedstock security
- Compliance
- Responsible supply chain
- The importance of the company’s operations for the development of the national economy
- Ensuring environmental compliance
- Workplace and industrial process safety
- Impact on climate, low and zero-emission performance
• Pro-environmental innovation and initiatives
• Building of a multi-utility group

Social capital
• Efficient, high quality customer service and loyalty building
• Anti-corruption
• Responsible supply chain
• Communication with external stakeholders
• Trends and changes in market and business environment
• Respect for human rights and ethical conduct
• Corporate social responsibility

Natural capital
• Ensuring environmental compliance
• Impact on natural resources and biodiversity
• Impact on climate, low and zero-emission performance
• Pro-environmental innovation and initiatives
**LIST OF GRI DISCLOSURES INCLUDED IN THE REPORT**

<table>
<thead>
<tr>
<th>GRI Disclosure number</th>
<th>The title of the Disclosure</th>
<th>Number of Disclosure</th>
<th>The name of the Disclosure</th>
<th>Place in the Integrated Report</th>
<th>Sustainable Development Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRI 101</td>
<td>Reporting Principles</td>
<td>101</td>
<td>Important reporting aspects, Concept and key features</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GRI 102</td>
<td>General Disclosures (2016)</td>
<td>102-1</td>
<td>Name of the organization</td>
<td>About the ORLEN Group</td>
<td>Sustainable Development Goals</td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-2</td>
<td>Activities, brands, products, and services</td>
<td>Our products, services and brands</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-3</td>
<td>Location of headquarters</td>
<td>ORLEN Group structure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-4</td>
<td>Location of operations</td>
<td>ORLEN Group structure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-5</td>
<td>Ownership and legal form</td>
<td>Shares and shareholding structure</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-6</td>
<td>Markets served</td>
<td>Our markets</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-7</td>
<td>Scale of the organization</td>
<td>About the ORLEN Group</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-8</td>
<td>Information on employees and other workers</td>
<td>Responsible Employer</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-9</td>
<td>Supply chain</td>
<td>Supplies</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-10</td>
<td>Digital, digital experience and the supply chain</td>
<td>Corporate citizenship</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-11</td>
<td>Preventing Principal approach</td>
<td>Integrated Management System</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-12</td>
<td>Cultural dialogue</td>
<td>Organisations and associations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-13</td>
<td>Membership associations</td>
<td>Organisations and associations</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-14</td>
<td>Statement from senior decision-maker</td>
<td>Letter from the President of the Management Board</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>102-15</td>
<td>Key impacts, risks and opportunities</td>
<td>Opportunities, Climate changes risks</td>
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<tr>
<td></td>
<td></td>
<td>102-16</td>
<td>Values, principles, standards and codes of conduct</td>
<td>Regarding human rights</td>
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<td></td>
<td></td>
<td>102-17</td>
<td>Membership in advice and consultative bodies</td>
<td>Regarding human rights</td>
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</tr>
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<td></td>
<td>102-18</td>
<td>Governance structure</td>
<td>Management and supervisory bodies</td>
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<td>Composition of the high-level governance body and its committees</td>
<td>Management and supervisory bodies</td>
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<td>Remuneration</td>
<td>Remuneration policies</td>
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<td>102-21</td>
<td>Identifying and engaging stakeholders</td>
<td>Our stakeholders</td>
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<td></td>
<td></td>
<td>102-22</td>
<td>List of stakeholder groups</td>
<td>Our stakeholder groups</td>
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<td></td>
<td>102-23</td>
<td>Corporate governance rules</td>
<td>Clients</td>
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<td>102-24</td>
<td>Approaches to stakeholder engagement</td>
<td>OUR Stakeholder Engagement</td>
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<tr>
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<td></td>
<td>102-25</td>
<td>Key topics and concerns raised</td>
<td>Important reporting aspects</td>
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<td></td>
<td>102-26</td>
<td>Reporting period</td>
<td>Corporate citizenship</td>
<td></td>
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<td></td>
<td>102-27</td>
<td>Defining report content and topic boundaries</td>
<td>Important reporting aspects</td>
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<td></td>
<td>102-28</td>
<td>List of material topics</td>
<td>Important reporting aspects</td>
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<td></td>
<td>102-29</td>
<td>Restatements of information</td>
<td>Concept and key features</td>
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<td></td>
<td>102-30</td>
<td>Changes in reporting</td>
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<td>Reporting period</td>
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</table>
Management Approach (2016)

Management Approach (2016) 103

2 The management approach and its components

- Research and development
- Energy
- Petrochemicals
- Retail
- Upstream
- Corporate functions
- Supply sources
- Regulatory environment
- Corporate governance rules
- Strategic objectives until 2030
- Strategic growth directions for the business segments
- Summary of strategy implementation in 2021
- Risk management
- Sustainable Development Strategy
- Climate changes risks
<table>
<thead>
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<tbody>
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<td>Economic Performance</td>
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The management approach and its components

Our commitments, Sustainable Development Strategy

Evaluation of the management approach

Sustainable Development Strategy
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<tr>
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<th>103-3 Evaluation of the management approach</th>
<th>Respecting human rights</th>
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<td>GRI 412 Management Approach (2016)</td>
<td>412-2 Employee training on human rights policies or procedures</td>
<td>Respecting human rights</td>
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<td>GRI 301 Materials (2016)</td>
<td>301-1 Materials used by weight or volume</td>
<td>Feedstocks and production processes</td>
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<td>302-1 Energy consumption within the organization</td>
<td>Energy management</td>
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<td>303-1 Interactions with water as a shared resource</td>
<td>Water and wastewater management</td>
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<td>103-1 Explanation of the material topic and its boundary</td>
<td>Energy management</td>
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<td>Climate responsibility</td>
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<td>Policies and internal regulations</td>
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<td>Prevention and mitigation of occupational health and safety impacts directly linked by business relationships</td>
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**Training and Education**

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<tr>
<td>Average hours of training per year per employee</td>
<td>OBE</td>
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<tr>
<td>Programs for upgrading employee skills and transition assistance</td>
<td>OBE</td>
<td>OBE</td>
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<tr>
<td>Diversity and equal opportunity</td>
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<td>Diversity of governance bodies and employees</td>
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**Customer Health and Safety**

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<td>Incidents of non-compliance concerning the health and safety impacts of products and services</td>
<td>OBE</td>
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| Marketing and Labeling**

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<td>Requirements for product and service information</td>
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<td>Assistance and support for processes</td>
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**Public Policy**

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**Supplier Social Assessment**

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<td>New suppliers that were screened using social criteria</td>
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**GRI 403 Occupational Health and Safety**

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<td>GRI 103 Management Approach (2016) 103-3 Evaluation of the management approach Clients</td>
<td>GRI 418 Customer Privacy (2016) 418-1 Substantiated complaints concerning breaches of customer privacy and losses of customer data Clients</td>
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<td>Indicators specified in the Oil and Gas Sector Supplement G4 OG Gas Sector Disclosures (G4 OG) OG 2 Investments in total renewable energy Energy management</td>
<td>G4 OG Gas Sector Disclosures (G4 OG) OG 8 Benzene, lead and sulfur content in fuels Feedstocks and production processes</td>
<td></td>
<td></td>
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<tr>
<td>G4 OG Gas Sector Disclosures (G4 OG) OG 13 Number of process safety events, by business activity Occupational Health and Safety</td>
<td>G4 EU Electric Utilities Sector Disclosures (G4 EU) G4 EU1 Maximum achievable production capacity broken down into the main types of raw material and regulatory requirements Energy management</td>
<td></td>
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<td>G4 EU Electric Utilities Sector Disclosures (G4 EU) G4 EU2 Net amount of energy produced broken down by main energy sources Energy management</td>
<td>G4 EU Electric Utilities Sector Disclosures (G4 EU) G4 EU5 Number of free CO2 emission allowances granted Air emissions</td>
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<tr>
<td>G4 EU Electric Utilities Sector Disclosures (G4 EU) G4 EU11 Average efficiency of CHP power generation, broken down by energy sources and regulatory requirements Energy management</td>
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Other indicators

Compliance with TCFD recommendations

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<tr>
<th>Company Name</th>
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ESG metrics recommended by GPW

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The 10 principles of the Global Compact

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Approval of the Report by the Management Board

The Management Board of PKN ORLEN confirms that the ORLEN Group's Integrated Report for 2021 contains a comprehensive description of the ORLEN Group's financial and non-financial activities, and gives assurance as to the truthfulness, accuracy and reliability of the information it contains.

Daniel Obajtek
President of the Management Board, Chief Executive Officer

Armen Artwich
Member of the Management Board, Corporate Affairs

Adam Burak
Member of the Management Board, Communication and Marketing

Patrycja Klarecka
Member of the Management Board, Retail Sales

Michał Róg
Member of the Management Board, Wholesale and International Trade

Piotr Sabat
Management Board Member for Development

Jan Szewczak
Chief Financial Officer

Józef Węgrecki
Member of the Management Board, responsible for operations

Auditor’s opinion

It is the policy of the organization to submit the Integrated Reports to verification by independent organizations.

GRI Disclosures:
GRI 102-5-6

The auditor performs an independent assessment of the profile and detailed indicators developed in accordance with the GRI Standards. The auditor of the ORLEN Group's 2020 Integrated Report was Bureau Veritas Polska.

PDF with the Auditor’s opinion
Letter from the President of the Management Board

Ladies and Gentlemen, Dear Shareholders,

this past year was full of events that had a major impact on the fuel and energy sector and the global economy at large. As Europe and the rest of the world were recovering from the crisis created by the COVID-19 pandemic, it was clear the recovery was uneven. This was further compounded by the rising tensions across our eastern border, which in February 2022 escalated into a military conflict on a scale not seen in decades.

The projects we have in the pipeline require multi-billion spending and we are well positioned to embark on this challenge. Strong diversification of our business has helped us build solid financial fundamentals, giving us a competitive edge. Despite the challenging economic conditions in 2021, the ORLEN Group earned a net profit of more than PLN 11bn, the highest figure on record, unmatched by any Polish company’s performance to date. Earnings before depreciation and amortisation net of the effect of crude price movements on the value of inventories and impairment losses were PLN 14.2bn. Record high operating results were delivered by the Petrochemicals segment, with LIFO-based EBITDA at PLN 4.3bn. Robust performance was once again reported in Power Generation and Refining, which posted LIFO-based EBITDA at PLN 3.7bn and PLN 3.6bn, respectively. As always, strong results were also delivered by our Retail and Upstream segments: PLN 9.9bn and PLN 3.8bn, respectively.

We generated an operating cash flow of PLN 13.3 billion and maintained investment grade ratings: BBB with a positive outlook from Fitch Ratings and Baa2 with a positive outlook from Moody’s. We consistently reduced our net debt to PLN 12.3bn at the end of 2021 (down by almost PLN 1bn). We also issued corporate bonds with a total value of PLN 1bn, as well as EUR 500m worth of green eurobonds, the proceeds from which will be allocated to investments in renewables. This benchmark issue of green eurobonds, raising a trail notably for PKO ORLEN but the entire Polish market, attracted huge investor interest. Additionally, we raised EUR 180m from the European Investment Bank for sustainability projects. Consistent implementation of the growth plans made it possible for us to pay dividend for 2020 in accordance with the strategy, at PLN 3.5 per share. We want to maintain this dividend payout ratio also for 2021, which is consistent with the Management Board’s recommendation.

With our robust and stable financial position, we were able to spend a record-high amount of PLN 9.9bn on investments last year. We designed and developed the largest projects in PKO’s history, which not only support our further dynamic growth, but also, importantly, create new jobs and enhance the economic climate.

We brought on stream Poland’s first and Europe’s largest green glycol production unit at the Trzebinia-based plant. A modern Research and Development Centre was opened in Płock. The construction of a visbreaking unit, which is of strategic importance, is nearing completion and production is to start in early 2025. The construction of a visbreaking unit, which is of strategic importance, is nearing completion.

The projects outlined in the ORLEN 2030 strategy also fit into our goal of ensuring energy security for Poland. Nuclear energy and renewable energy sources are among the key areas setting the course for the ORLEN Group going forward. We invest in onshore and offshore wind farms. We will be the first to build an offshore project in the Baltic Sea, which will be implemented together with Northland Power, our Canadian partner, with whom we signed a cooperation agreement in 2021. We aim to commission Poland’s first offshore wind farm by the end of 2026. However, our plans go beyond that. Last year, we partnered with GE Renewable Energy to strengthen our competitive position in securing new licences for offshore wind farms.

We also engaged in the development of the micro modular reactor (MMR) and small modular reactor (SMR) technologies. Last year, we entered into a cooperation agreement with Synthesis Green Energy with which we applied to the Office of Competition and Consumer Protection for clearance to set up a joint venture – ORLEN Synthes Green Energy. In March 2022, our application was approved, which opens the way to developing and commercialising in Poland one of the most efficient, cost-effective and safest energy generation technologies.

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We generated an operating cash flow of PLN 13.3 billion and maintained investment grade ratings: BBB with a positive outlook from Fitch Ratings and Baa2 with a positive outlook from Moody’s. We consistently reduced our net debt to PLN 12.3bn at the end of 2021 (down by almost PLN 1bn). We also issued corporate bonds with a total value of PLN 1bn, as well as EUR 500m worth of green eurobonds, the proceeds from which will be allocated to investments in renewables. This benchmark issue of green eurobonds, raising a trail notably for PKO ORLEN but the entire Polish market, attracted huge investor interest. Additionally, we raised EUR 180m from the European Investment Bank for sustainability projects. Consistent implementation of the growth plans made it possible for us to pay dividend for 2020 in accordance with the strategy, at PLN 3.5 per share. We want to maintain this dividend payout ratio also for 2021, which is consistent with the Management Board’s recommendation.

With our robust and stable financial position, we were able to spend a record-high amount of PLN 9.9bn on investments last year. We designed and developed the largest projects in PKO’s history, which not only support our further dynamic growth, but also, importantly, create new jobs and enhance the economic climate.

We brought on stream Poland’s first and Europe’s largest green glycol production unit at the Trzebinia-based plant. A modern Research and Development Centre was opened in Płock. The construction of a visbreaking unit, which is of strategic importance, is nearing completion and production is to start in early 2025. The construction of a visbreaking unit, which is of strategic importance, is nearing completion.
The agreement with Saudi Aramco also means increased oil supplies from non-Russian sources. Last year, we successfully diversified our sources of supply, thus significantly enhancing Poland’s energy security. We continued business relationships with oil producers from outside Europe, including Africa, the Persian Gulf and the US.

We also accelerated investing in technologies of the future, notably those based on hydrogen. Knowing the importance of hydrogen in the power sector, including in transport, we are consolidating our position as a leader in the alternative fuels market. Last year, we launched Hydrogen Eagle, a programme designed to develop an international chain of renewables-powered hydrogen hubs and to build more than 100 hydrogen refuelling stations. The Group deployed its first hydrogen hub in Trzebinia in 2021, with another one being developed in Włocławek and due to start producing green hydrogen in the second half of 2023.

Two years later, we intend to launch a hub in Plock to make green hydrogen for industrial and transport applications. All of our planned hydrogen projects are included in the ORLEN Group’s Hydrogen Strategy announced at the beginning of 2022.

This year, we will continue efforts to ensure the ORLEN Group’s further growth and financial stability. I am positive that the hard work and commitment of all our employees, for which I am very grateful, will help us achieve new important goals. And this will translate into even better performance and benefits for the Shareholders.

Daniel Obajtek
President of the Management Board,
Chief Executive Officer
About the ORLEN Group

We are an integrated multi-utility group with operations in Central Europe and Canada.

GRI Disclosures

6/31 102-1 102-7 103-1 103-2 103-3 207-1

Capabilities

We provide energy and fuel to over 100 million people in Europe, and our advanced products are available in almost 90 countries on six continents. We have been consistently building our position as a regional leader in energy transition by deploying clean and environmentally friendly technologies and low- and zero-carbon power generation sources. Our activities are guided by our strategy to achieve carbon neutrality by 2050.

The ORLEN Group's core business consists of the production and distribution of electricity, crude oil processing, and production of fuels, petrochemical and chemical products, as well as sale of the Group's products on the retail and wholesale markets. The ORLEN Group is also engaged in hydrocarbon exploration, appraisal and production.

The ORLEN Group companies' business includes also services: crude oil and fuel storage, transport, repair and maintenance services, laboratory, security, project, administrative, insurance and financial services.

Key figures and events in 2021

**FINANCIAL RESULTS**

- LIFO-based EBITDA:\(^1\) PLN 14.2 bln
- Net profit: PLN 11.2 bln
- Operating cash flow: PLN 13.3 billion
- Capital expenditure: PLN 9.9 billion
- Dividend for 2020: PLN 1.5 billion (PLN 3.50 per share)

**FINANCIAL SECURITY**

- Net debt / EBITDA: 0.62
- Moody's rating: Baa2 with a positive outlook
- Fitch Rating: BBB- with a positive outlook
- Issue of EUR 500 million worth of green Eurobonds
- Issue of PLN 1 billion worth of 5-year corporate bonds linked to ESG rating
- EUR 180 million from the European Investment Bank for sustainability projects

\(^1\) Before adjustment of inventory assets (PLN 1.8 bln).
### Selected financial-operating highlights of 2020-2021

<table>
<thead>
<tr>
<th>Metric</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revenues</td>
<td>PLN 39,405</td>
<td>PLN 38,060</td>
</tr>
<tr>
<td>EBIT</td>
<td>PLN 4,536</td>
<td>PLN 5,596</td>
</tr>
<tr>
<td>EBITDA</td>
<td>PLN 4,304</td>
<td>PLN 5,088</td>
</tr>
<tr>
<td>EBITDA/LIFO:</td>
<td>PLN 3.6 billion</td>
<td>PLN 4.0 billion</td>
</tr>
<tr>
<td>EBITDA/LIFO:</td>
<td>PLN 4.3 billion</td>
<td>PLN 5.0 billion</td>
</tr>
<tr>
<td>EBITDA/LIFO:</td>
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<td>PLN 2.4 billion</td>
</tr>
<tr>
<td>EBITDA/LIFO:</td>
<td>PLN 5.4 billion</td>
<td>PLN 6.0 billion</td>
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</table>

### Financial Activity

#### 1. Financial Activity

<table>
<thead>
<tr>
<th>Metric</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash from operating activities</td>
<td>PLN 38,060</td>
<td>PLN 36,998</td>
</tr>
<tr>
<td>Free cash flow</td>
<td>PLN 3,452</td>
<td>PLN 3,789</td>
</tr>
<tr>
<td>Net cash used in investing activities</td>
<td>PLN 3,229</td>
<td>PLN 3,610</td>
</tr>
<tr>
<td>Net cash from financing activities</td>
<td>PLN 4,908</td>
<td>PLN 2,586</td>
</tr>
<tr>
<td>Net cash from operating activities</td>
<td>PLN 3,452</td>
<td>PLN 3,789</td>
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<tr>
<td>Net cash used in investing activities</td>
<td>PLN 3,229</td>
<td>PLN 3,610</td>
</tr>
<tr>
<td>Net cash from financing activities</td>
<td>PLN 4,908</td>
<td>PLN 2,586</td>
</tr>
</tbody>
</table>

#### 2. Operational Activity

- **Selected financial and product data:**
  - **Retail:**
    - Sales revenues: PLN 136,810 million
    - Free cash flow: PLN 3,452 million
  - **Upstream:**
    - Crude oil throughput in the ORLEN Group: 14 million tonnes
    - Production and sales of electric energy and useful heat included:
      - Electric Energy: 9,138 TWh
      - Natural gas: 1,557 TWh

#### 3. Consolidated statement of cash flows

- **Profit from operations under LIFO increased by depreciation and amortization:**
  - PLN 5,088 million
- **Return on capital employed under LIFO:**
  - ROACE LIFO: 13.6%
- **Basic ratios:**
  - Sales revenues: PLN 136,810 million
  - EBIT: PLN 4,536 million
  - EBITDA: PLN 4,304 million
- **LIFO effect:**
  - PLN 5,088 million

#### 4. Liquidity

- **Heavily leveraged, including:**
  - Current ratio: 1
  - Quick ratio: 0
  - Accounts receivable turnover: 27
  - Inventory turnover: 58
  - Receivables turnover: 55
  - Turnover ratios:
    - Current liquidity ratio: 1
    - Liabilities turnover: 29
  - Turnover ratios:
    - Current ratio: 1
    - Liabilities turnover: 29

#### 5. Operational Activity

- **Profitabilities ratios:**
  - Return on sales: 9.5%
  - Return on assets: 5.1%
  - ROACE LIFO: 13.6%

- **Profit and losses:**
  - Net profit: PLN 2,773 million
  - EPS: PLN 0.42 per share

- **Sales revenues:**
  - PLN 136,810 million
  - USD 20,650 million

- **Emission allowances:**
  - PLN 811 million
  - PLN 1,000 tonnes

- **Current and non-current assets:**
  - Current assets: PLN 13,140 million
  - Non-current assets: PLN 52,060 million

- **Total assets:**
  - PLN 65,200 million

- **Liabilities:**
  - Current liabilities: PLN 4,739 million
  - Non-current liabilities: PLN 60,461 million

- **Equity:**
  - PLN 14,571 million

- **Dividends paid:**
  - PLN 1,058 million

- **Earnings per share:**
  - PLN 0.42 per share

- **EPS:**
  - PLN 0.42 per share

- **Return on equity:**
  - 5.1%

- **Profitability ratios:**
  - Return on assets: 5.1%
  - ROACE LIFO: 13.6%

- **Growth:**
  - PLN 1,000 tonnes
  - PLN 5,088 million
It is PKN ORLEN’s ambition to set standards for the discharge of obligations relating to public dues and other public obligations under Art. 84 of the Polish Constitution.

PKN ORLEN has prepared a tax strategy, which is consistent with the ORLEN Group’s business strategy until 2030.

Implementation of the tax strategy means ensuring that all obligations imposed by tax laws are fulfilled correctly and on time, so that the Company contributes to providing public funds to enable or support important social initiatives. With this in mind, PKN ORLEN has introduced increased standards for the performance of tax obligations.

Tax security is the core value for PKN ORLEN in the performance of the tax function.

PKN ORLEN has internal structures, infrastructure and technological solutions as well as a system of division of powers and responsibilities enabling proper performance of the tax function. It has put in place uniform high-standard rules for the application of tax laws, including procedures for internal communication and approval of decisions on tax matters.

A number of internal procedures have been introduced to identify and mitigate tax risks.

Members of the PKN ORLEN’s personnel who are in charge of particular activities connected with the tax function have extensive knowledge of tax issues and appropriate qualifications.

In order to ensure proper tax risk management, the Tax Office operating within the Company’s internal structures analyses tax consequences of PKN ORLEN’s projects and activities and is involved in the process of decision making on planned and executed transactions at the earliest possible stage.

In the case of particularly complex issues or issues with respect to which there are differing rulings of courts or other competent authorities, the Company uses expert opinions and studies prepared by independent experts from reputable tax consultancies.

Internal functional audits are held at the Company to examine correctness of application of tax laws by PKN ORLEN’s organisational units, and the Company’s tax settlements are verified in the course of audits performed by independent specialised entities, including statutory auditors.

The Company monitors amendments to the tax laws on an ongoing basis and implements the required changes in the organisation of its business processes and documentation of business transactions resulting from legal regulations and interpretations issued by tax authorities.

To ensure and maintain the highest level of tax security, the Company uses dedicated IT solutions supporting multi-level verification of not only the economic transactions but also their tax consequences. The tax reporting process is automated and is based on a report relevant to each type of tax liabilities. Tax returns and tax information are filed with the tax authorities in an automated manner with the use of IT tools that guarantee full control of the process.

PKN ORLEN fulfils a number of tax obligations in Poland, in particular with respect to the following taxes:

1) Corporate income tax (including withholding tax);
2) Value added tax;
3) Excise tax, fuel charge, emission charge, stamps charge;
4) Personal income tax;
5) Property tax;
6) Retail tax;
7) Agricultural tax;
8) Forest tax;
9) Vehicle tax;
10) Tax on transactions under civil law (transfer tax) and stamp duty.

PKN ORLEN has been one of the largest corporate income taxpayers in Poland at least since 2012, that is since individual data of CIT taxpayers has been available to the public on the Ministry of Finance website. For the years 2012–2020, i.e. periods which have already been reported to the tax authorities, the Company paid in total over PLN 3.4 billion in income tax in Poland.

The highest standards of due diligence and tax reporting enhance the Company’s tax transparency, strengthen its credibility in the market, and build trust with external customers.

The Company does not engage in any activities aimed at tax optimisation or tax evasion, nor does it take any actions which may increase the tax risk or expose the state budget or local municipality budgets to the risk of an illegitimate decrease in amounts of public dues.

PKN ORLEN does not have any tax arrears, and all of its tax obligations are fulfilled in a timely manner and with due diligence.

Key events

January

- Northland Power Inc. industry partner of PKN ORLEN in the implementation of the offshore wind farm project in the Baltic Sea
- Putting into operation the first own natural gas mine, Bystrowice
- Connection agreement for an offshore wind farm in the Baltic Sea
- ORLEN Paliwa invests in agricultural biogas plants
- PKN ORLEN and NCBR will support innovative projects
- ORLEN and Energa are planning further megawatts from RES in Wielkopolska
- PKN ORLEN creates an Accelerator
- PKN ORLEN becomes the strategic sponsor of the Polish Olympic Committee
February

- PKN ORLEN’s consolidated financial results for the fourth quarter of 2020
- Purchase of onshore wind farms
- ORLEN Aviation’s investment in photovoltaic technology
- New renewable capacities in the ORLEN Group
- „ORLEN in motion“ and „ORLEN Paczka“
- The first „Stop Cafe“ store in Prague, Czech Republic
- Presentation of the car of the Alfa Romeo Racing ORLEN team
- Ineria from the ORLEN Group as a strategic sponsor of Polish basketball

March

- First US oil futures contract with Exxon Mobil
- Second issue of sustainable development bonds
- The President of UOKiK will consider the application of PKN ORLEN regarding the acquisition of PGNiG
- Contract for the purchase of crude oil from Rosneft
- Cooperation between PKN ORLEN and Northland Power in the implementation of an offshore wind farm
- Acquisition of 100% shares of the OTP transport company
- ORLEN Charge with Energa stations
- New station in Hamburg under the ORLEN brand
- A new petrochemical product in the ORLEN Unipetrol portfolio
- Agreement with trade unions on wages
- PKN ORLEN invests in education for the offshore wind energy sector
- Increasing the supply of liquefied technical oxygen used in the fight against COVID-19

April

- Recommendation of the Management Board of PKN ORLEN to pay dividends for 2020
- PKN ORLEN’s consolidated results for the first quarter of 2021
- PKN ORLEN develops hydrogen technology with other partners
- ORLEN Asphalt produces ecological asphalt for road construction
- 20 thousand trees for the 20th anniversary of the ORLEN Foundation
- Launch of the ORLEN surface stations

May

- The largest petrochemical investment in Europe
- Agreement between the Ministry of State Assets, PKN ORLEN, PGNiG and Grupa LOTOS confirming the structure of the merger of the companies
- Submission of an application for consent to the acquisition of PGNiG to the President of the Office of Competition and Consumer Protection
- Opening of the Research and Development Center in Płock
- Medium-term Eurobond issue program
- Issue of green Eurobonds worth EUR 500 million
- ORLEN will build the first hydrogen refueling stations
- PKN ORLEN is considering processing agricultural biomass into petrochemical products
- Agreement between PKN ORLEN and Energa on the gas investment in Ostrołęka
- ORLEN Paliudzie and PGNiG are developing the biomethane production area
- The structure of a multi-energy concern positively assessed by the Fitch rating agency
- Report on sponsoring activities of PKN ORLEN in 2020

June

- Cooperation agreement concerning the development and implementation of zero-emission nuclear technologies MMR and SMR
- The International Hydrogen Eagle Hydrogen Program
- First in Poland tests of a private, industrial 5G network
- Construction of a gas power plant in Ostrołęka
- Signing a contract with Hyundai Engineering and Técnicas Reunidas for the construction of the Olefin III Complex
- Positive decision of the Energy Regulatory Office on support for the Baltic Power wind farm
- Opening of the first store and catering format under the brand name „ORLEN w ruchu” in Warsaw
- ORLEN Lietuva acquires 100% of shares in the Lithuanian company Mackavas Terminals
- The fourth edition of the program „My place on Earth”
- ORLEN OIL as the Strategic Sponsor of Wisła Kraków
- Support for the residents of Nowa Biała
- F1 Alfa Romeo Racing ORLEN show tour
July

- PKN ORLEN's financial results for the second quarter of 2021
- Geotechnical surveys of the bottom of the Baltic Sea
- ORLEN Skylight accelerator
- The extension by the European Commission of the deadline for the implementation of remedial measures under the takeover of Grupa LOTOS by PKN ORLEN
- Cooperation between ORLEN Północne and PGNiG on the blegas program
- ORLEN Lietuva is analyzing the possibility of optimizing crude oil processing
- Sales of ORLEN Asfalt products on international markets
- Customer service facilities at ORLEN stations
- New marketing campaigns of PKN ORLEN
- ORLEN Group 2020 Integrated Report
- Competition for the ‘The best research work done for Polski Koncern Naftowy ORLEN S.A.’
- The #DobryKierowca campaign
- PKN ORLEN is the General Sponsor of SPR Wisła Płock for the 2021/2022 season and the Strategic Sponsor of Wisła Płock for the 2021/2022 season

August

- Strategic partnership between PKN ORLEN and the American company GE Renewable Energy
- Agreement on financing the construction of a gas and steam power plant in Grudziądz
- Letter of intent between PKN ORLEN and PKP and PESA on cooperation for the implementation of hydrogen technologies in rail transport
- Letter of intent and contract for the feasibility study between PKN ORLEN and KBR regarding the processing of plastic waste into petrochemical and refining products
- Strategic goals of ORLEN Unipetrol until 2030
- Athletes from the ORLEN Sports Group with Olympic medals
- Jan Krzysztof Duda among the sportsmen supported by PKN ORLEN
- Kryscina Cimanouska in the ORLEN Sports Group

September

- Investment in the technology of hydrogenating vegetable oils
- A new station under the ORLEN brand in Germany

October

- PKN ORLEN's financial results for the third quarter of 2021
- Project 'Clean Cities – Hydrogen mobility in Poland (Phase I)
- Extension of the Lithuanian refinery of the ORLEN Group
- 4th edition of the My Place on Earth program
- 6th edition of free swimming lessons for the inhabitants of Płock

November

- Launching the production of green, ecological glycol in ORLEN Północne
- PKN ORLEN obtained EUR 180 million from the European Investment Bank for projects supporting sustainable development
- Project for the construction of a gas and steam block in Ostrołęka
- The European Commission gives PKN ORLEN more time to implement remedial conditions
- PKN ORLEN increases its involvement in the development of renewable energy sources
- Innovative labels powered by light at petrol stations
- 3rd round of ORLEN Skylight Accelerator
- Cooperation with Alpha Romeo Racing ORLEN in the 2022 season
- PKN ORLEN sponsors the Chopin concert at Expo 2020 in Dubai
- Płock Gardens of Light
- Motorway e-tickets available in applications and at selected ORLEN stations
- New website orlen.pl
December

- Construction of a gas and steam power plant in Gdańsk
- ORLEN is developing the SMR small nuclear technology
- ORLEN Group’s energy investments with support from the capacity market
- Investment in the production of new generation bioethanol
- ORLEN focuses on digital transformation
- Baltic Power Offshore Wind Supply Chain Meeting 2021
- The ‘Houses of Good Energy’ project

Awards and accolades

January

- PKN ORLEN comes first in the Top Employer Poland 2021 ranking
- Daniel Obajtek is named Person of the Year 2020 by the Wprost weekly
- PKN ORLEN is distinguished with the title of Patron of Polish Sports in Challenging Times

February

- Daniel Obajtek receives the Man of Freedom 2020 award from the Sieci weekly

March

- PKN ORLEN is distinguished as The World’s Most Ethical Company 2021
- PKN ORLEN in TOP2 of the Employer for Engineers ranking
- ORLEN Laboratorium S.A.’s Vinyl Chloride Laboratory is awarded the title of Best Laboratory 2020

May

- ORLEN comes out as the most valuable Polish brand in the Ranking of the Most Valuable Polish Brands published by the Rzekpografia daily
- PKN ORLEN wins the 6th edition of the Trustworthy Brand poll in the Service Station category
- PKN ORLEN tops the ranking of 200 Largest Polish Companies compiled by the Wprost weekly

June

- ANWIL, Energa, and PKN ORLEN are among the winners of the 10th edition of the CSR Leaves ranking of the Polityka weekly
- PKN ORLEN receives the main award in Fleet Derby 2021 for the best EV charging station network in the Electromobility/EV Charging Station Network category
- PKN ORLEN comes second in the Fuels, Energy and Hydrocarbon Production category of the 14th edition of the Responsible Companies Ranking
- ANWIL is awarded the title of Ambassador of the Golden Hundred of Pomerania and Kuyavia

August

- PKN ORLEN receives the Freedom of Speech Award

September

- Service Station of the Year 2020
- PKN ORLEN is awarded the title of Employer with Heart

October

- PKN ORLEN is named Energy Transition Leader
- PKN ORLEN receives awards in the 16th edition of The Best Annual Report 2020 competition
- ORLEN service stations rank top in terms of customer confidence
- ORLEN Golden Spikes for Anita Włodarczyk and Wojciech Nowicki (in a prestigious ranking of Polish athletes)

November

- PKN ORLEN tops the 16th ranking of the largest companies in Central and Eastern Europe
- PKN ORLEN receives the President of Poland’s Business Award in the Responsible Business category
- PKN ORLEN is among the winners of the Polish Radio’s 5th business ranking ‘Made in Poland – I Like That’, 2021 edition
- Queen of Sports’ Laurel for ORLEN
- ORLEN Group’s Benzina is distinguished as the Most Trustworthy Brand in the Service Stations category

December

- PKN ORLEN receives the National Champion title in the Polityka Insight ranking
Shares and shareholding structure

PKN ORLEN shares are listed on the main market of the Warsaw Stock Exchange in the continuous trading system and are included in the WIG, WIG20, WIG30, WIG-Poland, WIG-ESG and WIGDIV general market indices and in the WIG-FUELS industry index.

GRI Disclosures

102-5

Capital

PKN ORLEN’S equity and shareholding structure

PKN ORLEN shareholding structure*

In 2021, PKN ORLEN shares were traded on the main market. The price of PKN ORLEN shares rose by 28% in 2021 (y-o-y). The absolute annual rate of return on PKN ORLEN shares was 79.14% in 2021. In 2021, 278,362,144 PKN ORLEN shares were traded on the main market. The number of shares held by shareholders is presented on the basis of the most up-to-date shareholding structure as at December 31st 2021 and the report authorisation date.

In 2021 and until the date of authorisation of the Management Board Report on the Activities of the ORLEN Group and PKN ORLEN S.A. for 2021, there were no changes in the structure of shareholders holding over 5% of the share capital of PKN ORLEN. The number of shares held by shareholders is presented on the basis of the most up-to-date, official information held by the Company.

In 2021 and until the date of authorisation of the Management Board Report on the Activities of the ORLEN Group and PKN ORLEN S.A. for 2021, there were no changes in the structure of shareholders holding over 5% of the share capital of PKN ORLEN. The number of shares held by shareholders is presented on the basis of the most up-to-date, official information held by the Company.

PKN ORLEN’s shareholding structure as at January 1st 2021, December 31st 2021 and the date of authorisation of Management Board Report on the operations of ORLEN Group and PKN ORLEN S.A. for the year 2021

| Shareholder | Number of shares and voting rights at the General Meeting (as at Jan 1st 2021) | Percentage of share capital and total voting rights as at Jan 1st 2021 | Number of shares and voting rights at the General Meeting (as at Dec 31st 2021) | Percentage of share capital and total voting rights as at Dec 31st 2021 | Percentage of shares and voting rights as at Dec 31st 2021
<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>State Treasury</td>
<td>117,787,804</td>
<td>35.19%</td>
<td>117,787,804</td>
<td>35.19%</td>
<td>35.19%</td>
</tr>
<tr>
<td>Nationale Nederlanden OFE</td>
<td>37,876,287</td>
<td>11.03%</td>
<td>32,200,000</td>
<td>9.54%</td>
<td>9.54%</td>
</tr>
<tr>
<td>Acea S.p.A. State Sardini</td>
<td>24,309,600</td>
<td>7.03%</td>
<td>23,000,000</td>
<td>6.53%</td>
<td>6.53%</td>
</tr>
<tr>
<td>Other</td>
<td>237,140,540</td>
<td>66.66%</td>
<td>237,140,540</td>
<td>66.66%</td>
<td>66.66%</td>
</tr>
<tr>
<td>Total</td>
<td>426,164,261</td>
<td>100.00%</td>
<td>426,164,261</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
</tbody>
</table>

* according to information from the PKN ORLEN AGM convened for June 5th 2020
** according to information from the PKN ORLEN AGM convened for May 27th 2021

Restrictions on transferability of shares

The Company’s Articles of Association do not impose any restrictions on the transferability of PKN ORLEN shares. However, such restrictions may be stipulated by generally applicable laws including, without limitation, the Act on State Property Management and the Act on Control of Certain Investments.
PKN ORLEN on the Stock Exchange

Key data regarding PKN ORLEN’s shares

<table>
<thead>
<tr>
<th>Key data</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum cap of voting rights</td>
<td>PKN</td>
<td>95.62</td>
<td>31.26</td>
<td>64.36</td>
</tr>
<tr>
<td>Average daily volume of shares</td>
<td>PKN</td>
<td>95.62</td>
<td>31.26</td>
<td>64.36</td>
</tr>
<tr>
<td>Average closing price of shares</td>
<td>PKN</td>
<td>28.70</td>
<td>53.80</td>
<td>35.00</td>
</tr>
<tr>
<td>Average EPS</td>
<td>2.2</td>
<td>3.5</td>
<td>4.1</td>
<td>43.4%</td>
</tr>
<tr>
<td>Annual dividend per share</td>
<td>PKN</td>
<td>2.2</td>
<td>3.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Share of voting rights</td>
<td>PKN</td>
<td>2.2</td>
<td>3.5</td>
<td>4.1</td>
</tr>
<tr>
<td>Shares in circulation</td>
<td>PKN</td>
<td>118.49B</td>
<td>17.46B</td>
<td>108.9B</td>
</tr>
</tbody>
</table>

* Value of shares according to transaction rates.

** Prices of shares based on closing rates for individual quotations.

*** EPS – earnings per share (EPS = net profit per share).

PKN ORLEN shares on the Warsaw Stock Exchange from 1999 – 2021

Dividend policy

As part of the ORLEN Group Strategy for 2021-2030 introduced in November 2020, PKN ORLEN also adopted a dividend policy which assumes annual dividend payments of at least PLN 3.50 per share starting from 2021. The Group’s dividend policy takes into account its liquidity situation as well as the ability to deliver strategic financial objectives. The recommendation as to distribution of PKN ORLEN’s profit for 2020 is presented in Section 14.9.5. of Consolidated Financial Statement for 2021.

Exercising voting rights and shareholders’ special control powers (code of best practice section 4)

Detailed rules for the exercise of special control powers and voting rights are laid down in PKN ORLEN’s Articles of Association. According to the provisions of the Articles of Association, one PKN ORLEN share confers one voting right at the Company’s General Meeting. The voting rights of shareholders have been capped in the Articles of Association so that none of them may exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held. The cap on voting rights does not apply to the State Treasury and the depositary bank which has issued depositary receipts in respect of Company shares if this entity exercises voting rights conferred by Company shares.

Shareholders whose voting rights are aggregated or reduced are jointly referred to as a “Shareholder Grouping”. Detailed rules of such aggregation and reduction are specified in the Articles of Association. Shareholders forming a Shareholder Grouping may not exercise more than 10% of total voting rights existing at the Company as at the date when the General Meeting is held.

If the aggregated number of shares registered at the General Meeting by shareholders forming a Shareholder Grouping exceeds 10% of total voting rights at the Company, the voting rights resulting from the number of shares held are subject to reduction, the rules of which have been specified in detail in the Articles of Association.

The cap on voting rights described above does not apply to subsidiaries of the State Treasury.
The State Treasury, represented by the entity authorised to exercise the rights attached to the shares held by the State Treasury, has the right to appoint and remove one member of the Supervisory Board. In addition, one member of the PKN ORLEN Management Board is appointed by the entity authorised to exercise the rights attached to the shares held by the State Treasury as long as the State Treasury holds at least one share in the Company; such member of the PKN ORLEN Management Board is removed by the Supervisory Board.

Additionally, in accordance with the Articles of Association, as long as the State Treasury is entitled to appoint a member of the Supervisory Board, a resolution granting consent for transactions involving any sale or encumbrance of shares in the following companies: Naftoport Sp. z o.o., Inowrocławskie Kopalnie Soli S.A. as well as the company to be established to operate the pipeline transport of liquid fuels, will require a vote in favour of its adoption by the Supervisory Board member appointed by the State Treasury.

Special rights vested in the State Treasury as the Company’s shareholder may also result from generally applicable provisions of law, i.e.:

- the Act on Special Rights Vested in the Minister Competent for Energy and their Exercise in Certain Capital Companies or Groups Conducting Business Activities in the Electricity, Crude Oil and Gas Fuel Sectors, dated March 18th 2010,
- the Act on Control of Certain Investments, dated at July 24th 2015,
- the Act on State Property Management, dated December 16th 2016.

Ratings

In 2021, PKN ORLEN’s investment grade ratings granted by two leading rating agencies Fitch Ratings and Moody’s Deuchland GmbH were maintained at the level of BBB- with a stable outlook and Baa2 with a positive outlook, respectively. In May 2021, Fitch Ratings placed PKN ORLEN on positive rating watch in view of the planned acquisition of the LOTOS Group and PGNiG. According to this agency, PKN ORLEN’s acquisition processes, which help to consolidate Poland’s energy sector, will contribute to diversifying the Group’s business and improving stability of its cash flows. The agency also stresses that PKN ORLEN intends to finance the transactions primarily with its own shares issued through capital increase, while keeping debt to adjusted EBITDA at a conservative level not exceeding 2.0x-2.5x.

For a description of the ratings assigned to the bonds and notes issued by the ORLEN Group, see Section 5.3.3. of Management Board Report on the Operations of ORLEN Group and PKN ORLEN S.A. for the year 2021.
Business model

According to the CEE TOP 500 report published by Coface, currently the ORLEN Group is one of the largest corporations in Central and Eastern Europe in terms of revenue. Its revenue for 2021 was in excess of PLN 131 bn. In line with Strategy 2030 adopted in 2020, ORLEN Group’s ambition is to be an active leader of energy transition in Poland and Central Europe.

SDGs:

- Goal 7: Affordable and clean energy
- Goal 9: Industry, innovation and infrastructure
- Goal 11: Sustainable cities and communities
- Goal 12: Responsible consumption and production
- Goal 13: Climate action

Capitals:

- Financial capital
- Physical capital
- Human capital
- Social capital
- Natural capital

The Group intends to achieve this goal by further development of its multi-utility structure. One of the first steps taken by Group was the acquisition of the Energa Group, one of the largest producers and suppliers of electricity in Poland. A key element of the strategy of building a multi-energy concern is also the currently implemented process of merging PKN ORLEN and Grupa LOTOS as well as Polskie Górnictwo Naftowe i Gazownictwo (PGNiG).

ORLEN today

The ORLEN Group’s core business consists in the crude oil processing, and production of fuels, the production and distribution of electricity, petrochemical and chemical products, as well as sale of the Group’s products on the retail and wholesale markets. The ORLEN Group is also engaged in hydrocarbon exploration, appraisal and production. The ORLEN Group companies’ business includes also services: crude oil and fuel storage, transport, repair and maintenance services, laboratory, security, project, administrative, insurance and financial services.

The ORLEN Group’s business covers five operating segments: Energy, Refining, Petrochemicals, Retail, Upstream which are supported by Corporate Functions.

In 2021, the ORLEN Group achieved the highest net profit in its history, amounting to PLN 11.2 billion. The operating profit EBITDA LIFO reached the level of PLN 14.2 billion, after eliminating impairment losses on assets. The areas of petrochemicals, energy and refineries made the greatest contribution to the achievement of record results. On the other hand, fuel and non-fuel sales at stations in Poland accounted for 13% of the entire Group’s profit.

The solid financial foundations made it possible to increase CAPEX to PLN 9.9 billion and to continue projects that are strategic for Poland’s energy security in zero- and low-emission energy sources. A multi-energy concern was also consistently built, to which Grupa LOTOS and PGNiG will join this year.

For more key data on the operations of each segment in 2021, see "About the ORLEN Group".

The video material on the ORLEN Group’s operations is available here.

ORLEN Group built a sound and sustainable foundation for further growth until 2030.

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Refining

- 6 refineries in Poland, the Czech Republic and Lithuania
- 400 km of main crude throughput - regional pipeline
- 490 km of product and finished pipeline net and 44 storage depots

Petrochemicals

- 49 petrochemical products, marketed in over 50 countries
- 24% market share, depending on the product

Energy

- Energy and heat production from renewable natural sources
- 1.85 TWh electricity
- 1.8 TWh heat
- 40% of installed electrical capacity and 17% of heat capacity at the ORLEN Group
- 30% of electricity generated from zero- and low-carbon sources
- 18% of power PGNiG covering about a quarter of the territory of Poland

Retail

- 1,200 service stations in Poland, Germany, Czech Republic, Lithuania and Slovakia
- 5,550 fuel and energy
- 7,500 mobile, 490 Drive and 4,100 Star Connect
- 500 service stations
- 1,000 ROCH outlets
- 15% of ORLEN Group’s share of the fuel market
- 82% of fuel stations
- 5% of Castrol
- 3% of ELF
- 3.5 km of VET

Upstream

- Exploration and production projects in Poland and Canada
- 15% of PGNiG’s reserves of PSF and gas
- 10% of PGNiG’s reserves of average hydrogen production
- 8.2 mln number of wells
ORLEN Groups’s competitive advantages

**Refining**
- The refinery in Płock is classified as a super-site (according to Wood Mackenzie) given its volume and depth of oil conversion and integrated petrochemical operations.
- Diversified supply sources and secured natural gas supplies.
- Prepared for regulatory changes and market trends following implementation of relevant investment projects.
- Market leader in Central and Eastern Europe.

**Petrochemicals**
- The largest petrochemical company in Central and Eastern Europe.
- Integrated petrochemical and refining assets.
- Broad portfolio of petrochemical products, including monomers, polymers, aromatics, PTA, as well as ANWIL-manufactured fertilizers and PVC.
- Ethylene supply for PVC production secured through pipeline connection to the Płock refinery.
- Strategic regional supplier for the chemical industry.

**Energy**
- Modern low- and zero-carbon generation assets.
- Extensive use of high-efficiency cogeneration to secure stable supplies satisfying the high heat and power demand of the production plants.
- Extensive base of business and individual customers.
- Rapidly growing portfolio of renewable energy assets (including offshore), supported by flexible gas-fired generation facilities.
- Human and financial potential to implement major investment projects as a leader in energy transition.
- Diversified revenue streams from generation, distribution and trading activities.

**Retail**
- Modern and Central and Eastern Europe’s largest fuel sales network.
- ORLEN as the most recognisable and valuable Polish brand, valued at PLN 10 billion.
- Attractive loyalty schemes.
- Rozwój sprzedaży pozapaliwowej poprzez uruchomienie kolejnych punktów Stop Cafe Star Connect.
- Dynamic development of alternative refuelling networks, including mainly EV charges.
- Launch of 400 automated parcel machines as part of the ‘ORLEN Parcel’ service and a new retail format outside fuel stations under the ‘ORLEN in Motion’ brand.

**Upstream**
- Responding flexibly to changes in the oil and gas market.

How we will change

In response to the energy transition, ORLEN 2030 will evolve into a sustainable multi-utility business.

Building a multi-utility group requires that the current portfolio be complemented with new, promising business areas.

ORLEN 2030

Pillars of the ORLEN Group’s growth and transformation until 2030

- Sustainable upstream production
- Development in energy efficiency
- Development in integrated power generation
- Further expansion of the natural gas and carbon dioxide network
- Sustainable portfolio of assets, mainly gas
- Development in alternative fuels and hydrogen
- Development of biogas and biokerosene
- Development in petrochemical production
- Development in petrochemical production
- Development in petrochemical production
Capex budget of PLN 40bn

Our transformation into a multi-utility powerhouse will be based around renewable energy and gas-fired energy, efficient low-emission refining and petrochemical production, upstream production of hydrocarbons, and an integrated retail offering. The Group will actively manage its business portfolio on a capex budget totalling PLN 140bn by 2030. Most of the capital expenditure will be allocated to segments that best fit in with our strategic ambitions. Around PLN 85bn will be allocated to new prospective growth areas, related mainly to renewable energy and advanced petrochemicals, while PLN 55bn will be spent to enhance the efficiency of the Group’s existing assets.

Carbon neutrality as an integral objective of the strategy

The ORLEN2030 strategy incorporates a commitment to our long-term objective of achieving a net-zero carbon footprint by 2050. The Group’s 2030 CO2 reduction targets are 20% less emissions from its existing refining and petrochemical assets and 33% less from its energy business. The ORLEN2030 strategy is expected to drive a two-and-a-half fold increase in EBITDA, to approximately PLN 26bn in 2030. The energy, petrochemical and refining segments will each deliver EBITDA of about PLN 7bn, while the retail and upstream segments will generate EBITDA of ca. PLN 5bn and PLN 10bn, respectively.

Energy as a key growth area

The ORLEN2030 strategy incorporates a commitment to our long-term objective of achieving a net-zero carbon footprint by 2050. The Group’s 2030 CO2 reduction targets are 20% less emissions from its existing refining and petrochemical assets and 33% less from its energy business. The ORLEN2030 strategy is expected to drive a two-and-a-half fold increase in EBITDA, to approximately PLN 26bn in 2030. The energy, petrochemical and refining segments will each deliver EBITDA of about PLN 7bn, while the retail and upstream segments will generate EBITDA of ca. PLN 5bn and PLN 10bn, respectively.

Investment into petrochemical capacities across specialty products and recycling

By 2030, around a half of our profits from crude oil processing will be derived from the petrochemical business. Expansion of the existing portfolio and entry into new business areas will help strengthen the Group’s position as a leading petrochemical producer in Central Europe. PLN 10bn ORLEN will be spent to ramp up its capacities in derivatives and other base products. It will also satisfy the demand in polymers—a business line with attractive growth potential—by extending the value chain and entering into compounding and concentrates. Concurrently, the share of specialty high-margin products (such as phenol and aromatic derivatives) in the Group’s portfolio will grow from 15% to approximately 25%. Recycling and biomaterials will be new branches of the petrochemical segment. By 2030, we will expand our recycling capacity (mainly in plastics) up to 0.4 million tonnes. We will also implement advanced circular economy technologies.

Maintaining the position of a leading regional refiner with major investment into biofuels

Until 2030, refining will remain an important segment of our business. Its transformation will be driven by energy efficiency improvements, increased crude conversion rates and integration with Grupa LOTOS, the Group’s major domestic peer. Expansion of the biofuel and hydrogen fuel output will be another vital driver. Within the coming decade, the Group will emerge as the region’s leading producer of biofuels (including 2G biofuels), with an annual capacity of 2m tonnes. As part of the ORLEN2030 strategy, work will be continued on the Group’s hydrogen hub projects in Władysław and Plack, and steps will be taken to launch green hydrogen production.

Strengthening the retail network and expansion of the non-fuel segment

The ORLEN2030 strategic vision is to vigorously develop our retail arm, based on the network expansion and significant additions to the retail offering. By 2030, the number of service stations operating across Central Europe under the Polish brand ORLEN will be at least 3,500. The ORLEN retail network will be expanded mainly on foreign markets, with the share of foreign locations up from the current 37% to 45%. We will seek to enhance the availability of alternative fuels, by deploying at least 1000 EV fast chargers and increasing the sales of hydrogen and LNG/CNG. Our broad, integrated offering of new-fuel products and services will keep attracting new customer groups. Based on the RUCH countrywide chain of newsmagazines, we will expand our store and food service formats beyond service stations, and will also develop our own network of parcel pick-up points and e-commerce services. Integration with the Energa Group will help ORLEN develop comprehensive service centres for both retail and business customers, encompassing fuel and electricity sales as well as distributed energy solutions. Delivery of the initiatives outlined in the ORLEN2030 strategy will drive a 50% increase in gross non-fuel margin relative to 2019.

Further growth of the ORLEN Group from stable financial foundations

The ORLEN2030 strategy is also designed to ensure stable financial foundations for the Group. Our value will be built by profitable investment projects, sustainable funding sources and a robust balance sheet. Having capped our net debt/EBITDA ratio at 2.5x, we will align the Group’s CAPEX plans with its current financing capabilities. We will rely on a balanced mix of funding sources with current cash flows supported by an additional debt capacity. We will also use alternative funding sources, such as project finance, EU funding for innovation and energy transition projects, and engaging with external partners who would co-fund selected projects. Projects aligned directly with the Group’s carbon neutrality goal will be partly financed through green and sustainable bonds issued on the European capital market.

In response to the challenges, ORLEN2030 will become the business leader of sustainable transformation in Central Europe.

The presentation of the ORLEN group until 2030 is available on the ORLEN Group’s Strategy until 2030 | ORLEN.
Research and development

In 2021, the ORLEN Group carried out more than 300 development and efficiency improvement projects aimed at maximising performance and generating shareholder value. A key factor in the project development and implementation phase is energy and process efficiency, which is part of our strategy to reduce CO₂ emissions from existing refining and petrochemical assets by 20% and from electricity generation by 33% per MWh of produced electricity by 2030, and to achieve climate neutrality by 2050.

GRI Disclosures

GRI:103-1 GRI:103-2 GRI:103-3

SDGs:

Goal 1 Goal 6 Goal 7 Goal 8 Goal 9 Goal 12 Goal 13

Capitals

GRI 103 GRI 103 GRI 103

PKN ORLEN’s major achievements in technology research and development

In 2021, the ORLEN Group carried out more than 300 development and efficiency improvement projects aimed at maximising performance and generating shareholder value. A key factor in the project development and implementation phase is energy and process efficiency, which is part of our strategy to reduce CO₂ emissions from existing refining and petrochemical assets by 20% and from electricity generation by 33% per MWh of produced electricity by 2030, and to achieve climate neutrality by 2050.

In 2021, we continued our research work and projects under the ORLEN2030 strategy, implemented on the basis of external partnerships with a range of partners, such as universities and research institutes, in particular: the University of Warsaw, the Warsaw University of Technology, including its Branch in Płock, the Gdańsk University of Technology, the Adam Mickiewicz University in Poznań, the AGH University of Science and Technology in Kraków, the Łukasiewicz Network – Industrial Chemistry Research Institute, the Institute of Chemical Processing of Coal, the Institute of Organic Chemistry, and UniCRE, a Czech Institute in the ORLEN Group.

The research and projects focused on energy transition, digitisation of production and expansion of the service station network. To improve efficiency of the research projects, in 2021 PKN ORLEN signed an agreement with the National Centre for Research and Development for the implementation of the Joint Project NEON programme in 2022–2027. PKN ORLEN expects to obtain at least 13 innovative technology solutions in connection with this initiative.

PKN ORLEN proceeded with its strategic plans, including the Petrochemicals Development Programme. As part of these efforts, on June 22nd 2021 the Company signed a contract for the construction of the Olefins 3 Complex, the largest petrochemical project executed in Europe in the 21st century, expected to increase the base petrochemical capacity at the production plant in Płock by over 1 million tonnes (60%). Its products will be sold mainly in Poland, where they are in short supply, and in Central Europe to maximise margins. The key facilities of the Olefins 3 Complex are being constructed under an EPCC (Engineering, Procurement, Construction and Commissioning) contract with Hyundai Engineering Co., Ltd. of Seoul and Tecnica Reunidas, S.A. of Madrid. The project is to be implemented by a newly established company ORLEN Olefiny Sp. zo.o.

2021 also saw continuation of the strategic Infrastructure Programme, which aims to deploy the necessary infrastructure at the Płock production plant for the Petrochemicals Development Programme and other growth projects. Once expanded, the Płock petrochemical complex will be one of the largest and most advanced in Europe, placing PKN ORLEN at the forefront of petrochemical production in Central Europe.

In 2021, PKN ORLEN strengthened its position on the international fuel market by maximising refinery performance, expanding refining assets and modernising existing units. Construction of the key visbreaker unit was continued to achieve higher crude conversion rates and increase yields of light products. In the visbreaker, vacuum residue, which has so far been used to make heavy fuel oils and bitumen, will be processed into high-grade gasoline and diesel oil. Further work was carried out to upgrade the hydrocracker unit. Advancements in catalysts are now making it possible to achieve a significant part of the intended outcomes of the first stage of the hydrocracker unit upgrade with a limited capex and limited scope of upgrading activities. An upgrade of the diesel hydrotreater (HON) was completed to increase margins and scale up diesel oil production.
and a test run was carried out, confirming the achievement of parameters guaranteed by the licence provider. In 2021, contracts were signed for the Maxime project. The use of the innovative Maxime technology will contribute to generating higher margins on fuels and petrochemicals at the Płock production plant. A contract was signed in 2021 for the construction of a TGT unit to treat tail gas from hydrogen sulfide and ammonia conversion processes. The works is to be completed in mid-2024, and once the unit is launched, it will significantly reduce sulfur emissions into the atmosphere, which makes it one of the range of pre-environmental projects implemented by PKN Orlen.

In accordance with the adopted strategy, efforts were made to reduce carbon emissions from the Group’s existing refining and petrochemical assets by 20% and cut down carbon emissions per megawatt-hour of electricity by 33% by 2030. Work was carried out in 2021 to identify the potential for capture and utilisation of carbon dioxide from the plant in Płock. Another important focus area was analyses of the options for increased utilisation of recycled products in the light of the priorities of the circular economy. Efforts were also undertaken to proactively explore innovative technological solutions. A number of initiatives and meetings with technology companies, Polish universities and business support organisations were organised.

In 2021, the Research and Development Centre (R&D Centre) in Płock was put into service.

It is expected to provide the infrastructure (which the Orlen Group is currently lacking) for testing new process solutions (changes to setup, feedstocks, working parameters) prior to their implementation in the production environment and for testing fuel additives; set up (in terms of quantity and time to deploy) the deployment of technical and technology solutions in existing plants; enable building and testing pilot solutions for new technologies and operating sample production units (small-scale plants to obtain product samples); and provide a competitive edge and lessen the Company’s dependence on knowhow providers (considering, in particular, the R&D capabilities of the refining and petrochemical sector in Europe).

In 2021, the R&D Centre started work on research and development projects initiated in response to market expectations for new products and growing quality requirements. Between May and September 2021, more than 30 specialist training sessions were carried out and work instructions were prepared for every piece of laboratory apparatus. The transfer of an acquired advanced biolubricant component plant and technology to the R&D Centre was completed in 95% of contracts. Work was carried out during the year for five more pilot units to be used in refining and petrochemical processes. They will enable the analysis of the impact of crude petroleum and oil blends, unusual internal and external feedstocks, including alternative circular economy raw materials, as well as testing and comparisons of catalysts for various processes. Procurement processes were also launched to obtain technical designs for three pilot organic synthesis plants. The R&D Centre was equipped with outdoor research infrastructure: PKN Orlen’s first-ever off-line pilot unit to test innovative hydrotreatment catalysts in the terpenic acid (PTA) production process in Włocławek. The unit enables testing of new formulations in actual production settings. Based on its know-how, PKN Orlen was able to develop its own, less expensive and more efficient catalysts and shielding beds for other production processes of PKN Orlen as well.

As part of the efforts to develop innovation tools, the Orlen SkyLight Accelerator was created to support pilot implementations of innovative solutions developed by technology startups. Three application rounds took place in 2021 with challenges announced in the following thematic categories: green transformation, Industry 4.0, safe and innovative organisation, efficient and low-carbon energy generation, modern customer and service station of the future, reducing barriers in access to services for customers, digital organisation, water in industrial processes. More than 200 applications were received over three rounds. Four entities were selected in the first qualification round to carry out pilot implementations in the areas of retail and logistics.

The third element of the innovation ecosystem which made its way to the market last year was a corporate venture capital fund (ORLEN VC) with a financial support capacity of PLN 500 million. The strategic objective of the fund is to gain access to new solutions and technologies and to implement them in the ORLEN Group’s business at positive rates of return. ORLEN VC is expected to support technology companies in early stage growth or expansion.

As part of efforts to reduce the environmental impacts, we continued the development of BIO products; we successfully initiated production of new fuels using the vegetable oil co-hydrogenation technology and completed industrial production tests of E-10 gasoline.

Research was also launched into co-HVO based on UCs and the production of bio-jet aviation fuels. Steps were taken to introduce a carbon footprint calculation mechanism for all products offered by the ORLEN Group and for the entire company.

Benchmarking studies were consistently carried out to identify areas where the performance of current production assets could be optimised. Projects were continued to digitise the Płock production plant. New projects were implemented and launched to introduce new tools for modelling and forecasting of optimum production process parameters in order to improve product margins. The Digitisation Road Map project was initiated and implemented for the production plant in Płock in order to best identify digitisation areas with a high potential for growth and additional margins.

Cooperation was also established with Krajowa Spółka Cukrowa S.A. The Management Board of the two companies signed a letter of intent on joint R&D and development activities for the implementation of projects and other initiatives in the area of sustainable development of chemical production. Joint efforts were commenced to select projects and evaluate their business attractiveness.

As regards the digitisation of production processes, in 2021 we completed a project to develop, build and implement dual corrosion sensors forming part of an integrated real-time online corrosion monitoring system for assessing the rate of uniform (general) corrosion and susceptibility to corrosion cracking and hydrogen embrittlement. The project was co-financed with European funds under a programme carried out by the National Centre for Research and Development (NNICHEM). A prototype for dual corrosion sensor monitoring was developed. It offers a unique capability to quickly evaluate the rate of the corrosion process and to enable an immediate response to changes in corrosion hazard levels. The practical application of this technology will improve process safety, minimise emergencies and lengthen the useful life of industrial plants. The Company has filed a patent application for the concept of dual corrosion sensors with the European Patent Office.
Major achievements of main ORLEN companies in technology research and development

In 2021, the ORLEN Group companies engaged in R&D activities focused on the development of new and improvement of existing technologies, on new sustainable production solutions to be applied in their operations, and on modifications to their product portfolios.

In 2021, the Energia Group companies ran 26 research, development and innovation (R&D) projects, totalling approximately PLN 8 million in net expenditure. Furthermore, in August 2021, the Energia Group and PKN ORLEN launched a joint energy storage programme within the ORLEN Group to identify energy storage products and services, create conditions for their marketing, and launch their sale.

In September 2021, Energia OZE SA completed its NEDO project aimed at acquiring expertise on the feasibility of using energy storage technologies to improve the operational flexibility of the Polish Power System. The project involved the construction of a hybrid battery energy storage facility at the Bystra wind farm near Gdańsk. In 2021, the facility was connected to the Bystra wind farm and placed in service.

The RSOC project co-funded by the National Centre for Research and Development and implemented by the Bystrzyca Research and Development Centre entered its final year. It involves the construction of a modular unit of hydrogen-generating reversible solid oxide cells. This installation has a potential to become a key element of energy storage systems using excess energy, in particular from renewable sources of unstable nature (such as wind and solar energy).

The objective of the EUUniversal project carried out by Energia Operator S.A. is to develop network flexibility and the potential to use flexibility services in the energy market. The project is being implemented as part of an EU consortium consisting of 11 energy sector entities, and its research and innovation activities are co-financed from the EU Horizon 2020 programme. It is designed to enable changes to be made in the consumption or generation of energy, in particular from renewable sources of unstable nature (such as wind and solar energy).

Another milestone was achieved in the OneNet project, once testing of flexibility services in energy supplies with the use of a digital platform was successfully completed. This project is implemented by a European consortium and co-financed under the Horizon 2020 programme. Its goal is to develop new business mechanisms and models for new network services that will enhance the flexibility of transmission and HV, MV and LV distribution networks, design a new open-standard platform for the purchase and sale of network services for DSOs and TSOs by market participants, build a demonstration area for testing (e.g. customer acquisition, integration and expansion of IT systems), and explore the potential for using network services to improve network efficiency and flexibility. The project is progressing on schedule, and its completion is expected in September 2023.

Energia Operator S.A. continued the SORAL project to implement a technical condition and failure risk assessment system for MV power lines based on off-line diagnostic testing. As a result of research and development work carried out in the project, a system was created for the assessment of failure risk of MV power lines based on technical, operating, and diagnostic data. In 2021, a prototype of the SORAL IT system was developed, which features a line health index allowing for a realistic evaluation of the risk of failure on a given line section. The project was implemented on schedule and was completed on December 15th 2021.

The goal of the SERENE project is to develop business mechanisms and models for new network services improving the flexibility of the MV and LV distribution networks and to apply technologies for active management of the LV network using AMI meters. In 2021, an awareness campaign on the project activities was prepared, first personal data consents were obtained from residents, and AMI meters were replaced in the demonstration areas identified in the project concept, all in order to prepare for research activities. The research is scheduled to start in May 2022. The project is progressing on schedule, and its completion is expected on June 30th 2025.

In 2021, the R&D activities of the ORLEN Unipetrol Group focused on its key pillars, that is green hydrogen, chemical and mechanical recycling of plastics, biorefinery production, decarbonisation and digitalisation, which significantly contribute to the company’s successful development under the 2030 strategy and are important in the light of growing demand for low-carbon technologies. The estimated total economic contribution of R&D until 2030 is EUR 160 million. The achievement of carbon neutrality for a sustainable future remains the company’s long-term objective. The value of research infrastructure of the two institutions, ORLEN Unipetrol and Polymer Institute Brno, exceeds EUR 45m. Together, they employ 127 scientists.

ORLEN Unipetrol developed expertise in advanced biorefinery production technologies, including the analysis of availability of raw materials, with a particular focus on biomass and municipal waste, in a collaborative effort across the ORLEN Group, research on chemical recycling was developed to obtain a material and subsequently feedstock suitable for processing in the ethylene unit. The cooperation in chemical recycling research will continue, with the focus on using the available technologies. The goal is to build a plastic waste pyrolysis unit in the Czech Republic. As a result of the activities completed in the area of chemical recycling to date, a pilot plastic waste processing unit was launched and tested, which is going to provide material for further research into manufacturing processes.

In 2021, ORLEN Unipetrol obtained the ISCC Plus certification for hydrogenated vegetable oil processing in the ethylene unit, a milestone that now enables the production of bioplastics. The certification involved two in-service tests, of which the second one has made it possible to produce bioplastics and offer them to customers.

The ORLEN Unipetrol Group continues the development of hydrogen technologies. Green hydrogen is a viable alternative to conventional fuels in the context of carbon-free economy of the future. In 2021, the construction of two ORLEN BENZINA hydrogen refuelling stations started in Prague and Liberec, which are to be operational from 2022. With respect to captive
In 2021, a feasibility study was completed for the construction of a 60 MW solar PV plant with a 26 MW electrolysis unit, which is expected to produce approximately 8,800 tonnes of green hydrogen annually. The basic design and engineering work package will be implemented in 2022.

The Polymer Institute Brno (PIB) continues to focus on developing a portfolio of advanced polymer, polyethylene and polypropylene products. PIB additionally deals with legal requirements to eliminate certain substances from the manufacture of plastics, such as phthalate and fluorene catalysts, in an effort to guarantee stable product sales. Mechanical recycling of plastics and its application at ORLEN Lietuva is another important area, as chemical and mechanical recycling is an essential task to achieve the objectives of circular economy.

In 2021, the construction of a new dicyclopentadiene (DCPD) unit with a capacity of 22,400 tonnes per year was continued. DCPD is used in the production of hydrocarbon resins (asphalt, reinforcing plants), unsaturated polyester resins (coatings, inks, adhesives), ethylene propylene diene monomer (EPDM) elastomers (car buffers, roof coverings) and cyclic olefin copolymers (COC) (transparent materials). At the same time, research was ongoing on the feasibility of producing DCPD (dicyclopentadiene) derivatives to expand the product chain.

As part of its development activities, ORLEN Unipetrol is looking for ways to improve energy efficiency by focusing on heat recovery technologies that have the potential to significantly contribute to the achievement of progressive CO₂ emission reduction targets.

Implementation of the assumed objectives is to be supported by the ongoing digital transformation process, in which ORLEN Unipetrol is focusing on an augmented and virtual reality, digital twins and smart maintenance. Application of these technologies in production processes will drive cost savings and the high flexibility needed to succeed.

The ORLEN Unipetrol Group continues to focus on supporting education, including higher education, intensifying its cooperation with universities and scientific institutions, some of them abroad. In 2021, cooperation was established with the Technical University of Košice. The second 4EDU conference dedicated to the development of education in the Czech Republic was a huge success.

In 2021, the ORLEN Lietuva Group continued the preparatory phase for a project involving the development of a new hydrotreating unit. In the middle of the year, a letter of intent was signed with the Government of the Republic of Lithuania concerning state institutions’ support in the implementation of this project. An IPC contractor was selected in a tendering procedure and the IPC contract was signed in October 2021. The project is scheduled for completion at the end of 2024. After the contract with the contractor was signed, an agreement was concluded with Mammoet for the transport of the plant reactor from the port in Klaipeda to the refinery in Juodkrante and for the construction of a new electrical substation for the hydrotreating unit. The new unit will increase the yields of high margin light products by approximately 8%, significantly improving the profitability of ORLEN Lietuva and enabling the development of renewable energy projects envisaged in the ORLEN2030 strategy and aimed at achieving carbon neutrality.

Read more about the ORLEN Lietuva Group projects

ANWIL S.A. made further progress on development work to increase its annual output of fertilizers from 1 million tonnes to a target of approximately 1.5 million tonnes. In 2021, the project saw continued construction work on three key units of the complex, i.e. the nitric acid, neutralisation, and granulation units, and reached a completion status of more than 80%. Expansion of the mineral fertilizers segment was prompted by growing demand for these products. Tests of production of fertilizers with aluminium and potassium sulphates, intended to improve the physical and chemical properties of the Canwil fertiliser granules, were successfully completed. The addition of potassium improves the quality and quality of yields. As an additional effect, the performance and stability of the process parameters of the mechanical granulation unit were improved.

In 2021, ANWIL S.A. carried out preproject activities to expand the production capacity for PVC to 420,000 tonnes per year, as part of the ORLEN Group’s strategic Petrochemicals Development Programme.

In cooperation with PKN ORLEN, pre-project activities to construct a hydrogen hub at ANWIL S.A. were continued and the project contract was signed in August to enable the ORLEN Group to enter the zero carbon fuels market in Poland and develop a new product: automotive hydrogen fuels.

Read more about ANWIL S.A. projects

In 2021, in an effort to increase ammonia production, a key upgradation project (TC 1201 process air node) was completed, allowing for unit loads of up to 110%, an upgrade project to improve energy efficiency (15067 demisters) was completed, and a new E-225-B process air cooler was built at the nitric acid plant. The construction of the F-2901B nitric acid storage tank was also finished, which will enable nitric acid to be transferred from the new plant to the existing processing units, thus optimising the cost of fertilizer production. Upgrades were made in the plastics business to improve energy efficiency.

Polymer Institute Brno (PIB) continues to focus on developing a portfolio of advanced polymer, polyethylene and polypropylene products. PIB additionally deals with legal requirements to eliminate certain substances from the manufacture of plastics, such as phthalate and fluorene catalysts, in an effort to guarantee stable product sales.
out in partnership with ADOBE and IUNG, in order to develop four new fertilizer formulas to improve nitrogen use efficiency in plants.

In the area of plastics development, the construction of a pilot unit for online sludge carbonisation started, which is expected to enable the development of new products based on sludge, reducing the costs of waste disposal. Research into a hydrocarbonic acid concentrating method (in the VCARA unit) was successfully completed, offering the possibility of obtaining a new product: hydrocarbonic acid 32%.

Research was also carried out into the production of flame-retardant hard granules of specific flame-retardant levels, including a search for alternatives to antimony trioxide, migration of plasticiser from plasticised PVC applications and bacteria- and fungus-resistant PVC-based formulations.

The ORLEN Południe Group completed the construction of a bio propylene glycol plant. In the fourth quarter of 2021, start-up tests were carried out in the glycol production complex, which includes a propylene glycol unit, a glycerine purification unit and a hydrogen production unit. The start-up tests were completed with a positive result, attesting to the efficiency and quality of the finished product (2-propylene glycol) and thus validating the licence acquired from Air Liquide in 2017. The plant was placed in service. Work was carried out in the complex to build a unit for the purification of hydrogen to 5.0 grade for automotive applications. Mechanical and process start-up of the PSA unit was initiated.

Activities relating to advanced biorefining included further work on a project to construct a unit for the production of biodiesel from used cooking oil with an annual capacity of 30,000 tonnes. A PC contract was executed with All Industry for the construction of the unit. An agreement for the delivery of proprietary equipment was signed with the licence provider. A final building permit was obtained and earthworks were started. As part of work relating to the existing fatty acid methyl ester unit, procedures were also initiated to purchase a licence and front-end engineering design for its further expansion (the second phase to increase the capacity by additional 100,000 tonnes per year through the construction of a new unit). To extend the value chain in the production of fatty acid methyl esters, the project to construct the company’s own rapeseed oil press plant was continued. Land was acquired for the construction of a press plant with an annual capacity of 200,000 tonnes, with an optional extension to 300,000 tonnes, and an award procedure was opened for an EPC contract. Further progress was achieved in the 2G bioethanol project. A procurement process was carried out for an EPC contract to a 2G bioethanol unit with power generation capacities, a biogas plant and wastewater treatment plant. The project was approved by the Investment Committee and the Group’s Strategy Committee. An agreement was signed with PKW ORLEN, providing for the construction of an advanced industrial 2G bioethanol unit and defining the project financing. The project to build a new biogas business line at ORLEN Południe was continued. 100% interests were acquired in two further biogas plants, CHP Energia Sp. z o.o. and Blaudi Sp. z o.o., in M&A transactions. The existing biogas plants of ORLEN Południe streamlined their production and organisational processes and set on a path toward expansion (capacity increases and plant upgrades to transform them into biomethane plants). Further work was underway on a project to develop a treatment technology for glycerine derived from UCOs and animal fats. The spatial and functional concept plan, project cost summary and terms of reference were drawn up. A procurement procedure was initiated to select an EPC contractor for the glycerine purification unit. A Project Information Sheet was prepared in order to obtain an environmental permit. A project for the development of biotechnology-based conversion of organic raw materials into lactic acid using microorganisms was carried out, with cofinancing under the INNOCHEM programme. Components of a pilot lactic acid line were delivered and received, and work began to connect the pilot line to utilities and to start up the plant.

Collaborative efforts with the Polish Academy of Sciences were also continued to develop a production technology for polyhydroxybutyrate biopolymer (PHB), where a fermentation technology was designed for the selected strain. As part of a project to obtain fluid produced with biodegradable polypropylene glycol, work was ongoing under an agreement signed with the Institute of Heavy Organic Synthesis in Kędzierzyn K Rear for the development of deicing and anti-icing fluids. Formulations were developed for type 1, 3 and 4 deicing fluids, and work is under way to optimise the fluid formulations in terms of cost-efficient additives and prepare for the certification of fluids. An agreement was signed with the AGH University of Science and Technology for the development of a technology for the recovery of metals from spent catalysts.

Read more about ORLEN OIL projects

A product unification project was implemented with Paramo, a biogas plant and wastewater treatment plant. A PC contract was executed with AB Industry for the construction of a press plant with an annual capacity of 200,000 tonnes. The finished product (1.2 propylene glycol) was developed and tested for use on roads in harsh weather conditions in autumn and winter.
The key area of development of the ORLEN Group in the next decade will be energy, based mainly on renewable energy sources and supported by gas capacities. By 2030, the Company intends to achieve 2.5 GW of installed capacity in renewable sources. 1.7 GW will be provided by offshore wind farms, and 0.8 GW by onshore sources - wind farms and photovoltaics.
The Kanin wind farm of Livingstone (ORLEN Wind 3 Group), located in Kanin near Darłowo in the Province of the Szczecin. It is made of 13 Gamesa G90 turbines with a total capacity of 26 MW.

- The Przykona wind farm of Energa OZE, built on a coal mine reclamation site in the Municipality of Przykona, County of Przykona, Province of the Szczecin. It is made of nine Vestas V126 wind turbines with a total installed capacity of 32.85 MW.

Solar PV farms

- Delta PV of Energa OZE, in operation since the second half of 2014. It is located at ul. Benyamina in Gdańsk, near the Bystra wind farm. The farm consists of 6,929 photovoltaic panels combined into 286 sets. Each set contains 22 photovoltaic modules in series connection. The farm's installed electrical capacity is 1.64 MW.

Hydroelectric power plants

- Włocławek hydroelectric power plant of Energa OZE, with its installed capacity exceeding 160 MW and an average annual output of 750 GWh – Poland's largest run-of-the-river plant. It generates more than 20% of the total output of Polish hydroelectric power plants. The Włocławek power plant was placed in service in 1969. It has six vertical hydroelectric sets with PL 661-W-800 Kaplan turbines produced in the former Soviet Union.

- Żydowo pumped-storage power plant of Energa OZE, built in 1971. It operates as an energy source in periods of sudden or peak demand, which means that in the event of a sudden power shortage, water is released through the turbines, and when there is excess power, the plant pulls the water back. This power plant is a natural energy storage facility. Its installed capacity is 157 MW, with three contributing turbine generator sets equipped with Francis turbines and Skoda Plana generators.

- Small hydroelectric power plants of Energa OZE comprise 44 small plants located mainly in northern Poland and one in the south of the country, with a total installed electrical capacity of about 40 MW.

CCGT plants

- CCGT Włocławek, a combined cycle gas turbine with an electrical capacity of 474 MW and thermal capacity 417 MW, producing heat and power in the cogeneration process. It came on stream in June 2017. In 2021, the plant operated in a stable manner, supplying electricity and process steam to Anwil and Anwil. Thanks to relatively fast system control and high generation capacity, it steadily met the current demand from Poland's power system and Anwil, while actively participating in the capacity market. In 2021, the CCGT plant produced 2.8 TWh of electricity and supplied 1.3 TWh of heat in the form of process steam to Anwil. Mandatory flue gas inspection was conducted as required in the turbine supplier’s schedule and air intake filters were replaced regularly. Active work was underway to secure the HGiP overhaul scheduled for the first quarter of 2022. Additionally, work was started on the construction of a solar PV farm at the CCGT Włocławek site, which is expected to be placed in service in the first half of 2022.

- CCGT Piek, a high-efficiency cogeneration unit commissioned in June 2018, with an electrical capacity of 608 MW and thermal capacity of 518 MW. The fuel for the plant is high-methane natural gas. January 23rd, 2021 saw the start of a scheduled HGiP overhaul of the gas turbine and generator resulting from the turbine unit maintenance contract. On May 15th, 2021, CCGT Piek resumed operation, operated in a stable manner, actively participating in the capacity market. Producing heat and power in the cogeneration process, the CCGT plant covered shortages of these utilities at the Piek production
Surplus electricity from the new CCGT assets is sold both on the wholesale energy market and to end customers. The plant, while remaining an active participant of the electricity market and providing auxiliary power reserve services to the transmission system operator (PSO), in 2021, it generated 2.4 TWh of electricity and 31.9 TWh of steam supplied to the Płock production plant system.

Combined heat and power plants and heating plants (CHPs and HPs)

- In terms of thermal capacity, PKN ORLEN’s high-efficiency combined heat and power plant in Płock is the largest industrial plant of this kind in Poland and one of the largest in Europe. It is the main supplier of steam, heating water and electricity to the Group’s production units in Płock and to external customers, including the city of Płock. Following the launch of a new 105T turbine generator set and shutdown of the TGI unit (which is to be upgraded), the total installed energy capacity of the CHP plant was 358.8 MW in 2021. After TGI was commissioned in December 2021, the total electrical capacity of the CHP plant rose to 428 MW. A formal confirmation of the installed capacity will take place after a revised license for electricity generation is received from the President of URE. Boilers of the CHP plant are fired with heavy fuel oil derived from crude oil distillation and with natural gas.
- The ORLEN Pekulnia Group’s CHP plant in Trzebinia fully satisfies the Trzebinia plant’s demand for steam heat and heating water and partly its demand for electricity. The CHP plant is fueled with natural gas and fuel oil. The new natural gas-fired heat source commissioned in 2019 was expanded in 2021 to include a third gas-fired boiler, which is currently being adapted for biogas cofiring.
- The ORLEN Pekulnia Group’s CHP plant in Jedlicze, fired mainly with coal, is the Jedlicze plant’s main supplier of heat in the form of process steam. Other fuels used at Jedlicze include natural gas, fuel oil and C4 fraction.
- The Awil CHPP plant is the primary source of heat in the form of medium and high pressure steam. It is supplied to the local area via a network. The plant is operated by PKN ORLEN. It is the main source of heat for the local area and provides process steam for nearby industrial plants.
- The ORLEN Unipetrol Group’s CHP plant in Lutynia, using mainly lignite as fuel, fully meets the Lutynia plant’s heat demand and partially satisfies its electricity demand. Design work is now underway for a new CHP plant project based on an efficient high-gas-fired cogenereator, which will ultimately replace the existing plant. The new CHP plant is expected to be launched in 2025.
- The CHP plant in Spólana is the main source of heat for the Spólana facility. Since 2020, when the construction of a new gas-fired boiler house was completed and the existing coal-fired CHP plant was taken out of service, 100% of the demand for heat has been covered by a low-emission source.
- The ORLEN Lutynia CHP plant is a source of process steam used in production processes. Other fuels used in the Lutynia CHP plant include fuel oil and natural gas.
- The Elbląg CHPP plant of Energa Kogeneracja sp is the main source of heat for the Elbląg CHP plant of Energa Kogeneracja sp. The plant is fired with natural gas, fuel oil, C4 fraction, and fuel oil.
- The Elbląg CHPP plant of Energa Kogeneracja sp. is the largest source of heat and electricity in Elbląg (Olsztyn Province). The heat generated by this source covers approximately 80% of the demand of the district heating system in Elbląg. The plant is fired with coal and biomass. A new system is under construction with gas-fired water boilers to replace the coal-fired boilers.
- The Kalisz CHPP plant of Energa Kogeneracja sp. is the largest source of heat and electricity in Kalisz. The heat generated by this source covers approximately 70% of the demand of the district heating system in Kalisz. The CHP plant is fired with coal. A new system is under construction with gas-fired water boilers to replace the coal-fired boilers.
- The Żychlin CHP plant of Energa Kogeneracja sp. is the main supplier of heat for the city. The heat generated by the plant is transmitted and distributed through district heating networks, most of which are owned by the company, and some is the plant itself. The CHP plant is fired with coal and biomass.

Offshore wind power generation

In its strategy until 2030, PKN ORLEN has set the target of 1.7 GW of installed offshore wind power capacity (weighted by its share in the project), assuming potential further development of the offshore wind power portfolio after 2030. The ORLEN Group has consistently worked to become the leader in offshore wind energy generation in the Polish Baltic Sea zone.

In 2021, the ORLEN Group consistently carried out activities in the form of continuation of the construction of the first offshore wind farm (OWF), “Baltic Power” with a capacity of up to 1200 MW in the Polish exclusive economic zone of the Baltic Sea and the creation of an OWF competence center for the implementation of subsequent OWF construction projects. In the Baltic Power project, an environmental decision was obtained for the area of the Offshore Wind Farm (OWF) and over 2-year wind tests were completed and signed with Polskie Sieci Elektroenergetyczne S.A. connection agreement. The main stage of preparation of the preliminary technical project of the OWF has been completed. A positive decision was obtained regarding the financial support for the project in the form of a so-called contract for difference (CfD) at the Polish level (BRO), and the documentation required to notify the obtained support at the European Commission level was submitted to the relevant authorities. The commissioning of the OWF “Baltic Power” is scheduled for 2025.

As part of the operationalisation of its strategy, it was assumed that the development of the ORLEN Group’s wind power segment may be most effectively achieved through organic development of competencies and market advantages based on the opportunities offered by the emerging market in Poland and the Baltic states. To this end, an Offshore Competence Centre is being established within PKN ORLEN to implement new projects. To support the wind power development in the Polish Baltic Sea zone, two new companies: ORLEN Napton 19 and Energa MFW 12 were established to obtain permits to construct and use artificial islands, structures, and equipment in the Polish exclusive economic zone of the Baltic Sea. The next step in the process will be to prepare for the construction of offshore wind farms. In December 2022, the companies completed preparations for the filing of 9 applications for location permits with respect to all designated areas. The first was submitted in the same month, with the remaining applications planned to be filed when the administration opens the next application rounds.

In order to assess the attractiveness of offshore wind power development, PKN ORLEN launched the POSIDON project in the Baltic states. In line with the project schedule, a strategy for entry into the Baltic markets was worked out, which provides for further development of the POSIDON project and preparation of a recommendation concerning PKN ORLEN’s participation in the planned offshore auction on the Lithuanian market in 2023. The estimated total offshore potential in the Baltic states is 26 GW. In 2023, the Baltic States will disconnect from the BRELLEX system. Electricity imports from Russia and Belarus will thus cease, forcing an earlier expansion of low carbon energy sources. Lithuania, whose offshore potential is estimated at 3.35 GW, is the most developed market of this kind in the Baltic states, with the first auction scheduled for September 2023 (700 MW). The Lithuanian state is conducting environmental, geographical, and geotechnical surveys as well as wind surveys, the findings of which are to be made available to the auction winner. As part of the Lithuanian Energy partnership, Lithuania prepared the 700-1000 MW ELWIND project, with an auction planned for 2023. In addition, in 2021 PKN ORLEN launched a procedure to prepare an analysis of green hydrogen production using offshore wind power assets in Lithuania, Latvia and Estonia.

In August 2021, PKN ORLEN entered into a strategic offshore wind power partnership with GE of the US, one of the world’s leading manufacturers of offshore wind farm turbines. The agreement does not mean that GE will definitely supply turbines for the planned offshore wind farms but may guarantee certainty of supply to PKN ORLEN and strengthen its competitive position in seeking new location permits for offshore wind farms in the Polish exclusive economic zone of the Baltic Sea. The partnership marks another stepping stone in the delivery of the ORLEN 2050 strategy, aimed at achieving a zero net carbon footprint in 2050.

In September 2021, a sectoral agreement was signed concerning offshore wind power development in Poland. The agreement is intended to lead to the execution of an agreement between key offshore sector stakeholders (government representatives, investors, supply chain companies, industry associations etc.) on cooperating in the development of this sector in Poland including
The ORLEN Group is now running a project aimed at comprehensive centralisation and integration of the wholesale energy trading in the merged Group and achievement of financial and competence synergies from the integration process.

The ORLEN Group is also implementing a project to centralise sales functions in Energia Obrót S.A., and build strong competencies and solutions dedicated to customers in a single sales area.

Capacity market

2021 was the first year when the capacity contracts concluded in the capacity market were performed and thus payments were received under the capacity market mechanism. Generating units that participated in the capacity market in 2021 were PKN ORLEN’s CCCT Płock and CCCT Włocławek as well as the ENSPIRION Group’s generating units of Energa Ekoenergia Ostrołęka S.A., ENERGA OZE S.A. and ENSPIRION Sp. z o.o.

As in 2018-2020, capacity market auctions were held in 2021 to enable execution of new capacity contracts to be performed in subsequent years:

- On March 16th 2021, four additional auctions were held for the delivery year 2022;
- On December 16th 2021, the main auction was held for the delivery year 2026.

In the four additional auctions for the delivery year 2022, capacity contracts were concluded by ENSPIRION Sp. z o.o. of the ORLEN Group, providing for 133 MW in the first quarter, 125 MW in the second quarter, 125 MW in the third quarter and 129 MW in the fourth quarter.

In the main auction for 2026, six companies from the ORLEN Group placed bids and won a total of 2,473.059 MW, which was the largest total volume of all groups participating in the auction. It is important to note that in the main auction for 2026, capacity contracts with a term of 17 years were secured for new CCCT plants in Grudziądz and Ostrołęka. The main auction for 2026 ended with a price of PLN 400.390 per MW for the first year.

Below is a summary of the volumes of the individual ORLEN Group companies:

<table>
<thead>
<tr>
<th>Company</th>
<th>Capacity (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKN ORLEN S.A.</td>
<td>278</td>
</tr>
<tr>
<td>Energa Ekoenergia Ostrołęka S.A.</td>
<td>695,951</td>
</tr>
<tr>
<td>ENERGA OZE S.A.</td>
<td>135,668</td>
</tr>
<tr>
<td>ENSPIRION Sp. z o.o.</td>
<td>720</td>
</tr>
<tr>
<td>Energa OZE S.A.</td>
<td>518,370</td>
</tr>
</tbody>
</table>

Development of gas-fired power generation is one of the important areas in ORLEN2030 Strategy. This growth direction gained additional solid business foundation with the participation of the ORLEN Group’s CCCT units in the capacity market auctions. The long-term capacity contracts obtained for the planned CCCT units in Ostrołęka and Grudziądz are also vital for maintaining security of electricity supply to end customers. New, low-carbon, flexible gas sources will complement renewable energy sources and allow for their further dynamic development.

Wholesale and retail trade

In 2021, the following companies of the ORLEN Group were engaged in wholesale of electricity: PKN ORLEN S.A., Energia Obrót S.A., ENERGA OZE S.A., and Energa Ekoenergia Ostrołęka S.A. These companies acted as Commercial and Technical Operator. In the first place, PKN ORLEN S.A. purchases electricity for its own needs and for the needs of Group production companies. As regards electricity trading, PKN ORLEN S.A. focuses on optimising the sale of generated electricity and the operation of generating units.

Energia Obrót S.A. engages in wholesale electricity trading and optimises purchases for the needs of its retail portfolio. In addition to optimising electricity purchases, Energia Obrót S.A. is also expanding its operations in the renewables market, offering customised products for entities producing energy from renewable sources.

Strategic projects and business areas in energy

In 2021, the ORLEN Group joined the Hydrogen Eagle project, spanning Poland, the Czech Republic and Slovakia. It will consist in the construction of a dispersed system of new hydrogen hubs, whose annual production capacity is expected to reach 50,000 tonnes of low- and zero-emission hydrogen by 2030. The project will also include development of an international network of over 100 hydrogen refuelling stations.

The Hydrogen Eagle project seeks non-refundable financing under the important Projects of Common European Interest (PoCIII) programme. In 2021, PKN ORLEN pursued a number of hydrogen initiatives. For instance, the ORLEN Group completed a project to construct the first hydrogen hub in Trąbki (producing automotive hydrogen), and obtained EUR 2 million of non-refundable financing from the Connecting Europe Facilities (CEF) programme for the project Clean Cities – Hydrogen Mobility in Poland, phase 1, as part of which it will build a hydrogen hub in Wroclaw, hydrogen refuelling stations in Poznań and Katowice, and a container station in Wrocław.

Alternative fuels

In line with the ORLEN Group strategy, electricity (Electromobility) is one of the alternative fuels that will significantly transform the fuel industry from 2030 onwards. Therefore, PKN ORLEN plans to construct 1,000 publicly available charging stations by the end of 2030. As at the end of 2021, the ORLEN Group had a network of 454 electric vehicle charging stations, including 215 so-called fast electric vehicle charging stations. In 2021, PKN ORLEN’s and ENERGA Group’s electric vehicle charging stations were integrated into one ORLEN Charge system. The prices at all of the stations are based on agreed EV charging rules and a price list available in the ORLEN Charge application.

PKN ORLEN is implementing an extensive hydrogen programme involving implementation of low- and zero-carbon hydrogen applications, both directly in transport and in industry and power generation. In 2021, the ORLEN Group launched the Hydrogen Eagle project, spanning Poland, the Czech Republic and Slovakia. It will consist in the construction of a dispersed system of new hydrogen hubs, whose annual production capacity is expected to reach 50,000 tonnes of low- and zero-emission hydrogen by 2030. The project will also include development of an international network of over 100 hydrogen refuelling stations.

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CCGT Ostrołęka

PKN Orlen's efforts to construct a gas-fired power plant in Ostrołęka are in line with its strategic plans to develop zero- and low-carbon sources of power generation.

In 2020 the Company, already the owner of Energa, declared its willingness to take part in the project to construct a power plant in Ostrołęka provided that it would rely on gas as fuel. The agreement on the general rules of cooperation in the construction of a gas-fired power plant in Ostrołęka was signed back in June 2020, and in September PGNiG expressed its willingness to join the project. A bilateral agreement between PKN Orlen, Energa and PGNiG concerning implementation of the project was signed in December 2020. In January 2021, CCGT Ostrołęka Sp. z o.o. (an SPV) was established to execute the project, and in April 2021 UOKiK granted its consent for the joint project with PGNiG. On June 29th 2021, an agreement was signed with a consortium of Energa Group companies for the construction of a combined cycle gas turbine (CCGT) plant with a net capacity of 745 MW. Also, a long-term maintenance contract was concluded for the unit. In 2021 work continued to obtain all administrative decisions necessary for the project and develop the project design. In the main capacity market auction held in December 2021 the CCGT Ostrołęka project secured support for a period of 17 years. The plant is scheduled for commissioning in 2025. This is a critical project that will secure the capacity required in the system to cover growing demand for electricity, and thus will help stabilise the prices of electricity in Poland by increasing its supply in the system. The power generating unit at Ostrołęka C Power Plant will be a stable and advanced source of electricity produced from natural gas, making it possible to balance energy from renewable sources.

CCGT Grudziądz

Following suspension of the project in mid-2020, a decision was made in mid-2021 to proceed with the construction of a CCGT unit in Grudziądz, which will be a typical condensing power plant with a planned net capacity of approximately 560 MW.

A tender procedure was carried out and binding bids were received from three leading gas turbine suppliers. Following the procedure, the preferred contractor was selected and final negotiations on the contract started. The negotiations are to be closed and the contract is to be signed in 2022, while the unit is scheduled to be commissioned in 2025.

CCGT Litvinov

In 2021, conceptual and design work was carried out at the Company concerning construction of a new electricity and heat source for the needs of Unipetrol. The key challenge in 2021 was to complete the tender documentation drafting process.

Technical documentation was prepared based on which potential bidders may enter the tender procedure. An environmental decision for the new project was secured and an application for cofinancing was submitted in September. The company plans to launch the tender procedure in 2022.

CCGT Gdańsk

In 2021, work was carried out on a CCGT project in Gdańsk. The location of the CCGT unit will not only enable the supply of electricity to the national power system, but also a direct connection with the Lotos refinery and meeting its process heat requirement.

Under a letter of intent signed by Energa, Lotos and PKN a joint team was appointed that worked on identifying all the input data necessary for the design process. Negotiations were also held on how utilities are to be supplied and billed, as well as on a business model that could be employed in the project. The unit’s planned net capacity is approximately 450 MW, it is to be a cogeneration unit that will produce process heat. In 2022, conceptual work will continue, taking into account a potential new ownership structure of the refinery.

SMR technology

In line with its strategy and ambitions to achieve carbon neutrality by 2050, the ORLEN Group invests in low- and zero-carbon stable and innovative power generation capacities. In December 2021, PKN Orlen and Synthos Green Energy signed an investment agreement to set up a joint venture, ORLEN Synthos Green Energy, Whose key aim is to prepare and commercialise small modular reactor (SMR) technology, particularly GE Hitachi Nuclear Energy’s BWRX-300 reactors, in Poland. Energy from SMRs can be used in the production of clean electricity and heat, generation of energy and process heat used in refining and petrochemical operations, and hydrogen production. Development of small (SMR) and micro (MMR) modular reactor technologies can bring many benefits to Poland’s economy, including, first and foremost, strengthening energy security. It will also drive the development of innovative industry and create new jobs in attractive sectors of the economy. The initiative also addresses climate challenges of the future and the EU’s ambitious emissions targets. Work is well in progress on SMR and MMR technologies in the United States, the UK, South Korea, France and Canada.

The new joint venture ORLEN Synthos Green Energy has been set up to commercialise micro and small modular reactor technologies, with a focus on GE Hitachi Nuclear Energy’s BWRX-300 reactors. The wide array of activities the company is to carry out under the agreement includes promoting the technology, supporting the development of a relevant legal framework, exploring potential reactor sites, implementing joint projects and, ultimately, generating energy and heat using the technology far from commercial needs.

Nuclear will be one of the cheapest energy generation sources. PKN Orlen plans to deploy the first reactor in Poland by 2030. A letter of intent has already been signed to outline the terms on which the first reactors would be supplied to Poland. Investment in SMRs and MMRs would support further rapid growth of the ORLEN Group, helping it significantly reduce carbon emissions. Modular reactors would be an attractive addition to the energy portfolio based on renewable energy sources and natural gas. Accelerated deployment of SMRs will allow PKN Orlen to better balance its generation asset portfolio and build a low-carbon and innovative energy generation segment. PKN Orlen’s priority is to harness the potential of the Polish economy and local suppliers.

The BWRX-300 reactor is an evolution of the technology developed by GE, a US-based group with extensive experience in the field. 30 years’ market presence in Poland and a massive supply chain in the country, comprising over 3,000 companies. Some of them already manufacture components for nuclear power plants abroad. “The BWRX-300 is an innovative, clean energy system that is based on proven technology, and represents an ideal solution to retrofit Poland’s large fleet of coal generation,” GE Hitachi Nuclear Energy Executive Vice President Jon Ball said.

Solar Photovoltaics Programme

Development of renewable energy sources is an element of PKO Orlen’s energy strategy. The end of 2019 saw the launch of the Group’s solar photovoltaics programme, which will involve the development and coordination of solar PV
PV Wielbark – as part of the Energa OZE acquisition process, Energa’s subsidiary of the ORLEN Group acquired 12 MW of installed capacity in two installations built on an area of approximately 27 ha. Energa RES also purchased land in advance for further installations with a capacity of 48 MW, which it plans to acquire by mid-2023. The target installed capacity of the entire farm is 62 MW, located on an approximately 19 ha.

In its initial stage, the Group selected locations satisfying the relevant technical criteria for potential installation of PV units, and contracts were signed with a supplier to provide project documentation for six locations (production plant in Płock: 4.8 MW, production plant in Trzebiatów: 3MW fuel terminals – Żurawica: 1.6 MW, Siedlce: 1.25 MW, Ostrów Wielkopolski: 3 MW, and Anwil site: 10 MW). Comprehensive technical documentation, including final building permits, was secured for four of the above locations, owned by PKN ORLEN (production plant in Płock, Siedlce, Żurawica and Ostrów Wielkopolski). An open procurement procedure was launched on the Connect platform for the Siedlce project. At the same time, a procurement procedure is being prepared for the Żurawica, Płock and Ostrów Wielkopolski locations. The Płock and Ostrów Wielkopolski locations have applied for co-financing from the National Fund for Environmental Protection and Water Management (NFŚGW). Currently, work is also underway to develop the documentation for a property in Rybnik, owned by ORLEN Petrol, which is another project for which NFŚGW co-financing is sought. Furthermore, steps were taken to construct micro PV installations at PKN ORLEN’s service stations. The procurement procedure is in progress. More properties and land owned by the ORLEN Group which could be used for the construction of solar PV farms are reviewed on an ongoing basis. As part of these efforts, a wildlife survey is to be performed at the Trzebiatów and Piary Poleskie locations.

The development of renewable energy projects is also the responsibility of Energa Green Development, a company of the Energa Group established in 2021, whose operations will focus on preparing new projects, from the phase of developing the project concept and obtaining legal title to land, through the design work, to obtaining the building permit. In addition, EGD will be the centre of competence in investment project supervision at the stage of project implementation. The company will actively participate in engaging contractors and procuring the supply of PV system components. It will also act as project sponsor or otherwise as substitute project sponsor or contract engineer supervising the construction until the system is put in operation. The Company’s primary goal will be to develop new greenfield projects with a capacity of 240 MW with building permits secured, by 2025.

### Logistics assets

Electricity distribution is part of the ORLEN Group’s core business. This activity is regulated in Poland and it is based on tariffs approved by the President of the Energy Regulatory Office (URE). Energa Operator S.A. is the leading entity within this business line. The Group’s distribution assets are located in northern and central Poland. The Group uses them to supply electricity to 3.2m customers, of which approximately 3.1m have signed comprehensive agreements and 175,000 are TPA (third party access) customers.

As at the end of 2021, the total length of the Group’s power lines exceeded 193 thousand km and covered almost 75 thousand sq. km, i.e. about one fourth of the area of Poland.

Since 2020, the ORLEN Group’s distribution business has been promoting and pursuing a strategy adopted by the European Union that involves energy decarbonization and reduction of emissions from transport, especially in urban areas. The key activity undertaken by Energa Operator S.A. with this aim in mind is the construction of 279 EV charging stations in eight cities: Gdańsk, Gdynia, Koszalin, Elbląg, Olsztyn, Płock, Toruń and Włocławek. 2021 saw completion of all of the charging stations, of which 273 were handed over to the Public EV Charging Stations Operator by the end of 2021. The remaining six stations are to undergo testing by the Polish Office of Technical Inspection (UDT). Charging stations and electric vehicles using the stations will not only increase the demand for electricity in the Polish Power System (replacing hydrocarbon fuels) but also, due to their built-in energy storage, are likely to become a participant of the balancing market in the future relying on the V2G technology, i.e. two-way electricity flow at charging stations.
Refining

Until 2030, the refinery will remain an important segment of the ORLEN Group's operations. The foundation of its transformation will be increasing energy efficiency, deepening the processing of crude oil, and integration with the LOTOS Group. An important element will also be the increase in the production of biofuels and hydrogen fuels.

GRI Disclosures

GRI 103-1, GRI 103-2, GRI 103-3

SDGs:

Goal 9, Goal 11, Goal 12

Capitals:

103-1, 103-2, 103-3

ORLEN Group main production assets

ORLEN Group refining assets and key competitors in Central Eastern Europe / processing capacity [million tonnes]:

ORLEN GROUP

The total production capacities of the ORLEN Group refineries are 35.2 million tonnes.

- The refinery in Płock is one of the most advanced integrated refining facilities in Central and Eastern Europe, with a production capacity of 16.3 million tonnes/year. In the first quarter of 2023, PKN ORLEN intends to put a new visbreaking unit in service. The project is expected to improve oil processing efficiency and increase the share of high-margin products.
- The other Polish refineries, operating as the ORLEN Południe Group in Trzebinia and Jedlicze, manufacture biofuel components, base oils, and heating oils, and regenerate spent oils.
- The ORLEN Lietuva refinery in Mažeikiai has an annual production capacity of 10.2 million tonnes and is the only such facility in the Baltic States (Lithuania, Latvia, and Estonia).
- The Unipetrol Group operates refineries in Kralupy and Litvínov, with a combined annual production capacity of 8.7 million tonnes.

Source: In-house analysis
For more information on the competitive environment, see 'Competitive Environment'.

ORLEN GROUP

The total production capacities of the ORLEN Group refineries are 35.2 million tonnes.
Basic operating parameters

Crude throughput and fuel yields

Crude oil throughput

Volume of crude processed by the ORLEN Group in 2021: 9 million tonnes, an increase of (1.5)% year on year, including:

- in the Czech Republic: year-on-year increase of 17.2%, attributable to a low 2020 base (a regular maintenance shutdown at the Litvínov refinery and petrochemical plant, the negative impact of the shutdown and delayed startup of the Kralupy refinery after the shutdown in March 2020) coupled with higher market demand for fuels;
- in Lithuania: year-on-year increase of 1.4%, driven chiefly by improved macroeconomic conditions;
- in Poland: year-on-year decrease of (5.1%), due mainly to shutdowns of the hydrocracking, hydrogen, DRW, metathesis and HDN units. Another reason for the lower throughput was technical problems at the Olefins unit and preparations of the petrochemical units for the maintenance shutdown planned for the second quarter of 2021. In September 2021, throughput declined because of limited supplies of low-sulphur crudes, leading to high stocks of bitumens and heavy fuel oil (lower shipments by sea).

Source: In-house analysis

Fuel yields

In-house analysis

ORLEN Group's market shares

Wholesale of refining products

In 2021, the ORLEN Group was involved in wholesale distribution of refining products in Poland, the Czech Republic, Germany, Slovakia, Hungary, Austria, Latvia, Lithuania, Estonia, and Ukraine, and in Western Europe, where products were delivered to transhipment terminals by sea. The ORLEN Group’s home markets are Poland, Lithuania and the Czech Republic. The ORLEN Group has an extensive portfolio of refining products, including gasolines, diesel oil, aviation fuel, light and heavy heating oil, bitumen, engine oils and a wide range of non-fuel products and intermediates.
Share of Polish fuel market

- **Total fuels**: 54% in 2020, 52% in 2021, 3.8pp decrease.
- **Gasolines**: 42% in 2020, 43% in 2021, 0.3pp increase.
- **Diesel oil**: 58% in 2020, 54% in 2021, 3.8pp decrease.

*Source: In-house analysis*

- Despite the temporary decline in the diesel oil market share, PKN Orlen remained the main supplier for major foreign fuel companies operating in Poland (BP, Shell, Ami), while expanding its share in the market of end customers by supplying fuel to a growing number of companies through ORLEN Paliwa.

Share of the Czech fuel market

- **Total fuels**: 54.1% in 2021, 52.1% in 2020, 2.0pp decrease.
- **Gasolines**: 29.7% in 2021, 29.1% in 2020, 0.6pp increase.
- **Diesel oil**: 25.3% in 2021, 24.8% in 2020, 0.5pp decrease.

*Source: In-house analysis*

- The ORLEN Group is the leader in fuel sales in the Czech Republic.
- A 2.0pp decrease in the market share in the Czech Republic, to 52.1%, mainly as a result of maintenance shutdowns in the second half of the year and periodic gasoline shortages due to limited availability of components. The negative effects of the COVID-19 pandemic, i.e., high volatility of consumption and fluctuations in prices and margins, also played a part.

Share of the Baltic States' fuel market

- **Total fuels**: 75.7% in 2021, 80.7% in 2020, 2.7pp increase.
- **Gasolines**: 29.4% in 2021, 29.2% in 2020, 0.2pp increase.
- **Diesel oil**: 29.4% in 2021, 29.2% in 2020, 0.2pp increase.

*Source: In-house analysis*

- ORLEN Lietuva holds on to its strong leading position in the Baltic Sea Region despite a year-on-year (2.7pp) decrease in its total market share.
- Stepping up sales efforts helped improve the share in the gasoline market by 0.2pp. The diesel oil market share fell by 0.2pp, driven by low supply of the product after its production was reduced to the minimum for the most part of the first half of 2021 due to adverse macroeconomic conditions and a maintenance shutdown in Maseikai.
- It should be noted that in the key Lithuanian market, the share grew, both with regard to gasolines and diesel oil, to a total of 80.7%, representing a 2.7pp increase year on year.

For a description of the ORLEN Group's sales by product groups, see below.

Refining sales volumes

In 2021, the ORLEN Group’s Refining sales totalled 24,389 thousand tonnes, up 3.5% on 2020.

**Sales of the ORLEN Group Refinery segment (PLN million / ’000 tonnes)**
Revenue structure of the ORLEN Group Refinery segment

Sales 2021 2020 change

<table>
<thead>
<tr>
<th>Value</th>
<th>Volume</th>
<th>Value</th>
<th>Volume</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>97</td>
<td>108</td>
<td>103</td>
<td>100</td>
<td>7%</td>
</tr>
<tr>
<td>Light distillates</td>
<td>9,310</td>
<td>13,100</td>
<td>0.4%</td>
<td></td>
</tr>
<tr>
<td>Medium distillates</td>
<td>23,330</td>
<td>25,230</td>
<td>-7%</td>
<td></td>
</tr>
<tr>
<td>Heavy fractions</td>
<td>2,890</td>
<td>3,890</td>
<td>-8%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2,200</td>
<td>3,400</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38,830</td>
<td>36,520</td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>97</td>
<td>108</td>
<td>103</td>
<td>100</td>
<td>7%</td>
</tr>
<tr>
<td>Light distillates</td>
<td>9,310</td>
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<td></td>
</tr>
<tr>
<td>Medium distillates</td>
<td>23,330</td>
<td>25,230</td>
<td>-7%</td>
<td></td>
</tr>
<tr>
<td>Heavy fractions</td>
<td>2,890</td>
<td>3,890</td>
<td>-8%</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>2,200</td>
<td>3,400</td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>38,830</td>
<td>36,520</td>
<td>6%</td>
<td></td>
</tr>
</tbody>
</table>

In 2021, the light fuel oil market grew by 15% year on year, mainly as a result of an exceptionally cold winter (January and February), while the summer season saw a recovery in consumption. This was to a large extent attributable to uncertainty about changing regulations governing international travel (mainly air travel) and the resulting increase in popularity of domestic travel at the expense of foreign destinations. Diesel consumption was less impacted by the pandemic, primarily because of the more cautious approach to restrictions placed on the economy than last year. As a result, diesel oil consumption expanded by 10% year on year, to a level higher by about 4.5% than in 2019.

In 2021, the light fuel oil market grew by 15% year on year, mainly as a result of an exceptionally cold winter (January and February) and to some extent the situation on the gas market in the second half of the year (limited supply, market price hikes, use of alternative heating sources).

Sales volume of the ORLEN Group Refining segment in Poland (‘000 tonnes)

Sales structure of the ORLEN Group Refining segment in Poland

In 2021, 2020 and 2019 none of the ORLEN Group’s leading customers accounted for more than 10% of the Group’s total revenue.

Sales markets and market shares

Sales volume of the ORLEN Group Refining segment in home markets (‘000 tonnes)

Sales 2021 2020 change % change

<table>
<thead>
<tr>
<th>Sales</th>
<th>2021</th>
<th>2020</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4-2</td>
</tr>
<tr>
<td>97</td>
<td>108</td>
<td>103</td>
<td>7%</td>
</tr>
<tr>
<td>Fuel</td>
<td>15,910</td>
<td>13,610</td>
<td>0.8%</td>
</tr>
<tr>
<td>Natural Gas</td>
<td>23,330</td>
<td>25,230</td>
<td>7.0%</td>
</tr>
<tr>
<td>Gasoline</td>
<td>2,890</td>
<td>3,890</td>
<td>30%</td>
</tr>
<tr>
<td>Total</td>
<td>42,130</td>
<td>42,730</td>
<td>0.9%</td>
</tr>
</tbody>
</table>

In view of the COVID-19 pandemic, PKO ORLEN was forced to manage supply and inventories accordingly. The Company had to prepare, on the one hand, for limited demand caused by successive waves of the coronavirus and restrictions introduced ad hoc, while on the other, for periodical increases in consumption of e.g. gasoline during holiday periods (even above the levels recorded in the pre-pandemic period). This, coupled with high uncertainty regarding market prices of refinery products and margins, required appropriate management of logistics, production, purchases and intra-group allocations. In order to protect itself against significant fluctuations in demand, PKO ORLEN increased the scale of product transfers within the ORLEN Group. In 2021, it purchased the Mockava fuel terminal, the only rail transhipment terminal on the Polish-Lithuanian border, which enabled a further increase in the allocation of gasoline and diesel volumes from Lithuania.
In 2021, domestic sales of the ORLEN Group’s Refining segment reached 12,845 thousand tonnes, up 366 thousand tonnes year on year. This growth was driven by increased sales of mainline light middle and distillates, with lower year-on-year sales of heavy fractions.

Light distillates sales in the Refining segment alone went up by 5.8% year on year as a result of a 13.7% year-on-year increase in gasoline sales, which even exceeded 2019 levels, with significantly lower (down 23.9% y/y) LPG sales.

In the case of middle distillates, sales rose by 4.7%, primarily as a result of a 16.1% increase in jet fuel sales. It should be noted, however, that sales in this product group currently represent only about 87% of the respective 2019 figure, largely due to the situation on the jet fuel market, which is still being affected by the pandemic. Confidence in air travel declined, and there was a great deal of uncertainty about travel rules, which sometimes changed a few times within a month. The Group continued to provide jet fuel supplies to strategic customers, including the Polish Army and US Army. PKN ORLEN has the status of a Strategic Partner of the International Air Transport Association (IATA) thanks to which it has a platform for communication with leading industry representatives from all over the world.

The 1.6% year-on-year increase in light fuel oil sales was due mainly to the cold winter weather and rotation/alternate work system, which had a positive impact on demand.

In 2021, sales of heavy fractions decreased by (10.6)% year on year, including chiefly sales of low-margined heavy fuel oil down by (9.6)% year on year, which had a positive effect on the segment’s result.

### The Baltic States and Ukraine

2021 saw a significant improvement in key macroeconomic indicators. Compared with the weak 2020, hit hard by the effects of the pandemic, there were signs of an economic recovery. The ORLEN Group has a strong competitive position in Lithuania, operating the only refinery in the Baltic states and enjoying a well-established position as a reliable fuel supplier. ORLEN Lietuva is a supplier for most of the key players on the local market. However, the Baltic States are attractive markets for Scandinavian, Russian, and Belarusian fuel producers, who have large surpluses of diesel and gasoline, and are constantly looking for opportunities to place the fuels abroad.

For Lithuania’s GDP and fuel consumption data, see section ‘Market environment’.

### Sales structure of the ORLEN Group Refinery segment in markets served by ORLEN Lietuva Group

![Diagram showing sales structure of the ORLEN Group Refinery segment in markets served by ORLEN Lietuva Group]

Despite the negative impacts of the COVID-19 pandemic in 2021, ORLEN Lietuva reported a year-on-year increase of 3.8% in sales of the Refining segment, to 7,538 thousand tonnes. The best performance was seen in the light distillates group, where sales went up by 5.9% year on year, mainly as a result of gasoline sales growing by 6.5% year on year due to the easing of COVID-19 restrictions in 2021.

A 4.0% year-on-year growth in sales was also recorded for middle distillates, driven chiefly by a year-on-year increase in sales of light fuel oil by 18.8% and aviation fuels by 15.1%, which was made possible by ORLEN’s dominant position in the Lithuanian market and an increase in consumption due to more charter, business, and cargo flights in the second half of 2021. The 3.3% year-on-year increase in diesel oil sales was achieved as a result of the imposition of sanctions on Belarusian oil products, economic growth, and very high demand from the agricultural sector. In 2021, sales of heavy fractions grew by 0.7% year on year.

The Ukrainian market is open to supplies from other countries, which results in intense competition. ORLEN Lietuva’s sales strategy assumes building strong business relations with major retail chains operating on the Ukrainian market. A vital element of the ORLEN Group’s strategy was to build the image of a reliable supplier. Independent of the geopolitical situation in the region, which sticks to its commitments even when faced with serious macroeconomic headwinds. As a result, the ORLEN Group is perceived as a modern, reliable, and stable European company. Some important advantages of ORLEN Lietuva are its ability to quickly respond to the volatile Ukrainian market, stable supplies, and reliable logistics, which allow the company to compete with alternative suppliers.

As in previous years, also in 2021 ORLEN Lietuva actively participated in balancing PKN ORLEN deficits in the Polish market, significant volumes of diesel oil were delivered from this direction to Poland, both by land (via the Mozyr transshipment terminal purchased in 2021) and by sea.

### Czech and Slovak markets

The key factor driving consumption of refined products in the Czech market in 2021 was COVID-19. The Czech Republic struggled with the social and economic consequences of the pandemic. Its successive waves had a negative impact on the Czech economy and Unipetrol Group’s export markets. Lockdown was in place for the first four months of 2021. At the beginning of May, the restrictions were lifted and demand returned to normal levels, naturally supported by the summer and fall seasons. However, long-term (in some sectors) constraints, deteriorating public sentiment and uncertainty hold back demand and investment. A gradual recovery is expected in 2022. The Czech economy, which depends heavily on the automotive industry,
was strongly affected by the crisis in the semiconductor market, with the Škoda factory suspending production of new cars for several months. In 2021, the Unipetrol Group continued to sell its products to a wide portfolio of customers, including large fuel companies and hypermarket chains. Unipetrol also sold its products on foreign markets: Slovakia, Hungary, Germany, Austria and Poland, as part of the strategy to optimise product flow management within the Group. PKN ORLEN continued its aircraft refuelling operations at the Prague airport, with fuel supplied by Unipetrol, but the traffic was weak for most part of the year (ca. 35% of the pre-pandemic volumes).

The macroeconomic climate and market conditions (GDP and consumption levels) had a material effect on the ORLEN Group’s sales performance in the Czech Republic. For details, see section 'Macroeconomic environment.'

### Sales volume of the ORLEN Group Refinery segment in the Czech Republic [1000 tonnes]

<table>
<thead>
<tr>
<th>Type</th>
<th>2021</th>
<th>2020</th>
<th>Pct.</th>
<th>% Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light distillates</td>
<td>215</td>
<td>147</td>
<td>11</td>
<td>-12%</td>
</tr>
<tr>
<td>Medium distillates</td>
<td>2,176</td>
<td>2,223</td>
<td>47</td>
<td>-2%</td>
</tr>
<tr>
<td>Heavy fractions</td>
<td>96</td>
<td>101</td>
<td>9</td>
<td>5%</td>
</tr>
<tr>
<td>Other</td>
<td>204</td>
<td>118</td>
<td>34</td>
<td>69%</td>
</tr>
<tr>
<td>Total</td>
<td>2,597</td>
<td>2,522</td>
<td>188</td>
<td>7%</td>
</tr>
</tbody>
</table>

In 2021, the Unipetrol Group’s sales volume expanded by 4.8% year on year to 4,006 thousand tonnes, benefiting from periodic shutdowns of competing refineries in the region, including Slovnaft in Slovakia, and a failure at the Petromidia refinery in Romania.

Medium distillates sales increased by 5.6% year on year, primarily as a result of higher Jet A-1 fuel sales up by 62.5% (y/y), but it still represented only about one-third of the 2019 volumes. A 5.2% year-on-year growth in sales of diesel oil was recorded, albeit without reaching the pre-pandemic levels. Sales of light distillates rose by 1.2% year on year; the recovery was mainly seen in the LPG market up 18.6% (y/y), while gasoline sales volumes remained around the 2020 levels.

### Petrochemicals

By 2030, the petrochemical segment will generate approximately half of the ORLEN Group’s profits from the processing of crude oil. Strengthening the position of the leading petrochemical producer in Central Europe will be possible thanks to the development of the current product portfolio and entering new business areas.

- **The ORLEN Unipetrol Group owns petrochemical assets with combined annual production capacities of approximately 600 thousand tonnes, including 320 thousand tonnes of polyethylene and approximately 280 thousand tonnes of polypropylene.**
- **The Wałbrzych-based ANWIL is the only producer of poly(vinyl chloride) (PVC) in Poland and one of the major manufacturers of sodium hydroxide and fertilizers in the country. Its annual production capacity is ca. 1 million tonnes of nitrogen fertilizers, 0.4 million tonnes of PVC and granulates, and 0.2 million tonnes of sodium hydroxide.**
- **Basell ORLEN Polyolefins in Płock operates facilities with a total production capacity of 900 thousand tonnes (420 thousand tonnes of polyethylene and 480 thousand tonnes of polypropylene).**

Its products are marketed both in Poland and in foreign markets.

- The Olefins unit at Basell ORLEN Polyolefins in Płock is the largest and most advanced facilities of its type.
- The construction of a third nitrogen fertilizer unit will increase ANWIL’s annual production capacity to approximately 15 million tonnes from 2023 onwards.
For more information on the competitive environment, see "Competitive Environment".

**ORLEN Group’s market shares**

**Wholesale of petrochemical products**

The ORLEN Group is the largest petrochemical company in Central and Eastern Europe, the only manufacturer of monomers and polymers on the Polish market, and the manufacturer of most of the petrochemical products available on the Czech market.

### Polyethylene manufacturers in Europe

- Europe's production capacities for high-density (HDPE) and low-density (LDPE) polyethylene are currently at around 12,912,000 tonnes per year.
- LyondellBasell Industries is the largest polyethylene manufacturer, with an annual production capacity of approximately 2,165,000 tonnes (including its 50% share in Basell ORLEN Polyelefin Sp. z o.o. (BOP) and production assets in Germany, France, and Poland).
- Ineos Olefins & Polymers Europe, with an annual production capacity of approximately 2,130,000 tonnes of polyethylene (HDPE, LDPE, LLOPE) with assets based in Belgium, France, Germany, Italy, Norway, and the UK.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 900,000 tonnes per year.

### Polypropylene manufacturers in Europe

- Europe's annual production capacities for polypropylene are at around 11,768,000 tonnes.
- LyondellBasell Industries has an annual production capacity of around 2,400,000 tonnes (including its 50% share in BOP) and assets in Germany, France, Italy, Spain, UK, and Poland.
- Basell – with an annual production capacity of approximately 2,000,000 tonnes and assets in Belgium, Germany, Austria, and Finland.
- Total Petrochemicals – with an annual production capacity of around 1,900,000 tonnes and assets in Belgium and France.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 520,000 tonnes per year.

### PTA manufacturers in Europe

- The European nominal PTA production capacities total 3,985,000 tonnes per year.
- Ineos (after the acquisition of BP Chembel NV in 2020) – Europe’s second-largest PTA manufacturer, with annual production capacity of 1,140,000 tonnes, located in Belgium.
- The European nominal annual production capacity of the ORLEN Group is approximately 400,000 tonnes per year.
- Inovyn – Europe’s second-largest PTA manufacturer, with annual production capacity of 1,140,000 tonnes, located in Belgium.
- The European nominal annual production capacity of the ORLEN Group is approximately 400,000 tonnes per year.

### PVC manufacturers in Europe

- The European nominal PVC production capacities total 8,293,000 tonnes per year.
- Knauf, with an annual production capacity of approximately 2,000,000 tonnes and assets in Belgium, Germany, Austria, and Finland.
- Total Petrochemicals – with an annual production capacity of approximately 2,000,000 tonnes and assets in Belgium, Germany, Austria, and Finland.
- The total production capacity of the ORLEN Group, with production sites in Poland and the Czech Republic (including its 50% share in BOP), is approximately 690,000 tonnes per year.
- PKN ORLEN is the only manufacturer in Europe to have production units fully integrated with paraxylene production, and its production capacity totals 690,000 tonnes per year.

For a description of the ORLEN Group’s sales by product groups, see below.
Petrochemicals sales volumes

In 2021, sales of the ORLEN Group’s Petrochemicals segment totalled 4,906 thousand tonnes, less than in 2020, mainly on lower petrochemical sales in Poland, with growing sales in other markets.

Sales of the ORLEN Group’s Petrochemicals segment [PLN million /’000 tonnes]

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>1,485</td>
<td>716</td>
<td>2,044</td>
<td>919</td>
<td>27%</td>
<td>-18%</td>
</tr>
<tr>
<td>Propylene</td>
<td>1,534</td>
<td>440</td>
<td>1,609</td>
<td>404</td>
<td>94%</td>
<td>27%</td>
</tr>
<tr>
<td>Butadiene</td>
<td>1,915</td>
<td>340</td>
<td>114</td>
<td>170</td>
<td>167%</td>
<td>-57%</td>
</tr>
<tr>
<td>Ethylene</td>
<td>1,149</td>
<td>114</td>
<td>1,232</td>
<td>116</td>
<td>44%</td>
<td>4%</td>
</tr>
<tr>
<td>Other</td>
<td>2,954</td>
<td>114</td>
<td>1,232</td>
<td>116</td>
<td>44%</td>
<td>4%</td>
</tr>
<tr>
<td>Total</td>
<td>16,011</td>
<td>4,914</td>
<td>10,597</td>
<td>3,914</td>
<td>52%</td>
<td>67%</td>
</tr>
</tbody>
</table>

1. Ethylene, propylene.
2. Polyethylene, polypropylene.
3. Benzene, toluene, paraxylene, orthoxylene.
4. Ammonium nitrate, ammonium nitrate, other fertilizers.
5. PVC, PVC granules.
6. Other – includes mainly acetone, ammonia, butadiene, phenol, technical gases, glycols, caprolactam, soda lye, and sulfur. Additionally, in value terms, the item includes the segment’s revenue from sales of services and materials.

Revenue structure of the ORLEN Group Petrochemicals segment

Sales markets and market shares

Sales volume of the ORLEN Group Petrochemicals segment in home markets [’000 tonnes]

<table>
<thead>
<tr>
<th>Sales</th>
<th>Value 2021</th>
<th>Value 2020</th>
<th>Vw/Pr</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>1,485</td>
<td>2,044</td>
<td>716</td>
<td>919</td>
</tr>
<tr>
<td>Propylene</td>
<td>1,534</td>
<td>1,609</td>
<td>440</td>
<td>404</td>
</tr>
<tr>
<td>Butadiene</td>
<td>1,915</td>
<td>1,232</td>
<td>340</td>
<td>116</td>
</tr>
<tr>
<td>Ethylene</td>
<td>1,149</td>
<td>1,232</td>
<td>114</td>
<td>116</td>
</tr>
<tr>
<td>Other</td>
<td>2,954</td>
<td>1,232</td>
<td>114</td>
<td>116</td>
</tr>
<tr>
<td>Total</td>
<td>16,011</td>
<td>10,597</td>
<td>4,914</td>
<td>3,914</td>
</tr>
</tbody>
</table>

1. By country of establishment of the relevant company.

Polish market

Sales volume of the ORLEN Group Petrochemicals segment in Poland [’000 tonnes]

<table>
<thead>
<tr>
<th>Sales</th>
<th>Value 2021</th>
<th>Value 2020</th>
<th>Vw/Pr</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benzene</td>
<td>1,485</td>
<td>2,044</td>
<td>716</td>
<td>919</td>
</tr>
<tr>
<td>Propylene</td>
<td>1,534</td>
<td>1,609</td>
<td>440</td>
<td>404</td>
</tr>
<tr>
<td>Butadiene</td>
<td>1,915</td>
<td>1,232</td>
<td>340</td>
<td>116</td>
</tr>
<tr>
<td>Ethylene</td>
<td>1,149</td>
<td>1,232</td>
<td>114</td>
<td>116</td>
</tr>
<tr>
<td>Other</td>
<td>2,954</td>
<td>1,232</td>
<td>114</td>
<td>116</td>
</tr>
<tr>
<td>Total</td>
<td>16,011</td>
<td>10,597</td>
<td>4,914</td>
<td>3,914</td>
</tr>
</tbody>
</table>
Sales structure of the ORLEN Group Petrochemicals segment in Poland

<table>
<thead>
<tr>
<th>Category</th>
<th>2021 (%)</th>
<th>2020 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monomers</td>
<td>20.5</td>
<td>23.3</td>
</tr>
<tr>
<td>Polymers</td>
<td>4.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Aromatics</td>
<td>4.4</td>
<td>5.7</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>31.7</td>
<td>27.2</td>
</tr>
<tr>
<td>Plastics</td>
<td>8.1</td>
<td>8.8</td>
</tr>
<tr>
<td>PTA</td>
<td>17.4</td>
<td>18.2</td>
</tr>
<tr>
<td>Other</td>
<td>17.9</td>
<td>17.0</td>
</tr>
</tbody>
</table>

In 2021, sales of the ORLEN Group’s Petrochemicals segment in Poland were 2,973 thousand tonnes, down by 502 thousand tonnes year on year. Sales declined across all products, primarily monomers down by (24.7)% (y/y) as a result of unstable operation of the Olefins unit following the overhaul in the second quarter of 2021, and PTA down by (17.9)% (y/y) as a result of ongoing maintenance shutdowns of the PTA unit.

The Baltic States and Ukraine

Sales volume of the ORLEN Group Petrochemicals segment in markets served by ORLEN Lietuva Group [000 tonnes]

<table>
<thead>
<tr>
<th>Category</th>
<th>2021</th>
<th>2020</th>
<th>Change</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monomers</td>
<td>200</td>
<td>200</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Polymers</td>
<td>1,103</td>
<td>1,030</td>
<td>73</td>
<td>7.4%</td>
</tr>
<tr>
<td>Aromatics</td>
<td>120</td>
<td>106</td>
<td>14</td>
<td>13.4%</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>278</td>
<td>278</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td>Plastics</td>
<td>198</td>
<td>194</td>
<td>4</td>
<td>2.1%</td>
</tr>
<tr>
<td>Artificial fibres</td>
<td>158</td>
<td>164</td>
<td>-6</td>
<td>-3.7%</td>
</tr>
<tr>
<td>Other</td>
<td>299</td>
<td>326</td>
<td>27</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>1,860</td>
<td>1,580</td>
<td>280</td>
<td>17.7%</td>
</tr>
</tbody>
</table>

In 2021, the volume of sales in the ORLEN Group Petrochemicals segment in the Czech Republic stood at 1,860 thousand tonnes, having increased by 280 thousand tonnes year on year, chiefly on higher sales of polymers up 21.1% (y/y), after the operating parameters of the PE3 unit improved and aromatics up 23.3% (y/y). Sales of PVC on the Czech market dropped by 7.1%.

Czech market

Sales volume of the ORLEN Group Petrochemicals segment in the Czech Republic [000 tonnes]

<table>
<thead>
<tr>
<th>Category</th>
<th>2021</th>
<th>2020</th>
<th>Change</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monomers</td>
<td>168</td>
<td>189</td>
<td>-21</td>
<td>-11.6%</td>
</tr>
<tr>
<td>Polymers</td>
<td>459</td>
<td>498</td>
<td>40</td>
<td>8.1%</td>
</tr>
<tr>
<td>Aromatics</td>
<td>123</td>
<td>126</td>
<td>3</td>
<td>2.4%</td>
</tr>
<tr>
<td>Fertilizers</td>
<td>199</td>
<td>176</td>
<td>23</td>
<td>13.1%</td>
</tr>
<tr>
<td>Plastics</td>
<td>113</td>
<td>98</td>
<td>15</td>
<td>15.4%</td>
</tr>
<tr>
<td>Other</td>
<td>299</td>
<td>326</td>
<td>27</td>
<td>8.3%</td>
</tr>
<tr>
<td>Total</td>
<td>1,440</td>
<td>1,580</td>
<td>280</td>
<td>17.7%</td>
</tr>
</tbody>
</table>
Logistics assets

Logistics infrastructure is one of the key elements of the competitive advantage of the ORLEN Group.

SDGs:
- Goal 9
- Goal 12

Capitals:
- 

The Group operates a network of complementary infrastructure assets: fuel terminals, onshore and offshore handling depots, transmission pipelines, rail transport, and transport by road tankers.

In 2021, pipelines were the primary mode of transport of feedstock and products used by the Group. The total length of product and feedstock pipeline networks, both Group- and third party-owned, used by the ORLEN Group in Poland, the Czech Republic and Lithuania was nearly 3.7 thousand km (including 2.1 thousand km of product pipelines, and 1.6 thousand km of feedstock pipelines).

In Poland, PKN ORLEN uses 958 kilometres of pipelines:

- 620 kilometres of pipelines owned by Przedsiębiorstwo Eksploatacji Rurociągów Naftowych S.A., as well as its own transport infrastructure with a total length of 338 km, comprising two sections: Płock – Ostrów Wielkopolski – Wrocław 319 km and Wielowieś – Góra 19 km.

In October 2021, the 18.7 km long second line of the Góra-Wielowieś pipeline was registered and commissioned. Crude oil is transported mainly via the network of pipelines owned by Przedsiębiorstwo Eksploatacji Rurociągów Naftowych S.A., with total length of 887 km, and via the Group’s own pipeline 43 km connecting Göda and Żółwiniec (link to the PERN pipeline).

In 2021, the ORLEN Group used a total of 27 facilities to receive, store, dispatch and handle fuels Group- and third party-owned fuel terminals.

As at the end of 2021, the total storage capacity available to the Group within its own infrastructure and contracted from third parties was over 2.9 million cubic meters. In addition, for the purposes of storing supply security stocks of crude oil and fuels, PKN ORLEN owns the only underground cavern storage facility in Poland (the Göda Underground Crude Oil and Fuels Storage Facility), with a total storage capacity in excess of 6 million cubic meters, located on IKS Salina’s premises in Göda near Inowrocław.

In 2021, the ORLEN Group used 1,751 km of pipelines in the Czech Republic (1,100 km of product pipelines operated by ČEPRO, and 651 km of feedstock pipelines operated by MERO), seven storage and distribution depots owned by state-owned operator ČEPRO, three terminals owned by the Group, and seven third party terminals (not owned by ČEPRO).

The main component of the logistics infrastructure currently used on the Lithuanian market is a 31 km feedstock pipeline linking the Butinge terminal with the Mazeikiai refinery. Both the terminal and the pipeline are owned by ORLEN Lietuva.

On the German market, ORLEN Deutschland uses the storage and distribution capacities of seven third party-owned depots. Products are delivered mainly by road.
Supply sources

For over three years, PKN ORLEN has been consistently expanding the list of markets from which it imports crude oil and tightening trade relations with the world’s largest oil producers, including Saudi Aramco. This, combined with the strong position of PKN ORLEN in the international arena, allows us to obtain very good conditions for negotiations.

GRI Disclosures:
GR103-1, GR103-2, GR103-3

SDGs:
Goal 9, Goal 12

Crude oil

PKN ORLEN S.A. supplies crude oil to the Płock refinery and to three other ORLEN Group refineries—in Liberec and Kralupy in the Czech Republic, and in Lithuania’s Mažeikiai. In 2021, some crude oil deliveries by sea were delayed by port closures due to external factors (weather, terminal failures).

In 2021, two long-term contracts for oil supply via pipeline to the Płock refinery (with Rosneft Oil Company and Tatneft Europe AG) and two contracts for oil supply by sea (a long-term contract with Saudi Arabian Oil Company and a one-year contract with ExxonMobil Sales And Supply LLC) were in force. These contracts covered almost 75% of crude oil supplies to PKN ORLEN.

The feedstock for all refineries of the ORLEN Group was procured from oil producers and other companies operating on the international oil market. The feedstock supplied to Płock came primarily from Russia and Saudi Arabia, and was also imported from Kazakhstan, Nigeria, Norway, the United States, and the United Kingdom. The refineries in the Czech Republic received the feedstock from Russia, Azerbaijan, Kazakhstan, Libya, Norway, and the United States. The Mažeikiai refinery was primarily supplied with Russian oil, with additional deliveries from Kazakhstan and the United States.

In 2021, the share of Rosneft Oil Company in the crude supplies exceeded 10% of the ORLEN Group’s total revenue.

Natural gas

2021 was a challenging year on the European gas markets, with unprecedented gas price hikes driven by a number of fundamental factors related to demand and supply. The key development on the demand side was recovery of global natural gas demand following the lockdowns caused by the COVID-19 pandemic. The stimulus packages introduced by governments triggered revival in industrial production, which translated into greater demand for energy commodities. In addition, growing gas consumption in Europe during the exceptionally cold winter of 2020/2021 was compounded by rising gas demand in Asia, as a result of which European LNG terminals received approximately 40% less liquefied natural gas during the 2020/2021 winter than in 2019/2020. This necessitated higher withdrawal rates from European underground storage facilities. As at April 1st 2021, they were filled to only about 30% of their capacity.

The supply of gas in Europe at that time was insufficient to meet the growing demand and rebuild reserve levels in storage facilities. The supplies from countries east of Poland also declined considerably. Although it was technically possible to increase gas deliveries to Western Europe (via the Velke Kapusany point), the actual supply was roughly equal to the minimum contract volumes. Consequently, the total volume of deliveries to Western Europe via the Ukraine route decreased by nearly 15% year on year.
year during the summer season. Additionally, the utilisation of the Yamal pipeline was also significantly reduced, with deliveries to Western Europe dropping by almost 80% year-on-year in October 2021. The supply of LNG to Western European countries during summer 2021 fell by nearly 30% year-on-year as the suppliers were able to achieve higher selling prices in Asia. The cumulative effect of these developments pushed natural gas prices to record levels in the second half of 2021.

The ORLEN Group is potentially the largest gas consumer in Poland and one of the largest in the Czech Republic and Lithuania.

The Group’s natural gas procurement and trading in Poland has been integrated in PKN ORLEN, which supplies gas to other Group companies. In 2021, PKN ORLEN commenced deliveries to Energa Obrót. Natural gas is used by the Group in the production of heat, electricity, fuels and fertilizers. In Poland, the ORLEN Group’s combined potential for natural gas consumption exceeds 3 bln m³ per year.

Most deliveries of natural gas to the ORLEN Group companies in Poland are made under a contract signed in 2016 by PKN ORLEN and PGNiG. Under annexes executed in 2020, the contract will remain in force until 2027 (with an option to extend it for another 12 months). Some purchases are made under supplementary contracts with major gas suppliers in Poland and Europe. Gas is also purchased on the Polish Power Exchange. The ORLEN Group takes steps to ensure stability of supplies and to lower gas procurement costs through such measures as diversification of supply sources, centralisation of gas trading functions and further development of the trading expertise. The current portfolio of gas contracts allows the Group to optimise gas procurement costs by selecting the underlying gas indices and delivery points.

PKN ORLEN has a natural gas price hedging policy in place, focusing on those areas in which gas prices are an important cost factor. With our portfolio capacity, combined with the hedges we implemented, we were able to mitigate the effect of the unprecedented market gas price growth on the performance of the Group companies.

PKN ORLEN has gas transmission contracts with both domestic and foreign operators, ensuring full support in natural gas logistics for the production plant in Plock, CCGT Włocławek, and CCGT Płock. PKN ORLEN has also been developing natural gas sales on both retail and wholesale markets, while the ORLEN Group is engaged in a number of exploration and production projects to secure its own sources of natural gas.

In 2021, the value of deliveries from none of the natural gas suppliers represented more than 10% of the ORLEN Group’s total revenue.

Hard coal

Hard coal is the main fuel used by the Energa Group to produce electricity and heat. In 2021, the Energa Group’s generating units used 12,519 thousand tonnes of hard coal and 85,000 tonnes of biomass (2020: 826,000 tonnes and 147,000 tonnes, respectively). The key sources of hard coal supplies for the Energa Group were Polska Grupa Górnictwa, Lubelski Węgiel Bogdanka and Jastrzębska Spółka Węglowa.
Retail

The ORLEN2030 strategy assumes dynamic development of the Retail segment, based on the expansion of the sales network and a significant expansion of the offer. By 2030, at least 3,5 thousand stations will operate in the region under the Polish brand ORLEN. The concern will increase the availability of alternative fuels.

GRI Disclosures

GRI 103-1  GRI 103-2  GRI 103-3

SDGs:

Goal 9  Goal 11

Capitals

The ORLEN Group is the undisputed leader in retail fuel sales in Central Europe. At the end of 2021, it operated a total of 2,881 service stations. At the end of 2021, the ORLEN Group had 102.8 active retail outlets of RUCH. The drop in the number of points was due to the optimization and profitability of the retail operations of Ruch and the epidemiological situation. In June, the first retail outlet in the new format was opened in Warsaw under the brand name „ORLEN w Ruchu”. The new format was launched, among others in Bydgoszcz, Laszno and Tychy.

The number of service stations and ORLEN Group’s market shares at the end of 2021

<table>
<thead>
<tr>
<th>Country</th>
<th>Fuel stations</th>
<th>Market share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>1,819</td>
<td>31.1%</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>424</td>
<td>24.8%</td>
</tr>
<tr>
<td>Germany</td>
<td>587</td>
<td>6.1%</td>
</tr>
<tr>
<td>Lithuania</td>
<td>29</td>
<td>4.2%</td>
</tr>
<tr>
<td>Slovakia</td>
<td>22</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

Source: In-house analysis.

In Poland, our service stations operate under the ORLEN brand in the premium segment and under the Bilska brand in the economy segment (with the share of the economy segment gradually declining year on year). In the Czech Republic and Slovakia, they are branded as Benzina ORLEN and Benzina Plus ORLEN, and in Lithuania – as ORLEN. On the German market, ORLEN Deutschland operates economy stations under the umbrella brand STAR ORLEN and the network is complemented by more than a dozen Famila supermarket stations.

In September 2021, the new service ORLEN Paczka (ORLEN Parcel) was launched in place of Paczka w Ruchu (Parcel in Motion). With this new courier service e-commerce customers were offered a larger number of pickup points: parcel lockers (over 300 already operating, the target is over 2,000), ORLEN service stations (over 1,000), and, as before, Ruch kiosks and partner outlets. Orders are delivered to the pickup points within 1–2 business days. In the coming years, the ORLEN Group plans to further expand the geographical coverage of the „ORLEN Parcel” service.

More information on the ORLEN Group’s shares in individual markets and competitors can be found in the “Competitive environment” section.

[Table and map of service stations and market shares]
Retail sales volumes

In 2021, the volume of sales in the ORLEN Group Retail segment grew by 1.4% year on year to 8,969 thousand tonnes. Despite the continuing COVID-19 pandemic and the introduction of a range of restrictions, the volumes of fuel sales in the ORLEN Group’s home markets started to recover on the Polish and Czech markets sales increased year on year, while slight decreases were recorded on the German and Lithuanian markets. All ORLEN Group companies took numerous steps to maintain the continuity of sales and network operations and to ensure the safety of service station staff and customers.

Sales of the ORLEN Group Retail segment [PLN million/000 tonnes]

<table>
<thead>
<tr>
<th>Index</th>
<th>2021</th>
<th>2020</th>
<th>change</th>
<th>change%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Value</td>
<td>4 tape</td>
<td>5 tape</td>
</tr>
<tr>
<td>Light distillate</td>
<td>1,170.0</td>
<td>1,090.0</td>
<td>80.0</td>
<td>7.4%</td>
</tr>
<tr>
<td>Medium distillate</td>
<td>3,027.0</td>
<td>2,983.1</td>
<td>43.9</td>
<td>1.4%</td>
</tr>
<tr>
<td>Gasohol</td>
<td>4,086.0</td>
<td>4,046.0</td>
<td>40.0</td>
<td>1.0%</td>
</tr>
<tr>
<td>Total</td>
<td>8,283.0</td>
<td>7,129.1</td>
<td>1,154.0</td>
<td>15.4%</td>
</tr>
</tbody>
</table>

1 Gasohol, LPG
2 Diesel and light fuel oil sold by ORLEN Deutschland.
3 Other – includes revenue from sale of non-fuel merchandise and services.

Revenue structure of the ORLEN Group Retail segment

Polish market

In connection with the ongoing COVID-19 pandemic, numerous steps were taken to maintain the continuity of sales and network operations and to ensure the safety of service station staff and customers. In 2021, despite the persisting pandemic, the Retail segment’s fuel sales volume grew by 2.2% year on year. The average annual flow per station was 4,366 litres for COVID stations.

Sales volume of the ORLEN Group Retail segment in Poland [000 tonnes]

<table>
<thead>
<tr>
<th>Index</th>
<th>2021</th>
<th>2020</th>
<th>change</th>
<th>change%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Value</td>
<td>Value</td>
<td>4 tape</td>
<td>5 tape</td>
</tr>
<tr>
<td>Light distillate</td>
<td>2,145.1</td>
<td>2,004.4</td>
<td>240.7</td>
<td>11.0%</td>
</tr>
<tr>
<td>Medium distillate</td>
<td>2,277.1</td>
<td>2,143.7</td>
<td>133.4</td>
<td>6.2%</td>
</tr>
<tr>
<td>Total</td>
<td>4,422.2</td>
<td>4,148.1</td>
<td>274.1</td>
<td>6.5%</td>
</tr>
</tbody>
</table>

Markets

The ORLEN Group’s retail home markets include Poland (where the retail business is managed by PKN ORLEN), Germany (with a retail chain operated by ORLEN Deutschland), the Czech Republic and Slovakia (service stations under the brand Benzina, a member of the Unipetrol Group – a subsidiary of the ORLEN Group), and Lithuania (a service station chain managed by AB ORLEN Baltics Retail, a subsidiary).
In 2021, the total number of PKN ORLEN stations increased by 8 locations, to 1,819 at year end, including 1385 CODO stations, a net year-on-year increase of 13 locations (21 new locations, 8 stations closed down). As a result of the continuing investment programme, 21 new CODO stations were added to the retail chain (including three in motorway service areas at motorways and expressways, and MicroPremium stations built on the EPC basis). In 2021, 69 technical upgrades were completed, including 18 major upgrade projects involving the launch of Stop Cafe 2.0 and three Demelin & Build projects.

As at the end of 2021, PKN ORLEN had 426 DOFO stations, a decrease by 5 locations year on year. In 2021, 16 new sites were added to PKN ORLEN’s DOFO chain, 52 long-term annexes and 227 short-term annexes extending agreements with service station operators were signed.

In 2021, PKN ORLEN continued to promote safe purchase methods among fleet customers: a virtual e-card was introduced in the BINSFAW and MIKROFLUIDA programme, and the MiPlata mobile application was expanded to include the possibility of paying for motorway tolls. In 2021, fleet systems were adapted to support the eHilet product and the eHilet system.

The MIKROFLUIDA programme was enhanced to include the possibility of securing the client’s transactions with a purchase limit, tailored for customers whose transactions are not secured by an insurer.

2021 was another difficult year for non-fuel sales, in particular food services, because of the pandemic-related restrictions and a permanent change in customers’ habits, consisting in eating out less frequently. Additionally, margins were under pressure from rising commodity and raw material prices. Nonetheless, we achieved gross margin growth of 18% compared with 2020 and 3% compared with 2019 through active promotional campaigns and strong media support.

In order to limit the customer’s interest in the gastronomic and shop offer, 2 promotions of non-fuel products related to the sale of fuel (burgers, wraps, pizza, products) were carried out. In 2021, the own brand development programme was continued.

The Stop Cafe 2.0 feed & drink service concept was rolled out at a further 181 locations, which brought the number of ORLEN stations featuring this format to 909 (including 201 DOFO stations) at the end of 2021. In total, PKN ORLEN had 1,748 stations offering food services across all formats (Stop Cafe, Stop Cafe Bistro and Stop Cafe 2.0). In 2021, seven new car wash facilities were built.

As at the end of 2021, the ORLEN Group operated 1,028 active retail outlets of RUCH. Their number was reduced as a result of measures taken to optimise performance and ensure profitability of Ruch’s retail operations, and as a consequence of the Covid pandemic. In June, the first retail outlet was opened in Warsaw in a new format under the ORLEN w Ruchu (ORLEN in Motion) brand, followed by further locations in Bydgoszcz, Leszno, Tychy and other places.
Sales structure of the ORLEN Group Retail segment in Germany

<table>
<thead>
<tr>
<th>Sales</th>
<th>2021</th>
<th>2020</th>
<th>change</th>
<th>change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light distillates</td>
<td>53.5%</td>
<td>55.2%</td>
<td>-1.7%</td>
<td>-3.1%</td>
</tr>
<tr>
<td>Medium distillates</td>
<td>46.5%</td>
<td>44.8%</td>
<td>1.7%</td>
<td>3.1%</td>
</tr>
</tbody>
</table>

The number of service stations managed by ORLEN Deutschland was 587, including 7 premium stations (ORLEN), 543 economy stations (Star), and 17 supermarket stations (Familia). Over 85% of them were CODO stations, with the remaining sites being DODO stations.

In 2021, the Star Connect food & drink service was launched at 24 new locations, as a result of which at the end of 2021 the format was already available at 162 ORLEN Deutschland stations. In 2021, further Stop Cafe 2.0 stations were put into service in Germany. Taking all formats into account (Star Connect and Stop Cafe 2.0), food & drink service was available at 169 stations within the chain.

The ORLEN Deutschland network has the highest number (502) of car washes among all retail chains managed by the ORLEN Group. About 60 car washes were upgraded in 2021.

In 2021, ORLEN Deutschland expanded its station chain by four stations (five new locations, one station closed down).

The Star network includes two hydrogen refuelling stations and seventeen electric car chargers.

Czech and Slovak markets

Despite the persisting COVID-19 pandemic, in 2021 fuel sales in the Czech and Slovak markets grew by 7.1% year on year. The average annual flow per station was 2.61 litres.

Sales volume of the ORLEN Group Retail segment in the Czech Republic [1000 tonnes]

<table>
<thead>
<tr>
<th>Sales</th>
<th>2021</th>
<th>2020</th>
<th>change</th>
<th>change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light distillates</td>
<td>440.6</td>
<td>476.9</td>
<td>-36.3</td>
<td>-7.6%</td>
</tr>
<tr>
<td>Medium distillates</td>
<td>285.0</td>
<td>271.1</td>
<td>13.9</td>
<td>5.2%</td>
</tr>
<tr>
<td>Total</td>
<td>725.6</td>
<td>748.0</td>
<td>72.4</td>
<td>9.7%</td>
</tr>
</tbody>
</table>

As at the end of 2021, the ORLEN Group managed a network of 424 stations in the Czech Republic, including 408 CODO and 16 DODO outlets. The retail network on the Czech market included stations operating under the Benzina brand and three stations operating under the ORLEN brand (during the year two new service stations were added).

As at the end of 2021, the number of Benzina-branded stations on the Slovak market was 22. All of them operated under the CODO model.

Benzina continued to invest in upgrading and expanding the service station chain in the Czech Republic and Slovakia. The Stop Cafe 2.0 format was rolled out into further sites, so at the end of 2021 it was already available at 276 stations in the Czech Republic and 13 in Slovakia within the Benzina chain. In total, 352 Benzina stations offered food & drink services across all formats (Stop Cafe, Stop Cafe Bistro and Stop Cafe 2.0). In addition, automatic car washes were upgraded at 12 locations. A total of 134 car washes operated in the Benzina chain in the Czech Republic.

In 2021, Benzina expanded its chain with 5 service stations in the Czech Republic (6 new locations, 1 station closed down) and 9 new service stations in Slovakia.

Since the beginning of 2021, Benzina has opened two new convenience (stand-alone non-fuel) stores in the Czech Republic.

Development of contactless payments at coffee vending machines continues.

The Benzina network includes 44 CNG stations and 65 electric vehicle chargers. The plan was to open 2 hydrogen stations in 2021 but was postponed due to the COVID-19 restrictions.

Lithuanian market

In 2021, fuel sales on the Lithuanian market fell 2.7% year on year and the average annual flow per station was 3.1 litres.

Sales volume of the ORLEN Group Retail segment in Lithuania [1000 tonnes]

<table>
<thead>
<tr>
<th>Sales</th>
<th>2021</th>
<th>2020</th>
<th>change</th>
<th>change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light distillates</td>
<td>5.2</td>
<td>4.9</td>
<td>0.3</td>
<td>6.1%</td>
</tr>
<tr>
<td>Medium distillates</td>
<td>34.6</td>
<td>35.8</td>
<td>-0.2</td>
<td>-0.6%</td>
</tr>
<tr>
<td>Total</td>
<td>40.2</td>
<td>40.7</td>
<td>0.5</td>
<td>1.1%</td>
</tr>
</tbody>
</table>
Sales structure of the ORLEN Group Retail segment in the Lithuanian market

The number of CODO stations at the end of 2021 was 29, including 19 Stop Cafe 2.0 stations and 10 Stop Cafe stations.

Supply sources

In 2021, the ORLEN Group’s refining assets were the main source of fuel supplies for the Polish, Czech, Slovak and Lithuanian service station chains. The Group does not operate its own production plants in Germany. Unlike in the case of other local markets, ORLEN Deutschland works with suppliers operating on the German wholesale market, including Deutsche BP AG, Shell Deutschland Oil GmbH, Total Deutschland GmbH, and Esso Deutschland GmbH. A considerable volume of fuels sold by ORLEN Deutschland comes from the Litvínov refinery run by Unipetrol RPA s.r.o., part of the ORLEN Group. In 2021, the volume of supplies from the Czech Republic did not change year on year, meeting more than 20% of ORLEN Deutschland’s fuel demand.

Upstream

The ORLEN2030 strategy takes into account the consistent development of its own gas fields, which in the perspective of a decade will meet 20% of the ORLEN Group’s needs. The launch of the first-ever Bystrowice natural gas mine in the history of the company in Podkarpacie is an important step closer to this goal.

Upstream

<table>
<thead>
<tr>
<th>Licences number</th>
<th>Polish</th>
<th>Czech</th>
<th>Slovak</th>
<th>Lithuanian</th>
</tr>
</thead>
<tbody>
<tr>
<td>14</td>
<td>5</td>
<td>3</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

* Number of new wells in 2021 adjusted for interests held by other partners.

Operations in Poland

Our international team of experts from Poland and Canada has the necessary competence and experience to carry out PKN ORLEN’s mission and vision of hydrocarbon exploration and production through efficient management of a diversified portfolio of assets.

The ORLEN Group’s strategy assumes continuation of upstream operations through cautious and balanced development of the portfolio of upstream assets, with a particular focus on gas fields.

The project activities were conducted in 2021 on the basis of objectives of the ORLEN Group Strategy until 2030, which provides for maximising the value of assets and hydrocarbon production, prioritising selected exploration and appraisal projects, and launching production in areas under development. For the segment’s operations in Canada the assumption of self-financing of investments was maintained.

At the end of 2021, the ORLEN Group held, on its own or with a partner (PINSA), 14 exploration and appraisal licences in Poland, covering a total area of almost 3.4 thousand square km, and spread over six provinces, with 2P reserves of 8.6 mboe. The ORLEN Group holds 100% interests in ten licences, 49% interests in four licences and 49% interests in parts of two licences within a separate licence area.

In Alberta, Canada, the ORLEN Group is a recognised operator and holds exploration and production assets covering a total area of approximately 3.414 thousand acres (approximately 14 thousand sq. km), gross, and approximately 266.8 thousand acres (approximately 11 thousand sq. km) net, i.e. calculated based on the size of interests, and with 2P reserves totaling 162.8 mboe.

Information on market trends in the upstream area can be found in the ‘Market Environment’ section.
The ORLEN Group conducts exploration and production activities in Poland via its subsidiary, ORLEN Upstream Sp. z o.o. (in December 2019, ORLEN Upstream acquired FX Energy Poland Sp. z o.o.).

The company’s operations in 2021 included hydrocarbon production and exploration. Currently, PKN ORLEN produces gas domestically in cooperation with PGNiG S.A. (the Płocki Project) and on its own production from the Bystrowice field as part of the Miocen Project, commenced at the end of December 2020.

The ORLEN Group’s total annual output in Poland reached 1,100 boe per day. The main project activities in Poland were conducted in three oil provinces.

In the Kraków Oil Province, work was performed under two projects. As part of the Miocene Project, production from the Bystrowice field continued and work was carried out to optimise the level of hydrocarbon extraction. At the same time, exploration work was undertaken, including drilling of the Przyczyn-Ot and a production test (analysis of reservoir data is currently underway). In the Carpathian Project, cartographic work was carried out in the Oseeł Jasiński-Garlic-Goluchów area and the documentation was prepared for boreholes drilled as part of the project in previous years. In June 2021, an application was filed with the licensing authority to extend the Block 435 licence (a decision of the Ministry of Climate and Environment is pending).

In the Gdansk Oil Province, the Edge Project activities were ongoing in five existing licence areas and an analysis of geological data from the Kozalín-Polandów and Drabno-Czuchków licences acquired in February 2020 was made. In connection with exploration work planned for the coming years, an application was submitted to the licensing authority for extension of four licences, i.e. Ulisław-Gnojewo, Bystrów-Wudyn, Chojnice-Wilczew and Brda-Bełczyniec (a decision of the Ministry of Climate and Environment is pending). Throughout 2021, work continued on the development of the Tuchola and Bieżeń fields to enable the generation of electricity from nitrogen-rich natural gas; the work included the installation of generator sets, design work and construction of production facilities. In December 2021, the commissioning process began at both locations (including completion of preparations for continuous gas production). The connection of generators to the grid, final acceptance of the project and start-up of electricity generation are planned for January and February 2022. In 2021, interpretation and analysis of the Wilczew 3D seismic data were completed and work was underway on the processing and interpretation of the Kozalín-Madłosze 3D seismic data. Formal, design and administrative activities were conducted for future exploration drilling, and the documentation for boreholes drilled in previous years under the Edge project was prepared. In December 2021, following a technical and financial analysis, the company decided to relinquish the Drabno-Czuchów and Kozalín-Polandów licences.

In the Poznań Oil Province, work was ongoing on two projects implemented under a Joint Operations Agreement with PGNiG S.A. (the Operator). As part of the Płotki Project, the Bysław-1 well was drilled in the first half of 2021 (the well was abandoned due to lack of hydrocarbon flow). In November 2021, drilling of the Miłosław-7H well in the Miłosław field commenced (the work will continue in 2022). As part of exploration work, an additional analysis of the Brzezie-Goluchów 3D seismic data was completed. Following analyses of the completed seismic work, Rusoń 3D and Bystrów-Międzymiędz 3D, the location of the future well was selected and formal preparatory work for drilling commenced. With a view to developing reserves discovered in previous years, preliminary work began on selecting a contractor for the development of the Grąziów-1 well, and work proceeded on the design documentation and legal documentation for the development of the Chwiałkin field. Under the Sieraków Project, an extended production test was conducted in the first quarter of 2021 to evaluate the production potential of the Sieraków-2H well completed in 2020. After the acquired reservoir data was analysed, the Preliminary Concept for the well development project was updated and approved.

ORLEN Group’s upstream projects in Poland

Operations in Canada

In Canada, production operations are carried out via the subsidiary ORLEN Upstream Canada Ltd. ("OUC").

The company’s principal hydrocarbon assets are located in Keshia, Ferrier and Lachend in the Province of Alberta, western Canada, and are primarily associated with production from unconventional hydrocarbon sources, such as tight oil and tight gas projects, with the use of horizontal wells and multi-stage hydraulic fracturing technology. The fields are mainly located in the
Montney (Kakwa area) and Cardium (Ferrier and Lochend areas) geological formations, which are considered some of the best unconventional oil and gas formations in North America.

In the Kakwa area, the company produces gas with oil condensate. In the Ferrier area – gas with a high content of natural gas liquids (NGLs) and oil, and in the Lochend area – oil with gas. The high output of condensate which, unlike other hydrocarbon feedstocks, is in high demand in the local market, is a source of material profits to OUC. The significant diversity of minerals produced in various regions provides the company with the flexibility to adapt to changing market trends. The assets in the Kakwa area are characterised by very high production well yields, while the assets in the Ferrier and Lochend areas offer lower costs of well drilling and development and hydrocarbon production, with relatively high production volumes. In addition to these key assets, OUC owns a number of smaller production projects and licences located in various areas, including in the Province of Alberta and the Province of New Brunswick.

Taking advantage of the hydrocarbon price rebound and the favourable medium-term outlook for oil and gas, the company decided to accelerate and increase the scale of its drilling programme in 2021. In the vast majority of cases, the projects were executed with the company as the operator.

The 2021 capital expenditure programme focused on further drilling work in the key producing areas in the company’s portfolio, namely Ferrier, Kakwa and Lochend located in the Province of Alberta. All of the wells drilled were horizontal production wells that are typically subjected to multi-stage hydraulic fracturing prior to production commencement. The company uses state-of-the-art drilling and field development technologies, which enable it to drill horizontal wells of more than 6,500 metres in total length and perform 150 fracturing sections in a single well. This, combined with the high reservoir parameters of the assets, ensures cost-effective achievement of very good production results.

**Ferrier**

Within the Ferrier area, drilling of four wells (3.00 net) began. In addition, five wells (5.00 net) were brought on stream after fracturing.

**Kakwa**

In the Kakwa area, drilling of four wells (3.25 net) began, while fracturing was performed on two wells (2.00 net), which were later brought on stream.

**Lochend**

Drilling of three wells (2.50 net) commenced in the Lochend area, of which one well (0.50 net) was fractured and brought on stream.

**Kaybob**

In the Kaybob area, one well was drilled, fractured and brought on stream at one location where OUC holds a minority interest (0.23 net).

Fracuring and production launch activities at the locations covered by the 2021 drilling programme, in addition to the planned development of additional sections, are included in the company’s 2022 Investment Project budget.

During 2021, scheduled periodic repair and maintenance shut downs were held at the company’s own hydrocarbon processing facilities (“Gas Plants”) in the Ferrier and Kakwa areas.

Apart from drilling and fracturing operations, work was carried out to optimise production and reduce operating expenses, for instance by installing dedicated downhole equipment and performing various production enhancement operations in the existing production wells in the Kakwa, Ferrier and Lochend areas. These activities helped increase the hydrocarbon production efficiency and reduce unit operating costs of hydrocarbon production.

In March 2021, OUC signed a deep cut contract for the Kakwa area, which allowed it to expand its total production volumes and increase the share of the liquid fraction, which drives up operating margins.

In all areas, pre-environmental measures were continued to reduce greenhouse gas emissions and meet all environmental requirements of the Federal Government of Canada and the Provincial Government of Alberta, including by reducing flaring, preventing methane emissions, conducting regular inspections and infrastructure adaptation projects, and upgrading equipment with an effect on emission volumes.

In 2021, the average output was 15.6 thousand boe, of which 47% were liquid hydrocarbons: crude oil and NGL, including condensate (produced in the Kakwa area), which had the largest share in revenue and profit from production.

Excluding the indirect impact in the form of incremental production revenue and incremental earnings associated with the strong increase in hydrocarbon prices in 2021 driven by the rapid recovery in demand for crude and petroleum products in global markets following the 2020 lockdowns, the COVID-19 pandemic did not have any major direct impact on OUC’s operating and financial performance in 2021. The company continued the programme of preventive and remedial measures initiated in 2020, including the creation of a dedicated COVID-19 pandemic situation management team, and the implementation of detailed preventive plans and procedures to address the risk of COVID-19 infections and ensure continuity of organisational functions across all OUC units in the Calgary office and field facilities. Field operations were declared ‘essential service’ and were continued with control and prevention procedures in place. In addition, risk analyses were performed for all key business areas and preventive procedures were implemented. An online monitoring, planning, management, communication and information system was put in place to address COVID-19-related issues.

On September 20th, an explosion and fire occurred at Plains Midstream Canada’s facility in the Ferrier/Strachan area that receives hydrocarbons produced by OUC. The situation was so serious that Plains declared a force majeure event, which had a major impact on OUC and all companies in the Ferrier region. The company was initially unable to produce hydrocarbons in the entire Ferrier/Strachan area until October 9th and, in addition, the Pembina fractionation plant providing deep cut processing services for hydrocarbons from the Kakwa area was shut down as a result of the incident. Pembina, too, declared a force majeure event, as its processes are interconnected with those of the Plains facility. From October 9th, production was gradually restored and hydrocarbons were transported by road and rail. Subsequently, on November 16th, OUC signed contracts for 100% of output from the Ferrier area to be transported by road or rail and resumed production at 100% of its capacity. Finally, the Plains plant resumed operations on November 24th. The company estimated its losses caused by the event at nearly $11 million.

**Average output in 2021**

15.6 thousand boe

**Good reservoir properties of OUC assets and their location in a well-surveys and developed area minimise the operational risks of the projects. The Western Canadian upstream market where the majority of OUC assets are located is a very mature one. With thousands of discovered and appraised diverse oil and gas reserves, several hundred thousand drilled oil and gas wells, a multitude of different types of production and exploration activities, and regulations tailored for oil operators, the region...**
covered by numerous high-quality geological surveys and offers very easy access to specialist data and expertise for exploration and production activities, which significantly reduces geological and operational risks. An extensive local oil and gas infrastructure, coupled with a dense network of pipelines, and a rich, competitive oilfield services market with access to the latest production technologies, ensures that exploration, development and production operations are conducted much faster, cheaper and more efficiently than in most other oil regions of the world. The market also offers well-developed operational and cost optimizing solutions. On the other hand, the local market is oversupply and often struggles with capacity constraints of export pipelines carrying hydrocarbons to external markets (located mainly in Eastern Canada and the US). A gradual reduction of the export pipeline capacity constraints and step-by-step expansion into new hydrocarbon sales markets are expected within the next few years.

Seeking to achieve operational synergies and focus its investment projects on the most profitable areas, ORLEN Upstream Canada is keeping a watchful eye on the local market. During the year, selected assets located in OUC’s key business areas underwent a detailed technical and economic analysis. In the second quarter of 2021, the company decided to proceed with a minor transaction involving pre-emption and expansion of its licence rights in the Lacbo area, in the immediate vicinity of oil wells with the best economic indicators in the entire Cardium formation in Canada and in OUC’s portfolio. The transaction will make it possible to gradually increase investment activities in the area and significantly strengthen OUC’s negotiating position with partners. Also in the second quarter of 2021, the company completed the sale of five undeveloped sections with mineral rights located in OUC’s non-core assets in the Chime area, where no exploration or production activities are being conducted. The transaction was aimed at optimising the asset portfolio and focusing investments on the company’s key business areas.

ORLEN Upstream Canada holds a 2.3% interest in Toronto Stock Exchange-listed Pieridae Energy, which currently owns conventional gas producing assets (with average production of 38,700 thousand barrels) in the third quarter of 2021 and 2P reserves of 204 mboe at the end of 2020, as well as interests in six gas processing plants and approximately 3,800 km of pipelines in the Province of Alberta. Pieridae Energy purchased the assets from Shell in 2019, however, the procedure to formally transfer the rights to the assets onto Pieridae is still pending. It has been stressed by an investigation into centre ops, raised by the Alberta Energy Regulator with respect to Pieridae’s ability to pay future decommissioning costs and decommission the acquired wells and facilities, as is currently required for this type of transaction. However, until the proceedings are concluded with a final decision, the company may continue production from the purchased assets. Pieridae is also the operator of a project to build a stationary LNG export terminal to be located in Goldboro, on the east coast of Canada in the Province of Nova Scotia. The final investment decision has not been made yet, although the project is well advanced from a formal and design point of view and is supported by a strong macroeconomic rationale (low gas prices in the local market, high gas prices and growing demand for gas in Europe). Pieridae is currently considering installing a smaller floating LNG terminal at the same location. In addition, the company is currently evaluating potential strategic options, which include possible sale of the entire company, a merger with another company, or sale of the company’s assets.

### Assets in Canada

Assets in Canada

#### Sales volume of the ORLEN Group Upstream segment [PLN million/‘000 tonnes]

<table>
<thead>
<tr>
<th>Sales</th>
<th>2021 Value</th>
<th>2021 Volume</th>
<th>2020 Value</th>
<th>2020 Volume</th>
<th>Change %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude oil</td>
<td>97</td>
<td>99</td>
<td>109</td>
<td>119</td>
<td>10%</td>
</tr>
<tr>
<td>Natural gas</td>
<td>101</td>
<td>111</td>
<td>97</td>
<td>104</td>
<td>-3%</td>
</tr>
<tr>
<td>Other</td>
<td>23</td>
<td>29</td>
<td>19</td>
<td>27</td>
<td>43%</td>
</tr>
<tr>
<td>Total</td>
<td>120</td>
<td>139</td>
<td>136</td>
<td>146</td>
<td>5%</td>
</tr>
</tbody>
</table>

*Other – in volume terms the item includes NGL, Natural Gas Liquid and in value terms it includes sales of NGL and revenue services rendered by the segment.

In 2021, total sales in both markets reached 694,000 tonnes, a (12)% decrease year on year brought about by the deterioration of the macroeconomic conditions and the reduction of the investment project programme in Canada.

### Sales structure of the ORLEN Group Upstream segment

#### 2021

- Crude oil: 7.7%
- Natural gas: 63.1%
- Other: 29.2%

#### 2020

- Crude oil: 19.7%
- Natural gas: 62.4%
- Other: 23.9%
Corporate functions

Corporate functions include activities performed by selected companies of the ORLEN Group related to management, administration and other support functions for separate operating segments.

GRI Disclosures

Capital investments

Companies operating under corporate functions perform a wide range of tasks, including:

- Protection of people and property as well as technical security.
- Comprehensive accounting, HR and payroll services as well as inventory services.
- Laboratory services for the analysis of petroleum products and water, sewage, soil and air.

Financial highlights of the Corporate functions segment

<table>
<thead>
<tr>
<th>Segment revenue, PLN million</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>change</th>
<th>% change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sales revenues, including:</td>
<td>1,024</td>
<td>593</td>
<td>431</td>
<td>491</td>
<td>70.7%</td>
</tr>
<tr>
<td>Sales revenues from external customers</td>
<td>444</td>
<td>81</td>
<td>356</td>
<td>404</td>
<td>70.5%</td>
</tr>
<tr>
<td>Sales revenues from transactions with other segments</td>
<td>580</td>
<td>75</td>
<td>14</td>
<td>145</td>
<td>24.9%</td>
</tr>
<tr>
<td>Segment expenses (1)</td>
<td>(201)</td>
<td>(713)</td>
<td>(734)</td>
<td>(406)</td>
<td>(36.0%)</td>
</tr>
<tr>
<td>One-off gain or loss adjusting to abnormal income/expenditures</td>
<td>0</td>
<td>(21)</td>
<td>7</td>
<td>33     -3.0%</td>
<td></td>
</tr>
<tr>
<td>Share in profit from associates accounted for under the equity method</td>
<td>(1)</td>
<td>0</td>
<td>0</td>
<td>0       0.0%</td>
<td></td>
</tr>
<tr>
<td>Profit/loss from operations (EBIT)</td>
<td>(179)</td>
<td>(179)</td>
<td>(83)</td>
<td>660</td>
<td>24.0%</td>
</tr>
<tr>
<td>Profit/loss from operations (EBITDA)</td>
<td>(336)</td>
<td>(336)</td>
<td>(83)</td>
<td>660</td>
<td>24.0%</td>
</tr>
<tr>
<td>EBIT/loss from operations</td>
<td>(179)</td>
<td>(179)</td>
<td>(83)</td>
<td>(406)</td>
<td>(36.0%)</td>
</tr>
<tr>
<td>Increase in non-current assets</td>
<td>343</td>
<td>455</td>
<td>445</td>
<td>(112)</td>
<td>(24.6%)</td>
</tr>
</tbody>
</table>

Note: Sources for impairment of property, plant and equipment and intangible assets:
- In 2021 amounted to PLN 3 million – concerned mainly impairment allowances at ORLEN Unipetrol Group.
- In 2020 amounted to PLN 4 million – concerned mainly impairment allowances at PKN ORLEN Lietuva Group and the ORLEN Unipetrol Group.
- In 2019 amounted to PLN 7 million – concerned mainly impairment allowances at PKN ORLEN.
Our products, services and brands

Our products and services are appreciated by both individual and institutional customers. ORLEN is the most valuable Polish brand according to the Rzeczpospolita ranking. The brand is valued at nearly PLN 10 billion.

GRI Disclosures:
GR103-2

Our products

Fuel products
- Gasoline, diesel oil, fuel oil
- Liquefied gas, liquefied biofuels
- Aviation fuels, heating oil

Oils
- Base oils, engine oils, gear oils, lubricants, adhesives
- Agricultural, industrial oils

Industrial gases
- Oxygen, nitrogen

Bitumens
- Road, industrial, modified and multipurpose bitumens

Olefin products
- Olefins, propylene, butadiene

Polymers
- Polyethylene, polypropylene, polyvinyl chloride (PVC), PVC granulates, PVC compounds

Artificial fertilizers
- Nitrogen fertilizers, ammonium nitrate, ammonium sulfate, CAN

Salt-based products
- Rock salt, rock salt, salt pellets, salt briquettes, industrial-grade sodium carbonate, caustic soda, waste salt, industrial grade lime, table salt, salt kest, salt separated

Other petrochemical products
- Petrochemicals (propylene, propene butadiene, styrene-butadiene, polymers phenol, glycol, terephthalic acid (PTA), epichlorohydrin, polypropylene, polyethylene glycol, quinolines, benzene, toluene, benzene-derived products)

Power Generation
- Electricity, heat, gas, solar panels, electric vehicle charging stations, district heating, TETRA Digital Critical Communications System, 3G, 3G Evolution (Advanced Mobile Response)

Other
- Brake fluids, car service fluids, PVC sheets, car seat products and coatings, propellant foam, LPG and A2-bleed fluid, service station centres and metering systems
TOP 10 products in terms of revenue in 2021

Our brands

The ORLEN Group companies are engaged in the following types of activity:

- **energy** (electricity and heat), refining and petrochemical activities, including crude oil processing, and manufacturing of refining, petrochemical and chemical products and semi-finished products;
- **trading**: distribution and sale of electricity and heat, trade in electricity, wholesale and retail sale of fuels, petrochemicals, chemical and other products;
- **services**: crude oil and fuels storage, transport, repair and maintenance services, laboratory, security, design, administrative, insurance and finance services;
- **hydrocarbon exploration, appraisal and production**.
Our markets

The ORLEN Group has operations in six home markets: Poland, the Czech Republic, Germany, Lithuania, Slovakia, and Canada. Our products reach 85 countries.

GRI Disclosures

GRI 102-6

Other markets reached by the ORLEN Group's products

Antigua and Barbuda
- Bitumen

Curaçao
- Bitumen

Malta
- Oils
- Engine fluids

Singapore
- Fuel oil
- Prilled sulfur

Energy assets
Petrochemical assets
Refinery assets
Gas stations
Mining assets
**Financial capital**

Financial capital represents the available financial resources held currently by the ORLEN Group, obtained from internal or external sources and generated as part of our business.

**Key facts about the capital**

The financial capital of the ORLEN Group includes equity and debt capital, mainly in the form of borrowings.

**ORLEN Group's equity (PLNbn)**

- Retained earnings: 47.8
- Share capital: 1.1
- Share premium: 1.2
- Other capital and foreign exchange differences: 2.5
- Total equity: 52.6

**ORLEN Group's debt capital (PLNbn)**

- Bonds and notes: 15.2
- Share capital: 11.1
- Share premium: 1.4
- Other capital and foreign exchange differences: 13.8
- Total debt capital: 46.6

**Capital management**

- Working towards the development of renewable energy and production of advanced petrochemicals, with a simultaneous conversion of existing operations, where innovation and adoption of new technologies is consistent with the long-term objective of achieving carbon neutrality by 2050.
- Further development of the multi-utility structure of the ORLEN Group to maintain the leading role in the energy transition process in Poland and Central Europe.
- Maintaining financial stability through measures optimising expenditure and asset structure.
- Maintaining financial ratios, especially leverage, at safe target levels.
- Taking steps to strengthen the ORLEN Group’s long-term competitive edge both in Poland and abroad.
- Strong focus on developing existing assets and advancing innovation, which is to help the ORLEN Group preserve a strong competitive advantage in the extremely dynamic environment.

*The operating results for 2020 and 2021 include impairment losses on assets of PLN (1,591)m and PLN 811m, respectively.*
Outcomes

In 2021, the ORLEN Group operating segments delivered LIFO-based EBITDA before net reversal of impairment losses on assets of PLN 14.2bn.

LIFO-based EBITDA by operating segment (PLNbn)

After the net effect of impairment reversals of PLN 0.8bn (mainly in respect of ORLEN Upstream’s assets, of PLN 0.9bn), the ORLEN Group’s LIFO-based EBITDA for 2021 totaled PLN 15.0bn.

The effect of oil price movements on the value of inventories, reflected in EBITDA, was PLN 4.2bn. As a result, the ORLEN Group’s EBITDA for 2021 came in at PLN 19.2bn.

Effect of impairment losses and inventory write-downs on EBITDA (PLNbn)

Net cash from operating activities in 2021 was PLN 13.3bn and included mainly earnings before depreciation and amortization (EBITDA) of PLN 19.2bn, adjusted primarily for changes in provisions of PLN 6.5bn, negative effect of an increase in net working capital of PLN (4.4)bn, gain on investment activities of PLN (3.7)bn, income tax paid of PLN (1.2)bn and share in net profit/(loss) of equity-accounted entities of PLN (0.6)bn.

Net cash used in investing activities in 2021 amounted to PLN (9.7)bn and included mainly net cash from the acquisition and disposal of property, plant and equipment, intangible assets and right-of-use assets of PLN (11.1)bn, purchase of shares in subsidiaries, net of cash acquired as at the acquisition date in the amount of PLN (0.8)bn, and settlement of derivatives not designated for hedge accounting of PLN 2.0bn.

As part of the ORLEN Group Strategy for 2021–2030 introduced in 2020, PKN ORLEN also adopted a dividend policy which assumes annual dividend payments of at least PLN 3.50 per share starting from 2021. The Group’s dividend policy takes into account its liquidity situation as well as the ability to deliver strategic financial objectives.

Dividend distribution (PLNbn)

How financial capital interacts with other capitals

The ORLEN Group’s strategy until 2030 sets the course for the Group’s transformation into a multi-utility group and a leader of energy transition in the region. The long-term ORLEN Group’s strategy is consistent with global trends in the development of renewable energy and production of advanced petrochemicals, with a simultaneous conversion of existing operations, where innovation and adoption of new technologies is consistent with the long-term objective of achieving carbon neutrality by 2050.
By 2030, we plan to spend a total of PLN 140 billion on investment projects. Our growth is based on a diversified portfolio of existing and future operations, whose development is guided by the direction of the ORLEN Group's transformation until 2030.

The Group's key growth area over the next decade will be energy, based mainly on renewables and supported by gas-fired sources. The generation assets will be complemented by the Group's extensive and modern distribution network, offering access to a broad base of customers and generating a steady stream of profits. The Group will also build energy storage facilities on a pilot basis to optimise the costs of electricity distribution.

By 2030, around half of the Group's profits from crude oil processing will be derived from the petrochemical business. Expansion of the existing portfolio and entry into new business areas, such as recycling and biomaterials, will help entrench our position as a leading petrochemical producer in Central Europe. These two segments will account for approximately PLN 45-55bn of the planned capital expenditure until 2030.

Until 2030, refining will remain an important segment of our business. Its transformation will be driven by energy efficiency improvements, increased crude conversion rates and integration with Grupa LOTOS, the Group's major domestic peer. Expansion of the biofuel and hydrogen fuel output will be another vital driver. As part of the strategy, work will be continued on the Group's hydrogen hub projects in Włocławek and Płońsk, and steps will be taken to launch green hydrogen production.

The strategic vision is to vigorously develop our retail arm, based on the network expansion and significant additions to the retail offering. By 2030, the number of Polish ORLEN-branded service stations operating throughout the region will be at least 3,500. The ORLEN Group will develop its network mainly abroad to increase the share of foreign locations from the current 37% to 45%. We are gradually enhancing the availability of alternative fuels. By the end of the 2020s, we plan to deploy at least 1,000 EV fast chargers and increase the sales of hydrogen and LNG/CNG. Our broad, integrated offering of non-fuel products and services will keep attracting new customer groups. Based on the RUCH countrywide chain of newsagents, we will expand our store and food service formats beyond service stations, and we will also develop our own network of parcel pickup points and e-commerce services. Integration with the Energa Group will help ORLEN develop comprehensive service centres for both retail and business customers, encompassing fuel and electricity sales as well as distributed energy solutions.

The ORLEN Group's strategy envisages prudent expansion of the asset portfolio in the upstream segment, with a special focus on natural gas reserves and potential restoration of the existing portfolio of production assets after merger with Grupa LOTOS. The ORLEN Group will also expand its existing operations in Poland. We will pursue growth in upstream while continuously maximising asset value and driving operational excellence.

As at December 31st 2021, the largest items of the ORLEN Group's assets were property, plant and equipment and intangible assets, which increased by PLN 8.1bn to PLN 60.2bn. In 2021, the ORLEN Group's capital expenditure on property, plant and equipment and intangible assets was PLN 8.1bn, up by PLN 0.9bn year on year.

For more information on financial capital, see "Management's discussion and analysis of 2021 financial results".

### Human capital

People are one of the key pillars of the ORLEN Group's strategy. We provide fair and friendly working conditions for our employees. Relations with internal stakeholders and the external business environment are based on integrity, respect and on dialogue, cooperation and involvement of each staff member in building a culture consistent with the Company's core values. SOEs:

- **Goal 3**
- **Goal 5**
- **Goal 8**
- **Goal 10**

### Key facts about the capital

- Over 35,000 employees to be involved in the ORLEN Group strategy implementation by 2030
- Multinational team in Poland, the Czech Republic, Germany, Lithuania, Slovakia, and Canada
- Representatives of various professions
- Multigenerational workforce
- Former employees with long years of service to ORLEN Group
- Potential employees – professionals and students of technical schools and universities who are at the point of choosing their field of study or future career

### Capital management

- The pillars of the ORLEN Group's HR strategy for 2020–2030 include building competencies of the future in new professions and business areas, upskilling/reshuffling, change and diversity management, unique knowledge management, implementing best practices to enhance HR segment management, and advanced digital solutions (automation and digitalisation of HR processes).
- We design initiatives to build the competences that are and will be important to achieving the objectives of our
business strategy

- We regularly conduct employee engagement and satisfaction surveys covering various areas of the working environment to get a better insight into employees’ needs and expectations and to make changes and improvements aimed at increasing employee engagement.

- Age management and succession management solutions have been put in place to counteract adverse consequences of demographic shifts on the labour market.

- We believe in social dialogue based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules.

We work consistently to satisfy our talent acquisition and retention needs, focusing on specific target groups relevant to our business areas – current and prospective employees, as well as students and graduates of vocational schools and universities.

- We maintain the highest workplace safety standards, building the awareness of safe work procedures and creating proactive attitudes among our employees and contractors.

- We offer employment opportunities to people with disabilities.

### Outcomes

<table>
<thead>
<tr>
<th>ORLEN Group employees</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>in [persons]</td>
<td>35,424</td>
<td></td>
</tr>
<tr>
<td>Employees for one month</td>
<td>[N]</td>
<td>58</td>
</tr>
<tr>
<td>Turnover</td>
<td>[N]</td>
<td>54</td>
</tr>
<tr>
<td>Full-time employees</td>
<td>[N]</td>
<td>4,114</td>
</tr>
<tr>
<td>T1 P6R</td>
<td>[N]</td>
<td>6,06</td>
</tr>
<tr>
<td>Average hiring time per employee, including</td>
<td>[N]</td>
<td>2,57</td>
</tr>
<tr>
<td>Women</td>
<td>[N]</td>
<td>20.6</td>
</tr>
<tr>
<td>Men</td>
<td>[N]</td>
<td>20.2</td>
</tr>
<tr>
<td>Managers</td>
<td>[N]</td>
<td>7.8</td>
</tr>
<tr>
<td>Non-managers</td>
<td>[N]</td>
<td>12.9</td>
</tr>
<tr>
<td>Liabilities to PFRON</td>
<td>[PLN]</td>
<td>over 26m unpub</td>
</tr>
<tr>
<td>Employment of people with disabilities</td>
<td>[persons]</td>
<td>unpublished</td>
</tr>
<tr>
<td>Employment of people with disabilities</td>
<td>[persons]</td>
<td>unpublished</td>
</tr>
<tr>
<td>Average training hours per employee, including</td>
<td>[persons]</td>
<td>unpublished</td>
</tr>
</tbody>
</table>

For ten years in a row, PKN ORLEN has been recognised by experts from Top Employers Institute as Poland’s leading employer.

Based on the results of an independent study of the HR policies of surveyed companies, PKN ORLEN won the Top Employer Polska title once again in 2021 and for the first time in history it topped the ranking table. The participants of the survey conducted by Top Employers Institute are the best employers from around the world following HR practices that comply with international standards.

For more information on employee matters, see ‘Responsible employer’.

### How human capital interacts with other capitals

In 2021, the ORLEN Group’s hiring policy was focused on recruiting top quality specialists for both day-to-day tasks and strategic projects. Acquisition of the Polska Press Group (1,827 people) and ORLEN Transport (180 people) in 2021 and expansion of the ORLEN Group’s power generation, IT and retail areas led to a year-on-year increase in total workforce by 2,047 people, to 35,424 employees. Attracting skilled labour is key to maintaining and growing the components of manufactured capital.

Investment in growing human capital has a positive impact on the intellectual and social capitals, and thus also drives the financial capital. In order to attract top talent, ORLEN Group offers terms of employment that are unique both in terms of employee compensation and non-financial benefits.
Manufactured capital

The path of the ORLEN Group’s transformation until 2030 has been charted around renewable energy and advanced petrochemicals. The ORLEN Group intends to invest more than PLN 30 billion in sustainability projects in 2020–2030, including over PLN 25 billion to be spent on CO₂ emission reduction initiatives.

Key facts about the capital

REFINING

- Refining assets in Poland, Lithuania and the Czech Republic.
- Total processing capacity of the ORLEN Group’s six refineries: over 35 million tonnes per year.
- Efficient logistic infrastructure, consisting of surface and underground storage depots and pipeline networks.

For more information on the refining and logistics assets, see ‘Refining’ and ‘Logistics assets’.

PETROCHEMICALS

- Petrochemical assets integrated with the refining assets, including Olefins (Ploć, ORLEN Unipetrol), Basell ORLEN Polyolefins (Płock), metathesis unit (Płock), PX/PTA unit (Włocławek), chemicals (Włocławek), Polyethylene 3 unit (Unipetrol).

For more information on the petrochemical assets, see ‘Petrochemicals’.

ENERGY

- Power generation assets in three countries: in Poland, they are located, inter alia, in Płock, Włocławek, Ostrołęka, Elbląg, Kalisz, Jedlicze and Trzebinia; in the Czech Republic – in Liberec, Libě, Karlin and Pardubice; and in Lithuania – in Mažeikiai.
- Strong position in terms of the share of electricity from renewable sources in total energy output, due partly to electricity generation in hydropower plants and wind farms owned by the Energa Group and ORLEN Wind 3. Green energy is also generated in biomass combustion installations (at Energa Elektrownie Ostrołęka and Energa Kogeneracja) and three solar photovoltaic farms.
- PKN ORLEN holds a licence to construct a wind farm in the Baltic Sea, with a maximum capacity of 1,200 MW.
- Power lines with a total length of 193,000 km, covering approximately one fourth of Poland’s territory.

For more information on the ORLEN Group’s energy assets, see ‘Energy’.

RETAIL

- The ORLEN Group is the undisputed leader in retail fuel sales in Central Europe. At the end of 2021, it operated a total of 2,881 service stations.
- More than 2,297 Step Cafe, Step Cafe Bistro, Step Cafe 2.0 and Star connect stores at the ORLEN Group service stations.
- 454 electric vehicle charging stations (including 25 fast chargers), of which 17, including 13 superchargers, were located in the German market. In the Czech market, EV chargers operated at 65 ORLEN service stations, and the PKN ORLEN network included 372 electric car charging stations.
- 2 hydrogen stations
- 46 CNG stations
- 1,028 operational RUCH retail outlets
- Launch of a new service ORLEN Parcel

For more information on the Retail segment assets, see ‘Retail’.

UPSTREAM

- Exploration and appraisal assets in Poland and Canada, with 2 P oil and gas reserves totalling 171.4 mboe.

For more information, see ‘Upstream’.

Capital management

- PKN ORLEN has declared its intention to achieve carbon neutrality by 2050. In furtherance of this goal, the Group aims to reduce carbon emissions from its existing refinery and petrochemicals by 20% and cut down carbon emissions per megawatt-hour of electricity by 33% by 2030. The strategy of net zero carbon emissions is based on four pillars: energy efficient production, zero-emission power generation, fuels of the future, and green financing.

- Our transformation into a multiutility powerhouse will be based around renewable energy and gas-fired power generation, efficient low-emission refining and petrochemical production, upstream production of hydrocarbons, and an integrated retail offering. By 2030, the ORLEN Group plans to spend a total of PLN 140bn on capex projects.

How manufactured capital interacts with other capitals

Capex projects and acquisitions in the pipeline require large financial outlays. In 2021, ORLEN Group’s capital expenditure reached PLN 9.88bn, up PLN 8.9bn (10.1%) on the 2020 amount of the capex. Over 30% of the capital expenditure was spent in the Petrochemicals segment, 24% in the Refining segment, 26% in the Power Generation segment, 12% in the Retail segment, and 4% in the Upstream segment. Information on the largest capex projects completed in 2021 is available in the ‘Delivery of investment plans’ section.

By 2030, the Group plans to spend a total of PLN 140bn on capex projects. Most of the capital expenditure will be allocated to segments that fit in with the ORLEN Group strategic growth ambitions specified in the ORLEN 2030 Strategy. Around PLN 85bn will be allocated to new prospective growth areas, related mainly to renewable energy and advanced petrochemicals, while PLN 55bn will be spent to enhance the efficiency of the Group’s existing assets.

Following the merger, the scale of capital expenditure on the development of individual business segments formed by PKN ORLEN, Grupa LOTOS and PGNiG will increase. This will translate into tangible benefits for employees, who will gain new career opportunities not currently available to them. For example, Gdańsk is planned to be the location of competence centres for railroad logistics, oil, hydrogen technologies and marine fuels.

The combined company will seek to achieve operational excellence in the existing business areas such as upstream and refining. Integration of the assets currently owned by different entities will bring about efficiency improvements, while strategic partnerships in this area will contribute to enhanced energy security of Poland and Central Europe, a thing of utmost importance in the current geopolitical situation.

A strong group of companies will be able to step up its engagement in social, cultural and sports initiatives in the regions where it operates. Its coordinated CSR and sponsorship policy will deliver greater and more thorough support for local communities. This also means reinforcement of social capital.

By investing in zero- and low-carbon energy sources, we reduce our environmental footprint, which, in addition to boosting natural capital, provides a response to changes in the EU legal environment.

Outcomes

<table>
<thead>
<tr>
<th>Description</th>
<th>UoM</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grupa</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total number of service stations</td>
<td>No.</td>
<td>19,496</td>
<td>19,196</td>
</tr>
<tr>
<td>Total number of employees</td>
<td>No.</td>
<td>57,994</td>
<td>56,666</td>
</tr>
<tr>
<td>Length of electricity network</td>
<td>km</td>
<td>136,000</td>
<td>134,000</td>
</tr>
<tr>
<td>Renewable energy sources</td>
<td>GWe</td>
<td>6.3</td>
<td>5.5</td>
</tr>
<tr>
<td>Total installed electrical capacity</td>
<td>GWe</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>Share of fuel market in Poland</td>
<td>%</td>
<td>49</td>
<td>49.4</td>
</tr>
<tr>
<td>Share of fuel sales in home markets</td>
<td>%</td>
<td>29.8</td>
<td>28.9</td>
</tr>
<tr>
<td>Share of market in onshore and offshore wind farms</td>
<td>%</td>
<td>19.7</td>
<td>18.7</td>
</tr>
<tr>
<td>Number of service stations</td>
<td>No.</td>
<td>1,987</td>
<td>1,885</td>
</tr>
<tr>
<td>Refineries</td>
<td>No.</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Total installed thermal capacity</td>
<td>GWt</td>
<td>6</td>
<td>5.5</td>
</tr>
<tr>
<td>Total installed electrical capacity</td>
<td>GWe</td>
<td>3</td>
<td>2.9</td>
</tr>
<tr>
<td>Total installed thermal capacity</td>
<td>GWt</td>
<td>6</td>
<td>5.5</td>
</tr>
<tr>
<td>Total of new projects</td>
<td>No.</td>
<td>2,710</td>
<td>2,510</td>
</tr>
<tr>
<td>Average production</td>
<td>Tonne/tonne per day</td>
<td>39.7</td>
<td>40.6</td>
</tr>
</tbody>
</table>

For more information about important projects carried out in 2021, see ‘About the ORLEN Group’ and ‘Operating segments’.
**Intellectual capital**

Over the next ten years, the Group plans to spend up to 3% of its growth capex (some PLN 3 billion in total) on innovation, research and development, with a particular focus on green technologies.

SDGs:

- Goal 7
- Goal 9
- Goal 11
- Goal 12
- Goal 13

**Key facts about the capital**

**Knowledge and unique experience**

Over 35,000 committed and highly qualified employees, including staff with extensive experience in the refining, petrochemical, power generation and upstream sectors.

**Management systems**

Unwavering focus on strong operational standards and operational excellence achieved through the Integrated Management System.

**Due diligence policies and procedures**

For individual areas of our operations, ensuring the highest management standards.
ORLEN as the most valuable Polish brand

PKN ORLEN took the top position in the Rzeczpospolita daily’s ranking of the most valuable Polish brands. The ORLEN brand was valued at nearly PLN 10 billion.

Capital management

PKN ORLEN’s innovations are the response to the challenges brought by the global energy transition.

They are oriented towards sustainability, decarbonisation and digital transformation. The objectives defined in the Strategic Research Agenda are implemented with the use of our tools supporting development of new technologies in the open innovation model: ORLEN Skylight Accelerator, ORLEN VC fund and the Research and Development Centre.


- PKN ORLEN’s first ever conference promoting research and implementation of Carbon Capture and Utilisation (CCU) solutions under the name eco2Conference. The event was financed with funds obtained under the Horizon 2020 project BioCO2Ver. It was attended by speakers from various European countries, the European Parliament, the Chancellery of the President of the Republic of Poland, Polish and foreign universities, the CO2 Value Europe Association, technology companies, and representatives of industry implementing the latest technologies in this field.

- In-house research and testing to improve processes, products and inputs.

- Efforts to build dialogue and collaboration with universities, research and development centres, inventors and innovators, accelerators and technology start-ups, and manufacturers and suppliers of innovative technologies.

In addition to standard relations resulting from the implementation of research projects, we actively engaged in activities designed to look for innovative technological solutions in academic and technology environments by organising project meetings, i.e. the Innovation Day. Within its framework, 14 meetings were held in 2021 with the participation of Polish universities, research institutes, technology-transfer centres and chemical industry companies as well as R&D specialists and experts of PKN ORLEN and other ORLEN Group companies. The guests presenting their solutions included representatives of such universities as Białystok University of Technology, Warsaw University of Technology in Płock, Silesia Centre of the Jagiellonian University, Plant Breeding and Acclimatization Institute, Institute of Soil Science and Plant Cultivation, Military University of Technology, Institute of Industrial Chemistry, and Gdańsk University of Technology.

The following R&D projects are being conducted in collaboration with Polish scientists:

PTA hydrogenation catalyst
The first offline demo unit was launched at the PTA (terephthalic acid) Plant in Włocławek, enabling innovative solutions to move from the experimental phase straight to testing in a real-like industrial environment before their full-scale implementation at a production plant. The challenge allows employees to participate in the work to develop Poland’s first catalyst formulation. Implementation-based doctoral programmes are run in the area of catalysis.

State-of-the-art corrosion monitoring system Kormon
The world’s first innovative dual sensor system enabling simultaneous assessment of the corrosion rate and susceptibility to hydrogen embrittlement and cracking through continuous hydrogen concentration monitoring.

Implementation-based doctoral programmes are run in the area of corrosion.

Circular Economy Programme
Plastics recycling – the option to use the innovative Hydro-PRTSM technology in implementing plastics chemical recycling projects is being analysed.

The raw materials obtained in the process would be used to make petrochemical and refining products. An implementation-based doctoral programmes is run in the area of plastics recycling.

NEON (New Orlen)
A joint project of PKN ORLEN and the National Centre for Research and Development; the partners are going to allocate PLN 200m under a grant programme for innovative research and development projects in the areas of biomass use, decarbonisation, circular economy and Industry 4.0.

It is addressed to scientific institutions, businesses and consortia. The best project deliverables will be applied by the Group in its operations to support its sustainable development. The first competitions will be announced by the end of 2022.
Outcomes

2021 2020
ORLEN Skylight Accelerator – submissions relating to challenges in PKN ORLEN’s key business areas: nearly 60 programme launched in mid 2021 – positive recommendation for pilot implementations in 2022. 11 start-ups: GoodDriver, For Eagles, BONA FIDE.

Social capital

At the ORLEN Group, social capital stands for shared standards, values and behaviours, and relationships with internal and external stakeholders, including employees, the public, customers and trading partners, that are based on trust and commitment. We are responsible for other members of the communities where we operate, therefore we engage in dialogue and support them in various areas of activity.

Key facts about the capital

- The ORLEN Group operates in accordance with its Code of Ethics and the ORLEN Group CSR Strategy until 2022.
- In Autumn 2021, the ORLEN Group Sustainable Development Strategy for 2021–2023 was published, which integrates the sustainability objectives, supporting the implementation of the 2030 business strategy.
- Compliance with the Supplier Code of Conduct is a mandatory criterion in the process of trading partner selection at ORLEN Group companies.
- The ORLEN Group takes action in response to the current challenges in its environment (involvement in the struggle against the COVID-19 pandemic, help to the people of Ukraine). For more information, see ‘Society’.
- We are in dialogue and work with the local communities in our closest neighbourhood (including Płock, Włocławek and the Pomeranian region).
- One of our priorities is health care (e.g. the Health for Płock grant programme and other initiatives).
- We focus on countering social exclusion and engage in initiatives designed to ensure equal opportunities.
- Another priority of the ORLEN Group is to care for national heritage and support sports.
- We take steps to protect biodiversity and raise environmental awareness.
- In the relations with employees, we seek to provide them with decent working conditions and eliminate inequality, foster their development, and support them in successfully balancing their personal, professional and social goals.
- In our relations with customers, we are guided by a commitment to their health and safety, we respond to their expectations, work to improve accessibility of our facilities, and inspire the customers to act responsibly.

Capital management

- The My Place on Earth, We keep watch! We remember! and ORLEN for Firefighters grant programmes, and a loyalty scheme for volunteer firefighters registered in the National Firefighting and Rescue System.
- Scholarship programmes, including: For Eagles, BONA FIDE.
- 2nd edition of the Health for Płock grant programme, the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock.
- 3rd edition of the #GoodDriver public awareness campaign, focusing on road safety rules.
- Community projects aimed at reducing inequalities, including Foster Family Group Homes, Christmas Gift Box for Płock Senior Citizens, Płock ORLEN Polish Open tournament.
- Support for sports, culture, social sponsorship – assistance provided to 80 talented athletes, sponsorship of about 70 sports clubs, 6 unions and 2 committees, involvement in projects and initiatives supporting active development of a total of 95,000 children and young people. For more information, see the Group’s ORLEN Sponsorship Report 2021.
- Cooperation with local communities – including the ORLEN for Płock programme, Free Information System for residents of the Plesz region, cooperation with the Grant Fund for Płock.
- Projects aimed at raising environmental awareness among our stakeholders, including peregrine falcon conservation, bee keeping in areas adjacent to our production plants, environmental volunteering programmes, planting of trees and shrubs, creation of flower meadows, fish stocking of rivers, and cleaning of waterfront areas. For more information, see ‘Biodiversity Protection’.

How intellectual capital interacts with other capitals

Intellectual capital requires large outlays to develop but it has immense impact on human, social and production capitals. An example is ORLEN’s in-house Research and Development Centre established in Płock. The facility, which is going to employ specialists with extensive R&D knowledge and skills, will serve as a modern platform for collaboration with scientific circles.

The ORLEN Group’s strategic growth is based on efforts to maximise the economics of its production assets, extend its value chain, expand its product portfolio and build a modern petrochemical business by expanding its petrochemical assets (base, advanced products and polymers), which reinforces the Group’s position in the European market and increases income for the shareholders in the long term.

Social capital

Capital
We operate the Family Friendly Employer programme, which helps promote health, and we have an Occupational Psychology Centre within our structures. For more information, see ‘Responsible employer’.

**Outcomes**

Key performance indicators for social capital include:

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Estimated number of grant applications submitted</td>
<td>651,556</td>
</tr>
<tr>
<td>Winning applications</td>
<td>2,189</td>
</tr>
<tr>
<td>Winning applications in the ORLEN for Firefighters programme</td>
<td>274</td>
</tr>
<tr>
<td>Applications for the ‘Health for Płock’ grant programme</td>
<td>2,012</td>
</tr>
<tr>
<td>Applications for the ‘ORLEN for Firefighters’ programme</td>
<td>317</td>
</tr>
<tr>
<td>Support for the revitalisation of memorial sites important to the local community</td>
<td>N/A</td>
</tr>
<tr>
<td>Support for the revitalisation of memorial sites important to the local community</td>
<td>N/A</td>
</tr>
<tr>
<td>Estimated number of volunteer campaign beneficiaries</td>
<td>34,334</td>
</tr>
<tr>
<td>Estimated number of workplaces in the areas of action</td>
<td>1,370</td>
</tr>
</tbody>
</table>

How social capital interacts with other capitals

Thanks to the initiatives undertaken as part of our sustainable development efforts, we can obtain better financing terms for our road, technical, medical, chemical, environmental and technical rope rescue operations.

We keep watch! We remember! – a grant programme addressed to NGOs and local government organisations across Poland. The applicants may receive support for the rebuilding of memorial sites important to the local community.

Additional preventive check-ups – as part of Prevention of HIV infection, preventive health check-ups are provided at the workplace. In 2018 employees had an opportunity to have dengue virus tests, HCV tests detecting the hepatitis C virus, and hearing tests done. Parents of children aged from nine months to six years could have their children ultrasound scanned with a view to early detection of cancer. In 2018 in connection with the COVID-19 outbreak, this form of preventive health activities was replaced with webinars on building immunity at the time of the pandemic, which were attended by approximately 160 people.

Health Zone – In May 2018 PKN ORLEN employees in Płock, Wielun and Włocławek offered the health zone where they could consult a physiotherapist, have a massage or undergo a pedological examination of their feet. In 2018 in connection with the COVID-19 outbreak, the form of preventive health activities was replaced with webinars on building immunity at the time of the pandemic, which were attended by approximately 160 people.

Comprehensive Programmes for the Prevention, Diagnosis and Treatment of Cancer and Respiratory System Diseases for Residents of the City and County of Płock – Initiated by PKN ORLEN and run by the National Institute of Oncology, in partnership with the National Tuberculosis and Lung Disease Research Institute. It focuses on early diagnosis, prevention of wrong-way treatment standards, as well as education and outreach activities motivating people to change their lifestyles.

Health for Płock grant programme – a grant programme addressed to non-governmental organisations and local government institutions operating in Płock, as well as the Counties of Płock, Gostynin and Sierpc. As part of the project, applicants may receive grants for such purposes as the organisation of training courses, workshops and classes on medical prevention.

Free Information System for Residents of Płock and the Płock region – the system was established to provide information about social, cultural, sports and other projects initiated by PKN ORLEN and the ORLEN Foundation. It also warns of possible environmental hazards and temporary impediments caused by the operations of PKN ORLEN’s production plant in Płock.

Engaging customers in charity projects – customers may donate points collected in the UoM customer loyalty scheme to social and charitably causes.

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* In 2021, the number of applications dropped due to the epidemic situation in Poland and the postponement of certain projects, in-person meetings and workshops. For example, more grants for a larger sum (PLN 20 thousand) were awarded to smaller organisations under the My Place on Earth programme in 2020 compared with previous years. The support was addressed to organisations in smaller towns (18% of all applications), so this may be the reason why fewer grant applications were submitted by large organisations.

1. Scholarship programme of the ORLEN Foundation: For Eagles – a programme for children of the employees of PKN ORLEN and ORLEN Group companies, My Above-Average Achievers – a programme for schoolchildren from Płock and neighboring areas, BOLD FIDE – a programme for university students, a programme for people of Polish origin living beyond Poland’s Eastern border, a programme for charges of faster family group homes, Up to the Full programme, for athletes with disabilities

2. My Place on Earth – a nationwide grant programme to support the development of local communities, including by reaching out to towns and encouraging activity of rural communities. Projects covered by grant applications could be of such areas as sports, safety education, history, culture, environmental protection, animal protection and sustainable development.

3. ORLEN for Firefighters – a countrywide grant programme run since 2008 designed to support firefighters from state and voluntary fire-fighting units and to develop local communities. Fire-fighting units may apply for grants to help them pay for fire-fighting equipment, as well as equipment used in select fixed-
Natural capital

The ORLEN Group uses renewable and non-renewable natural resources in its operations. All our business activities are carried out in a responsible manner, with due consideration to the effects of current and future environmental impacts. The ORLEN Group is consistently implementing the objectives of its ORLEN 2030 business strategy and sustainable development strategy in order to achieve carbon neutrality by 2050.

In production processes we use renewable resources (air, water, esters, bioethanol) and non-renewable ones (crude oil, natural gas and auxiliary chemicals).

In 2021, the ORLEN Group used:

- **Over 519 million m³** of water
- **Nearly 253,000 tonnes** of bioethanol
- **Over 807,000 tonnes** of esters
- **Over 29.6 million tonnes** of crude oil

- Generation of electricity in hydropower plants and wind farms owned by the Energa Group and ORLEN Wind 3. Green energy is also generated in biomass combustion installations (at Energa Elektrownie Ostrołęka and Energa Kapenergia) and three solar photovoltaic farms.

- **Renewables** account for more than 0.6 GW of installed electrical capacity and close to 0.1 GW of installed thermal capacity at the ORLEN Group.
- The ORLEN Group is potentially the largest gas consumer in Poland and one of the largest in the Czech Republic and Lithuania. Natural gas is used by the Group in the production of heat, electricity, fuels and fertilizers. In Poland, the ORLEN Group's combined potential for natural gas consumption exceeds 3 bcm per year.
- The ORLEN Group has 2P crude oil and natural gas reserves in Poland and Canada, amounting to 171.4 mboe at the end of 2021.

### Key facts about the capital

In production processes we use renewable resources (air, water, esters, bioethanol) and non-renewable ones (crude oil, natural gas and auxiliary chemicals).

Capital management

- The ORLEN Group's environmental objectives are defined in the ORLEN 2030 strategy and the Integrated Management System Policy.
- The ORLEN 2030 Strategy includes the commitment to the Group's long-term goal of achieving carbon neutrality by 2050 and identifies the projects supporting delivery of this goal.

The ORLEN Group will become a net zero carbon business by 2050.
The ORLEN Group intends to invest more than PLN 30 billion in sustainability projects in 2020–2030, including over PLN 25 billion to be spent on CO2 emission reduction initiatives. Over the next ten years, the Group plans to spend up to 3% of its growth capex (some PLN 3 billion in total) on innovation, research and development, with a particular focus on green technologies.

- We take care to ensure that our production processes are environmentally friendly; our projects involve adaptation of plant and process units to new environmental requirements and standards defined in the EU regulations and BAT Conclusions. These efforts include also administrative work to have the terms of the integrated permits for the Group’s plants amended, as well as capex projects related to the production plant and equipment.
- We identify the environmental aspects of our technological processes, and we seek to minimise their impacts on the natural environment and human life and health.
- We comply with the requirements stipulated under integrated permits secured for our installations.
- We effectively manage carbon emission allowances.
- We ensure effective water and wastewater management.
- We effectively manage soil remediation.
- We invest in low- and zero-emission technologies and renewables.
- We engage in initiatives that promote environmental awareness and social responsibility.
- We seek to foster sustainable development and we report our environmental performance to both administrative authorities (especially offices, municipal offices, county offices, environmental inspections) and the stakeholders.

For more information on natural capital, see ‘Environment and climate’.

**Outcomes**

<table>
<thead>
<tr>
<th>Description</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water withdrawn by the ORLEN Group, including</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surface water</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Underground</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Total water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-hazardous effluents discharged into the environment, including</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Industrial wastewater</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mains water</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hazardous</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Efficiency of energy consumption (kWh/Mg Gd)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electric energy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thermal energy</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emissions of the ORLEN Group, including</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NOx</td>
<td></td>
<td></td>
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<tr>
<td>VOC</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>SO2</td>
<td></td>
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<tr>
<td>H2S</td>
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<td></td>
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<tr>
<td>CO</td>
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<td></td>
<td></td>
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<tr>
<td>O3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other substances</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbon dioxide</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Methane</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How natural capital interacts with other capitals

Production activities, which entail the use of non-renewable energy sources, emissions, waste and wastewater generation, exert an impact on natural capital. Reducing its environmental footprint and climate impact is one of the ORLEN Group’s top priorities. Activities in this domain contribute to the development of other capitals, including the intellectual and manufactured capitals.

In 2020, the ORLEN Group was joined by the Energia Group, with its more than 50 renewable generation assets, mainly across the hydro, onshore wind and solar PV segments.

PKN ORLEN has declared its intention to achieve carbon neutrality by 2050. In furtherance of this goal, the Group aims to reduce carbon emissions from its existing refinery and petrochemical assets by 20% and cut down carbon emissions per megawatt-hour of electricity by 33% by 2030.

The net zero emissions strategy is based on four pillars: energy efficiency in production, zero-carbon power generation, fuels of the future, and green finance.

Projects implemented under the carbon neutrality strategy are expected to be partly financed with green and sustainability bonds issued by PKN ORLEN on the European market.
Value creation

As the ORLEN Group integrates all elements of the value chain, it is able to adjust the operations of each element to the operations of the other elements. This is of crucial importance to our ability to build and maintain a sustainable competitive advantage, in particular in the changing market conditions.

The directions of change at the ORLEN Group are set out in the ORLEN 2030 strategy, which is a response to global trends. Our transformation into a multi-utility powerhouse will be based on renewable energy and gas-fired energy, efficient low-carbon refining and petrochemical production, upstream production of hydrocarbons, and an integrated retail offering. By 2030, the ORLEN Group plans to spend a total of PLN 140 billion on capex projects. Most of the capital expenditure will be made in segments that best fit in with our strategic ambitions. Around PLN 85 billion will be allocated to new prospective growth areas, related mainly to renewable energy and advanced petrochemicals, while PLN 55 billion will be spent to enhance the efficiency of the Group’s existing assets.

The diversified business will provide financial stability and will enable us to consistently build shareholder value. ORLEN2030 will be an effective integrated organisation relying on clean technologies and zero-carbon energy sources.
Our stakeholders

Responsibility and dialogue are the underlying principles of the ORLEN Group’s stakeholder relations. We seek to build them on integrity, transparency, mutual respect and professionalism.

To ensure the highest quality of stakeholder relations, the frequency and methods of communication are tailored to the characteristics and current expectations of each stakeholder group. This Statement presents many examples of activities taken to that effect. The parties involved in the stakeholder dialogue (an online survey and interviews) in November 2020, that is representatives of the ORLEN Group and its environment, reviewed the stakeholder map. It was revised by identifying “Environment” as a separate stakeholder group; reclassifying “Dealers and franchisees” and “NGOs” to the key stakeholder group; and changing the name of the group “NGOs” – in response to proposals put forward by stakeholders it was made more specific: “Polish and foreign industry and consumer organisations”.

GRI Disclosures

GRI 102-42
GRI 102-43
GRI 102-40
Macroeconomic environment

The ORLEN Group operates in a changing macro environment. The economic conditions in the ORLEN Group’s operating markets and global fuel prices are a major factor influencing the level of consumption of fuels and petrochemical products and their selling prices.

GRI Disclosures:
GRI 103-2

GDP indicator and fuel consumption

The primary indicator used to gauge the health of an economy is the GDP indicator, which, driven by consumption, investment and exports, helps to assess the state of the economy. Changes in GDP are typically correlated with fluctuations in fuel consumption and unemployment rates.

<table>
<thead>
<tr>
<th>Country</th>
<th>GDP growth % change y/y</th>
<th>Fuel consumption million tonnes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>2017 2018 2019 2020 2021</td>
</tr>
<tr>
<td>Germany</td>
<td></td>
<td>2017 2018 2019 2020 2021</td>
</tr>
<tr>
<td>Czechia</td>
<td></td>
<td>2017 2018 2019 2020 2021</td>
</tr>
<tr>
<td>Lithuania</td>
<td></td>
<td>2017 2018 2019 2020 2021</td>
</tr>
</tbody>
</table>
The primary feedstock used by the ORLEN Group is crude oil whose prices fluctuate in response to changes in global demand and supply as well as changing geopolitical factors. As the sour crude accounts for some 74% of the ORLEN Group's crude slate, the Urals-Brent differential has a significant impact on its operating results.

**Brent crude oil quotations [USD/bbl]**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>54</td>
<td>71</td>
<td>64</td>
<td>42</td>
<td>71</td>
</tr>
</tbody>
</table>

Source: In-house analysis

**Urals/Brent differential [USD/bbl]**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>-1.4</td>
<td>1.5</td>
<td>-0.8</td>
<td>-0.6</td>
<td>1.9</td>
</tr>
</tbody>
</table>

Source: In-house analysis

The ORLEN Group's operating performance strongly depends on differences between the market prices of petroleum products and the prices of oil and other necessary feedstocks (called crack spreads). The cost of feedstocks and the selling prices of refined products for the ORLEN Group are dictated by many factors outside its control. These include:

- movements in the supply of and demand for refined and petrochemical products;
- expansion of global refining capacities;
- changes in process-related operating costs (energy, utilities, maintenance);
- changes in environmental and other legislation that could require the ORLEN Group to incur significant expenditure.

The prices of refinery and petrochemical products offered by the ORLEN Group are dictated by many factors outside its control. These include:

- production costs (costs of key feedstocks, cracking costs - called crack spreads, and the prices of oil and other necessary feedstocks);
- raw material price movements in the commodity market prices expressed in foreign currencies;
- movements in the exchange rates of these currencies against the Polish złoty are a major driver of the ORLEN Group's financial results.

**Average exchange rates**

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR/PLN exchange rate</td>
<td>4.26</td>
<td>4.23</td>
<td>4.30</td>
<td>4.44</td>
<td>4.57</td>
</tr>
<tr>
<td>USD/PLN exchange rate</td>
<td>3.74</td>
<td>3.61</td>
<td>3.84</td>
<td>3.90</td>
<td>3.98</td>
</tr>
</tbody>
</table>

Source: GDP based on EUROSTAT, In-house analysis

Among external factors typically bearing on the refinery and petrochemical industry, the following macroeconomic parameters are of key importance:

- Electric energy quotations, property rights, CO₂ emission allowances, oil and natural gas prices;
- Brent differential and spreads for refinery and petrochemical products;
- Crack spreads for refinery products and petrochemical products;
- Crack spreads for polyethylene and polypropylene products;
- Plastics and petrochemical products quotations, including USD and EUR;
- Any changes in process-related operating costs (energy, utilities, maintenance);
- Changes in environmental and other legislation that could require the ORLEN Group to incur significant expenditure.

The prices of refinery and petrochemical products offered by the ORLEN Group are dictated by many factors outside its control. These include:

- production costs (costs of key feedstocks, cracking costs - called crack spreads, and the prices of oil and other necessary feedstocks);
- raw material price movements in the commodity market prices expressed in foreign currencies;
- movements in the exchange rates of these currencies against the Polish złoty are a major driver of the ORLEN Group's financial results.

The primary feedstock used by the ORLEN Group is crude oil, whose prices fluctuate in response to changes in global demand and supply as well as changing geopolitical factors. As the sour crude accounts for some 74% of the ORLEN Group's crude slate, the Urals-Brent differential has a significant impact on its operating results.

**Crack spreads for refinery products (USD$/t) and petrochemical products (EUR$/t)**

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Gasoline (USD/t)</td>
<td>151</td>
<td>138</td>
<td>130</td>
<td>76</td>
<td>151</td>
</tr>
<tr>
<td>Polyethylene (EUR/t)</td>
<td>370</td>
<td>280</td>
<td>300</td>
<td>355</td>
<td>621</td>
</tr>
<tr>
<td>Diesel oil (USD/t)</td>
<td>86</td>
<td>100</td>
<td>108</td>
<td>55</td>
<td>50</td>
</tr>
</tbody>
</table>

polypropylene in EUR/tonne

heavy heating oil in USD/tonne

ethylene in EUR/tonne

jet fuel in USD/tonne

propylene in EUR/tonne

Source: In-house analysis based on Platts and ICIS.
For general estimation of the impact of macro factors on the Group's performance, the *Model Downstream Margin* is used, reflecting the structure of key inputs and key refinery and petrochemical products obtained from the inputs, calculated by reference to market prices.

*Model Downstream Margin* [USD/bbl]

Source: In-house analysis.

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>12.8</td>
<td>12.2</td>
<td>10.7</td>
<td>7.3</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Energy's performance is strongly correlated with electricity prices and costs of natural gas, hard coal and emission allowances (EUAs).

A *Model Refining Margin* and a *Model Petrochemical Margin* are also calculated for the Refining and Petrochemicals segments.

### Average Yearly Model refining margin [USD/bbl]

Source: In-house analysis based on Platt's and ICIS.

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>6.4</td>
<td>5.1</td>
<td>5.2</td>
<td>2.2</td>
<td>2.4</td>
</tr>
</tbody>
</table>

### Average Yearly Model petrochemical margin [EUR/t]

Source: In-house analysis based on Platt's and ICIS.

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>933</td>
<td>985</td>
<td>859</td>
<td>839</td>
<td>1,000</td>
</tr>
</tbody>
</table>

2017 2018 2019 2020 2021

0 200 400 600 800 1,000 1,200 1,400

Energy's performance is strongly correlated with electricity prices and costs of natural gas, hard coal and emission allowances (EUAs).
Performance in the Upstream segment is largely driven by the current Canadian Light Sweet (CLS) crude and AECO gas prices.

Average Yearly CLS crude oil price [USD/bbl]

Source: In-house analysis based on Platts and ICIS.

Average Yearly AECO Natural gas prices [CAD/GJ]

Source: In-house analysis based on Platts and ICIS.
Sensitivity analysis

Analysis of sensitivity to changes in key macroeconomic parameters*

[PLN million]

The effect of changes in the above factors has been estimated on the assumption that there is no correlation between them and between other factors which have bearing on the ORLEN Group’s performance.

Changes in macroeconomic factors may also have an additional impact on, for instance, optimisation of the product portfolio, sales markets or degree of processing capacity utilisation, which may additionally affect the results of PKN ORLEN’s operations.

* Estimated effect of changes in the model downstream margin and model refining margin with the ORLEN Group’s processing capacity utilisation assumed at approximately 221 million barrels.

* Estimated effect of changes in the model petrochemical margin with the ORLEN Group’s sales of polymers assumed at 885 thousand tonnes (Unipetrol / 603 thousand tonnes and BOP / 282 thousand tonnes).

* Estimated effect of changes in wholesale margin with the sales volumes of gasoline and diesel oil in Poland assumed at approximately 11.8 million tonnes, and effect of changes in retail margin with fuel sales in Poland estimated at around 7.1 billion litres.

* Estimated effect of oil price movements is calculated based on the product and feedstock portfolio using the model downstream margin and mainly includes the effect of higher costs of consumption of raw materials for own energy needs.

* Estimated effect of changes in hydrocarbon prices in Canada assuming hydrocarbon production of approximately 5.7 million boe per annum.

The effect of changes in the above factors has been estimated on the assumption that there is no correlation between them and between other factors which have bearing on the ORLEN Group’s performance. Changes in macroeconomic factors may also have an additional impact on, for instance, optimisation of the product portfolio, sales markets or degree of processing capacity utilisation, which may additionally affect the results of PKN ORLEN’s operations.
The challenge for companies will be to shift strategic thinking from the mode of preparing the organization to the expected change to the mode of quick response to unexpected changes. In practice, the ability to react quickly will require the maintenance of adequate reserves in many areas.

The war in Ukraine and the West’s sharp clash with Russia at multiple levels means that existing geopolitical relations and economic ties are about to change significantly. The war in Ukraine has united the West in action against Russia. The measures taken are a concerted effort and are tailored to the different capabilities of individual countries. This is a lesson for the transition, which needs to be accelerated. However, this needs to be done jointly, with international coordination, and realistically, taking into account the capabilities and energy security of each country.

In total, non-fossil energy is supporting around 2 billion members of today’s population. By tripling its power, it will be able to support about 6.0 of the 9.8 billion members of the population projected in 2050.

Electric energy consumption [thousand of TWh]

The past year further substantiated these expectations:

- The development challenges faced by our industry remained unchanged, stemming directly from the steady growth in consumption of energy and other goods by the fast expanding population.
- The scale of the challenges prompted a marked acceleration of the energy transition at the level of both regulation and voluntary commitments (made by companies, governments and financial institutions) [Fit for 5° in the EU COP26 in Glasgow].
- Unprecedented growth in demand for energy and energy carriers, accumulated within a short space of time following a rebound from the pandemic-induced slump, came up against insufficient stocks in the fourth quarter.
- Tensions were first felt in the natural gas market (the LNG segment), causing massive price hikes later passed on—through the process of fuel substitution—to coal and oil prices.
- Replacement of expensive gas with cheaper coal or oil in the power sector led to increased emissions.
- With market prices of energy and energy carriers surging around the world, global energy security came under threat (in terms of the continuity of energy supply at acceptable prices).
- The war in Ukraine has shown that the path to energy security is through international cooperation required to strengthen the energy transition, as this is the only way to earlier reduce dependence on fossil fuels. The energy transition in individual countries should be as fast as possible but it should be adjusted to the local conditions.
- The energy crisis and the consequences of the war will cause a temporary shift in the energy mix towards fossil fuels, which will reflect an adjustment of the pace and course of the energy transition to the economic reality and will not reduce the pressure to build the foundations of our security in all dimensions (energy, economic, climate, social and military ones) provided by investments in renewable energy sources.
Increased emissions drove up demand for emission allowances. With the looming prospect of tighter regulation, the prices of CO₂ emission allowances on the European market hit record highs.

Since measures to ensure energy security here and now became more pressing in public perception than any efforts to avert climate change, heated debate arose as to what might be the causes of the current energy crunch. Is it a typical supply crisis in the gas market, further aggravated by the pandemic and the resulting strong rebound in demand, or do the root causes lie deeper, in the underdeveloped LNG market and gas infrastructure unable to accommodate the unstable, rapidly changing demand for gas depending on weather, as well as internationally uncoordinated gas purchases?

The causes of the current energy crunch extend beyond the gas market.

They can certainly be traced back to underinvestment in that market relative to actual needs, without prizing into any deeper reasons. This is the standpoint presented by Fatih Birol, the International Energy Agency Executive Director. He argues that the gas market is going through a classic supply crisis associated with the unprecedented surge in demand recovering after the pandemic, which the supply is unable to keep up with. A remedy that could help avoid such crises in the future would be to invest in the gas market and its infrastructure, while building up adequate stocks.

In trying to pinpoint reasons behind the underinvestment, i.e., to understand why there is not enough gas available on the market (leaving Gazprom aside for a moment), there are strong arguments that such reasons may lie in internationally uncoordinated efforts involving alternative energy sources.

The regulatory and financial incentives for EU operators to accelerate investment in renewable energy are not matched by any requirements to secure the continuity of energy supply. The default rule is played by the gas capacity along with the liquid (until now) LNG market, which supplies the entire world. But the market regulators resolving to step up the energy transition not only refused to afford support, but actually discouraged investment in that market. And yet one of the main reasons behind current tensions in the LNG market is a significant increase in the share of interruptible capacities, all of them securing the continuity of supply in the gas market. But that concerns the liquid segment of the market, namely that of LNG, which only accounts for 13% of total gas supplies. This seems like a lot compared with pipeline imports, which add another 16%, but little compared with the 71% share of domestic gas consumed where it is extracted. If a 10% increment in global gas consumption were to take off the LNG market, it would soar more than a half of its total supplies. This is a situation we have witnessed since September 2021. China’s boycott of Australian coal has shaken up the coal markets but has also had an impact on the gas market, as China has filled the resulting gap in its generation mix with increased purchases of LNG.

This is why Professor Dieter Helm of Oxford University argues that “The current crisis was very predictable, and its causes run deep. A series of simple myths have been spun out to the wider population, which simply are not true. It is not yet true that renewables are cheaper than the main fossil fuels once intermittency is taken into account. Simply ignoring the need for backup in claims about renewables costs will not make them go away. On the contrary, the inconvenient facts remain. The first is that whilst intermittency was not much of a problem when there was very little wind capacity in the system, it now very much is. Now that wind and solar make up a much bigger share of total capacity, this really matters – and it needs a much bigger investment in backup capacity. The economics of that backup capacity is seriously impaired by renewables at times producing wholesale prices of zero – when the wind is blowing well and the sun is shining – and very high prices when they are not. In the UK, in the old fossil fuel and nuclear system, total capacity requirements were of the order of 70–80 GW. For a system where wind and solar sometimes can produce all the energy demanded and sometimes very little, that firm power capacity needs to remain in place, plus the wind turbines and solar panels too. We need a great deal more capacity to meet any given demand.” And he puts it bluntly: “That has to paid for by someone. Pretending that the costs do not exist, or that they will all go away in a blitz of new technologies anytime soon, is a dangerous climate change narrative. We’re still a lot too optimistic to allow that. It means that not only are we not prepared to pay the costs of decarbonisation, but we want to dump both the costs and the climate change onto the next generation.”

Russia a safe supplier of gas. Energy transition, that is investing in renewable energy sources and in technologies increasing energy efficiency and redirecting demand to renewable energy, enables building energy security in every country, regardless of its natural resources.

Against this background, realism should prevail over optimism in strategic thinking about energy. We believe our decision to develop towards a multiutility business model is the right response to these strategic challenges, strengthening our ability to adjust the pace of our own energy transition to changing conditions in the market and regulatory environment, which are difficult to predict.
The pace of the transition, certainly a strategically important issue, has preoccupied us for long. According to a scientific consensus, the world can keep global warming below 1.5 degrees Celsius on condition that it achieves carbon neutrality by 2050. This in turn requires a reduction in global carbon emissions of at least 45% compared with 2010 by 2030. Given that the trend in global carbon emissions has remained flat over the past decade, the energy transition should gather significant speed.


The rising costs and transforming business models will primarily force a reduction in the per capita consumption of raw materials, which can be achieved in a circular economy. This is a formidable challenge for the industry, involving a change in the development of technologies and lower electricity production costs.


Offshore wind power as an energy generation technology has been rapidly developing over the last decade and is likely to become one of the leading energy sources in the future. If you want to complete the race, you should be deep enough to enable an increase in consumption in the global south. Developing sufficient renewable capacity expansion without securing continuity of supply leads to overheating and transition recession.


We already know that green transition looks different for the financial sector than it does for the real economy. We must also remember that the financial sector is not decarbonisation but rather climate neutrality, i.e. reducing the carbon footprint to zero on a net basis. Emissions that cannot be reduced must be captured by natural means without using CCS technology, and then stored or returned to production.

https://www.carbonbrief.org/global-emissions-have-been-flat-for-decades-9577(utm_source=carbonbrief.org&utm_medium=news&utm_campaign=global-emissions-have-been-flat-for-decades&utm_term=52c112e25d5202c806a264f0809b)

How to accelerate its progress without creating market tensions?

Development is a long-term process, ideally free from recessions. How to avoid a recession? Economic theory recommends the same approach as coaches do when preparing athletes for a marathon. Grow at a rate dictated by the growth in economic potential rather than by consumer and investment demand. If you want to complete the race, you had better run at a pace suited to your capacity and physical fitness. Want to run faster? Become fitter. Otherwise, when you accelerate, you will need to stop running to recover strength. As a consequence, you will cross the finish line later, covering the entire distance more slowly.

This is very much the same with the energy transition, being a long-term development process. It should unfurl at an optimum pace: any acceleration throwing the important markets into imbalance should not be seen as a welcome development. Rapid renewable capacity expansion without securing continuity of supply leads to overheating and transition recession, i.e. growth rather than a reduction of CO₂ emissions. As demonstrated by the market today, higher CO₂ emissions translate into higher emission allowances prices, thus encouraging investment in renewables and discouraging investment in traditional power generation, which is currently the only reliable security against supply disruptions. This becomes more and more of a vicious circle, of which energy security is the victim. It may thus be worthwhile to consider whether the sealing prices of emission allowances are a warning signal.

Already we know that green transition looks different for the financial sector than it does for the real economy. The consequences of their varying elasticity have sent ripples through the energy and fossil fuel markets, triggering a global spike in inflation. The lesson we are just learning from the energy markets is that the pace of transition should be determined by what is the bottleneck area, being much slower and resistant to change.

Such bottleneck areas is global consumption, of both energy and raw materials, and so action needs to be focussed there, especially that lower emissions from any consumption always have the effect of reducing global emissions. The difficulty in steering global consumption through a green transition is that the transition costs must be addressed. Pretending they do not exist is a road to nowhere.

Energy

Offshore wind farms globally – Offshore wind power as an energy generation technology has been rapidly developing over the last decade and is likely to become one of the leading energy sources in the future. This is largely due to zero CO₂ emissions, technological progress and lower electricity production costs.
The first commercial large-capacity offshore wind farms were built around 2010 and the industry has been continuously developing since then. This has manifested itself mainly in technological advances and growing unit capacity of the offshore wind infrastructure (from about 3.6 MW to 14 MW in the case of turbines offered by market leaders), and consequently—larger foundations installed at greater depths. This creates demand for ever larger components, installation vessels etc.

At the beginning of 2011, offshore wind farms all over the world had installed capacity of 35 GW, of which 28 GW was located in Europe. The European market leaders are the United Kingdom (about 12.7 GW), Germany (97 GW), the Netherlands (3 GW), Belgium (92.3 MW), and Denmark (23.1 GW). In Asia, the market leaders are Japan (7.2 GW), but it should be noted that further projects are being developed, and that at the end of 2030 the installed capacity of offshore wind farms is expected to exceed 270 GW.

Further development of the industry in these countries will be accompanied by growth in new markets, including the US, France, Taiwan, and Poland. European countries (the UK and Germany) will certainly remain the market leaders with the largest number of completed farms, and this group will be joined by the US, being a new player, which is currently developing a number of new projects and investing extensively in its own supply chain.

The development of offshore wind power generation is supported by the energy policy of individual countries and organisations, such as the European Union. In November 2020, the European Commission presented the Marine Renewable Energy Strategy, which provides for the support for offshore wind farms necessary to expand the capacity installed in the EU (excluding the UK) to 60 GW in 2030 and 300 GW in 2050.

**Development of offshore wind power generation in Poland**—The potential of offshore power generation in the Baltic Sea is estimated at 83 GW, of which 28 GW is attributable to its Polish part. The plan for offshore wind development in Poland was confirmed by the Regulation of the Council of Ministers of April 14th 2021 on the adoption of a zoning plan for internal sea waters (the Zoning Plan), territorial seas and the exclusive economic zone on a scale of 1:200,000, as well as Poland’s Energy Policy until 2040 (PSP 2040) adopted in February 2021. The Zoning Plan identifies zones where offshore wind farms will be developed, such projects having priority over other activities in that part of the Baltic Sea. These zones are characterised by conditions favourable to offshore power generation (estimated average wind speed at the hub height 3–10 m/s, insignificant tides, low salinity, and total area of approximately 2,500 sq. km).

Since December 2021, it is possible to apply for further permits for the construction and use of artificial islands, structures and facilities in Polish maritime areas (PSZW permits). The applications cover 11 areas identified in the Zoning Plan. They will be assessed against criteria set out in the Regulation of the Minister of Infrastructure of November 27th 2021 on the assessment of applications in award proceedings. Such assessment will be the basis for issuing, pursuant to the Act on Polish Maritime Areas and Maritime Administration, PSZW permits, enabling the preparation of further offshore wind projects in Poland. ORLEN Group companies have applied for PSZW permits covering all the 11 areas.

At present, development work is under way on projects for which permits to construct and use artificial islands, structures and facilities have already been obtained. These are Baltic I (PGE/Equinor), Baltic II (PGE/Equinor), Baltic III (PGE/Equinor), Baltic IV (RWE), B-Wind (EDPR/Engie), C-Wind (EDPR/Engie), Baltic Power (Baltic Power from the ORLEN Group, Northland), Baltic 1 (PSW), Baltic 2 (PSW) and Baltic 3 (PSW). In February 2021, the Act on the Promotion of Electricity Generation in Offshore Wind Farms entered into force in Poland, providing a legal framework for the implementation of offshore wind farm projects in the Polish part of the Baltic Sea. In accordance with the new regulations, in the first phase the support scheme for offshore farms with a total installed capacity of 5.8 GW will be granted by way of an administrative decision by the President of the Energy Regulatory Office (URE). Further projects will participate in auctions organised on a competitive basis. The first auction will be held in 2025 and the second one in 2027 (each farm with a total installed capacity of 2.5 GW).

**Retail**

The COVID-19 pandemic and the restrictions introduced in all countries where the ORLEN Group operates its retail chain continued as a material factor driving market trends in 2021 and had an adverse effect on fuel sales volumes. In Poland, fuel sales volumes gradually recovered in 2021. A positive growth rate was reported despite the successive waves of the pandemic and the resulting restrictions and constraints.

Likewise, in Germany, 2021 was driven by the impact of COVID-19 and the related measures taken by the German government. The lockdown in the first quarter of 2021 led to a sharp decline in fuel demand, pushing sales volumes down to levels well below GOES's expectations. Starting from the second quarter, the market recovered steadily but failed to reach the pre-restriction levels by the year end.

A number of shutdowns at German refineries resulted in relatively high prices in the affected areas, leading to higher margins and, despite the adverse circumstances, a sound overall performance. Under a law passed in Germany in 2021, greenhouse gas emissions reduction targets are to increase annually from the current 6% to 25% in 2030, significantly exceeding the targets provided for in EU directives. The new legislation promotes chiefly electrifiability (relying on electricity from renewable energy sources), but the assumed goals will also be supported by the use of green hydrogen and second generation biofuels.

**Upstream**

The year 2021 brought major short- and long-term shifts in the energy market compared with analysts' forecasts published in prior years. The assumptions for a long-term energy market outlook considering multiple scenarios were to show uncertainty surrounding the outcomes of various elements of the energy transition.

For each scenario, the underlying assumption was that energy consumption would increase globally, at least for some time, driven by increasing prosperity and living standards in the emerging world. The rate of growth in energy consumption and trends in demand for particular fuels continue to vary depending on the geography.

The developments in 2021 verified the short- and medium-term assumptions used in the economic models. However, it is important to emphasise that despite the numerous fluctuations in the energy system in recent times, the long-term goals resulting from the implementation of the various energy transition pathways remain unchanged.

The ultimate impact of the COVID-19 pandemic and its scale are difficult to predict. The primary energy demand forecasts assume that economic activity will partially return to pre-pandemic levels as restrictions are eased. Based on how the situation developed in 2021, we know that with the varying rates of progress in vaccination campaigns in different countries and the emergence of
new variants of the virus it is difficult to determine when the pandemic will actually end, and that the pace at which individual
world economies will return to their pre-pandemic state will vary. The BP Energy Outlook's (BP) intermediate scenario assumes
that primary energy demand is 2.5% lower in 2025 and 3% lower in 2050 relative to pre-pandemic levels as a result of the pandemic.

In the scenario, the economic rebound in 2021 led to a significant increase in demand for natural gas. Gas prices in Europe remained at above
average high levels throughout the year, including in the summer season, driven by lower LNG imports, sub-optimal filling of
storage facilities, and a decline in gas supplies from the east. Further developments at the end of 2021, i.e. a sharp drop in
prices in Europe as well as a significant demand for gas from the energy sector, led to record high prices on the market (the average
gas price on the day-ahead market was nearly PLN 450/MWh in the fourth quarter of 2021). The average day-ahead market gas
price for the whole year amounted to PLN 223/MWh, compared with PLN 51/MWh in 2020, which means a year-on-year increase
of as much as 441%.

In Canada, supportive economic conditions helped maintain favorable natural gas prices throughout the year. Increased local
demand and a surge in gas exports to the US provided a favorable pricing environment for hydrocarbon producers in Canada.
Benchmark AECO gas prices in Alberta reached as high as CAD 5.00/mcf in the second half of the year, the highest level since
2014. The average annual price of AECO gas was CAD 3.61/mcf in 2021, compared with CAD 2.22/mcf a year earlier, up 63% year
on year.

Crude oil[1]

The economic slowdown caused by the COVID-19 pandemic necessitated revision of the long-term oil demand projections. BP’s
Rapid Transition Scenario predicts that crude demand will continue below prepandemic levels in the near term. Oil demand is expected to
tail off by an average of 0.7% year on year until 2030, with the pace of the decline accelerating between 2030 and 2050 on the back of
increased efficiency and electrification of transport. The reduction of capital spending in the oil sector had the most severe
impact on oil production levels in the United States, with Saudi Arabia and Russia expanding their market share as a result. The
demand side is anticipated to be the key driver of oil prices. After the COVID-19 pandemic, demand for crude oil in the transport
sector (from aviation, public transport, and marine transport) is expected to see a sharp decline. In the long term, transport will
account for two-thirds of the decline in demand until 2050. The petrochemical sector will become the main driver of global oil
consumption in the long term.

Oil demand gradually increased in 2021 as the economy recovered. The US EIA estimates crude demand growth of 5.1 million
bpd throughout 2021, after the pandemic-driven decline of 8.5 million bpd in 2020. With the OPEC+ alliance pursuing a policy of slow
lifting of crude oil production caps, the demand-side imbalance persisted and the upward trend in crude prices continued
practically throughout the year. The average price of Brent crude in 2021 was USD 71.00/bbl, compared with USD 42.60/bbl a year
earlier, up 69% year on year. The average annual price of CLS (Canadian Light Sweet) crude was CAD 80.60/bbl, compared with
CAD 45.00/bbl a year earlier, up 78% year on year. The average price differential of CLS to the US WTI benchmark was CAD -50.60/bbl
(CAD -77.60/bbl in 2020).

Natural gas[1]

In BP’s Rapid scenario, demand for natural gas is projected to recover to prepandemic levels and grow until it peaks in around
2031. In 2035–2050, global demand for gas is expected to decline at an average rate of 1.5% year on year. Natural gas remains
the key component of the global energy transition in the world. Demand for natural gas in the short and medium term will grow
significantly. Power generation and industry will continue to drive growth in natural gas demand in the medium term. In the longer
term, the projected growth in demand is driven by the use of gas to produce hydrogen (in 2050 hydrogen production will account
for almost 10% of demand for natural gas). The United States and developing economies, particularly Asian countries (China) and
the Middle East remain the largest natural gas consumers. The United States, Russia, and countries in the Middle East remain key
gas producers, with production rising in China and Africa.

The economic recovery in 2021 led to a significant increase in demand for natural gas. Gas prices in Europe remained at above
Competitive environment

The ORLEN Group is consistently building its position as a regional leader in energy transformation by implementing clean, environmentally friendly technologies and energy based on low- and zero-emission generation sources. The implemented activities are subordinated to the implementation of the strategy of achieving carbon neutrality by 2050.

Capital

Energy

In the Energy segment, the largest competitors of the ORLEN Group are:

PGE Polska Grupa Energetyczna Group
Which is Poland’s largest vertically integrated producer of electricity and heat.

With its own sources of raw materials, electricity generation facilities and distribution network, the PGE Group guarantees safe and reliable deliveries of approximately 41 TWh of electricity annually to over 5.4 million households, businesses and institutions. The PGE Group is also the largest Polish producer of heat.

TAURON Polska Energia Group
Consisting of TAURON Polska Energia S.A. of Katowice and its subsidiaries.

Supplying around 52 TWh of electricity annually to over 5.6 million end customers, the TAURON Group is the largest electricity distributor in Poland, the second largest electricity seller in Poland, and the largest heat supplier in Upper Silesia. The Group controls roughly 30% of Poland’s thermal coal reserves.

Enea Group
The second largest power producer in the Polish electricity market.

Energy in ORLEN Group:

- One of the main distributors of electricity in Poland, with a power grid with a length of 193,000 km, which covers about a quarter of the country’s territory.
- Production of electricity and heat from conventional sources and RES: Total installed electric capacity: 3.3 GW, Total installed thermal capacity: 6.2 GW.
- Over 0.6 GW of installed electrical capacity and nearly 0.1 GW of installed thermal capacity come from renewable energy sources.

Information on production assets, the capacity market, wholesale and retail trade in electricity, alternative fuels, strategic projects and areas of activity as well as logistic assets in the Energy segment is available in the Energy Segment section.
Refining

Main competitors of the ORLEN Group in the Refining segment are:

- Grupa LOTOS of Gdańsk – Poland’s second largest refinery;
- Mitteldeutschland Refinery in Leuna/Spergau, located in south-eastern Germany, about 150 km from the Polish-German border, the country’s most advanced refinery;
- PCK Refinery in Schwedt, located north-east of Berlin, about 20 km from the Polish-German border;
- Slovnaft refinery, an integrated refining and petrochemical group, with a leading position in the Slovak Republic, located near Bratislava;
- The Danube Refinery – one of the largest refineries in the CEE region, owned by MOL, located in Százhalombatta, Hungary;
- Mozyr refinery, a leading refinery in Belarus, located close to the Ukrainian border.

ORLEN Group refining assets and key competitors in Central Eastern Europe / processing capacity [million tonnes]

Petrochemicals

The largest competitors of the ORLEN Group in the petrochemical market are:

- Ineos Olefins & Polymers Europe – with an annual polyethylene (HPOE, LDPE, LLDPE) production capacity of approximately 2,130,000 tonnes and assets in Belgium, France, Germany, Italy, Norway, and United Kingdom;
- Sabic – with an annual polyethylene (HPOE, LDPE, LLDPE) production capacity of approximately 1,755,000 tonnes and assets in Germany, the Netherlands, and United Kingdom;
- Lyondell Basell Industries – the largest polyethylene (HDPE, LDPE) manufacturer, with an annual production capacity of approximately 2,165,000 tonnes (including its 50% share in Basell ORLEN Polyolefins Sp. z o.o. (BOP)) and assets in Germany, France, and Poland;
- Borealis – with an annual polypropylene production capacity of approximately 2,000,000 tonnes and assets in Belgium, Germany, Austria, and Finland;
- Total Petrochemicals – with an annual polypropylene production capacity of approximately 1,110,000 tonnes and assets in Belgium and France;
- Indorama – Europe’s largest PTA manufacturer, with a nominal production capacity of 1,750,000 tonnes per year and assets in Portugal, Spain, and the Netherlands;
- Inovyn – a company formed following the combination of Ineos Chlor and Solvay; its annual production capacity is 2,255,000 tonnes.

Information on production assets as well as the competitive environment in the petrochemical wholesale area can be found in the section ‘Petrochemical Segment’.
Retail

The ORLEN Group is the undisputed leader in retail fuel sales in Central Europe. At the end of 2021, it operated a total of 2,881 service stations. At the end of 2021, the ORLEN Group had 1028 active retail outlets of RUCH. The drop in the number of points was due to the optimization and profitability of the retail operations of Ruch and the epidemiological situation. In June, the first retail outlet in the new format was opened in Warsaw under the brand name „ORLEN w Ruchu.” The next points were launched, among others in Bydgoszcz, Leszno and Tyńc.

In Poland, our service stations operate under the ORLEN brand in the premium segment and under the Biliska brand in the economy segment (with the share of the economy segment gradually declining year on year). In the Czech Republic and Slovakia, they are branded as Benzina ORLEN and Benzina Plus ORLEN, and in Lithuania – as ORLEN. On the German market, ORLEN Deutschland operates economy stations under the umbrella brand STAR ORLEN and the network is complemented by more than a dozen Pamela supermarket stations.

In September 2021, the new service ORLEN Paczka (ORLEN Parcel) was launched in place of Paczka w Ruchu (Parcel in Motion). With this new express service e-commerce customers were offered a larger number of pickup points: parcel lockers (over 300 already operating, the target is over 2,000), ORLEN service stations (over 1,000), and, as before, Ruch kiosks and partner outlets. Orders are delivered to the pickup points within 1–2 business days. In the coming years, the ORLEN Group plans to further expand the geographical coverage of the „ORLEN Parcel” service.

Polish market

According to the Polish Organisation of Oil Industry and Trade (POPiHN), there were more than 7,824 service stations in Poland at the end of September 2021, an increase of 100 or so compared with the end of September 2020. The number of supermarket stations dropped slightly, while large service station chains continued to invest in new facilities, with an increase in the number of locations reported year on year.

As at the end of 2021, the ORLEN Group had a network of 1,819 service stations on the Polish market (approximately 24% of all stations in the country) and Grupa Letos had 916 service stations (7% of the total), while the stations operated by international chains (BP, Shell, CircleK, Amic, and Total) represented approximately 20% of the total. Independent operator stations (including smaller chains operating under a single brand) accounted for about 50% of all service stations in Poland. Among the chains of independently operated stations, Moya continued to grow at a vigorous pace. The number of supermarket service stations fell slightly year on year, to 171, representing around 2% of all service stations in Poland.

Service station networks in Poland

<table>
<thead>
<tr>
<th>Brand</th>
<th>Number of Stations</th>
</tr>
</thead>
<tbody>
<tr>
<td>PKN ORLEN</td>
<td>1,800</td>
</tr>
<tr>
<td>BP</td>
<td>1,063</td>
</tr>
<tr>
<td>LOTOS</td>
<td>816</td>
</tr>
<tr>
<td>Shell</td>
<td>429</td>
</tr>
<tr>
<td>Circle K</td>
<td>374</td>
</tr>
<tr>
<td>Moya</td>
<td>343</td>
</tr>
<tr>
<td>Market fuel stations</td>
<td>176</td>
</tr>
<tr>
<td>Amic/Luko</td>
<td>116</td>
</tr>
<tr>
<td>Other networks</td>
<td>87</td>
</tr>
<tr>
<td>Independent fuel stations</td>
<td>3,420</td>
</tr>
</tbody>
</table>

Source: In-house study based on POPiHN data as at September 30th 2021

PKN ORLEN had a 31.1% market share in Poland in 2021.

Czech market

The ORLEN Group maintained its leading position on the market, both in terms of the volume of sales and the size of the service station chain. In 2021, the Benzina chain comprised 424 sites, and maintained its market share at 24.8%.

In terms of the number of service stations, Hungary’s MOL is the second largest chain in the Czech Republic (with 304 locations). Tank One, a privately owned discount chain, is an important player in terms of the market share, with 44 stations and an approximately 15% share in the market. Other major players on the Czech market are the premium stations run by the two multinationals Shell and DMV, with a combined market share of just under 23%.

Slovak market

In the Slovak market, the total number of service stations fell to 907 in 2021, with most of the decline attributable to independently operated stations and small local chains. The segment accounts for over 40% of the Slovak market.

The largest competitors of the Benzina network (22 stations, including six under the ORLEN brand) in Slovakia are Slovnaft (254 stations), DMV (98 stations), Shell (87 stations), Juke (89 stations) and Benzina (25 stations).

German market

The number of service stations on the German market was about 14,400 in 2021, with ORLEN Deutschland’s main competitors including international networks such as Aral (BP Group), Shell, ESSO, Tamoil, Total (combined, they account for 58% of total sales volumes and 43% of all service stations) and the economy chains Jet (Canada/Philips) and HEM (Tama), representing approximately 15% of total sales volumes and almost 9% of all service stations.

In 2021, the number of service stations within each chain changed only slightly year on year, with a small drop seen in the total number of service stations operated in that country.

At the end of 2021, ORLEN Deutschland’s service station chain comprised 587 sites and, despite stiff competition, managed to preserve its market share of 6.1%.

Lithuanian market

Some 75% of the Lithuanian market is occupied by the six largest players: Vida, with 127 locations and a 20% market share, is the leader in terms of the size of the service station chain in Lithuania. The second largest retail chain is Circle K, the operator of 93 service stations (including 11 automated self-service locations) with a 15% market share. Baltic Petroleum, Lithuania’s third largest chain, controls 81 service stations and almost 13% of the market. Neste, operating 80 service stations, is another major player present on that market (an almost 12% market share). At the end of 2020, the ORLEN Group’s retail chain in Lithuania, operated by the subsidiary ORLEN Baltics Retail, comprised 29 sites and had a market share of 4.2%.

More information is available in the `Retail Segment` section.
Regulatory environment

The ORLEN Group operates on regulated markets, so compliance of the Group’s activities with legal regulations is a key aspect of its business.

GRI Disclosures

<table>
<thead>
<tr>
<th>GRI 103-1</th>
<th>GRI 103-2</th>
<th>GRI 103-3</th>
</tr>
</thead>
</table>

SDGs:

Goal 15

 Capitals

103-1 103-2 103-3

Under their regulatory risk management policies, PKN ORLEN and the other ORLEN Group companies engage in a fully transparent and open dialogue based on applicable laws, which involves reviewing drafts of new legislative solutions at the national and EU legislation level, coordinating the Group’s relations with the regulators, central and supervisory authorities, and obtaining and managing permits and authorizations.

Below are presented key opportunities and risks arising from the regulatory environment in Poland in connection with the ORLEN Group’s business.

Risk related to the impact of regulations on the emissions trading system (EU ETS)

The ORLEN Group companies are subject to the EU regulation establishing the greenhouse gas emission allowance trading scheme (the “EU ETS Directive”) that forms part of the EU climate and energy policy until 2030, the European Green Deal and, in the long term, the Paris Agreement. The objective of the EU ETS Directive is to promote reductions in greenhouse gas emissions in a cost-effective and economically efficient manner.

The heat and electricity generation sources of PKN ORLEN and the Energa Group and the production complexes owned by the ORLEN Group, i.e., the refinery; the dehydrogenation unit in Płock (PKN ORLEN); and the ammonia unit in Włocławek (ANWL), are the ORLEN Group’s largest carbon dioxide emitters. The total amount of emission allowances allocated to ORLEN Group companies free of charge in Phase 1 of the EU ETS fourth trading period (2021–2030) under Commission Decision of June 29th 2021 (OJ L 302/15) does not fully cover their total emission volumes, and therefore they purchase additional emission allowances, which generates additional costs.

As part of the Fit for 55 package, the European Commission put forward amendments to the EU ETS Directive that significantly increase the EU’s ambitions to reduce emissions by 2030, from 43% to 62% (with extension of the ETS to maritime transport) relative to 2005. The proposed amendments provide for a lower cap on emission allowances, lower benchmark values for free allowance allocations, the possibility of including CO2 capture and utilization (CCU) in products, and a separate ETS for road transport and buildings. Additional legislative proposals include a review of the Market Stability Reserve (MSR) mechanism and the introduction of a Carbon Border Adjustment Mechanism (CBAM) as an alternative to free allocation of emission allowances, including in the case of fertilizers and electricity.

Following the European Commission’s adoption of New Guidelines on certain state aid measures in the context of the system for greenhouse gas emission allowance trading post 2021, work was undertaken to amend the Act on the Compensation Scheme for Energy-intensive Sectors and Subsectors. The amendments changed the range of sectors eligible for compensation for indirect costs they cover the refining and hydrogen industries, but not the nitrogen fertilizer production and petrochemical sectors. Once the state aid is successfully notified to the European Commission, the Act will apply to compensation in 2021–2030.

In Poland, ORLEN Group companies covered by the EU ETS continued to engage in work at the legislative and regulatory level in Poland in relation to a draft Act Amending the Act on Greenhouse Gas Emission Allowance Trading Scheme and the Environmental Law. The Act aims to establish the rules of operation of the Energy Transformation Fund (ETF). As a tool for disbursement of financial resources to finance the implementation of capital-intensive measures designed to reduce GHG emissions in the energy sector, the ETF can be expected to increase the share of renewables and enhance energy efficiency in Poland.

Risk related to the obligation to achieve the National Indicative Target and the National Reduction Target

Under the Act on Biocomponents and Liquid Biofuels of August 25th 2006, PKN ORLEN is required to achieve the National Indicative Target (“NIT”), i.e., to ensure the required minimum share of biocomponents in the total volume of liquid fuels and biofuels sold on the market and used for the operator’s own needs, in a given calendar year. Failure to achieve the NIT by an obligated entity is subject to a severe penalty, which is calculated on the basis of the formula set out in the Act. The minimum share of biocomponents in a given calendar year is 3% in 2020–2022, and in the case of diesel oil 1% in 2021–2022, 1.5% in 2023, 4.5% in 2024, and 6% in subsequent years. From 2015 onwards, only those biocomponents which meet the criteria of sustainable development set out in the EU and Polish laws may be used to fulfil the NIT obligation.

The Act on Fuel Quality Monitoring and Control System of August 25th 2006 determines the conditions under which NRT may be achieved by applying a reduction factor of 0.82 in 2020–2022, and provides for the option to discharge the NRT obligation by paying an emissions charge calculated on the basis of the formula set out in the Act, subject to the achievement of the base level of the NIT in 80% in 2020–2022 and in 90% in subsequent years.

Under the Act on Fuel Quality Monitoring and Control System of August 25th 2006, PKN ORLEN is required to reduce the emission intensity rate of fuels used in transport relative to the 2010 reference emissions level – the National Reduction Target (“NRT”). The minimum annual emission reduction is 6%.

Failure to achieve the NRT is subject to a severe penalty, which is calculated on the basis of the formula set out in the Act. The Act provides for the option to achieve the NRT jointly with other entities engaging in the production or imports of low-carbon fuels (LPG, CNS, LNG) to Poland, or by purchasing Upstream Emission Reduction (UER) certificates, and from 2021 onwards by paying an emissions charge calculated on the basis of the formula set out in the Act, subject to the achievement of the minimum NRT level (at least 1%) in 2021; 2%) in 2021; 3%) in 2022; 4%) in 2023; 4.5%) in 2024.

Risk related to the obligation to establish and maintain emergency stocks of crude oil and fuels

Emergency stocks of crude oil and fuels in Poland consist of emergency stocks of crude oil and fuels (in 2021), of which 85% are for the purposes of securing the energy security and energy supply of the state, and 15% for the purposes of securing the energy security and energy supply of the state and the electricity sector. Because emergency stocks are owned by the state, the ORLEN Group companies subject to the EU ETS Directive are not subject to a penalty if they do not achieve the national reduction target. In subsequent years, the minimum annual emission reduction is 6%.

In Poland, ORLEN Group companies engaged in work at the legislative and regulatory level in Poland in relation to a draft Act Amending the Act on Greenhouse Gas Emission Allowance Trading Scheme and the Environmental Law. The Act aims to establish the rules of operation of the Energy Transformation Fund (ETF). As a tool for disbursement of financial resources to finance the implementation of capital-intensive measures designed to reduce GHG emissions in the energy sector, the ETF can be expected to increase the share of renewables and enhance energy efficiency in Poland.
The Group is subject to numerous obligations involving establishment and maintenance of emergency stocks of crude oil and fuels, imposed by the Act on Stacks of Crude Oil, Petroleum Products and Natural Gas, and on the Rules to be Followed in the Event of Threat to National Fuel Security or Disruptions on the Petroleum Market of February 16th 2007 (the “Act on Emergency Stacks”).

Under the applicable regulations, since January 1st 2015 producers and traders have been under the obligation to pay a stocks charge in exchange for a gradual reduction of the level of physical emergency stocks they are required to hold in line with an increase in agency stocks maintained by the Governmental Strategic Reserves Agency. As a manufacturer and trader, since December 31st 2017 the Group has been required to establish and maintain minimum emergency stocks of crude oil or fuels equal to the equivalent of 53 days of the average daily production of fuels, or imports of crude oil or fuels in the previous calendar year. Furthermore, to comply with the statutory requirements on the establishment and maintenance of emergency stocks of crude oil and fuels, the operator must also pay a stocks charge to the Emergency Stocks Fund, managed by the President of the Governmental Strategic Reserves Agency.

Failure to maintain the required emergency stock levels or breach of other obligations under the Act on Emergency Stacks entails the risk of high administrative penalties.

In 2020, the list of raw materials, products and fuels covered by the system of emergency stocks and the basis for calculating the stocks charge was extended.

Combating grey market

In 2021, PKN ORLEN was actively involved in legislative processes concerning amendments to tax and administrative regulations designed to combat the grey market in liquid fuels, which for years has been a problem in the fuel sector.

The Company’s focus was on the planned amendments to the Act on the Monitoring System for the Carriage of Goods by Road and Rail and on Fuel Oil Trade, as well as to the Energy Law. The solutions specified in the proposed amendments are required in order to further tighten tax controls with regard to trading in motor fuels such as gasoline, diesel and liquefied petroleum gas (LPG). Despite actions taken by the Ministry of Finance and the National Revenue Administration, including enactment of the fuel market and fuel transport legislation, it is still possible to market petrol products (decarbonized diesel oil) originally intended for heating purposes, products with an OXO addition of more than 30%, lubricating oils which do not meet the requirements for motor fuels. Products that do not satisfy the above requirements have an adverse impact on the competitiveness of fuel producers and businesses that sell products without the excise duty suspension arrangement and do so in accordance with the applicable regulations.

The changes are intended to improve control over trading in these highly sensitive excise goods using the legislative solutions and IT tools (the monitoring system for the carriage of goods) currently available under the Act on the Monitoring System for the Carriage of Goods by Road and Rail and on Fuel Oil Trade of March 9th 2017, which enable continuous monitoring of the carriage of gasoline and diesel oil and as well as trading in these excise goods. The proposed amendments to the Energy Law will make it possible to curb irregularities in liquid fuel trading, especially in lubricants, and will ensure transparency of trading in the areas which have not been monitored to date.

Since 2021, the Group has been actively involved in developing the Fuel Platform ICT system. The requirement to develop the system was imposed on the Governmental Strategic Reserves Agency, and its purpose is to enable collection and analysis of data submitted by businesses engaged in the production, importing, exporting, trading (in Poland and abroad), storage and handling of fuels, as well as migration of processes required by law to electronic platforms. The main goal of the system is to enhance effective control of the fuels market. The development of the Fuel Platform will ensure tighter control over the fuels market by enabling comparison of data submitted by fuel companies and providing fuel market regulators and central authorities with an online access to that data. PKN ORLEN also takes part in legislative work concerning the Trade Inspection’s new powers and responsibilities regarding liquid fuels (extending the scope of diesel oil inspection), which is expected to improve effective control of the liquid fuels market.

In addition, PKN ORLEN engaged in initiatives to increase central of the liquid fuels market through dialogue with the authorities regulating the liquid fuels market in Poland. In particular, with President of the Energy Regulatory Office, President of the Governmental Strategic Reserves Agency, Minister of Finance – National Revenue Administration, Minister of Climate and Environment, and Minister of Infrastructure, as well as through close cooperation with the Group’s customers and trading partners.

Monitoring of the transport of certain goods (the SENT system)

In 2018, the Act on the System for Monitoring the Road Transport of Goods, i.e. the SENT system, was extended to include the monitoring of the oil transport of tax-sensitive goods. In addition, the Act was amended to enable the tracking of shipments (with the use of locators). The above changes, combined with the previous solutions introduced by the fuels package and energy package, are aimed at consolidating the positive effect of curbing the grey market by increasing the effectiveness of supervisions.

In 2019, those regulations were supplemented with the heating fuels package, which provides for the use of the SENT system to ensure more effective control of fuel deliveries to consumers, and the range of fuels subject to monitoring was extended to include LPG. The purpose of the regulations is to counteract excise tax fraud, for instance by replacing paper excise declarations issued by buyers of fuel oil to confirm the receipt of fuel delivery with electronic delivery confirmations, combined with monitoring under the SENT system, and to eliminate illegal use of liquefied gas intended for heating purposes as transport fuel.

The Group is actively involved in all stages of legislative work on the SENT system, including extending the scope of transport monitoring to new categories of sensitive goods and excluding from SENT the monitoring of transport of goods covered by the SMS PL2 system.

Management of hydrocarbon exploration, appraisal and production activities

These activities are managed by the Company based on the appropriate integrated management system developed and implemented by ORLEN Upstream. The main legislative acts governing business activities of the ORLEN Group’s Upstream include the Act on Stocks of Crude Oil, Act on Stocks of Crude Oil or Fuels equal to the equivalent of 53 days of the average daily production of fuels, or imports of crude oil or fuels in the previous calendar year, Minister of Finance – National Revenue Administration, Minister of Infrastructure, and Minister of Climate and Energy. The main legislative act governing business activities of the ORLEN Group’s Upstream is the Act on Stocks of Crude Oil or Fuels equal to the equivalent of 53 days of the average daily production of fuels, or imports of crude oil or fuels in the previous calendar year. Furthermore, to comply with the statutory requirements on the establishment and maintenance of emergency stocks of crude oil and fuels, the operator must also pay a stocks charge to the Emergency Stocks Fund, managed by the President of the Governmental Strategic Reserves Agency.

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Organisations and associations

PKIN ORLEN's representatives participate in a number of various organisations and associations. Membership of these bodies is a vital component of PKIN ORLEN’s presence on the Polish and European economic and social arena.

Organisations and associations to which PKIN ORLEN is affiliated include:

- Polish organisations
  - Federacja Przemysłów Pochodzenia Federal of Polish Entrepreneurs
  - Forum Odpowiedzialnego Biznesu (Responsible Business Forum)
  - Izba Energetyki Przemysłowej i Obszarów Energetycznych (Polish Chamber of Industrial Power and Energy Consumers)
  - Izba Gospodarcza Energetyki i Ochrony Środowiska (Polish Chamber of Power Industry and Environmental Protection)
  - Kliënt Gospodarczy Odpadowi i Recyklingowi (Client Management and Recycling Cluster)
  - Kliënt Technologii Wodorowych i Czystych Technologii Węglowych (Cluster of Hydrogen Technologies)
  - Klub Polskich Laboratorium Badawczych POLLAB (POLLAB Club of Polish Research Laboratories)
  - Komisja ds. Kompetencji przy Giełdzie Papierów Wartościowych S.A. (Compliance Committee at the Warsaw Stock Exchange)
  - PIPC – Program Bezpieczeństwa Chemia (Polish-Chamber of Chemical Industry – Safe Chemical Programme)
  - PIPC/Chemkos – Program Odpowiedzialności i Troiska (Responsible Care Programme)
  - Polska Izba Prywatyzacji Chemicznych (Polish-Chamber of Chemical Industry)
  - Polska Organizacja Przemysłu i Handlu Naftowego (Polish Organisation of Oil Industry and Trade) – POPPE
  - Polska Platforma Technologiczna Wodór i Ogień Palowych (Polish Hydrogen and Fuel Cell Technology Platform)
  - Polski Komitet Narodowy Materiałowo-techniczny (National Committee of the International Chamber of Commerce, ICC Poland)
  - Polski Komitet Normalizacyjny (Polish Committee for Standardization)
  - Polski Komitet Swoistości Energetycznej (Polish Member Committee of the World Energy Council)
  - Polski Zarząd Komitetu Swoistości Rady Naftowej (Polish National Committee of the World Petroleum Council)
  - Polskie Forum ISO 9000 (Polish ISO 9000 Forum)
  - Polskie Stowarzyszenie Energetyki Wiatrowej (Polish Wind Energy Association)
  - Polskie Stowarzyszenie Paliw Alternatywnych (Polish Alternative Fuels Association) – PSRE
  - Pracownicy Stoiska Paliwopaliwowych Polskiej (Employees of Petrol)
  - Stowarzyszenie Ekspertów Geolodzy (Polish Association of Listed Companies)
  - Stowarzyszenie Inżynierów i Techników Przemysłu Chemicznego (Polish Association of Chemical Engineers)
  - Stowarzyszenie Naukowo-Techniczne Inżynierów i Techników Przemysłu Naftowego i Gazownicznego (Scientific Association of the Oil and Gas Industry Engineers and Technicians) – STIPNAG
  - Stowarzyszenie Płociskich Naftowych (Association of Oil Industry Workers in Poland)
  - Stowarzyszenie Współpracy Przemysłu Naftowego i Saneczkiowo-Komunalnego (ESC Polska Oil and Automotive Industry Association CEC Poland)
  - Towarzysze Obrotu Energetycznego (Association for Energy Trading)
  - Związek Przedsiębiorców i Pracodawców (Association of Entrepreneurs and Employers)

- International organisations
  - CO2ValueEurope
  - European Energy Forum
  - European Petrochemicals Committee International
  - European Petroleum Refiners Association
  - Hydrogen Europe
  - Institute of Professional Representatives before the European Patent Office
  - International Air Transport Association
  - International Barter Industry Association Ltd
  - International Trademark Association
  - Joint Inspection Group
  - Międzynarodowe Stowarzyszenie Kontrolerów ICC POLSKA
  - NAUS-The Association for Convenience & Fuel Retailing
  - The European Petroleum Association

In keeping with the principles of social responsibility, PKIN ORLEN has also signed up to and been engaged in external initiatives intended to promote sustainable development:

- In 2018, PKIN ORLEN signed a declaration of Partnership for Accessibilty, reaffirming its commitment to cooperate in the implementation of the government’s Accessibility Plus programme.
- Since 2017, PKIN ORLEN has been involved in the Ministry of Development and Technology’s Partnership for the Implementation of Sustainable Development Goals in Poland. We have joined the initiative for implementation of the UN 2030 Agenda, vowing to ensure that our efforts support the achievement of all the SD Goals, which include: sustainable cities and communities, affordable and clean energy, responsible-production and consumption, quality education, decent work and economic growth.
- Since 2017, PKIN ORLEN has been involved in activities of the Polish Economic Security Consortium.
- In 2014, PKIN ORLEN signed the Declaration of Polish Businesses for Sustainable Development, joining the business community supporting the implementation of the Vision of Sustainable Development of Polish-Businesses 2050. The document was on the International Initiative of the World Business Council for Sustainable Development.
- In 2013, PKIN ORLEN was among those energy companies that decided to sign the Declaration on Sustainable Development in the Energy Sector.
- PKIN ORLEN is also a member of the global Fair Trade movement. Shop Cafes and Shop Cafe Bars at ORLEN service stations have been selling Fair Trade coffee only since 2008.
- Since 1997, PKIN ORLEN has participated in the Responsible Care programme (it was joined by the Company in legal predecessors). This global project brings together chemical manufacturing companies to improve their health, safety and environmental performance (the so-called HSE triple), as well as to share information about their activities.
Selected organisations and associations of which other Orlen Group companies were members in 2021

Organizations polekie
- Fundacja Polska Sól (Polish Salt Foundation)
- Saługińska Izba Budownictwa w Krakowie (Galician Chamber of Construction in Krakow)
- Instytut Nefty i Gazu – Państwowa Izba Nefty i Gazu (Petroleum Institute – National Research Institute)
- Izba Gospodarcza Górnictwa i Geologii (Polish Chamber of Natural Gas Industry)
- Izba Przemysłu Handlowego w Krakowie (Chamber of Industry and Commerce in Krakow)
- Klub Polskich Laboratorium Badawczych POLLAB (POLLAB Club of Polish Research Laboratories)
- Komitet Techniczny nr 222 ds. Przestrzelnictwa Nafotwórczych (Technical Committee of Petroleum Products and Operating Liquids of the PMI Liquid Fuels Sub-Committee)
- Krajowa Izba Biopaliw (Polish National Chamber of Biofuels)
- Polska Izba Gospodarcza Skórztwiery (the Polish Commercial Chamber of Non-Ferrous Materials)
- Izba Przemysłu i Przemysłu Pośredniego Biuro Handlowego (Union of Biseg Industry Manufacturers and Employers)

International organizations
- Association of Chemical Industry of the Czech Republic
- ASTM International
- ATEL (Technical Association of the European Lubricants Industry)
- Czech Association of Petroleum Industry and Trade
- Club of Polish Capital in the Czech Republic
- EOGA – European Organisation for Grease Usage in Agriculture
- Engineering Ecology Association
- EurChem
- European Chemical Industry Council
- Fertilizers Europe
- International Fertilizer Association
- LTDI (Lietuvos Deguvis Trangų asociacija, Latvian Fuel Traders Association)
- Lithuania – Ukrainian business council
- Lithuanian Business Confederation
- Lithuanian Customs Brokerage Association
- Lithuanian Wind Power Association
- Polish and Lithuania Chamber of Commerce
- The Lithuanian Confederation of Industrialists
- Szuklia Chamber of Commerce, Industry and Crafts
Letter from the Chairman of the Supervisory Board

Ladies and Gentlemen,

Initiatives implemented by the ORLEN Group throughout 2021 demonstrate that when setting the growth path for the Group we correctly interpreted the trends prevailing in the global economy. As a result, we are positioned as a leader of the energy transition in Central and Eastern Europe. We have unveiled and are implementing further plans. In line with the stated strategy, we have embarked on projects that will support the energy transition and, consequently, help the Group achieve carbon neutrality by 2050. We have delivered on our pre-set goals despite the recent headwinds. Poland and the rest of the world economy are still feeling the pinch of the pandemic, with its successive waves compounded by the energy crisis and rising tensions across our eastern border.

Our capabilities in this domain will grow even stronger after the mission to build a multi-utility group has been accomplished. To this end, this past year we ramped up strategic merger processes, mainly the mergers with the LOTOS Group and PGNiG, and we consolidated our leadership in the region. Through concrete actions and investments that support growth, we are leading the ORLEN Group to further solidify its strong position in the global market. Last year alone, capital expenditure totaled a record PLN 9.9bn. This year CAPEX will be PLN 15.2bn, a figure unprecedented in the Group’s history. Through our investments we make a real contribution to strengthening the Polish economy.

We continued to develop the existing and forged new stable, long-term relationships with the world’s largest oil producers. As part of the remedies implemented under the merger of PKN ORLEN and Grupa LOTOS, we will reinforce the alliance with the world’s largest oil and chemical company, Saudi Aramco. We have signed an agreement securing crude supplies of up to 20 million tonnes a year, which will cover 45% of total demand of the ORLEN Group post-merger.

The future of the ORLEN Group, and of the entire energy industry, will be determined by the development of zero- and low-carbon energy sources. As the ORLEN Group, we will be the first to build an offshore project in the Polish section of the Baltic Sea, which will be implemented together with Northland Power, our Canadian partner with whom we signed a cooperation agreement in 2021. Making sure that Poland’s first offshore wind farm starts commercial operation in 2026 is our top priority. Last year, we partnered with GE Renewable Energy to strengthen our competitive position in securing new licences for offshore wind farms. We are also consistently investing in onshore wind and solar PV farms. We are at an advanced stage of preparations for the deployment of the small modular reactor (SMR) technology. We have exclusive rights in Poland to use the BWRX 300 technology of US GE Hitachi Nuclear Energy, which is currently the world’s most advanced technology on its way to commercialisation. In 2021, we launched Hydrogen Eagle, a scheme to develop an international chain of hydrogen hubs powered by renewable energy sources and to build more than 100 hydrogen refuelling stations.

Accurate forecasting and planning, innovating and staying up to date on emerging technologies is a skill and quality we are valued for in the current business and social realities. We are a strong and reliable partner in Poland and abroad. The strategic decisions implemented by the Group bring tangible benefits to the entire ORLEN Group, its Employees, Shareholders, Partners and Customers.

Wojciech Jasiński
Chairman of the Supervisory Board
PKN ORLEN S.A.
ORLEN Group structure

As at December 31st 2021, the ORLEN Group included 106 companies: the parent and 105 fully consolidated controlled companies.

For management purposes, the ORLEN Group's business is divided into five operating segments:

Energy, Refining, Petrochemicals, Retail and Upstream, which are supported by Corporate Functions

- energy (electricity and heat), refining and petrochemical activities, including crude oil processing, and manufacturing of refining, petrochemical and chemical products and semi-finished products;
- trading, distribution and sale of electricity and heat, trade in electricity, wholesale and retail sale of fuels, petrochemicals, chemical and other products;
- services: crude oil and fuels storage, transport, repair and maintenance services, laboratory, security, design, administrative, insurance and finance services;
- hydrocarbon exploration, appraisal and production.

For a description of the organisational and cross-equity links between the Parent and the ORLEN Group companies, and the applied consolidation methods, see section 7.1 of the Consolidated Financial Statements for 2021.

Polski Konsern Naftowy ORLEN S.A. ("PKO ORLEN", the "Parent", the "Company"), together with the companies forming the Polski Konsern Naftowy ORLEN Group (the "ORLEN Group", the "Group") is one of the largest and most modern multi-energy companies in Central Europe, with presence on the Polish, Lithuanian, Czech, Slovak, German and Canadian markets. The Group also has entities located in Malta, Sweden, the Netherlands, Estonia, Latvia and China.

PKO ORLEN was established on September 7th 1999 as a result of the merger of Petroleo Plock S.A. ("Petroleo Plock"), a producer of refining and petrochemical products in Poland, and Centrala Produkty Nafowych CPN S.A. ("CPN"), a distributor of motor fuels in Poland. Prior to the merger, Petroleo Plock and CPN were owned by the Polish State Treasury, Nafta Polska S.A." ("Nafta Polska") and employees of the merged companies. PKO ORLEN shares were listed on the Warsaw Stock Exchange on November 28th 1999. On April 12th 2000, the Company changed its name from Polski Konsern Naftowy S.A. to the present name.

According to the CEE TOP 500 report published by Coface, currently the ORLEN Group is one of the largest corporations in Central and Eastern Europe in terms of revenue. Its revenue for 2021 was in excess of PLN 131 bn. In line with Strategy 2030 adopted in 2020, ORLEN Group's ambition is to be an active leader of energy transition in Poland and Central Europe. The Group intends to achieve this goal by further development of its multi-utility structure. One of the first steps taken by ORLEN Group was the acquisition of the Energa Group, one of the largest producers and suppliers of electricity in Poland. A key element of the strategy of building a multi-energy concern is also the currently implemented process of merging PKO ORLEN and Grupa LOTOS as well as Polskie Górnictwo Naftowe i Gazownictwo (PGNiG).

The ORLEN Group companies are engaged in the following types of activity:

1. Energy (electricity and heat), refining and petrochemical activities, including crude oil processing, and manufacturing of refining, petrochemical and chemical products and semi-finished products;
2. Trading: distribution and sale of electricity and heat, trade in electricity, wholesale and retail sale of fuels, petrochemicals, chemical and other products;
3. Services: crude oil and fuels storage, transport, repair and maintenance services, laboratory, security, design, administrative, insurance and finance services;
4. Hydrocarbon exploration, appraisal and production.

For management purposes, the ORLEN Group's business is divided into five operating segments: Energy, Refining, Petrochemicals, Retail and Upstream, which are supported by Corporate Functions.
In line with strategy adopted in November 2020, the ORLEN Group’s key objectives are to be a regional leader in energy transition, develop new renewable power generation capacities, and pursue decarbonisation, while preserving operational efficiency and financial strength in its traditional business segments. Given the prevailing market trends, the ORLEN Group is consistently diversifying its business towards building a multi-energy group. The effective acquisition of the Energa Group in 2020 and continued work on other acquisition targets, such as the merger of PKN Orlen with LOTOS Group and PGNiG, are part of this process. Recognising the importance of the Retail segment, the ORLEN Group proceeded with expanding its service station chain in Poland and abroad and commenced development of the non-fuel retail segment with the acquisition of the RUCH Group in 2020. The ORLEN Group also seeks to continue its strategic growth in petrochemicals and gas-fired power generation, as well as in new business areas such as new mobility, hydrogen technologies, recycling, R&D and digital transformation.

Effective growth of the ORLEN Group would not be possible without full operational and cost efficiency. The ORLEN Group continually takes steps to improve its management processes, optimise its business model and consolidate its assets. As a result of this strategy, it has consistently strengthened its position on home markets and has been steadily expanding its product range and geographical reach.

To ensure effective management, holding management policies, i.e. solutions designed to achieve Parent-defined shared goals across the ORLEN Group, have been introduced. The holding management concept has been implemented based on the ORLEN Group Constitution, which ensures uniformity of the organisational standards and information exchange rules, as well as effective monitoring of key business decisions. It also identifies the legal basis for creating a consistent strategy within the ORLEN Group. PKN Orlen’s effective corporate supervision over the ORLEN Group companies relies on ongoing oversight of the Group’s operations based on uniform standards, as well as financial, formal and legal supervision.

Changes in the Parent’s and the ORLEN Group’s principles of organisation and management

The key changes in PKN Orlen’s organisational structure and management policies in 2021 included the following:

- Transferring coordination responsibilities relating to EU funding acquisition from the Financial Control, Risk and Compliance Management Office to the Executive Director for Strategy, Innovation and Investor Relations, in line with the ORLEN Group strategy until 2030, which assumes that the share of external funding for projects supporting the Company’s energy transition must be increased. For these reasons, the Company needs to strengthen its focus on securing external funding.
- Establishment of the Public and International Relations Office which reports to the President of the Management Board.
- A change in the function of the Management Board Member for Communication and Marketing, whereby the existing area of the Executive Director for Corporate Communication was replaced with the Corporate Communication Office. The Office is expected to strengthen the organisational and institutional framework and enhance the image of the ORLEN Group by building and maintaining strategic relations with public administration stakeholders and diplomatic missions worldwide.

Division of responsibilities of the PKN Orlen Management Board members as at December 31st 2021

<table>
<thead>
<tr>
<th>Role</th>
<th>Division of Responsibility</th>
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<tbody>
<tr>
<td>President of the Management Board</td>
<td>Member of the Management Board of PGNiG</td>
</tr>
<tr>
<td>Executive Director for Strategy, Innovation and Investor Relations</td>
<td>Strategy and Innovation Management</td>
</tr>
<tr>
<td>Executive Director for Corporate Communication</td>
<td>Communications</td>
</tr>
<tr>
<td>Executive Director for Communication and Marketing</td>
<td>Communications</td>
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</tbody>
</table>

In line with strategy adopted in November 2020, the ORLEN Group’s key objectives are to be a regional leader in energy transition, develop new renewable power generation capacities, and pursue decarbonisation, while preserving operational efficiency and financial strength in its traditional business segments. Given the prevailing market trends, the ORLEN Group is consistently diversifying its business towards building a multi-energy group. The effective acquisition of the Energa Group in 2020 and continued work on other acquisition targets, such as the merger of PKN Orlen with LOTOS Group and PGNiG, are part of this process. Recognising the importance of the Retail segment, the ORLEN Group proceeded with expanding its service station chain in Poland and abroad and commenced development of the non-fuel retail segment with the acquisition of the RUCH Group in 2020. The ORLEN Group also seeks to continue its strategic growth in petrochemicals and gas-fired power generation, as well as in new business areas such as new mobility, hydrogen technologies, recycling, R&D and digital transformation.

Effective growth of the ORLEN Group would not be possible without full operational and cost efficiency. The ORLEN Group continually takes steps to improve its management processes, optimise its business model and consolidate its assets. As a result of this strategy, it has consistently strengthened its position on home markets and has been steadily expanding its product range and geographical reach.

To ensure effective management, holding management policies, i.e. solutions designed to achieve Parent-defined shared goals across the ORLEN Group, have been introduced. The holding management concept has been implemented based on the ORLEN Group Constitution, which ensures uniformity of the organisational standards and information exchange rules, as well as effective monitoring of key business decisions. It also identifies the legal basis for creating a consistent strategy within the ORLEN Group. PKN Orlen’s effective corporate supervision over the ORLEN Group companies relies on ongoing oversight of the Group’s operations based on uniform standards, as well as financial, formal and legal supervision.

Changes in the Parent’s and the ORLEN Group’s principles of organisation and management

The key changes in PKN Orlen’s organisational structure and management policies in 2021 included the following:

- Transferring coordination responsibilities relating to EU funding acquisition from the Financial Control, Risk and Compliance Management Office to the Executive Director for Strategy, Innovation and Investor Relations, in line with the ORLEN Group strategy until 2030, which assumes that the share of external funding for projects supporting the Company’s energy transition must be increased. For these reasons, the Company needs to strengthen its focus on securing external funding.
- Establishment of the Public and International Relations Office which reports to the President of the Management Board.
- A change in the function of the Management Board Member for Communication and Marketing, whereby the existing area of the Executive Director for Corporate Communication was replaced with the Corporate Communication Office. The Office is expected to strengthen the organisational and institutional framework and enhance the image of the ORLEN Group by building and maintaining strategic relations with public administration stakeholders and diplomatic missions worldwide.

Division of responsibilities of the PKN Orlen Management Board members as at December 31st 2021

<table>
<thead>
<tr>
<th>Role</th>
<th>Division of Responsibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>President of the Management Board</td>
<td>Member of the Management Board of PGNiG</td>
</tr>
<tr>
<td>Executive Director for Strategy, Innovation and Investor Relations</td>
<td>Strategy and Innovation Management</td>
</tr>
<tr>
<td>Executive Director for Corporate Communication</td>
<td>Communications</td>
</tr>
<tr>
<td>Executive Director for Communication and Marketing</td>
<td>Communications</td>
</tr>
</tbody>
</table>
Changes in the composition of the Management Board and Supervisory Board during 2021 and until the publication of this report are described in the ‘Managing and Supervisory Bodies’ section.

There were no material changes in the organisation and management policies of the other ORLEN Group companies in 2021. For information on the existing organisational structure of the ORLEN Group companies and their governing bodies, are presented on the [ORLEN site](https://www.orlen.pl).

Changes in cross-equity links

For a description of changes in cross-equity links in 2021, see section 7.2. of the Consolidated Financial Statements for 2021.

Remuneration of Management and Supervisory Board Members

**Remuneration Policy**

Remuneration for Members of the Management Board at PKN ORLEN is determined by the Supervisory Board taking into account the relevant resolution of the General Meeting, in connection with the Act on Remuneration of Managing Persons Managing Certain Companies (the Salary Cap Act) and recommendations of its Nomination and Remuneration Committee.

The main components of the Management Board Members’ remuneration system include:

- monthly base salary (fixed remuneration),
- variable remuneration based on performance against management objectives,
- severance pay for contract termination by the Company,
- non-compete compensation.

All components of the remuneration are governed by a contract between a Member of the Management Board and the Company.

Additional benefits for directors reporting to the PKN ORLEN Management Board may include, in particular, a company car, variable universal life insurance, additional medical cover for the director and their closest family, including the right to preventive healthcare, sports programmes and rehabilitation, partial coverage of rented accommodation costs, coverage of relocation costs if the relocation takes place during the director’s employment, benefits defined in the Rules of Participation in the Company Social Benefits Fund, the right to participate in the Employee Pension Plan on the terms applicable at the Company, and the right to participate in the Employee Capital Plan subject to generally applicable laws.

The remuneration policy in place at PKN ORLEN supports the achievement of the Company’s goals, including in particular a long-term increase of its shareholder value and stability of operations.

General terms and conditions of variable remuneration

Members of the Management Board of PKN ORLEN are entitled to variable remuneration on the terms set out in their respective contracts, which include, as an appendix, the Rules of the Incentive Scheme for the Management Board.

The amount of variable remuneration depends on the performance against individual targets (both qualitative and quantitative), set by the Supervisory Board for individual Members of the Management Board. Based on the general set of Management Objectives established by the PKN ORLEN General Meeting, the Supervisory Board sets from four to ten individual bonus targets per year, which are recorded in a Member’s MBO Sheet.

The Supervisory Board may also set a separate objective or objectives for a particular year, which must be met as a precondition to earn variable remuneration for that year.

Assessment of a Management Board Member’s performance against individual bonus targets (both qualitative and quantitative) and achievement of separate objectives is made on an annual basis by the Supervisory Board, on the President of the Management Board’s recommendation which contains an assessment of individually performed bonus targets for all Members of the Management Board. The Management Board’s recommendation regarding achievement of the separate objectives/jectives, reports on the performance against individual bonus targets by Members of the Management Board, PKN ORLEN’s financial statements and other documents which the Supervisory Board considers appropriate to examine.

The Supervisory Board passes a resolution to grant a Management Board Member variable remuneration for a given financial year, specifying its amount, or a resolution not to grant the variable remuneration. Such resolution is the basis for payment of the variable remuneration provided that the Company’s consolidated financial statements for the financial year have been approved by the General Meeting and provided that the Management Board Member has been granted discharge in respect of his duties.

The Supervisory Board set the following seven quantitative targets for all Members of the Management Board for 2021:

- B/TAQ of the Group,
- Net debt/EBITDA of the Group,
- Group’s growth CAPEX, including development expenditure,
- Group’s maintenance CAPEX,
- Group’s general and personnel costs,
- Stock performance ratio TSR of PKN ORLEN relative to the market,
- Accident rate TRR of the Group and its external contractors and assigned relevant bonus thresholds to these targets. The Supervisory Board also set two qualitative targets for each Member of the Management Board, associated with the Group’s key challenges in a given year.

One of the quality objectives assigned to the Management Board Members included the following sustainability goal: “Implementing solutions to ensure compliance with sustainability and ESG standards, including the sustainable growth initiatives envisaged in the ORLEN 2030 strategy, and securing ESG financing.”
Additionally, in accordance with the resolutions of the PKN ORLEN General Meeting, the Supervisory Board set the following separate objectives, which must be met as a precondition to qualify for variable remuneration for 2021:

- compliance with the principles of remuneration for members of management and supervisory bodies in line with the Act across all Group companies;
- discharge of the obligations referred to in Art. 17, Art. 22 and Art. 23 of the Act on State Property Management of December 16th 2016 within the Company’s subsidiaries within the meaning of Art. 4.3 of the Act on Competition and Consumer Protection of February 16th 2007.

Rules for awarding bonuses to key management personnel of the ORLEN Group

The regulations on bonuses applicable to the PKN ORLEN Management Board, directors reporting directly to the Management Board, and other key positions within the Group have certain common features. Persons covered by these schemes are remunerated for their performance against individual targets set at the beginning of a bonus period by the Supervisory Board for the Management Board Members and by the Management Board for key executive personnel. The bonus systems are consistent with the Company’s Values, promote cooperation between particular employees, and motivate them to achieve the best possible results for the ORLEN Group. The targets are both qualitative and quantitative, and their achievement is assessed after the end of the year for which they were assigned.

Compensation for non-compete obligations and for termination of employment

In accordance with the contracts, Members of PKN ORLEN’s Management Board are required to refrain from any activities that are in competition with the Company’s business for a period of six months after the contract termination. During that period, they are entitled to receive compensation equal to six times their monthly fixed remuneration, payable in six equal monthly instalments. Provisions of the contracts regarding non-compete after termination as a Management Board Member come into force only after a Management Board Member has held their position for at least three months.

In addition, the contracts provide for a severance payment in the case of termination by the Company for reasons other than a breach of primary, essential obligations under the contract, provided that the position of Management Board Member is held for a period of at least 12 months. Such severance benefit amounts to three times the monthly fixed remuneration.

In accordance with the contracts, Members of the Management Boards of ORLEN Group companies are typically required to refrain from any activities that are in competition with the respective company’s business for a period of six months after the contract termination. During that period, they are entitled to receive a compensation equal to 50% or 100% of six times their monthly base pay, payable in six equal monthly instalments.

The non-compete clauses came into force only after a Management Board Member had held their position for at least three or six months.

Severance payments for Members of the Management Boards of ORLEN Group companies are typically governed by the same rules as those applicable to Members of the PKN ORLEN Management Board.

Directors reporting directly to the PKN ORLEN Management Board are, as a general rule, bound by non-compete clauses for a period of six months after the contract termination. During this period they receive a salary equal to 50% of six-month base pay, payable in six equal monthly instalments. The severance pay for termination of contract by the Company is typically equal to sixfold monthly base pay.
For more information on the terms of remuneration, conditions for granting annual bonuses, and non-competition agreements, see section ‘Remuneration policy’.

Remuneration of Management and Supervisory Board members

Remuneration paid to Members of the Company’s Management Board for their service in 2021 and 2020 [PLN ’000]

<table>
<thead>
<tr>
<th>Item</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Obajtek</td>
<td>1,311</td>
<td>1,286</td>
</tr>
<tr>
<td>Armen Artwich</td>
<td>1,022</td>
<td>969</td>
</tr>
<tr>
<td>Adam Burak</td>
<td>1,045</td>
<td>885</td>
</tr>
<tr>
<td>Patrycja Klarecka</td>
<td>1,045</td>
<td>993</td>
</tr>
<tr>
<td>Zbigniew Leszczyński</td>
<td>1,031</td>
<td>985</td>
</tr>
<tr>
<td>Michał Róg</td>
<td>1,083</td>
<td>1,010</td>
</tr>
<tr>
<td>Jan Szewczak</td>
<td>1,023</td>
<td>881</td>
</tr>
<tr>
<td>Józef Węgrecki</td>
<td>1,071</td>
<td>1,003</td>
</tr>
<tr>
<td>Total</td>
<td>8,631</td>
<td>8,012</td>
</tr>
</tbody>
</table>

Remuneration for service on the Management Board from February 3rd 2020.

Bonuses potentially due to Members of the Company’s Management Board for their service in a given year, to be paid in the following year [PLN ’000]

<table>
<thead>
<tr>
<th>Item</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daniel Obajtek</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Armen Artwich</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Adam Burak</td>
<td>1,018</td>
<td>877</td>
</tr>
<tr>
<td>Patrycja Klarecka</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Zbigniew Leszczyński</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Michał Róg</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Jan Szewczak</td>
<td>1,018</td>
<td>877</td>
</tr>
<tr>
<td>Józef Węgrecki</td>
<td>1,018</td>
<td>966</td>
</tr>
<tr>
<td>Total</td>
<td>8,144</td>
<td>7,550</td>
</tr>
</tbody>
</table>

Remuneration for service on the Management Board from February 3rd 2020.

Termination benefits for former Members of the Management Board [PLN ’000]

<table>
<thead>
<tr>
<th>Item</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiesław Protasewicz*</td>
<td>–</td>
<td>457</td>
</tr>
<tr>
<td>Total</td>
<td>–</td>
<td>457</td>
</tr>
</tbody>
</table>

*Payment of non-compete compensation in 2020.

Remuneration of Members of the Management Board and the Supervisory Board for serving on the Management or Supervisory Boards of subsidiaries, jointly controlled entities and associates [PLN ’000]

In 2021 and 2020, Members of the PKN ORLEN Management Board did not receive remuneration for holding positions on the governing bodies of the Company’s subsidiaries within the group of companies as defined in Art. 4.14 of the Act on Competition and Consumers Protection of February 16th 2007.

Remuneration of Members of the PKN ORLEN Supervisory Board [PLN ’000]

<table>
<thead>
<tr>
<th>Item</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wiesław Protasewicz</td>
<td>149</td>
<td>116</td>
</tr>
</tbody>
</table>

The higher cost of remuneration of key management personnel is attributable mainly to the acquisition of the Energa Group and the Ruch Group in 2020 and the acquisition of the Polska Press Group and ORLEN Transport in 2021, as well as the effect of changes in the organisational structures which caused an increase in the number of managers reporting directly to members of the Management Board.
Corporate governance rules

As a company listed on the Warsaw Stock Exchange, PKN ORLEN is required to comply with the corporate governance principles set forth in Best Practice for WSE Listed Companies.

GRI Disclosures

102-43 103-1 103-2 103-3


In accordance with the 2021 Code of Best Practice, on July 29th 2021 PKN ORLEN published Statement of Compliance by the Company with the Principles of the Best Practice for WSE Listed Companies. 2021 PKN ORLEN stated that it did not comply with the following four principles: 2.1., 2.2., 2.11., 4.1. (concerning the diversity policy and virtual or hybrid general meetings). In accordance with the ‘comply or explain’ formula, PKN ORLEN published an explanation why it did not comply with the following principles:

2.1., 2.2., 2.11., on the diversity policy

At PKN ORLEN, the diversity policy relating to the Company’s employees is covered by a range of internal documents. However, there is no formal document governing diversity at the level of the PKN ORLEN Management Board and Supervisory Board. The Company presents the diversity indicators for the supervisory and management bodies within the Group on an annual basis. The gender diversity ratio is not applied in the Company’s diversity management practices. The gender diversity requirement of the Code of Good Practice is met by the Company’s Supervisory Board, which has a minority share of no less than 30%, but not by the PKN ORLEN’s Management Board.

4.1. concerning virtual or hybrid general meetings (e-meetings)

The Company has not received any requests from shareholders to hold a virtual or hybrid General Meeting so far.

On two occasions, the Company’s Management Board proposed that the shareholders introduce provisions to the Articles of Association and Rules of Procedure for the General Meeting to enable holding virtual or hybrid General Meetings. The proposal was not approved by the Shareholders at the Annual General Meetings held on June 29th 2011 and May 30th 2012. The failure to comply with this principle will not affect the reliability of the Company’s disclosure policy, nor will it hinder Shareholders’ participation in General Meetings.

In the first half of 2021, PKN ORLEN applied all principles of the 2016 Code of Best Practice.

Communication with the capital market (Code of Best Practice Section 1)

PKN ORLEN is committed to enabling effective communication with investors, analysts and other capital market participants through a transparent and reliable disclosure policy. The Company ensures easy and equal access to published information using various communication tools, including the following:

- The Investor Relations section of its corporate website, which provides financial and operating data relating to the Company’s business as well as information about the Company’s macro environment.
- The website of the ORLEN In Your Portfolio programme http://orlenportfolio.pl/ containing details of the loyalty scheme for shareholders and a broad knowledge base of the capital market and investing.
- Six brokerage houses take part in the programme, with more than 15,600 participants registered as at the end of 2021.
- In 2021, the Company continued its educational activities addressing capital market mechanisms, including carrying out the third edition of the ORLEN Investment Academy examinations in December and shooting another 15 episodes of the ‘Inventing in Practice’ series plus a special episode on phishing throughout the year.
- Expert’s blog written by PKN ORLEN’s Chief Economist at https://blog.orlen.com/, containing commentary on current market developments, expert publications, and coverage of industry conferences.
- Social media (Twitter, Facebook, LinkedIn, YouTube and Instagram).
- Closed one-on-one group meetings, held both in Poland and abroad, also as teleconferences.
- Social presentation materials are prepared for the meetings to explain the complex operation of the refining, petrochemical and energy sectors where the Company is present.
- Press conferences open to the general public, streamed live over the internet and interpreted into English. The conferences follow all major corporate events such as the release of quarterly results or strategy announcement.
- Series of meetings with investors, held both in Poland and abroad (roadshows).
Control, IMS Internal audit, risk management and compliance system

PKN ORLEN is among the companies that are the quickest to publish their financial results after the end of the reporting period. In 2021, the Company published its figures as soon as approximately a month after the closing of the reporting periods. PKN ORLEN is also a dividend paying company. In 2021, it paid out a dividend for the ninth consecutive year, at PLN 3.5 per share.

Control, IMS Internal audit, risk management and compliance system (CODE OF BEST PRACTICE Section 3)

The Company’s system of internal control and risk management in the preparation of financial statements is implemented through:

- Meetings of capital market participants with the Company’s key managers in the headquarters and places where PKN ORLEN conducts its operations (site visits).
- The Investor and Analyst Days organised from time to time – workshops concerning various areas of the Company’s activity, run by representatives of the Management Board, executive directors and selected managers.

Economic events at PKN ORLEN are recorded in an integrated financial and accounting system. Security and availability of information contained in the financial and accounting system are controlled at all levels of the database, applications and presentations, as well as at the operating system level. System integration is ensured by data entry control systems (validation, authorisation, a list of values) and logs of changes. PKN ORLEN keeps an IT system up to date with the changing accounting policies and other legal requirements. PKN ORLEN’s solutions are implemented into systems of the ORLEN Group companies.

The ORLEN Group companies apply uniform accounting policies adopted at the ORLEN Group and approved by the PKN ORLEN Management Board for the purposes of preparing consolidated financial statements. The accounting policies are periodically updated to ensure compliance with any new legislation. Consolidated financial statements are prepared based on the integrated IT system where the processes of consolidating data sourced from reporting packages provided by each ORLEN Group company is performed. Designed for financial management and reporting purposes, the system enables the unification of financial information. Performance and budget-related data, forecasts and statistics are gathered in one place, which ensures direct control and data compatibility.

The data is reviewed for coherence, completeness and consistency, which is achieved thanks to embedded controls checking the comparability of data entered by ORLEN Group companies.

In order to keep mitigating risks associated with the preparation of financial statements, they are reviewed by an independent auditor quarterly, i.e. more often than required by applicable laws.

As per the relevant procedure in place at PKN ORLEN (meeting all requirements arising from the applicable laws and regulations), the auditor of the Company’s financial statements is appointed by the Supervisory Board based on a recommendation from the Audit Committee and a report on the tender process held by the Audit Committee. Deloitte Audit Spółka z ograniczoną odpowiedzialnością, Sódka i lematy z wrocławia has been appointed as a qualified auditor of PKN ORLEN’s financial statements for 2019-2024. The selection of Deloitte as the auditor of financial statements in 2021 is conditional on the incorporation of Grupa LOTOS S.A. or PGNiG S.A. into the ORLEN Group in the period from January 1st 2022 to June 30th 2023 or, alternatively, PKN ORLEN otherwise taking control of the LOTOS Group companies or PGN Group companies. Whether this condition has been satisfied will be confirmed by a relevant resolution of the PKN ORLEN Supervisory Board. During audit work, the auditor makes an independent assessment of the reliability and accuracy of separate and consolidated financial statements and confirms that the internal control and risk management system is effective. The auditor presents the audit and review findings to the Management Board and the Audit Committee of the Supervisory Board.

The Audit Committee, appointed by the Supervisory Board in the exercise of its powers, is a supervisory body with some of its powers and responsibilities defined in the Act on Statutory Auditors, Audit Firms, and Public Oversight of May 11th 2017, including the following:

- monitoring the preparation of the ORLEN Group’s consolidate financial statements to ensure compliance with the Group’s Accounting Policy and applicable laws,
- monitoring the independence of the qualified auditor and audit firms selected to audit financial statements,
- monitoring the effectiveness of the internal control, internal audit and risk management systems.
The Company has in place certain procedures to authorise financial statements, under which periodic reports are submitted to the Management Board and then to the Supervisory Board’s Audit Committee for its opinion. Once the Audit Committee’s opinion is received and the auditor completes its review or audit of the financial statements, they are authorised for issue by the PKN ORLEN Management Board by means of a qualified electronic signature and then released to the public by the Investor Relations Office.

Full-year financial statements are also presented to the Supervisory Board for final assessment and control of the financial reporting process. The Supervisory Board is an independent body ensuring the reliability and accuracy of information disclosed in the financial statements of PKN ORLEN and the ORLEN Group.

The Company has in place and is improving an Integrated Management System based on certified international standards: ISO 9001, AQAP 2110, ISO 14001, ISO 45001, ISO/IEC 27001, ZKP, ISCC, KZR INI, ISO 50001 and HACCP.

Amendments to Articles of Association

Any amendment to PKN ORLEN’s Articles of Association is required by a resolution of the General Meeting and has to be entered in the business register. A resolution of the General Meeting to amend the Company’s Articles of Association is passed by three-quarters of votes. The General Meeting may authorise the Supervisory Board to formulate the consolidated text of the Articles of Association or make other editorial changes as set out in a resolution passed by the General Meeting.

On May 27th 2021, the Annual General Meeting approved amendments to the Company’s Articles of Association. The amendments were entered in the National Court Register and information about the entry was published by the Company in a current report.

Operation of the General Meeting


The Company sets the venue and date of a General Meeting so as to enable participation by the largest possible number of shareholders. General Meetings of PKN ORLEN are held at the Company’s registered office in Płock, but may also be held in Warsaw.

PKN ORLEN uses its best endeavours to include reasoning in draft resolutions of the General Meeting, other than those of a procedural nature, unless such reasons stem from documentation submitted to the General Meeting. If a matter is placed on the agenda of the General Meeting at the request of a shareholder or shareholders, the reasoning for the proposed resolution is provided by that shareholder. The Company’s Management Board uses its best efforts to obtain appropriate reasoning for matters placed on the agenda from the shareholder.

All materials presented at a General Meeting are available to shareholders on the corporate website at www.orlen.pl, starting from the date of a notice convening the General Meeting. Upon request, materials to be presented at the General Meeting are made available to shareholders at the Company’s registered office in Płock and at its Warsaw offices.

The General Meeting is convened by way of a notice published on the Company’s website and a current report.

The Annual General Meeting should be held no later than within six months from the end of every financial year. An Extraordinary General Meeting is convened by the Management Board on its own initiative, upon the Supervisory Board’s motion or upon the motion of a shareholder or shareholders representing no less than one-twentieth of the Company’s share capital, within two weeks of submitting the motion. The Supervisory Board may convene an Extraordinary General Meeting if it sees fit to do so. In addition, the Supervisory Board may convene an Extraordinary General Meeting if the Management Board fails to do so within two weeks of the Supervisory Board’s submitting the relevant request. An Extraordinary General Meeting may also be convened by shareholders representing at least one-half of the share capital or at least one-half of total voting rights at the Company.

If the Company’s Management Board is notified that a General Meeting has been convened pursuant to Art. 399.2.4 of the Commercial Companies Code, it immediately performs any actions required from it in connection with the organisation and conduct of the General Meeting.
The Company arranges for an internet broadcast of the General Meeting and offers simultaneous interpretation into English. The Company has not provided for shareholders' participation in a General Meeting using means of electronic communication through real-time bilateral communication where shareholders could take the floor during the General Meeting from a location other than the venue of the General Meeting. The Company has not received any requests from Shareholders to hold a virtual or hybrid-General Meeting so far. Therefore, PKN ORLEN stated that it did not apply principle 41 of the Code of Best Practice. The failure to comply with this principle does not affect the reliability of the Company’s disclosure policy, nor does it hinder Shareholders' participation in General Meetings.

Shareholders may exercise their voting rights at the General Meeting in person or by proxy.

In accordance with the Rules of Procedure for the General Meeting, a General Meeting may be cancelled if there are extraordinary impediments to its holding or its holding would be obviously groundless. The cancellation or rescheduling of a General Meeting is effected by way of a notice posted on the Company’s website together with reasons and in compliance with other legal requirements, including the provisions of the Rules of Procedure for the General Meeting of PKN ORLEN.

Powers and responsibilities of the General Meeting

The General Meeting is authorised in particular to:

- review and approve the Company’s full-year financial statements; annual Directors’ report on the Company’s operations; unaudited financial statements of the ORLEN Group and Directors’ report on the ORLEN Group’s operations for the previous financial year;
- grant discharge from responsibility to the Supervisory Board and Management Board members;
- decide on the allocation of profit and coverage of loss, and on the application of funds set aside from earnings;
- appoint members of the Supervisory Board, subject to Art. 8.2 of the Articles of Association, and define rules for their remuneration;
- increase and reduce the share capital unless the Commercial Companies Code or the Company’s Articles of Association stipulate otherwise;
- make decisions concerning claims for redress of any damage caused upon formation of the Company or when managing or supervising the Company;
- adopt a policy defining the rules of remuneration for members of the Company’s Management Board and Supervisory Board;
- grant consent to disposal or lease at or creation of limited property rights in the Company’s business or its organised part;
- grant consent to any sale of real property, perpetual usufruct or interest in real property with a net carrying value exceeding one-twentieth of the Company’s share capital;
- amend the Company’s Articles of Association;
- create and release the Company’s capital reserves, funds and special accounts;
- resolve to cancel shares and buy shares to be cancelled, and establish the terms of such cancellation;
- issue convertible bonds, senior bonds and subscription warrants;
- dissolve, liquidate and restructure the Company or merge it with another company;
- conclude a parent/subsidiary agreement within the meaning of Art. 7 of the Commercial Companies Code.

Participation in the General Meeting

The right to participate in the Company’s General Meeting is vested only in persons that are the Company’s shareholders sixteen days before the date of the General Meeting (record date).

Shareholders may communicate with the Company via the corporate website, using the contact form available at http://www.orlen.pl/EN/Investor/Relations/GeneralMeetings/ContactPages/default.aspx, or through email (at walne.simpaz@orlen.pl). They may send a notification of granting power of proxy in electronic form and the power of proxy document (or a power of proxy cancellation document), and they may send requests and documents to the Company, for instance requests to place a matter on the agenda of the General Meeting or draft resolutions with reasoning. A section dedicated to the Company’s General Meetings contains some useful materials for shareholders and information about upcoming General Meetings along with relevant materials, materials pertaining to General Meetings held in the past, including texts of resolutions passed and video files with internet broadcasts of General Meetings.

The General Meeting is attended by members of the Company’s Management Board and Supervisory Board selected with a view to addressing the matters discussed in the General Meeting and providing meaningful answers to questions asked by shareholders during the General Meeting. The Annual General Meeting may also be attended by members of the Management Board and the Supervisory Board whose mandates expired before the date of the General Meeting but who still performed their functions during the financial year for which the Directors’ report and the financial statements are to be approved by the Annual General Meeting. The Management Board provides the participants of the General Meeting with information about the Company’s financial results and other relevant information, including non-financial information, included in the financial statements to be approved by the General Meeting.

General Meetings may also be attended by other persons invited by the body convening the General Meeting or allowed to enter the meeting room by the Chair, especially qualified auditors, legal and financial advisors and the Company’s employees. PKN ORLEN additionally allows media representatives to attend General Meetings. The Management Board ensures that each General Meeting is attended by an independent expert in commercial law.

After declaration of the state of epidemic, the Annual General Meeting in 2021 was conducted under a strict sanitary regime. The shareholders and all participants of the General Meeting were required to cover their nose and mouth, keep their distance and observe other sanitary rules. The number of persons responsible for the organisation of the meeting was reduced to a minimum in order to mitigate the risk of COVID-19 infection.

Unless stated otherwise in the Commercial Companies Code or the Articles of Association, resolutions of the General Meeting are passed by an absolute majority of the votes cast.

General Meeting in 2021

General Meeting in 2021

The Annual General Meeting held on May 27th 2021:

- approved the Directors’ Reports on the operations of the Company and the ORLEN Group as well as the financial statements for 2020;
- granted a discharge from responsibility to all Supervisory and Management Board members;
- resolved to cover the PLN 2,355,673,742 net loss incurred by PKN ORLEN in financial year 2020 from statutory reserve funds;
- allocated PLN 1,496,981,733.50 to be paid as dividend (PLN 3.50 per share). The dividend was paid from the Company’s statutory reserve funds created from retained earnings;
- passed resolutions to amend the Company’s Articles of Association. The amendments related to two areas: expanding the scope of the Company’s principal business activity and amending the wording of Art. 81.3. A consolidated text of the Articles of Association incorporating these amendments was also approved;
Management and supervisory bodies

Apart from generally applicable laws, the operating procedures of PKN ORLEN’s Supervisory Board, its Committees and Management Board are set out in PKN ORLEN’s Articles of Association and the Rules of Procedure for the Supervisory Board or the Management Board, as appropriate. In their operations, PKN ORLEN’s management and supervisory bodies also comply with the corporate governance principles set out by the Warsaw Stock Exchange.

In order to achieve the highest standards in the performance of the Management Board’s and Supervisory Board’s duties defined in the generally applicable laws and internal regulations, as well as to ensure that these duties are discharged effectively, the Management Board and Supervisory Board members must possess extensive qualifications and experience. The current composition of the Management and Supervisory Boards ensures a good balance and diversity in terms of gender, educational background, age and professional experience.

The gender diversity ratio is not applied in the Company’s diversity management practices. The gender diversity requirement of the Code of Good Practice is met by the Company’s Supervisory Board, which has a minority share of no less than 30%, but not by the PKN ORLEN’s Management Board.

Any outside employment of the Management Board members is assessed by the Supervisory Board, which – pursuant to the Company’s Articles of Association – grants permission to Management Board members to serve on the supervisory or management bodies of any other entities and to receive remuneration for such service.

The Management Board

Composition of PKN ORLEN Management Board as at January 1st 2021 and December 31st 2021

On January 27th 2022, Zbigniew Leszczyński resigned as member of the Company’s Management Board, with effect from January 31st 2022.

During a meeting on February 15th 2022, the Supervisory Board appointed Piotr Sabat to serve on the Management Board from March 1st 2022.

The current division of remits between members of the PKN ORLEN Management Board is also available on the Company’s website Division of competences / PKN ORLEN.
Composition of the Management Board as of the date of authorisation of Management Board Report on the Operations of ORLEN Group and PKN ORLEN S.A. for the Year 2021

DANIEL OBAJTEK - CEO, President of the Management Board

Daniel Obajtek has served as President of the Management Board and Chief Executive Officer of PKN ORLEN since February 6th 2018. From 2017 to February 2018, he was President of the Management Board of the Energa Group. In 2017, Energa S.A.'s net profit soared 45%, and the company was named Company of the Year within the WIG20 blue-chip index, while its stock price jumped 38%. In 2016-2017, heading the Agency for Restructuring and Modernisation of Agriculture, Mr Obajtek streamlined the processes related to disbursement of billions of zlotys worth of EU and national funds and optimised the cost of the Agency’s operations. From July 2016 to February 2018, he was a member of the Supervisory Board of LOTOS Biopaliwa.

As President of the Management Board of PKN ORLEN, Mr Obajtek has determinedly pursued the mission of turning it into a multiutility business. In February 2018, he embarked on a process to acquire control of the Group LOTOS, Poland’s second-largest refining. The transaction is to result in a single strong player, capable of competing on foreign markets. Around the middle of 2018, PKN ORLEN launched its largest ever capital projects under the Petrochemicals Development Programme. In parallel, growth capex projects were brought under way at other ORLEN Group companies, involving fertilizer capacity expansion at ANWL of Wloclawek and construction of an eco-friendly glycol unit at ORLEN Pulaudie.

In December 2013, PKN ORLEN, under Mr Obajtek’s stewardship, initiated a process to acquire the Energa Group, which took just four months to complete, making it one of the fastest processes of this kind in Poland. The transaction benefits both companies, while furthering PKN ORLEN’s strategic plans to develop zero- and low-carbon energy sources.

In July 2020, Daniel Obajtek and the Minister of State Assets Jacek Sasin signed a Letter of Intent paving the way for the acquisition by PKN ORLEN of the PGNiG Group, the incumbent gas supplier.

In December 2020, PKN ORLEN became the majority shareholder in Ruch, having acquired a 65% ownership interest in the newspaper chain. The investment seeks to strengthen the ORLEN Group’s retail business. Also in December 2020, PKN ORLEN entered into an agreement to acquire Polska Press from Germany’s Verlagsgruppe Passau Capital Group. With the acquisition, the ORLEN Group gains access to 174 million internet users and an opportunity to acquire new customers. The acquisition of one of the largest publishing groups in Poland and harnessing the capabilities of the media agency Sigma (established by PKN ORLEN jointly with PZU in 2018) and Ruch will enable the Group to create a flexible, personalised and comprehensive offering for greater customer satisfaction.

The past four years witnessed rapid development of the ORLEN Group’s retail chain, including upgrade work to raise the standard of service and enhance the non-fuel offering, through the construction of the ORLEN Eco Cafe and star Connect biosta concepts and other measures. During that time, the ORLEN Group launched service stations in Slovakia and, after 15 years, opened a new retail outlet in Lithuania. In 2019, a co-branding project was implemented to make the ORLEN Group logo visible on Germany’s Star stations and on Benzin stations across the Czech Republic and Slovakia. Since 2020, a full rebranding process has been ongoing. By 2030, all service stations in the region are to operate under the ORLEN brand. In the coming years, ORLEN will also improve the availability of alternative fuels at its service stations, focusing on the expansion of the EV fast charging station network. The Company additionally intends to grow its hydrogen fuel and LNG/CNG business.

Daniel Obajtek also set in motion a new policy of diversifying oil supplies for the ORLEN Group, by forging and strengthening relations with suppliers from outside Europe, including Africa and the Persian Gulf. These measures allow it to obtain a favourable mix of crude oil for processing, optimising production with positive effects on the final quality and price of the Group’s products and overall stability of the market.

ORLEN has been working consistently to improve its brand recognition in Poland and abroad, through sponsorship and other activities. For several years now, it has been the partner of Poland’s most renowned corporate sponsor of sports. In 2019, it gained sponsorship exposure to Formula 1 and partnered with Robert Kubica. Since 2020, PKN ORLEN has been the title sponsor of the Alpha Romeo Racing ORLEN team, with Robert Kubica as its test driver.

At the onset of the pandemic in 2020, Daniel Obajtek announced the launch of a special hand sanitiser production line. Moreover, PKN ORLEN allocated PLN 100 million to support the fight against the coronavirus. In late October 2020, Daniel Obajtek announced that PKN ORLEN would build temporary hospitals in Płock and Ostrołęka as part of its efforts to fight the pandemic.

In November 2021, Daniel Obajtek announced the adoption of the ORLEN2030 strategy, providing for the achievement of a net zero carbon footprint by the ORLEN Group in 2030. A milestone investment project here is the construction of an offshore wind farm in the Baltic Sea, with a total maximum capacity of up to 1.2 GW. The generation capacities will be supported by other projects, such as development of hydrogen technology and small nuclear reactors.

Daniel Obajtek has completed the Executive MBA programme run by the Gdansk Foundation for Management Development and validated by IAE Aix-Marseille Graduate School of Management. He is a member of the Programme Council of the Economic Forum in Krynica and chairman of the Board of the Polish Olympic Committee. He has won a number of prestigious awards, notably the Polish Compass 2018. He was also named President of the year 2018 in the 25th edition of the Bulls and Bears award. In 2019, he was awarded the Lech Kaczyński Prometheus Award. The Judging Panel of the ISB News Agency named him the Most Reliable CEO.

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PIOTR SABAT - Member of the Management Board, Development

Piotr Sabat has been a Member of the PKN ORLEN Management Board since March 1st 2022. He is responsible for the investment, process development, and technology functions. A lawyer and economist with a breadth of experience in various corporate management and supervisory areas, he has served in a number of senior corporate roles, including as Deputy Chair of the Supervisory Board and Audit Committee of Link 4 Towarzystwo Ubezpieczeń S.A., Member of the Supervisory Board and Audit Committee of Mostostal Płock S.A., General Counsel at FM Logistic, responsible for the legal, insurance, and risk and safety management functions, and Head of the Legal Department at GEPKO Group for Poland. He is a graduate of the Faculty of Law and Administration of the University of Łódź and has completed various other university programmes and courses, including the PhD in law programme at the Institute of Political Studies of the Polish Academy of Sciences, the PhD in economics programme at the Institute of Economics of the Polish Academy of Sciences and the Vienna Institute for International Economic Studies of Vienna, a postgraduate course in management and audit at the Jagiellonian University, a postgraduate course in debt collection at the Warsaw School of Economics, and a postgraduate course in negotiation and mediation at the SWPS University. Mr Sabat also has teaching experience, having lectured to participants in the MBA programme at Collegium Humanum – Warsaw Management University, students at the War Studies Academy, and postgraduate students at the Helena Chodkowska University of Technology and Economics of Warsaw.

JÓZEF WĘGRECKI - Member of the Management Board, Operations

Józef Węgrecki has been a member of the PKN ORLEN Management Board since March 23rd 2018. He is a graduate of the AGH University of Science and Technology in Kraków, Faculty of Mining and Metallurgical Machines. He holds qualifications to serve on the supervisory boards of companies in which the Polish State Treasury has interests. In 1978–1990, Mr Węgrecki worked at Zakład Remontowy Energetyki Kraków, where he held the position of member of the Management Board, Chief Technical Officer. In 1990–1993, he served at employee-owned company Remak Opole as its Vice President. From April 1993 to June 2017, he was President and member of the Management Board of Remak Krak. In 2017, Mr Węgrecki was appointed Vice President of the Management Board of Energa Wytwarzanie, where his management responsibilities covered water and wind turbine operation, photovoltaic farms, cogeneration and coal-fired power plants, innovation, heating asset acquisitions and setting development directions. On February 5th 2018, Mr Węgrecki was delegated to temporarily serve as member of the PKN ORLEN Management Board for investment and procurement, and then in April he was appointed member of the Management Board, Chief Operating Officer. He is interested in monitoring and analysing the latest technical solutions in the field of power generation: alternative energy sources and their potential industrial applications. He was awarded the Galicia Construction Grand Award for his contribution to the advancement of the construction industry, a Badge of Merit for exceptional services to the construction industry, a Gold Medal for long service, an Honoris Gratia badge for charity and community service, and a Medal of the 100th Anniversary of Poland Regaining Independence.
PATRYCJA KLARECKA - Member of the Management Board, Retail Sales

Patrycja Klarecka has been a member of the PKN ORLEN Management Board since June 24th, 2018. She graduated from the Poznań University of Economics and Business in Economic Policy and Corporate Strategy. As a member of the PKN ORLEN Management Board, she has been responsible, among others, for retail sales and retail chain development. Her remit covers CSR, IT, as well as infrastructure and information security.

In 2016–2018, Patrycja Klarecka served as President of the Polish Agency for Enterprise Development (PARP), Poland’s largest government agency supporting the development of SMEs. Patrycja Klarecka has professional experience in the financial, media, and education sectors, including in managerial roles at the Warsaw Stock Exchange (2014–2016), Bank Zachodni WBK (2010–2014), Telewizja Polska (2004–2010), and PZU (2002–2004). Earlier in her career, she was a lecturer at the Melchior Wańkowicz School of Journalism in Warsaw and a consultant at the Poznań School of Banking.

Patrycja Klarecka chaired the Supervisory Board of ORLEN Deutschland GmbH (in 2018–2019), served on the Supervisory Boards of the WSE Foundation and AIB Polska, and was on the Management Board of the PZU Charitable Foundation. She represented the Polish Television in the Crossmedia Group at the European Broadcasting Union.

MICHAŁ RÓG - Member of the Management Board, Wholesale and International Trade

Michał Róg has been a member of the PKN ORLEN Management Board since September 1st, 2018. Michał Róg is a graduate of the Cracow University of Economics, where he majored in management and marketing, and of the Canadian International Management Institute and Harvard Business School. He has completed the Executive MBA programme run jointly by the Cracow University of Technology and Central Connecticut State University.

Michał Róg has over 20 years of professional experience gained working for TELE-FONIKA KABLE, where he served as Vice President for Sales – Distribution and Power Generation Sector; Director for Sales and Development of High and Medium Voltage Products; Director for Sales on the Balkan Market; Director for Sales in the Home Market; and Head of the Home Market Office.

From March to August 2018, he was a Management Board Member for Trade at ORLEN OIL of Kraków. From April to August 2018, he was additionally a Management Board member at Paramo s.r.o, based in Pardubice, the Czech Republic.

Since December 1st, 2020, he has been a member of the Supervisory Board of Energa.
ARMEN KONRAD ARTWICH - Member of the Management Board, Corporate Affairs

Armen Konrad Artwich has been a member of the PKN ORLEN Management Board since September 1st 2018. Mr Artwich graduated with honours from the Faculty of Law and Administration at the University of Warsaw, as well as from the Warsaw School of Economics (finance and accounting). He also studied corporate law and commercial law at the University of Sheffield, School of Law. He completed his legal counsel apprenticeship at the Warsaw Bar Association.

From January to August 2018, Armen Konrad Artwich served as Head of the Legal Department of the Chancellery of the Prime Minister. Earlier, between 2016 and 2018, as Deputy Director of the Department for Improvement of Economic Regulations of the Ministry of Development, Mr Artwich was responsible, among others, for legislative projects in the area of economic law and for supervision of the Central Office of Measures and the Polish Centre for Accreditation. At the same time, between 2016 and 2018, he was a member of the Polish Financial Supervision Authority (representative of the minister in charge of economy).

Between 2011 and 2016, Mr Artwich worked in the Legal Area at Bank Zachodni WBK, where he was in charge of legal services for investment banking in the Global Banking & Markets Division. A graduate of the 18th School of Civil Society Leaders. For his pro publico bono activity, he received, among other distinctions, the Gold Cross of Merit and the Polcul Foundation award.

Armen Artwich also serves as Chairman of the ORLEN Group Board.

JAN SZEWCZAK - Member of the Management Board, Finance

Jan Szewczak is a lawyer, business analyst and an expert in finance, financial law, banking and macroeconomics. He graduated from the Faculty of Law and Administration of the University of Warsaw and completed doctoral studies at the Department of Finance and Financial Law. He also completed academic internships in Amsterdam and Prague.

For many years Mr Szewczak had been a faculty member and a lecturer at the Faculty of Law and Administration of the University of Warsaw and the Vistula University.

He has gained extensive experience in the financial sector. He has sat on the Management Board of PZU Tower, served as Chief Economist of Kasa Krajowa SKOK (credit union), Member of the Sejm (lower chamber of the Polish Parliament) of the 8th term, Chairman of the Standing Subcommittee on Financial Institutions, and Deputy Chairman of the Public Finance Committee and member of the Digitisation Committee of the Sejm.

He is an economic journalist and the author of numerous opinions and expert reports on business processes and ownership transformations.

Its interests include economic history and privatisation processes in Poland and abroad.
ADAM BURAK - Member of the Management Board, Communication and Marketing

Adam Burak has been a member of the PKN ORLEN Management Board since February 2020. At the ORLEN Group, he is responsible for the implementation of a consolidated corporate and marketing communication strategy, including the advancement of digital communication channels in Poland and abroad. In February 2018, he was appointed Executive Director for Corporate Communication, supervising the implementation of the ORLEN Group’s external and internal communication strategy, as well as the development of the organisational structure and business model for a media agency established in partnership with PZU.

He holds a degree in International Relations from the University of Warsaw and an MBA degree. He completed a postgraduate course in Journalism and Public Relations at the Tischner European University in Kraków.

Prior to that, he had worked in the fuel and energy industry as well as the financial sector. His roles included that of Communication and Marketing Director at the largest Polish companies, such as Grupa Energa, Grupa LOTOS and PZU, creating and implementing corporate, marketing and sponsorship communication strategies. He also has extensive experience in sports marketing and journalism. In 2012–2016, he was Marketing and PR Director as well as press officer for the Wrocław Stadium, and from 2008 to 2012 he worked as a journalist for Telewizja Polsat.

He is a jury member for the Gold Paperclips industry competition, a member of the judging panel for the 50 Most Creative People in Business programme organised by the BREP magazine, and a speaker at the Public Relations Professionals’ Congress.

The Management Board of PKN ORLEN consists of five to nine members, including the President, Vice Presidents and other members of the Management Board. Members of the Management Board are appointed and removed by the Supervisory Board. One member of the PKN ORLEN Management Board is appointed by the entity authorised to exercise the rights attached to the shares held by the State Treasury as long as the State Treasury holds at least one share in the Company. In accordance with an amendment to the Articles of Association adopted by the Annual General Meeting on May 27th 2021, the member of the Management Board appointed by the entity authorised to exercise the rights attached to the shares held by the State Treasury is removed by the Supervisory Board.

In accordance with the Articles of Association, a member of the Management Board is appointed following a recruitment process performed to verify and evaluate qualifications of candidates and to select the best candidate for the position. When initiating a recruitment process for the position of a Management Board member, the Supervisory Board determines the detailed terms and procedure of recruitment, the place and deadline for accepting applications, the place and time of the interview, the matters to be covered during the interview, as well as the criteria to be met and the method of evaluating a candidate.

Pursuant to the Act on State Property Management, the Company’s Articles of Association define the requirements for candidates for members of the Management Board. In accordance with the effective Articles of Association, a Management Board candidate is required to meet all of the following criteria:

- He/she has a university degree obtained in Poland or a university degree obtained abroad and recognised in Poland under separate legislation;
- He/she has at least five years of employment under a contract of employment, election or appointment, an employment contract for cooperative members, other agreement for the provision of services, or as a business owner;
- He/she has at least three years of experience serving in managerial or independent positions or as a business owner;
- He/she has at least three years of experience serving in managerial or independent positions or as a business owner;

The Articles of Association provide that a Management Board candidate may not be a person who meets at least one of the following criteria:

- He/she works at the office of a member of the lower or upper house of the Polish Parliament (Sejm or Senate) or of a member of the European Parliament as an assistant or under an employment, temporary employment or similar contract;
- He/she is a member of a political party’s body representing the party before third parties and authorised to assume obligations;
- He/she works for a political party under an employment, temporary employment or similar contract;
- His/her social activities or profession give rise to a conflict with the interests of the Company.

The Supervisory Board may suspend or deprive the President, Vice Presidents, individual members of the Management Board and the Management Board as a whole of their duties. Should the Management Board President be removed or suspended from duties or should his/her mandate expire before the end of the term of office, all his/her powers, except for the casting vote referred to in Art. 95.2 of The Articles of Association, are to be exercised by the person appointed by a resolution of the Supervisory Board as acting President of the Management Board until a new Management Board President is appointed or the current one is restored to his/her position.

The term of office of the Management Board members is a joint term, ending on the date of the Annual General Meeting approving the financial statements for the full second financial year of such term of office.

The current term of office of the Management Board members began on June 6th 2020 and ends on the date of the General Meeting of PKN ORLEN approving the Company’s financial statements for the financial year 2022.

Detailed rules for the convening of Management Board meetings are set out in the Rules of Procedure for the Management Board, available on the Company’s website (Division of competences PKN ORLEN).

According to the Rules of Procedure for the Management Board, the Management Board members are required to notify the Supervisory Board of any actual or potential conflict of interest which has arisen or may arise in connection with the positions held by them. Should the Company’s interests be in conflict with the personal interests of a Management Board member, the Management Board member should abstain from deciding on such matter and request that a relevant note be made in the minutes of the meeting. In the case of doubt as to whether a conflict of interest exists, the matter is resolved by the Management Board by way of a resolution. According to the Rules of Procedure for the Management Board, a conflict of interest is understood...
as a circumstance in which a decision made by a member of the Management Board may be influenced by a personal interest of the Management Board member or his/her close person, i.e. their spouse, children, persons related to them through blood or marriage in the first or second degree, or any person to whom the member is personally related.

Powers and responsibilities of the Management Board

All matters going beyond the ordinary course of business are subject to resolutions of the Management Board. Matters falling within the scope of ordinary business are those related to trading in fuels within the meaning of the Company’s Articles of Association (i.e. crude oil, petroleum products, biocomponents, biofuels and other fuels including natural gas, industrial gas and fuel gas) or energy, and any other matters not expressly specified in the Rules of Procedure for the Management Board. In addition, the Management Board’s consent is not required to perform an action which is an integral part of any other action for which the Management Board already gave its consent, unless the Management Board’s resolution states otherwise.

A resolution of the Management Board is required, among other things, to:

- adopt and amend the Rules of Procedure for the Management Board,
- adopt and amend the Organisational Rules and Regulations of PKN ORLEN,
- adopt motions to be submitted to the Supervisory Board and/or to the General Meeting,
- convene the General Meetings and adopt their proposed agendas,
- approve investment projects and corresponding liabilities if the resulting expenditures or charges exceed PLN 10,000,000,
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- sell and purchase real property, perpetual usufruct or an interest in real property, and create limited property rights,
- dispose of purchase and encumber shares or other equity instruments of other entities, including shares admitted to public trading,
- issue the Company’s securities,
- authorise the Company and/or the ORLEN Group’s financial statements,
- adopt and change the employee remuneration scheme, and make decisions regarding the introduction and design of incentive schemes,
- conclude, amend and terminate a collective bargaining agreement applicable at the Company, and other agreements with trade unions,
- establish the principles of granting and revoking powers of attorney,
- formulate the so-called donation policy of the Company,
- grant a commercial power of proxy,
- establish the internal division of remits between the members of the Management Board,
- set up establishment/offices abroad,
- resolve other matters which at least one member of the Management Board requests to be resolved by way of a resolution,
- take decisions on payment of interim dividends.

A resolution of the Management Board is also required for incurring liabilities in legal transactions involving:

- trade in crude oil or hydrocarbon raw materials used to produce fuels in a refinery, excluding biocomponents and fuel additives if the transaction volume exceeds 165,000 tonnes of crude oil or 165,000 tonnes of hydrocarbon raw materials used to produce fuels in a refinery, excluding biocomponents and fuel additives;
- natural gas trading, trading capacity in natural gas transmission, distribution and storage grids/networks in Poland or abroad, and trading in natural gas storage capacities in Poland and abroad if the transaction volume exceeds 100 m Nm³;
- the acquisition of biocomponents and biofuels, including raw materials for the production of biocomponents and biofuels, if the transaction value exceeds PLN 200,000,000 (two hundred million złoty);
- trade in fuels, within the meaning of the Company’s Articles of Association, other than those referred to in Section 5.6.1-3 if the transaction value exceeds PLN 200,000,000 (two hundred million złoty);
- sale or purchase of refining products in international trade if the transaction volume exceeds 90,000 tonnes, excluding heavy fuel oil;
- participation in public procurement procedures for contract award (including participation in negotiations concerning the subject matter of the contract in the area of wholesale trade in refining products and fleet cards if the transaction value exceeds PLN 200,000,000 (two hundred million złoty);
- trade in energy, property rights under energy origin certificates and energy efficiency certificates, guarantees of origin and documents confirming their issue, the related system services and energy ranges, as well as all activities related to switching electricity suppliers if the transaction volume exceeds 300 GWh;
- participation in tender procedures (including those subject to the Public Procurement Law) relating to trading in (separately or jointly) energy, energy-related services or products (including participation in negotiations and other factual and legal acts related to the subject matter of the contract) and any activities related to switching electricity suppliers if the transaction volume exceeds 300 GWh.

The Management Board is obliged to provide regular and exhaustive information to the Supervisory Board on all matters of importance and risks connected with the business of PKN ORLEN, as well as the manner of managing such risks.

Supervisory Board

Composition of PKN ORLEN Supervisory Board as at January 1st 2021, December 31st 2021 and at the day of authorization of the 'Management Board Report on the Operations of ORLEN Group and PKN ORLEN S.A. for the Year 2021'

<table>
<thead>
<tr>
<th>Full name</th>
<th>Title in the Supervisory Board</th>
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<tbody>
<tr>
<td>Jadwiga Lesisz</td>
<td>Member of the Supervisory Board</td>
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<tr>
<td>Barbara Jarzembowska</td>
<td>Member of the Supervisory Board</td>
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<tr>
<td>Kaczmarski Dominik</td>
<td>Independent Member of the Supervisory Board</td>
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<td>Kaczewski Kacper</td>
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<td>Kaczmarski Dominik</td>
<td>Independent Member of the Supervisory Board</td>
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<tr>
<td>Kaczewski Kacper</td>
<td>Independent Member of the Supervisory Board</td>
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On June 2nd 2021 Dominik Kaczmarski resigned as member of the Company’s Supervisory Board with effect from June 6th 2021.

In 2021, the PKN ORLEN Supervisory Board held 22 meetings and passed 19 resolutions. The attendance of PKN ORLEN Supervisory Board members at meetings was 99%. In the case of absence of a Supervisory Board member from a meeting, the Supervisory Board passed a resolution to authorise the absence.

In 2021, there were six independent Members on the Supervisory Board.

The Supervisory Board of the current term is composed of Members with educational background in law, economics and finance (including a law professor), and diverse professional experience, who completed specialist courses and training programmes.

Composition of the Supervisory Board as at the date of the "Management Board Report on the Operations of ORLEN Group and PKN ORLEN S.A. for the Year 2021":

122
MR WOJCIECH JASIŃSKI - Chair of the Supervisory Board

Graduate of the Faculty of Law and Administration at the University of Warsaw in 1972–1986, he worked in Płock, including at the National Bank of Poland Płock Branch and at the Municipal Office, including as legal counsel at the Tax Chamber. In 1990–1997, he organised local government structures in the Province of Płock as Delegate of the Government Representative for Local Government Reform. From 1992 to 1997, he worked at the Supreme Audit Office, first as Head of the Regional Branch in Warsaw, then as Head of the Finance and Budget Team, and as Head of the State Budget Department. In 1997–2000, he served as member and then as President of the Management Board of Siebrza. He was member of the Supervisory Board of Bank Ochrony Środowiska in 1998–2000. From September 2000 to July 2001, he served as Undersecretary of State at the Ministry of Justice. In 2006–2007, he was Minister of the State Treasury.

From 2001, he was Member of the Polish Parliament of the 4th, 5th, 6th, 7th and 8th terms, serving as Chairman of the Standing Committee on the Banking System and Monetary Policy, Chairman of the Economic Committee, and Chairman of the Public Finance Committee. He was also member of the Parliamentary State Treasury Committee, President of the Management Board of PKO ORLEN from December 18th 2015 to February 5th 2018. From June 2018 to July 2019, he was attorney-in-fact of the Management Board of Energy for Energy Markets and Investment Development.

Since February 25th 2016, he has been member of the Supervisory Board of PKO Bank Polski.

MR ANDRZEJ SZUMAŃSKI - Deputy Chairman of the Supervisory Board (Independent Member of the Supervisory Board)

Attorney at law. Full professor at the Department of Private Commercial Law at the Jagiellonian University. One of the three authors of the Polish Commercial Companies Code of September 15th 2000. He was involved in the work to draft the OECD Principles of Corporate Governance, 1993. As an expert of the Association of Stock Exchange Issuers, he prepared a draft of the Rules of the Corporate Governance Committee, enabling implementation of the principles of Corporate Governance for Public Companies adopted by the Warsaw Stock Exchange. Currently, he chairs the Expert Group on Corporate Law of the Corporate Governance Reform Commission at the Polish Ministry of State Assets.

Since 1998, he has been an arbitrator of the Arbitration Court at the Polish Chamber of Commerce in Warsaw, and since 2015 – a member of the Court’s Arbitration Council. Furthermore, he has been President of the Exchange Court at the Warsaw Stock Exchange since 2007. From 2005 to 2011, he served two terms as President of the Arbitration Court at the Lewiatan Polish Confederation of Private Employers. He participated in numerous restructuring and privatisation projects. He sat on the Supervisory Board of Poudrkoncern Energetyczny in Katowice, Małopolska Agencja Rozwoju Regionalnego in Kraków, and Polimex Małopolska of Warsaw, among others.

He prepares legal expert reports in the fields of private business law, contract law and arbitration law. He has authored textbooks and commentaries on the companies and securities law, as well as numerous articles, lectures and reviews in the field of commercial law. He was involved in legislative work on an amendment to the Code of Commercial Companies of March 2020 regarding the online form of meetings held by corporate bodies and an amendment to the Code of Civil Procedure of 2019 regarding corporate arbitration.

MS ANNA WÓJCIK - Secretary of the Supervisory Board

Anna Wójcik is a graduate of the Pázmány School of Banking and Management and the University of Warsaw (Faculty of Law and Administration). She also completed post-graduate studies at the WUT Business School (Faculty of Management), and was awarded the title of Master of Business Administration.

She is a manager with more than a decade’s experience in the private sector (real estate, retail, business consulting and government administration. Her recent positions included COO at [ex], whose field of expertise is in fund raising for corporate research, development and innovation. As part of her remit, she coordinated the work of the management board office and accounted for projects implemented within programmes financed by OPiE and NCFD funds.

Since 2016, her career has been in the government administration. She worked as Head of the Minister’s Office at the Ministry of Development and the Ministry of Finance, while currently she is employed at the Chancellery of the Prime Minister as Head of the Prime Minister’s Office.

MS BARBARA JARZEMBOWSKA - Independent Member of the Supervisory Board

Graduate of the University of Warsaw. Holds an MBA certificate. She has experience in a range of fields, including financial consulting, foreign aid coordination, and foreign investment promotion. In 2000–2001 she held executive and managerial positions in corporate banking at Bank Pekao, where she was in charge of a number of areas, including operational risk, transaction banking, FMCG key account management, sales monitoring, and budget planning and implementation.

MR ANDRZEJ KAPALA - Independent Member of the Supervisory Board

A graduate of a School of Banking and Management in Pnawiz with an MA in business management, Andrzej Kapala has additionally completed post-graduate courses in financial management, human resources management and business accounting at the Warsaw University of Economics. He has also completed the Executive Master of Business Administration programme at the Warsaw Management University. He spent ten years working for the Local Democracy Development Foundation, as Head of its Warsaw Branch, where he focused on advising local government units and municipal utilities on management strategies and financial planning. For many years, he carried out consulting projects for private and municipal companies in investment and financial analyses and in project management, as well as restructuring and standardisation of business processes. He has authored several dozen feasibility studies and business plans for infrastructure investments and consulting projects in the area of enterprise restructuring projects to develop technology and industrial parks, water and sewage management, and information society.

In 2012–2020, as Head at the Administration Office at PKO Bank Polski, he managed the Bank’s resources of about 300 real properties as well as several dozen banking infrastructure redevelopment projects, whilst overseeing the standardisation of business processes in the areas of property and project management as well as technical security of the Bank’s branches. Since 2020, he has served as President at the Management Board of Domstaliweg Zakłady Uznajowa – Produkcjne OOZAMEL of Warsaw.

MR MICHAŁ KLIJASZEWSKI - Independent Member of the Supervisory Board

Attorney-at-law, doctor of law, assistant professor at the Department of Administrative Science and Environmental Protection at the Faculty of Law and Administration of Cardinal Stefan Wyszyński University. Member of the Warsaw Seminar on Administrative Sociology. Graduate of the Faculty of Law and Administration at the University of Warsaw. Author and co-author of publications on law and administrative proceedings. Author of expert opinions and studies for public and private sector entities. Member of supervisory boards of private capital corporations.

MR ROMAN KUZ - Independent Member of the Supervisory Board

In 1987–1992, Raman Kuz studied at the Faculty of Law and Administration at the University of Silesia in Katowice. Between 1993 and 1997, he completed his legal training as an attorney-at-law at the Regional Bar Association in Katowice. Since 1997, he has been practising as a lawyer. First in 2007–2013 and then since 2016, he has served as Dean of the Regional Bar Association in Katowice. He has been a member (since March 2014) and Chairman (since January 9th 2017) of the Supervisory Board of Górnik Zabrze of Zabrze. During the 2018/2019 term of office, he also served as Secretary of the Supervisory Board of Ekostralska of Warszawa, the company organising the top Polish professional league for men’s football teams. Since 2017, he has sat on the Supervisory Board of the Provincial Fund for Environmental Protection and Water Management in Katowice. In 2019–2020, he was a Board member at the University of Economics in Katowice. Member of the 2nd term of the Silesian Forum of Self-Governments of Public Trust Professions in 2018. Since 2014, he has organised and moderated legal panels at the European Economic Congress in Katowice. On behalf of the Polish Bar Council, in his capacity as Chairman of the External Image and Legal Protection Committee, he co-organised the “Advancing Law & Governance Contributions to Climate Action under the Paris Agreement” panel, which was part of the UN Climate Change Summit COP24 – the 24th Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC) held in Katowice, in 2018.
MS JADWIGA LESISZ - Member of the Supervisory Board

Jadwiga Lesisz graduated in Foreign Trade from the Faculty of International Relations at the Warsaw University of Economics. She has also completed a post-graduate course in Real Estate Management at the Warsaw University of Technology, and a Master of Business Administration (MBA) programme run by the WSB School of Business in partnership with Franklin University USA.

Jadwiga Lesisz has more than 20 years of professional experience, including extensive practical experience in the SME sector and long-standing experience in the business sector as an owner and manager where she was involved, among other things, in the creation and organisation of business processes. In 2012–2016, at PKO Bank Polski, she was in charge of property lease operations related to the bank’s branches, supervising and participating in negotiation processes. She was involved in business controlling activities related to the optimisation of the bank’s branch network. In 2016–2017, she was Director of the Project Management Department and member of the Audit Committee at the Polish Ministry of Development. She was responsible for the preparation and implementation of a uniform methodology and culture of project management and for the coordination of key projects. She served as Vice President of the Polish Agency for Enterprise Development (PARP), responsible for public tasks supporting the implementation of innovations in enterprises. Her work at the Agency included initiating cooperation for the building of the start-up ecosystem in Poland. She also supervised public procurement, and management of assets and IT resources. She has experience in the public administration sector in the director general role. She passed the examination for candidates for supervisory board members of state-owned companies.

She holds the licence of a restructuring advisor from the Minister of Justice. She has completed post-graduate studies in bankruptcy administration, court supervisor and curator under the bankruptcy and restructuring law, as well as supervisory board experience.

Operating procedures of the Supervisory Board

PKN ORLEN’s Supervisory Board is composed of six to ten members. The Shareholder State Treasury, represented by the entity authorised to exercise the rights attached to the shares held by the State Treasury, has the right to appoint and remove one member of the Supervisory Board, with the other members of the Supervisory Board appointed and removed by the General Meeting. Individual members of the Supervisory Board and the entire Supervisory Board may be removed at any time before the end of their term of office. The General Meeting of PKN ORLEN appoints the Chair of the Supervisory Board, whereas the Deputy Chair and the Secretary are appointed by the Supervisory Board from among the other members of the Board.

Members of PKN ORLEN’s Supervisory Board are appointed for a joint term of office, ending on the date of the Annual General Meeting approving the financial statements for the full second financial year of such term of office. The current term of office of the Supervisory Board began on June 14th 2019 and ends on the date of the General Meeting of PKN ORLEN approving the Company’s financial statements for the financial year 2021.

At least two Supervisory Board members must meet the independence criteria specified in PKN ORLEN’s Articles of Association. In accordance with the requirements of the Code of Best Practice, at least two Supervisory Board members meet the independence criteria set out in the Act on Statutory Auditors, Audit Firms and Public Oversight of May 17th 2017, and have no actual or material links to any shareholders holding 5% or more of total voting rights in the Company.

Before being appointed to the Supervisory Board, independent members of the Supervisory Board should submit to the Company a written statement to the effect that they meet the criteria set out in the Articles of Association, the Act on Statutory Auditors, Audit Firms and Public Oversight and in the Code of Best Practice. Statements on meeting the independence criteria are submitted to the other Supervisory Board members and to the Management Board.

If the independence criteria are not met, a member of the Supervisory Board is obliged to immediately notify the Company of the same. The Company then informs the shareholders of the current number of independent members of the Supervisory Board.

If the number of independent members of the Supervisory Board is less than two, the Company’s Management Board is obliged to immediately convene a General Meeting and put an item concerning changes in the composition of the Supervisory Board on the agenda of the General Meeting. The Supervisory Board will continue to operate as then composed until changes in the composition of the Supervisory Board are made, i.e. the number of independent members is adjusted to the requirements set forth in the Articles of Association, and the provisions of Art. 8 B of the Articles of Association containing a list of resolutions which must be passed with the consent of at least half of Independent Supervisory Board members will not apply.

In accordance with the Rules of Procedure for the Supervisory Board, a Supervisory Board Member should not resign mid-term if this could prevent the Supervisory Board from performing its duties, and in particular from timely passing a resolution on any matter material to the Company.

MS ANNA SAKOWICZ-KACZ - Independent Member of the Supervisory Board

Graduate of the Faculty of Law and Administration of Maria Curie-Skłodowska University in Lublin. Completed post-graduate studies in real estate appraisal. She held the licence of a restructuring advisor from the Minister of Justice. She has experience in the roles of bankruptcy administrator; court supervisor and curator under the bankruptcy and restructuring law, as well as supervisory board experience.

Powers and responsibilities of the Supervisory Board

The Supervisory Board of PKN ORLEN exercises ongoing supervision over the Company’s operations. In all fields of its activity, specifically, the Supervisory Board is authorised to act as set out in generally applicable laws, including, without limitation, the Commercial Companies Code and the Company’s Articles of Association, in conformity with the Rules of Procedure for the Supervisory Board and – where generally applicable laws stipulate – resolutions of the General Meeting and the Supervisory Board as well as other internal organisational documents in place at the Company.

To ensure the highest standards of corporate governance and in order to enable shareholders to form a true and fair view of the Company, the Supervisory Board draws up and submits for approval to the Annual General Meeting an annual report which must include, as a minimum:

- information on the composition of the Supervisory Board and its committees, specifying which members of the Supervisory Board meet the independence criteria, and which of them do not have any actual and material links to any Shareholder holding 5% or more of total voting rights in the Company;
- a summary of the activities of the Supervisory Board and its committees;
- an assessment of the Company’s standing on a consolidated basis, including an assessment of its internal control, risk management and compliance systems and internal audit function, along with information on the steps taken by the Supervisory Board to perform the assessment;
- assessment of the Company’s compliance with corporate governance standards and the manner in which the Company complies with its disclosure requirements set out in the WSE Rules and legal provisions governing current and periodic
In addition, the Supervisory Board:

- pursues material transactions with related entities within the meaning of the Act on Public Offering, Conditions Governing the Introduction of Financial Instruments to Organised Trading, and Public Companies, which act as its collective advisory and decision-making body.

The Supervisory Board of PKN ORLEN may appoint standing or ad hoc committees which act as its collective advisory and decision-making body. The Supervisory Board may request that the Management Board prepare opinions for the Supervisory Board.

Under Sections 81 and 82 of the Rules of Procedure for the PKN ORLEN Supervisory Board, in order to discharge its duties, the Supervisory Board may inspect all the Company’s documents, request the Management Board and employees to provide reports and clarifications, and review the Company’s assets. To enable the Supervisory Board to perform its duties, the Management Board may request that the Management Board prepare, at the expense of the Company, expert and other opinions for the Supervisory Board, or employ an adviser.

In order to guarantee the proper discharge of its duties, the Supervisory Board may request that the Management Board prepare, at the expense of the Company, expert and other opinions for the Supervisory Board, or employ an adviser.

Pursuant to the Rules of Procedure for the PKN ORLEN Supervisory Board, the majority of the Audit Committee members should inform the other members of the Supervisory Board of any conflicts of interest which have arisen or may arise, as well as abstain from taking the floor when the matter which has given rise to the conflict is being discussed, abstain from voting on the relevant resolution and request that the fact be recorded in the minutes. No breach of the provisions of the preceding sentence may render the Supervisory Board’s resolution invalid. In the case of doubt as to whether a conflict of interest exists, the matter is resolved by the Supervisory Board by way of a resolution.

Composition of PKN ORLEN Supervisory Board Committees in 2021 roku

Tasks of the Audit Committee are to advise the Supervisory Board of PKN ORLEN on matters related to the proper implementation of budget and financial reporting rules and internal control within the Company and the ORLEN Group, as well as cooperation with the Company’s qualified auditors. The Audit Committee meetings are held at least once per quarter, prior to each publication of the Company’s financial statements.

In 2021, the Audit Committee held nine meetings.

Also, permitted non-audit assurance services and related services were provided to PKN ORLEN and selected ORLEN Group companies in 2021 that had been contracted in compliance with the applicable procedure, i.e. each non-audit service had been preceded by an independence assessment and approved by the Audit Committee, including:

- assessment of the annual report on remuneration of the PKN ORLEN Management Board and Supervisory Board for 2019–2020;
- review of documents necessary for ORLEN Lietuva to recover funds from Public Service Obligation;
- audit of all product packaging of ORLEN Deutschland GmbH;
- submission of Comfort Letters ("CLS") connected with establishing of the foreign eurobonds programme ("EMTN Programme") and the first issue of eurobonds under the EMTN Programme, on which the Committee gave its consent in 2021;
- confirmation of calculation of the electricity use intensity (EUI) indicator for PKN ORLEN, Anwil S.A. and IKS Selino S.A.;
- review of a report on solvency and financial condition of ORLEN Insurance Limited.
In 2021, the Audit Committee formulated a recommendation with respect to the appointment of an audit firm in accordance with the Supervisory Board-approved updated auditor selection policy and auditor selection procedure for audits and reviews of financial statements.

### Corporate Governance Committee

The Corporate Governance Committee is responsible for assessing the implementation of corporate governance standards, providing the Supervisory Board with recommendations on the adoption of corporate governance standards, giving opinions on corporate governance documents, assessing reports on compliance with corporate governance standards drafted by the Warsaw Stock Exchange and statements of compliance with the best practices referred to in Art. 73.2 of the Act on State Property Management, giving opinions on proposed amendments to the Company's corporate documents and drafting such amendments for the Supervisory Board's own documents, monitoring Company management procedures in terms of their compliance with legal and regulatory requirements, including disclosure requirements of the capital market as well as compliance with the Core Values and Standards of Conduct of PKN ORLEN and corporate governance principles.

In 2021, the Corporate Governance Committee held five minuted meetings.

### Strategy and Development Committee

Tasks of the Strategy and Development Committee are to provide opinions and submit recommendations to the Supervisory Board on proposed investments and divestments which may have a material impact on the Company's assets.

In 2021, the Strategy and Development Committee held five minuted meetings.

### Nomination and Remuneration Committee

Tasks of the Nomination and Remuneration Committee are to help attain the Company's strategic goals by providing the Supervisory Board with opinions and proposals on how to shape the management structure, with regard to organizational solutions, remuneration schemes and selection of staff with the skills required to ensure the Company's success. Following amendment of the Public Offering Act, the Nomination and Remuneration Committee is also tasked with issuing opinions on remuneration reports prepared in accordance with statutory requirements and the remuneration policy in place at the Company.

The majority of the Nomination and Remuneration Committee members should be independent. Where the Nomination and Remuneration Committee is not composed of the majority of independent members of the Supervisory Board, the Committee is chaired by the Chair of the Supervisory Board. At least one member of the Nomination and Remuneration Committee should have knowledge of and experience in remuneration policy.

In 2021, the Nomination and Remuneration Committee held eight minuted meetings.

### Corporate Social Responsibility Committee

The responsibilities of the CSR Committee include supervising the implementation of the CSR Strategy by the Company through periodic assessments of the Company's activities in this area, monitoring the Company's management with respect to compliance with the ORLEN Group's Code of Ethics, making recommendations to the Supervisory Board for the assessment of appropriateness of the Company's and the Group's sponsorship and donation spending, including the amount spent on these purposes, and approving annual reports on the Company's CSR initiatives.

In 2021, the Corporate Social Responsibility Committee held eight minuted meetings.
Remuneration policy

The remuneration policy in place at PKN ORLEN supports the achievement of the Company’s goals, including in particular a long-term increase of its shareholder value and stability of operations.

GRI Disclosures

GRI 102-35

Remuneration policy (CODE OF BEST PRACTICE Section 6)

Remuneration for members of the Management Board at PKN ORLEN is determined by the Supervisory Board taking into account the relevant resolution of the General Meeting, in connection with the Act on the Rules of Remunerating Persons Who Direct Certain Companies, and recommendations of its Nomination and Remuneration Committee. The main components of the Management Board members’ remuneration system include:

- Monthly base salary (fixed remuneration);
- Variable remuneration based on performance against management objectives;
- Severance pay for contract termination by the Company;
- Non-compete compensation.

The Supervisory Board set the following six quantitative targets for all members of the Management Board for 2021:

- LIFO EBITDA of the Group;
- Net debt/EBITDA of the Group;
- Group’s growth CAPEX, including development expenditure;
- Group’s maintenance CAPEX;
- Group’s general and personnel costs;
- Stock performance ratio: TSR of PKN ORLEN relative to the market;

and assigned relevant bonus thresholds to these targets. The Supervisory Board also set two qualitative targets for each member of the Management Board, associated with the Group’s key challenges in a given year.

Additionally, in accordance with the resolutions of the PKN ORLEN General Meeting, the Supervisory Board set the following separate objectives, which must be met as a precondition to qualify for variable remuneration for 2021:

- Compliance with the principles of remuneration for members of management and supervisory bodies in line with the Act across all Group companies;
- Discharge of the obligations referred to in Art. 17-20, Art. 22 and Art. 23 of the Act on State Property Management of December 16th 2016 in the Company’s subsidiaries within the meaning of Art. 4.3 of the Act on Competition and Consumer Protection of February 16th 2007.
Rules for awarding bonuses to key management personnel (including members of the Management Board)

The regulations on bonuses applicable to the PKN ORLEN Management Board and the Supervisory Board, among other key positions within the Group, have certain common features. Persons covered by these schemes are remunerated for their performance against individual targets set at the beginning of a bonus period by the Supervisory Board for the members of the Management Board and by the Management Board for key executive personnel. The bonus systems are consistent with the Company’s Values, promote cooperation between particular employees, and motivate them to achieve the best possible results for the ORLEN Group. The targets are both qualitative and quantitative, and their performance is assessed after the end of the year for which they were assigned.

Remuneration of members of the Management Board and the Supervisory Board for serving on the Management or Supervisory Boards of subsidiaries, joint ventures, and associates of the ORLEN Group, who in 2021 served on the Management or Supervisory Boards of subsidiaries, joint ventures, and associates of the ORLEN Group, did not receive any remuneration for such service.

Diversity policy

In 2021, the Diversity Policy was adopted at PKN ORLEN S.A. by way of an internal regulation. The document formalises the Company’s long-standing commitment to promoting the idea of diversity.

In addition, the Diversity Policy of PKN ORLEN is also implemented through:

- appointment of the Ethics Officer for reporting breaches of the ORLEN Group Code of Ethics (also regarding discrimination, harassment, and bullying);
- appointment of the Human Capital Committee to give opinions, approve, or submit for approval by the PKN ORLEN Management Board and monitor the observance of the ORLEN Group Code of Ethics, and in particular to examine material breaches, take corrective actions, issue guidelines and consider important ethics-related issues;
- signing a declaration of cooperation between the State Fund for Rehabilitation of Persons with Disabilities and PKN ORLEN, which initiated activities aimed at employing people with disabilities within the Group.

The Company presents the diversity indicators for the supervisory and management bodies within the Group on an annual basis.

At PKN ORLEN, matters related to diversity management are additionally governed by the following documents applicable at the Company:

- PKO ORLEN Work Rules;
- The ORLEN Group Code of Ethics;
- Collective Bargaining Agreement of PKO ORLEN;
- ORLEN Group Human Resources Management Policy;
- CSR Strategy for PKO ORLEN (where it pertains to development and diversity management).

Objectives of the diversity management include:

- equal treatment in employment and non-discrimination,
- respect for diversity,
- management of cultural differences,
- readiness to employ people facing social exclusion or threatened with marginalisation on the labour market, facilitating their employment in ORLEN Group Companies and thus increasing the employment rate of the people with disabilities,
- supporting employee initiatives related to labour equality practices,
- remuneration and bonus policy,
- standards of employment and remuneration of seconded workers, i.e., expats and inpats,
- adopting the workplace to the needs of employees (e.g., people with disabilities, breastfeeding mothers),
- supporting people in a difficult life situation,
- work-life balance programmes.

In addition, the diversity policy of PKN ORLEN is also implemented through:

- appointment of the Ethics Officer for reporting breaches of the ORLEN Group Code of Ethics (also regarding discrimination, harassment, and bullying);
- appointment of the Human Capital Committee to give opinions, approve, or submit for approval by the PKN ORLEN Management Board and monitor the observance of the ORLEN Group Code of Ethics, and in particular to examine material breaches, take corrective actions, issue guidelines and consider important ethics-related issues;
- signing a declaration of cooperation between the State Fund for Rehabilitation of Persons with Disabilities and PKN ORLEN, which initiated activities aimed at employing people with disabilities within the Group.
## Composition of governance bodies and breakdown of employees

### Management Boards of ORLEN Group companies by gender

<table>
<thead>
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<th>Gender</th>
<th>Year</th>
<th>Women [%]</th>
<th>Men [%]</th>
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<tr>
<td></td>
<td>2020</td>
<td>15</td>
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### Supervisory Boards of ORLEN Group companies by gender

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<th>Gender</th>
<th>Year</th>
<th>Women [%]</th>
<th>Men [%]</th>
</tr>
</thead>
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<td></td>
<td>2021</td>
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<td>69</td>
</tr>
<tr>
<td></td>
<td>2020</td>
<td>36</td>
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### Management Board – age structure

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Year</th>
<th>Managers [%]</th>
<th>Non-managers [%]</th>
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<tr>
<td>Below 30</td>
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<td>30-50</td>
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</tr>
<tr>
<td>Over 50</td>
<td></td>
<td>34</td>
<td>66</td>
</tr>
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### Supervisory Board – age structure

<table>
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<th>Managers [%]</th>
<th>Non-managers [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30</td>
<td></td>
<td>3</td>
<td>97</td>
</tr>
<tr>
<td>30-50</td>
<td></td>
<td>69</td>
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<tr>
<td>Over 50</td>
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</tr>
</tbody>
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### Employees – employment structure by age

<table>
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<tr>
<th>Age Group</th>
<th>Managers [%]</th>
<th>Non-managers [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Below 30</td>
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<td>99</td>
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<tr>
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<td>88</td>
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<tr>
<td>Over 50</td>
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<td>89</td>
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</table>

### Employees – employment structure by gender

<table>
<thead>
<tr>
<th>Gender</th>
<th>Managers [%]</th>
<th>Non-managers [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>9</td>
<td>91</td>
</tr>
<tr>
<td>Men</td>
<td>11</td>
<td>89</td>
</tr>
</tbody>
</table>
Integrated Management System

The ORLEN Group supplies highest-quality products to its customers, while striving to make its operations as neutral to the natural environment as possible, to achieve superior energy efficiency, and to maintain high OHS and information security standards.

GRI Disclosures

In 2021, the following key projects were completed with respect to the Integrated Management System:

- Improvements were made to PKN ORLEN’s certified Integrated Management System.
- Cooperation with certification bodies with respect to Management Systems surveillance was continued.
- Improvements were made to the certification was maintained for the Factory Production Control (ZKP) System.
- Tasks supporting the oversight of documented information were refined.
- Efforts were continued to obtain another RBI Management System certification.
- The Food Safety Management System was maintained and improved.
- The International Sustainability & Carbon Certification System (ISCC EU) and the Sustainability Certification System for Biomass and Biogas (KZR INiG) were improved and certified.
- Work was performed in pursuance of the IMS goals and objectives set forth in the following documents:
  - PKN ORLEN S.A. Integrated Management System Policy;
  - PKN ORLEN S.A. Energy Policy;
  - PKN ORLEN S.A. Food Safety Policy.

Detailed information on the results of the activities carried out based on an Integrated Management System in 2021 is available in other parts of this Integrated Report, for example:

- Description of the capital expenditure on environmental protection and the key environmental impact indicators can be found in the section ‘Capital expenditure’.
- Statistics demonstrating compliance with the highest safety standards are shown in ‘Safety’.
- Data on the effects of customer health and safety activities is presented in ‘Customer’.
- The results of energy management are described in ‘Energy management’.
- Data on the use of bio-components meeting the sustainability criteria is contained in ‘Feedstocks and production processes’.

All certificates and policies are available at: Management systems | ORLEN

Process-based management

PKN ORLEN applies a process-based approach involving identification and mapping, based on an analysis of the context of the entire organization’s operations, of the processes which are necessary to ensure compliance of its products and services offered to customers with relevant requirements, while maintaining pre-environmental production methods and pre-environmental approach, and minimizing the environmental impact, continuously improving the safety of working conditions, and meeting requirements in all areas relevant to security of information processed by the Company.

The process sequence has been defined, as well as the relationships between the processes, which constitute a multi-layered mechanism that facilitates identifying and satisfying customer expectations. Individual processes are monitored and the achievement of their objectives is evaluated by checking process metrics and comparing them against adopted benchmarks. This approach allows us to manage and improve processes relying on real, measurable data.
In line with the risk-based approach, process owners are responsible for identifying threats (risks) and opportunities that can potentially affect the operation and efficiency of the processes – meeting customers’ requirements and taking appropriate and ‘adequate’ measures. A process-based system of internal audits is used, which operates in accordance with a dedicated procedure and checks compliance of individual areas with the adopted standards. The improvement measures we take cover internal and external factors and identify opportunities as they open to the organisation.

Any improvements to the Integrated Management System are decided on by the Company’s senior management, in line with the IMS evaluation procedure. The procedures in place specify how particular activities are to be carried out in each area.

A total of 54 processes/sub-processes were identified at the Company, for which 85 metrics were defined. The process charts specify the metrics, which include three-tiered criteria for evaluating effectiveness, defined as acceptable, requiring monitoring, or requiring corrective measures. The assessment of the delivery of the metrics is made on the basis of data entered by the processes/sub-process owners into the Oak system.

The precautionary principle, environmental damage prevention and effective workplace safety and information security management are ensured through standardisation and implementation of systemic mechanisms, which also include preventative measures. The precautionary principle is supported by systemic mechanisms that pre-emptively address potential irregularities and are based on process analysis and elements of risk and opportunity assessment. In accordance with the precautionary principle, business activities involve taking measures to prevent environmental degradation.

Audits - external and internal verification of the Integrated Management System

In 2021, PKN ORLEN was subject to periodic external audits. As a result, the Company obtained certificates of compliance with international standards for its activities.

The Company’s activities are assessed by certified external bodies, which audit the areas covered by the management systems in place on an annual basis. In 2021, these included:

- KZR/NGS system recertification audit by Bureau Veritas Polska, held in Płock; the audit covered the production of a biocomponent: liquid biohydrocarbons in the co-hydrogenation process.
- Integrated Management System surveillance audit by Bureau Veritas Polska, held at selected Fuel Terminals (Sokółka, Małeszki, Włocławek), the production plant and administration units in Płock, and selected service stations; the audit was conducted on a hybrid basis remotely for ISO 9001 and ISO 27001, and on-site for ISO 45001.
- ISO 50001 surveillance audit by UDT-CERT, held remotely at the production plant in Płock, PTA and CERT unit in Włocławek.

The external audits identified no instances of non-compliance and confirmed correctness of the existing systems operation. Also, recommendations were received for new certifications.

**Internal audit system**

The audits confirmed compliance with the requirements of the applicable systems. The auditors also identified the elements that require improvement.

The certified Management Systems in place support:

- The organisation’s ability to meet customer needs and expectations (having a certificate is often a key formal condition for establishing a business relationship, access to domestic and international markets);
- Building the competitive advantage;
- Stronger reputation of the company and its products and services both among existing and prospective customers;
- Better organisation of internal documentation (a process-based approach helps to manage the organisation and eliminate inefficiencies);
- Confidentially (access to information is limited to authorised personnel);
- Integrity (ensuring accuracy and completeness of information and the methods used);
- Availability (authorised users are given access to information and resources when needed);
- Improved quality (lower number of customer complaints);
- Earnings growth (because of lower internal costs achieved through improved quality that meets customer expectations);
- Enhancing environmental measures and contributing to environmental protection;
- Cost reductions achieved through lower energy consumption and lower waste volumes;
- Reduced risk of crisis (avoiding industrial accidents);
- Ensuring compliance with applicable requirements (avoiding penalties);
- Promoting pro-environmental thinking;
- Identification of threats to employees’ safety and prompt implementation of preventive measures;
- Engaging all employees in creating a safe workplace (cost reductions due to lower accident rates);
- Employees’ trust in the organisation and a sense of responsibility for its activities.

**External audits**

- AQAP 2110 recertification audit by CCJ WAT, held in Płock.
- Factory Production Control System audit by Polskie Centrum Badań i Certyfikacji. Due to COVID-19, the audit was conducted remotely.
- ADAP 2110 recertification audit by CCJ WAT, held in Płock. Due to COVID-19, the audit was conducted remotely, from the Company’s headquarters in Płock.

**Survey results**

- 90% of respondents: the process charts for which 135 metrics were defined, and on site for ISO 14001 and ISO 45001.
- 85% of respondents: the audits confirmed compliance with the requirements of the applicable systems.
- 90% of respondents: the audits confirmed correctness of the existing systems operation.
- 95% of respondents: recommendations were received for new certifications.
- 90% of respondents: the external audits identified no instances of non-compliance.
IMS documentation

Apart from the regulations contained in the System Books, the Integrated Management System currently includes 74 procedures:

- 8 Environmental Management System procedures;
- 3 procedures for AQAP 2120 requirements;
- 53 Quality Management System procedures;
- 2 Occupational Health and Safety Management System procedures;
- 5 Information Security Management System procedures;
- 1 Sustainability Certification System for Biomass and Biofuels procedure;
- 1 Energy Management System procedure;
- 1 procedure of the co-hydrogenation process certification system.

In 2021, the following were updated:

- Integrated Management System Book;
- Factory Production Control (ZKP) System Book;
- HACCP Book;
- ISO/IEC 27001 Information Security Management System;
- ISO 45001 OHS Management System;
- ISO 50001 Energy Management System;
- ISCC EU Energy Management System;
- KZR NING certification system;
- HACCP – food safety management.

Key events

A decision on the implementation of the PKN ORLEN ICT Security Policy was updated and issued, thereby setting standards for cyber security management.

In order to ensure a high level of technical efficiency of the computerised control, monitoring and security systems supervised by the Technology Office, an Operational Maintenance Manual for the Computerised Monitoring, Control and Security Systems Supervised by the Technology Office was implemented.

An Instruction on the Release of Data from the PKN ORLEN S.A. ICT Resources was introduced to put in place rules for disclosing data and information from PKN ORLEN’s ICT resources.

A new version of an e-learning course on Information Protection Policy was developed and implemented to adapt the content of the training to the new intranet. This training is available to PKN ORLEN employees and is in line with the company’s current software standard.

The List of Information Security Regulations was updated.

Regular initiatives are undertaken to raise hazard awareness, in particular in the ICT and cyber security area, through training and application of the established procedures. The relevant information is posted on the company intranet on an ongoing basis.

Management Systems at ORLEN Group companies

In 2021, the Group companies’ activities in relation to Integrated Management Systems were in line with the existing concept for the optimisation of the IMS functioning. The IMS policies are in place at the following key companies of the ORLEN Group: PKN ORLEN, ORLEN Administracja, ANWIL, Basell ORLEN Polyolefins, ORLEN Laboratorium, ORLEN Eko, ORLEN Asfalt, ORLEN Serwis, ORLEN Upstream, JS Salina, ORLEN RaliTrans, ORLEN Oil, ORLEN Aviation, ORLEN Polska, ORLEN Projekt, ORLEN Budownictwo, ORLEN Litewska, ORLEN Upstream Group, ORLEN Centrum Uslug Konsorcjum, ORLEN Petrolia, ORLEN Centrum Serwisowe, and ORLEN Ocena. In addition, collaboration on management systems was initiated with RUCH, and closer cooperation with the Energa Group in this area is being considered.

The Integrated Management Systems were built based on the following standards:

- Quality Management Systems compliant with ISO 9001:2015 and AQAP 2110;
- Environmental Management Systems compliant with ISO 14001:2015;
- OHS Management Systems compliant with ISO 45001:2018;

Depending on business needs, the companies maintain the certificates for the systems indicated above.

In addition, depending on the business profiles, legal requirements, customer expectations, etc., some companies implemented the following systems in their organisations: AQAP 2110 Management System, Factory Production Control, Rail Transport Safety Management System (SMS), Rail Transport Maintenance Management System (MMS), Quality Management System for Welding Processes, HACCP Food Safety Management System, ISCC EU System, KZR ING System, ISO/IEC 17025 Laboratory Quality Management System. Where appropriate, relevant certification or registration was secured.

2021 was another year when the pandemic-related restrictions were in place, which required numerous procedures and activities to be undertaken beyond the standard practices. The companies smoothly adapted to modified rules of surveillance of their Management Systems by using the available IT technologies to a greater extent than before. This involved participation in online training sessions and seminars, as well as meetings and consultations on the development of the IMS, including an PKN ORLEN benchmark. In addition, internal and external audits conducted remotely and on a hybrid basis (onsite visit combined with remote audit), using available corporate ICT tools, became more common and are now a standard practice.

Management systems

According to the PKN ORLEN’s strategy, our task in the product quality area is to address the needs and expectations of customers. Our goal and ambition is to retain our position of quality leader in the Polish and international markets. We focus on strengthening customer confidence in PKN ORLEN as a company offering top-class quality, environmentally-friendly solutions, and timely delivery of the products we manufacture and sell.

Being aware of our environmental impact, we commit to gradually bring our process planning and execution methods in line with the sustainability requirements by adopting an integrated approach to the pollution prevention and environmental protection processes.

In accordance with applicable laws and in keeping with our Integrated Management System Policy, we protect the life and health of all our employees by building a safe and healthy working environment.

The systems meet the highest international management standards and are applied by PKN ORLEN in its day-to-day operations to ensure professional customer service and maintain top health and environmental protection standards.

ISO 9001 Quality Management System

Our dedication to providing best-quality products that meet customer expectations is reflected in our Quality Management System and the Integrated Management System Policy implemented within it. The system was first certified in 1996 and then re-certified in 1999 by Bureau Veritas Quality International and Państwowy Instytut Badawczy Centre for Testing and Certification, and in 2002, another re-certification took place, confirming compliance with the requirements of the new PN-ISO 9001:2000 standard. The Quality Management System has been improved in the following years. Currently, we hold a certificate of compliance with the requirements of PN-EN ISO 9001:2015-10 issued by BV Poland.

The implementation of the PKN ORLEN Quality Management System involved an in-depth analysis of the organization's context as well as the needs and expectations of stakeholders, identification and description of processes and their interrelations, and of threats and opportunities that may affect the operation and effectiveness of our processes. The key documents of the system include process maps and cards, which are attached to the approved Integrated Management System book.

The Quality Management System certification covers:

- Production, storage, and sale of refinery and petrochemical products;
- Generation and sale of electricity and heat;
- Value-added functions;
- Retail sale and provision of services at CODO service stations.

AGA 2110 Quality Management System

PKN ORLEN has a certificate of compliance with the requirements of the AGA 2110 standard for the production and wholesale of motor and aviation fuels. It is an important element necessary to attract and retain military customers in NATO countries. The activities covered by the AGA 2110 Quality Management System include supervision over production and the quality of purchased products required under the relevant contracts, and the general principles of cooperation with Military Representative Offices. AGA 2110 also provides for additional requirements related to configuration management, contract risk management, and support for the Government Quality Assurance (GQA) process.

On July 9th, 2003, Zawalid Systemadza Jaszczak awarded PKN ORLEN its first Quality System certificate, confirming compliance with the requirements of AGA 2110 in the production and sale of motor and aviation fuels. After the standard has been modified, we proved our compliance with the AGA 2110 requirements and were awarded the relevant certificate by Centrum Certyfikacji Jakości Wojskowej Akademii Technicznej.

The Quality Management System certification covers:

- Production and sale of motor and aviation fuels.

ISO 14001 Environmental Management System

The objective of the Environmental Management System is to support efforts to improve occupational health and safety by defining the requirements for an effective and efficient management system based on legal regulations, hazard identification, assessment of occupational risk and health and safety risks and opportunities. The main goals outlined above include:

- Ensuring compliance with environmental laws and related regulations;
- Consistently reducing adverse environmental impacts of our activities through environmental projects;
- Minimising the risk of chemical accidents occurring and, if an incident occurs, mitigating its impact.

The detailed requirements and guidance established with regard to identifying issues, monitoring environmental parameters, exercising operational control, conducting audits, and undertaking corrective and other measures prescribed in the standard are only tools for achieving the main goals outlined above. An additional goal is to raise environmental awareness of employees who perform tasks that have or may have an impact on the natural environment.

Currently, our compliance with the ISO 14001 requirements is evidenced by a relevant certificate issued by BV Poland.

The Environmental Management System certification covers:

- Production, storage, and sale of refinery and petrochemical products;
- Generation and sale of electricity and heat;
- Value-added functions.

ISO 45001 OHS Management System

The ISO 45001 OHS Management System is to support efforts to improve occupational health and safety by defining the requirements for an effective and efficient management system based on legal regulations, hazard identification, assessment of occupational risk and health and safety risks and opportunities. The main goals outlined above include:

- Ensuring compliance with environmental laws and related regulations;
- Consistently reducing adverse environmental impacts of our activities through environmental projects;
- Minimising the risk of chemical accidents occurring and, if an incident occurs, mitigating its impact.

The detailed requirements and guidance established with regard to identifying issues, monitoring environmental parameters, exercising operational control, conducting audits, and undertaking corrective and other measures prescribed in the standard are only tools for achieving the main goals outlined above. An additional goal is to raise environmental awareness of employees who perform tasks that have or may have an impact on the natural environment.

Currently, our compliance with the ISO 14001 requirements is evidenced by a relevant certificate issued by BV Poland.

The Environmental Management System certification covers:

- Production, storage, and sale of refinery and petrochemical products;
- Generation and sale of electricity and heat;
- Value-added functions.
ISO/IEC 27001 Information Security Management System

PKN Orlen’s Information Security Management System was first certified for compliance with the requirements of the PN-ISO 27001:2005 standard in May 2007, by Bureau Veritas Certification. Currently, the system meets the requirements of PN-ISO 27001, ensuring confidentiality, integrity and availability of information. Information security is not only a business necessity, which ensures efficient operation of the organisation by providing well-structured information processing, but also a legal obligation.

The key purpose of the system is to maintain and improve information security management, thus minimising the risk of an incident and its adverse impact on operations and activities, by deploying technical and organisational measures that provide the maximum level of security of data processing, protecting data against unauthorised access, breach of confidentiality or loss of integrity, or theft.

Being aware of the importance of information and information systems to the achievement of PKN Orlen’s goals, we seek to ensure that the measures we take are oriented towards security of information in all processing systems, guaranteeing protection of the interests of PKN Orlen, its shareholders, customers and cooperating partners.

The Integrated Management System Policy and the Information Security Management System procedures contain rules of conduct to be followed to ensure the security of our assets. They were designed with a view to putting in place information security standards at the Company with a particular focus on legal compliance and on mitigating the impact of threats related to a breach of confidentiality, loss of data integrity, financial losses and reputational damage.

PKN Orlen currently holds a certificate confirming compliance with the requirements of the PN-ISO/IEC 27001 standard issued by BV Paris.

The Information Security Management System certification covers:

- Production, storage and sale of refining and petrochemical products;
- Generation and sale of electricity and heat;
- Value-added functions.

HACCP Food Safety Management System

In order to satisfy the requirements of food law and the basic assumptions of the Codex Alimentarius, PKN Orlen has implemented the HACCP Food Safety Management System at its service stations. As the range of our food and drink services expands and the regulatory requirements change, the HACCP system is being continuously improved and developed. To ensure the best quality of its food products and services, PKN Orlen has drafted and communicated the Food Safety Policy.

The purpose of the HACCP system is to guarantee that the food products sold at our service stations satisfy all the sanitary requirements, are safe, and their quality meets the relevant standards. This applies to pre-packaged products as well as all products prepared at the service stations, depending on the food and drink service availability.

HACCP, standing for Hazard Analysis and Critical Control Points, is a system used to identify health threats and the risk of their occurrence at various stages of food production and distribution, it helps centralise and mitigate all hazards to consumer safety and health. As a preventive system, HACCP aims to minimise hazards related to food sale. It protects the interests of both consumers and manufacturers by providing the farmer with a guarantee of safety of food products they buy and the later with the possibility of proving the safety of their products by properly conducting and documenting their production processes.

The effective operation of the system at the service stations is ensured through ongoing oversight and regular updates to the HACCP System Documentation.

ISCC EU certification system


The amended Renewable Energy Directive adopted at the end of 2018 came into force on January 1, 2021. Entities operating in the field of production of bio-components, processing of biomass, and purchase, import or intra-Community purchase of biomass or bio-components, which are to be counted towards the National Indicative Target (NIT), are obliged to obtain a certificate confirming that they fulfil the sustainability criteria.

PKN Orlen’s compliance with the sustainability criteria is ensured by the International Sustainability & Carbon Certification (ISCC EU) system, which enables identification of energy carriers produced in a sustainable way with the use of renewables.

ISCC is a certification system for biofuels placed on the market, approved by the German Federal Office for Agriculture and Food (BLE).

The International Sustainability & Carbon Certification System (ISCC EU) confirms the application of an approach based on sustainable use of renewables. ISCC EU is aimed at protecting the biosphere and rational land management, but also sustainable social development and reduction of greenhouse gas emissions, by enabling emission volume tracking at every stage of the biomass and biofuel production process.

It covers all biomass types available on the European Union market and outside the EU. An ISCC EU certificate holder ensures environmental protection, seeks to be perceived as an environmentally oriented company, and makes the following commitments:

1. Reduce GHG emissions;
2. Ensure professional management of the security and quality system at the company;
3. Monitor refining processes, gas emissions and their environmental impacts;
4. Ensure appropriate working environment;
5. Ensure rational land management;
6. Respect national standards in human rights, workers’ rights, and the right to land;
7. Demonstrate social responsibility in business relations.

An ISCC EU certificate confirms the company’s credibility in the international biofuels market. By promoting an environmentally-friendly and socially responsible approach, it helps to establish new business contacts. ISCC EU certification covers a remarkably broad range of products commonly used in the production of biomass, bio-components and biofuels, such as:

- oilseeds (rapeseed, soybean, sunflower, jatropha, oil palm, and others);
- cereals and corn;
- oils (rapeseed, sunflower, palm oil);
- intermediates and products;
- waste and residues.

The ISCC EU system is based on sustainability procedures and standards required to be applied throughout the biofuel production chain.

It helps producers to organise the biofuel production and distribution processes in accordance with the European legal requirements, and enables potential customers to verify greenhouse gas emission volumes at each stage of production, i.e., from the biofuel’s stage of production and delivery to the final product.
KZR INiG certification system

In accordance with the Act on Biocomponents and Liquid Biofuels, entities operating in the field of production of bio-components, processing of biomass, purchase, import or intra-Community purchase of biomass or bio-components which are to be counted towards the National Indicative Target, are obliged to obtain a certificate confirming that they fulfill the sustainability criteria.

One of the systems used at PKN ORLEN that confirms compliance with the sustainability criteria is the KZR INiG System. It is a Polish certification system owned by Instytut Nauki i Gospodarki, recognized under the European Commissioner’s Decision No. 202/2013 of April 8th, 2013 for demonstrating compliance with the requirements of Directive (EU) 2018/2001 of the European Parliament and of the Council (RED II).

On August 19th, 2019, PKN ORLEN was granted a KZR INiG System certificate with respect to the production of a bio-component - liquid biohydrocarbons in the coking hydrogenation process.

Certificates issued under this system are recognized under other certification systems. They are valid worldwide, and particularly in the European Union and Poland.

The KZR INiG System evaluates sustainability compliance at the entire life cycle of biofuels and biofuels, from the feedstock cultivation stage to the point of collection of waste/residue to the stage of final biofuels and bioliquids consumption and generation of waste and residues, including all intermediate stages within the supply chain.

The system has been developed in Poland, taking into account the relevant EU regulations on the assessment of the biomass cultivation process as regards land use and application of best agricultural practices, and with the international law.

Its requirements apply to biofuels and bioliquids produced within the European Community and imported from outside the EC, and the compliance is evaluated by certification bodies that review the information submitted to them. An audit is conducted before an entity can be admitted to the KZR INiG System. If the audit outcome is positive, the certification body issues a certificate confirming compliance with the KZR INI G sustainability criteria.

PKN ORLEN holds a certificate issued by Bureau Veritas Certification Polska, confirming compliance of the production of a bio-component - liquid biohydrocarbons in the coking hydrogenation process with the requirements of the KZR INiG System, valid for the period from August 19th 2019 to August 19th 2022.

Factory Production Control (ZKP)


The system is based on the PKN ORLEN's Integrated Management System, in particular the ISO 9001 requirements.

On January 2nd, 2015, the Factory Production Control System was for the first time positively evaluated by Polskie Centrum Badań i Certyfikacji (Gdańsk branch). As a result, PKN ORLEN’s refinery in Plack was awarded the following certificates:

- Certyfikat ZKP Nr 1443-CPR-0183_safety drogowe.pdf (Factory Control Production Certificate for road bitumens)
- Certyfikat ZKP Nr 1443-CPR-0184_safety_polymerowe.pdf (Factory Control Production Certificate for polymer modified bitumens)
- Certyfikat ZKP Nr 1443-CPR-0185_safety_paving-grade-bitumens.pdf
- Certyfikat ZKP Nr 1443-CPR-0184_EN_paving-grade-bitumens.pdf

The certificates form part of the 2+ compliance assessment system. They are renewed on the basis of external audits held every year at the production site.

The Factory Production Control System at PKN ORLEN covers the whole process of preparation, production and release for sale of building products, such as:

- road bitumens 20/30, 35/50, 50/70, 50/70WMA, 70/100, 100/150, 160/220 and 250/330 meeting the PN-EN 12591 requirements;

ISO 50001 Energy Management System


Efficient energy management is not only a source of benefits to a business, but also a legal requirement that must be easily met with ISO 50001 - a standard that sets globally recognized best practices for energy management.

The Energy Management System is also aligned with the PKN ORLEN’s strategy for 2019-2022, adopted by the ORLEN Group’s Management Board and Supervisory Board on December 20th, 2018, and with the new ORLEN 2030 business strategy of November 2018. The vision for the ORLEN Group’s growth through commitment to low-carbon energy and increased use of alternative fuels, in line with sustainable development principles, helps enhance Poland’s energy security.

The key document of the Energy Management System is the Energy Policy adopted by the Management Board, which includes commitments to improve the Company’s energy performance, in particular to optimise production processes for better energy efficiency, to provide the resources necessary to achieve energy goals and objectives, and to meet regulatory requirements. The Policy can be found HERE.

Other components of the key system documentation include the Energy Management System Book and the Energy Planning and Review Procedure. The system is based entirely on in-house documentation, including a set of unit energy consumption indicators.

The Energy Management System in place at PKN ORLEN facilitates the optimisation of production processes, and the system of energy efficiency certificates (or the ‘white tags’) are major tools supporting energy efficiency. The ‘white tags’ system supports the implementation of investment projects such as insulation of industrial systems, alteration or renovation of buildings and their technical installations and equipment, upgrades or replacement of lighting, equipment used in industrial or power generation processes.

In accordance with the adopted Energy Management System approach, one of the key processes and the one posing the biggest systemic challenge is the Energy Review process meeting the requirements of the energy efficiency audit, whose purpose is to make and validate calculations for energy efficiency improvement projects and to provide information on possible energy savings, with periodic reports submitted to the Energy Regulatory Office.

The Energy Management System contributes to primary energy savings as well as to growing employees’ awareness of energy efficiency and other energy consumption issues.

The Energy Management System certification covers production and processing of refined petroleum products as well as generation and sale of electricity and heat.

The system is implemented at the Plack production plant, the PTA plant and CCGT unit in Wołowice, Fuel Storage Terminals, CO2o Service stations, PKN ORLEN administrative buildings, and transport operations.

Certificates:

- PL EN ISO 50001 Certificate (Polish version)
- PL EN ISO 50001 Certificate (English version)

Compliance system at the ORLEN Group

The objective of the ORLEN Group’s Compliance System is to implement and continuously improve a coherent set of legal and ethical guidelines and to ensure that key management processes and functions are correctly executed and controlled.
organisational solutions aimed at ensuring compliance of all business processes across the ORLEN Group with mandatory and voluntary requirements that ORLEN Group companies have undertaken or decided to comply with in order to avoid legal, financial and reputational consequences that may be incurred by ORLEN Group companies, management and employees in the event of a compliance breach.

Implementation of the Compliance System is in line with the ORLEN Group’s strategy and development directions, international regulatory environment in which the Group operates, and with the Group’s ethical image. The Compliance System also forms a part of the ORLEN Group’s corporate culture.

In view of the above, the ORLEN Group has implemented a Compliance Policy setting out uniform and consistent standards for managing compliance with:

- Legal regulations;
- Internal regulations;
- Voluntary standards of conduct;
- Ethical standards applicable at the ORLEN Group.

The unit tasked with the implementation, management, updating and communication of the Compliance Policy and the supporting procedures for regulatory risk management, compliance with license requirements and lobbying at the ORLEN Group, is the PKN ORLEN Financial Control, Risk and Compliance Management Office.

Integrated Management System Certificate
Integrated Management System Policy
Protection of Classified Information Certificates
PKN ORLEN’s Energy Policy
Food Safety Policy
ISO 45001 Certificate
Strategic objectives until 2030

The ORLEN Group’s strategy until 2030 sets the course for the Group’s transformation into a multi-utility group and a leader of the energy transition in the region.

GRI Disclosures
- GRI 103-1
- GRI 103-2

SDGs:
- Goal 7
- Goal 9
- Goal 11
- Goal 12
- Goal 13

Our growth is base on a diversified portfolio of existing and future operations, whose development is guided by the direction of the Group’s transformation until 2030.

The path of the ORLEN Group’s transformation until 2030 has been charted around renewable energy and advanced petrochemicals. Business diversification efforts will be driven by maximised profits from our existing core business, to be transformed based on new technologies, in line with the emerging environmental and consumer trends. Delivery of the strategy will further diversify our revenue sources, in line with the long-term objective of net zero carbon emissions by 2050.

Everything we do at the ORLEN Group is underpinned by our values
Our 2030 aspirations

In response to technology trends and environmental challenges facing the energy sector, the ORLEN Group is set to become the leader of sustainable transition in Central Europe.

Strategic logic behind ORLEN Group’s growth

By 2030, we plan to spend a total of PLN 140bn on investment projects. The Group’s growth is based on a diversified portfolio of investments in its existing and future business areas.
For the ORLEN Group, ESG is an important part of strategic management. ESG considerations are integrated into the ORLEN Group’s business strategy to enhance the Group’s financial performance and build long-term value for all stakeholders.

GRI Disclosures

GRI 103-3

An integrated approach makes it possible to capture opportunities created by the evolving environment, and to build value stemming from socially fair energy transition of the Group. ESG aspects demonstrate a company’s position on managing societal and environmental impacts and on responsible corporate governance.

ESG reporting shows the non-financial value of a company which aims to create added value rather than only maximise profits. For a forward-looking company, strategic ESG management is a guarantee of sustainable development, stable growth, and stakeholder confidence.

We present ORLEN Group’s activities in regular publications, such as:

Non-Financial Statement of the ORLEN Group and PKN ORLEN S.A. – the most recent statement, for 2021, was published on our corporate website in March 2022.

ORLEN Group Integrated Report – the most recent and previous reports are available online.

Information on our ESG performance is reported based on the Global Reporting Initiative (GRI) Standards and is externally assured. An interactive list of GRI indicators described in the ORLEN Group Integrated Report for 2021 is available in the ‘Our report’ section.

The scope of information contained in this Report takes into account the expectations resulting from international ESG ratings. PKN ORLEN also takes steps to consistently improve its compliance with the non-mandatory recommendations of the European Commission (EC Communication 2019/C 209/01) and of the Task Force on Climate-related Financial Disclosures (TCFD) regarding information on climate issues.

This document presents activities aimed at achieving the UN Sustainable Development Goals 2030.

In September 2020, PKN ORLEN announced a decarbonisation strategy, including specific commitments to reduce emissions and achieve climate neutrality. Sustainable development plays an important role in the process of building a multi-utility group and implementing the ambitious agenda under the ORLEN Group’s business strategy until 2030, published in November 2020.

The new business strategy is a response to the changes in our environment driven by the global climate crisis. It enhances resilience of our business models to climate change and its consequences across the value chain. Over the next decade, PKN ORLEN will allocate PLN 30bn to sustainability projects, including new business models.

The new business strategy of the ORLEN Group is driven by sustainable development. Decarbonisation, development of renewables, biofuels and recycling, and sustainable and green bond issues pave the way to achieving carbon neutrality in line with the Paris Agreement scenarios. The ORLEN Group perceives ESG as strong foundations in the transformation of a multi-utility conglomerate.

A solid base for the ambitious agenda under the ORLEN Group’s business strategy until 2030 and decarbonisation strategy is provided by the sustainable development directions defined by PKN ORLEN in its Green Finance Framework which the Company has committed to pursuing. Closely linked to the new business objectives, the Group’s sustainability management directions set ambitious ESG and CSR goals.

The Sustainable Development Strategy supports achievement of the business goals provided for in the ORLEN Group’s business strategy until 2030 and the decarbonisation strategy, and comprehensively addresses ESG and CSR objectives, providing a robust governance system for sustainability. Based on a history of effective dialogue with our stakeholders and CSR activities, the ORLEN Group’s revised approach attaches great importance to environmental needs expressed jointly in multilateral initiatives, such as the European Green Deal and the Paris Agreement. The Sustainable Development Strategy provides for the implementation of projects to improve climate management, as recommended by the Task Force on Climate-related Financial Disclosures.
Key documents:

ORLEN Group’s business strategy until 2030

ORLEN 2050
FUELLING THE FUTURE. SUSTAINABLY
ORLEN Group’s 2050 Strategy

Net zero carbon emissions by 2050

Green finance
Report: 'Energy transition. The future begins today.'

Sustainable development strategy

No decarbonisation without digitalisation
Climate

Climate change has become the key factor driving sustainability management at the ORLEN Group in 2020. The activities we undertook in the area of management of climate-related issues were in line with the expectations of our stakeholders, who identified this problem as highly relevant during the dialogue session.

Climate change poses a significant challenge to PKN ORLEN and the ORLEN Group companies. The global energy transition that is taking place before our eyes is a huge development opportunity for Central Europe. As the largest company in the region, we want to increase our involvement in this process.

The ORLEN Group views climate change risks as both business challenge and an opportunity for growth, which, however, will depend on awareness and resilience of the business models to the coming green transformation. We are prepared for these challenges and are ready to be part of Europe’s energy transition. Changes in the operation of power systems forced by new technologies and climate change are an integral part of PKN ORLEN’s strategy and business risk assessment. We manage climate change risks in a systematic and strategic way, taking into account market, regulatory, technological and reputational aspects.

PKN ORLEN perceives the European Green Deal as an opportunity for Poland and Central Europe to completely restructure the power system and create new business models.

The Paris Agreement aims to limit global warming to 1.5 °C.

Our management standards and systems mitigating direct environmental impacts have evolved towards strategic measures designed to reduce the Group’s contribution to climate change and to adapt the business models to address the effects of the physical consequences of climate change on the Company’s assets.

Climate change poses a significant challenge to PKN ORLEN and the ORLEN Group companies. The global energy transition that is taking place before our eyes is a huge development opportunity for Central Europe. As the largest company in the region, we want to increase our involvement in this process.

The ORLEN Group views climate change risks as both business challenge and an opportunity for growth, which, however, will depend on awareness and resilience of the business models to the coming green transformation. We are prepared for these challenges and are ready to be part of Europe’s energy transition. Changes in the operation of power systems forced by new technologies and climate change are an integral part of PKN ORLEN’s strategy and business risk assessment. We manage climate change risks in a systematic and strategic way, taking into account market, regulatory, technological and reputational aspects.

PKN ORLEN perceives the European Green Deal as an opportunity for Poland and Central Europe to completely restructure the power system and create new business models.

The Paris Agreement aims to limit global warming to 1.5 °C.

The EU climate legislation and relevant sector-specific rules (including ETS, RED2, FQD and EED) provide guidance to the industry on how to achieve the Paris Agreement targets. Reinforcement of the regulatory framework is expected given the new European commitments to reduce greenhouse gas emissions by 55% by 2030. We are an active participant in these changes and we monitor the progressive strengthening of climate regulations through the European Green Deal.

PKN ORLEN has addressed these challenges by announcing in September 2020, as one of leaders in Central Europe, an intention to achieve net zero carbon footprint by 2050. In furtherance of this goal, the Group aims to reduce carbon emissions from its existing refinery and petrochemical assets by 20% and cut down carbon emissions per megawatt-hour of electricity by 33% by 2030. Our net zero emissions strategy is based on four pillars: energy efficiency in production, zero-carbon power generation, fuels of the future, and green finance.

It is our ambition to reduce Scope 1, 2 and 3 carbon footprint in a way that reflects the diversity of the Group’s operations, including compensation. PKN ORLEN has developed an approach to its production emissions (Scope 1 and 2), which is outlined in its decarbonisation strategy. In September 2020, we declared the ambition to become a net zero company, with a target of an approximately 20% reduction of the current level of emissions from the Group’s production assets and a 33% emission reduction in electricity generation. PKN ORLEN is working to lessen its carbon footprint along the value chain, recognising also the indirect impacts (Scope 3). We have undertaken to publish the Scope 3 baseline data in 2022. Information on the Scope 1 and Scope 2 emissions is contained in this Report in the "Air emissions" section. Read about our ambitions to develop new business models and KPIs for the 2030 horizon, which will support achievement of carbon neutrality by PKN ORLEN by 2050.

For further information on key policies and procedures governing climate and environmental protection issues at the ORLEN Group, see "Policies and internal regulations"; for further information on the projects implemented in 2021, see "Climate responsibility".

GRI Disclosures

641.305-7
Emissions of individual substances in the ORLEN Group [Mg]

Sulfur dioxide [Mg]

NOx [Mg]

Carbon monoxide [Mg]

Particulate matter [Mg]

Carbon dioxide (including EU ETS) [Mg]
Environment

The ORLEN Group uses renewable and non-renewable natural resources in its operations. All our business activities are carried out in a responsible manner, with due consideration to the effects of current and future environmental impacts.

Our approach to environmental protection management is based on the principles of corporate social responsibility and takes into account environmental criteria. We aim for sustainable development and we report the results of our environmental protection efforts. Our environmental objectives are set out in the Integrated Management System Policy.

Our activities are carried out based on the Integrated Management System, which includes:

- Quality Management System based on the PN-EN ISO 9001 and AQAP 2110 standards;
- Environmental Management System based on the PN-EN ISO 14001 standard;
- Occupational Health and Safety Management System based on the PN-EN ISO 45001 standard;
- Energy Management System (SEEn) based on the ISO 50001 standard;
- Information Security Management System based on the PN ISO/IEC 27001 standard;
- International Sustainability & Carbon Certification System (SCC EU);
- Sustainability Certification System for Biomass and Biofuels (KRING);
- Faduct Production Control System (ZKP);
- HACCP Food Safety Management System compliant with Codex Alimentarius standard;
- Quality Management System based on the PN EN ISO/IEC 17025 standard (in place at all the organisational units which conduct research or tests using methods that require approval by the Office of Technical Inspection (UDT));
- Risk Based Inspection Management System (RBI).

These systems meet the highest international management standards and support the Company’s day-to-day efforts to ensure professional customer service and maintain top quality, safety, health protection and environmental standards. The key ORLEN Group companies have Integrated Management Systems in place, which include an Environmental Management System implemented and maintained in accordance with the ISO 14001 standard as their integral part. The Group companies also follow Integrated Management System/Environmental Management System policies, providing for an obligation to protect the environment, which includes pollution prevention and other specific obligations relevant to the operations of individual companies. These policies also include a requirement to comply with the law and other external and internal requirements.

For further information on key policies and procedures governing climate and environmental protection issues at the ORLEN Group, see ‘Policies and internal regulations’; for further information on the projects implemented in 2021, see ‘Climate responsibility’.

This Integrated Report also describes initiatives and metrics for key climate and environmental impact aspects, such as water and wastewater management, atmospheric emissions (including GHG emissions), waste, capital expenditure on environmental protection, environmental complaints, number and weight of significant spills. This Report presents the Group’s approach to energy management, information on raw materials and production processes, environmental and climate impact risks and the mitigation measures.

With regard to the foregoing, PKN ORLEN has in place a dedicated procedure to be followed in emergency situations and respects the obligations to notify the relevant services.
The Emergency Manual defines the procedure for appointment and operation of Technical Teams and Emergency Teams, as well as the method of calculating losses resulting from an emergency event.

The Orlen Group initiates educational projects aimed at raising the environmental awareness of its stakeholders. Group companies take part in initiatives such as protecting penguin colonies, fish stocking of rivers, cleaning of wastewater areas, and beekeeping in the vicinity of production plants. For more information, see: Biodiversity protection.

**Water**

Total amount of water withdrawn by the Orlen Group [m³]

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>188,625,599</td>
<td>139,790,945</td>
<td>140,972,847</td>
<td>138,405,476</td>
<td>141,970,960</td>
<td>108,905,394</td>
<td>116,175,965</td>
</tr>
</tbody>
</table>

**Surface water [m³]**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>91,968,291</td>
<td>327,029,321</td>
<td>93,020,891</td>
<td>85,729,341</td>
<td>86,050,866</td>
<td>75,232,560</td>
<td>80,444,285</td>
</tr>
</tbody>
</table>

**Groundwater [m³]**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>193,757,275</td>
<td>1,347,693</td>
<td>1,003,537</td>
<td>1,265,027</td>
<td>1,325,125</td>
<td>1,499,067</td>
<td>2,404,601</td>
</tr>
</tbody>
</table>

**Waste**

Waste generated by the Orlen Group [Mg]

<table>
<thead>
<tr>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>266,796</td>
<td>291,056</td>
<td>238,925</td>
<td>221,945</td>
<td>168,858</td>
<td>270,909</td>
<td>177,244</td>
</tr>
</tbody>
</table>

Hazardous waste [Mg]

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>74,853</td>
<td>85,295</td>
<td>92,745</td>
<td>22,099</td>
<td>149,879</td>
<td>75,905</td>
<td>72,879</td>
</tr>
</tbody>
</table>
**Non-hazardous waste [Mg]**

<table>
<thead>
<tr>
<th>Year</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mg</td>
<td>230,733</td>
<td>231,334</td>
<td>127,275</td>
<td>65,075</td>
<td>122,041</td>
<td>95,539</td>
</tr>
</tbody>
</table>

*Does not include hazardous waste.*

---

**Transfer of waste**

**Cross-border transport of hazardous waste from the ORLEN Group [Mg]**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Mg</td>
<td>10,847</td>
<td>8,760</td>
<td>6,370</td>
<td>6,404</td>
<td>5,718</td>
<td>6,408</td>
<td>5,636</td>
</tr>
</tbody>
</table>

---

**Effluents**

**Total amount of wastewater discharged into the environment by the ORLEN Group [m³]**

<table>
<thead>
<tr>
<th></th>
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<th></th>
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<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>m³</td>
<td>502,520,354</td>
<td>304,032,225</td>
<td>490,503,398</td>
<td>355,061,707</td>
<td>45,868,461</td>
<td>53,112,012</td>
<td>53,112,012</td>
</tr>
</tbody>
</table>

---

**Industrial wastewater [ORLEN] [m³]**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>m³</td>
<td>4,944,702,034</td>
<td>2,989,485,752</td>
<td>4,138,703,177</td>
<td>4,079,657</td>
<td>4,539,075</td>
<td>36,141,360</td>
<td>43,440,854</td>
</tr>
</tbody>
</table>

---

**Other wastewater [m³]**

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>m³</td>
<td>5,908,310</td>
<td>5,636,650</td>
<td>6,105,582</td>
<td>6,431,339</td>
<td>6,405,375</td>
<td>5,870,012</td>
<td>5,050,748</td>
</tr>
</tbody>
</table>

---

**Environmental fees and charges**

**Total environmental fees and charges paid by the ORLEN Group [EUR]**

<table>
<thead>
<tr>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td>16,624,500</td>
<td>33,235,924</td>
<td>14,279,966</td>
<td>14,500,841</td>
<td>17,263,816</td>
<td>15,736,227</td>
<td>12,012,867</td>
</tr>
</tbody>
</table>
### Installed capacity, broken down by primary energy source

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Value [GJ]</strong></td>
<td><strong>Value [MWh]</strong></td>
<td><strong>Value [GJ]</strong></td>
<td><strong>Value [MWh]</strong></td>
<td><strong>Value [GJ]</strong></td>
<td><strong>Value [MWh]</strong></td>
<td><strong>Value [GJ]</strong></td>
<td><strong>Value [MWh]</strong></td>
</tr>
<tr>
<td>Energy consumption in fuels</td>
<td>12,739,944</td>
<td>35,308,096</td>
<td>32,770,924</td>
<td>34,086,160</td>
<td>29,768,007</td>
<td>27,455,835</td>
<td>84,185,391</td>
</tr>
<tr>
<td>Electricity consumption</td>
<td>673,024,638</td>
<td>24,169,622</td>
<td>62,891,954</td>
<td>16,306,097</td>
<td>2,304,094</td>
<td>640,016</td>
<td>2,210,043</td>
</tr>
<tr>
<td>Heat consumption</td>
<td>108,385</td>
<td>47,052</td>
<td>12,885</td>
<td>3,185</td>
<td>5,575,025</td>
<td>1,549,010</td>
<td>6,825,492</td>
</tr>
<tr>
<td>Electricity sold</td>
<td>111,774,896</td>
<td>31,048,582</td>
<td>83,078,918</td>
<td>23,327,154</td>
<td>33,913,256</td>
<td>9,427,203</td>
<td>24,964,521</td>
</tr>
<tr>
<td>Heat sold</td>
<td>6,766,557</td>
<td>1,892,377</td>
<td>5,262,574</td>
<td>1,047,271</td>
<td>56,325,662</td>
<td>31,099,361</td>
<td>34,022,753</td>
</tr>
<tr>
<td><strong>Total consumption</strong></td>
<td>166,230,131</td>
<td>44,367,110</td>
<td>115,397,762</td>
<td>34,424,325</td>
<td>67,930,269</td>
<td>29,874,408</td>
<td>68,642,570</td>
</tr>
</tbody>
</table>

### Installed capacity, broken down by primary energy source

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td><strong>Mtoe (electrical capacity)</strong></td>
<td><strong>MWh (thermal capacity)</strong></td>
<td><strong>Mtoe (electrical capacity)</strong></td>
<td><strong>MWh (thermal capacity)</strong></td>
<td><strong>Mtoe (electrical capacity)</strong></td>
<td><strong>MWh (thermal capacity)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Natural gas</td>
<td>1,173</td>
<td>1,183</td>
<td>1,174</td>
<td>1,182</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-fuel (fuels natural gas)</td>
<td>522</td>
<td>3,255</td>
<td>522</td>
<td>3,255</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td>10</td>
<td>768</td>
<td>16</td>
<td>768</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waste heat</td>
<td>756</td>
<td>543</td>
<td>756</td>
<td>536</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Solar power plants</td>
<td>27</td>
<td>242</td>
<td>27</td>
<td>242</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydroelectric power plants (excluding HPP Zyrzawo)</td>
<td>350</td>
<td>0</td>
<td>269</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3,306</td>
<td>6,206</td>
<td>3,188</td>
<td>6,203</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power plants</td>
<td>1,418</td>
<td>0</td>
<td>1,297</td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CHP plants</td>
<td>1,892</td>
<td>6,631</td>
<td>1,891</td>
<td>6,028</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heat plants</td>
<td>0</td>
<td>175</td>
<td>0</td>
<td>175</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>3,306</td>
<td>6,206</td>
<td>3,188</td>
<td>6,203</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Net Energy Output Broken Down by Primary Energy Source

<table>
<thead>
<tr>
<th>Year</th>
<th>Natural Gas</th>
<th>Multi-fuel (coal &amp; oil/natural gas)</th>
<th>Biogas</th>
<th>Lignite</th>
<th>Hard coal</th>
<th>Biomass</th>
<th>Wind power plants</th>
<th>Solar power plants</th>
<th>Hydroelectric power plants (excluding UP Ziyabani)</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>7,302,285</td>
<td>26,893,673</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2016</td>
<td>6,700,250</td>
<td>26,585,483</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2017</td>
<td>6,431,227</td>
<td>26,246,212</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2018</td>
<td>6,337,538</td>
<td>26,246,212</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Total gross electricity output of the ORLEN Group in 2021 was 52,779,901 MWh.

### Average Generation Efficiency of CHP Plants by Energy Source

<table>
<thead>
<tr>
<th>Source</th>
<th>Efficiency</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficiency of electricity generation by thermal plants (%)</td>
<td>46.92%</td>
<td></td>
</tr>
<tr>
<td>Total generation efficiency of thermal plants (%)</td>
<td>66.40%</td>
<td></td>
</tr>
<tr>
<td>Efficiency of electricity generation by thermal plants (%) broken down by primary energy source</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Multi-fuel (coal &amp; oil/natural gas)</td>
<td>77.33%</td>
<td></td>
</tr>
<tr>
<td>Lignite</td>
<td>59.34%</td>
<td></td>
</tr>
<tr>
<td>Natural gas</td>
<td>82.83%</td>
<td></td>
</tr>
<tr>
<td>Hard coal</td>
<td>78.66%</td>
<td></td>
</tr>
<tr>
<td>Biomass</td>
<td>76.20%</td>
<td></td>
</tr>
<tr>
<td>Efficiency of electricity generation by CHP plants (%)</td>
<td>86.32%</td>
<td></td>
</tr>
<tr>
<td>Efficiency of electricity generation by power plants (%)</td>
<td>88.02%</td>
<td></td>
</tr>
</tbody>
</table>

Amounts of fuel for electricity generation by cogeneration units were established based on the physical method.

### Total Investments in Renewable Energy

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total investments in renewable energy (PLN thousand)</td>
<td>704,983</td>
<td>reported since 2021</td>
<td>58,082</td>
</tr>
</tbody>
</table>

### Energy Sold by Source

<table>
<thead>
<tr>
<th>Source</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity from own sources (MWh)</td>
<td>70,45,1,993</td>
</tr>
<tr>
<td>Electricity purchased from third party suppliers from outside the ORLEN Group (MWh)</td>
<td>23,402,683</td>
</tr>
<tr>
<td>Heat from own sources (GJ)</td>
<td>6,165,200</td>
</tr>
<tr>
<td>Heat purchased from third party suppliers (from outside the ORLEN Group) (GJ)</td>
<td>10,263</td>
</tr>
</tbody>
</table>

### Net Renewable Energy Output

<table>
<thead>
<tr>
<th>Year</th>
<th>Electricity (GWh)</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total renewable electricity output (GWh)</td>
<td>1,04,1,333</td>
<td></td>
</tr>
</tbody>
</table>

### Number of Installed EV chargers and number of charging hours

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of EV chargers</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of installed chargers</td>
<td>445</td>
<td></td>
</tr>
<tr>
<td>Number of charging hours (h)</td>
<td>42,040</td>
<td></td>
</tr>
</tbody>
</table>

Number of installed chargers as at the end of 2021 445. Number of chargers in use 421.
Corporate social responsibility

In building the ORLEN Group's position, we attach equal importance to our business and CSR agendas. We seek to strengthen our partnerships with all stakeholders by engaging in long-term scientific, cultural, social and sports projects. We take care to protect the natural environment and human health. We want all our activities to contribute to improving the quality of life in the regions where we operate.

In 2021, we continued implementation of countrywide projects designed to reach local communities, such as the grant programmes: My Place on Earth, We keep watch! We remember!, and ORLEN for Firefighters. The ORLEN Foundation conducted successive editions of scholarship programmes, including For Eagles, dedicated to children of PKN ORLEN’s and other ORLEN Group companies’ employees and residents of Płock and the County of Płock, as well as BONA RIDE - a unique programme in Poland addressed to outstanding students who continue their education (second- and third-degree studies) at the world’s top universities from the Shanghai List. 2021 also saw the second edition of the Health for Płock grant programme, addressed to non-governmental and local government organisations active in Płock and the neighbouring Counties of Płock, Sierpc and Gostynin.

ORLEN Group companies are actively involved with local communities, especially in Płock and other places where they operate. Twenty-eight projects were completed in 2021 under the ORLEN for Płock programme, which has been in place for many years now. Communication with the local community in and around Płock is supported by the Free Information System for residents of the Płock region.

In 2021, we increased our involvement in health promotion. We held the second edition of the Health for Płock grant programme. We continued the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock.

Last year, we also engaged in community projects aimed at reducing inequalities. Their intended beneficiaries were children under the care of foster family group homes and the Róża Czacka Centre for Blind Children in Laski, as well as senior citizens.

Corporate foundations

The ORLEN Foundation, Energa Foundation, Anwil Foundation and ORLEN Unipetrol Foundation run, among other projects, scholarship programmes for students. In line with our Charitable Giving Policy, the ORLEN Foundation pursues charitable projects, with a particular focus on helping foster family group homes and numerous social outreach activities.

Both ORLEN Group employees and third parties participate in various social initiatives as part of the employee volunteering programme. Employees completed more than 100 campaigns and volunteered a total of more than 14,000 hours in 2021.

PKN ORLEN is the leading patron of Polish sports, offering assistance to professional and amateur athletes, and supports activities aimed at protecting our national heritage.

In a significant step towards ensuring a responsible supply chain, PKN ORLEN incorporated responsible business and OHS criteria into its procurement management standard. Compliance with the Supplier Code of Conduct is a mandatory criterion in the process of trading partner selection at ORLEN Group companies.
PKN ORLEN is implementing a proprietary project Powering the future. The initiative is aimed at inspiring debate on key economic, business and social issues as well as sharing of ORLEN’s business knowledge. One of the activities undertaken as part of the project is the publication of original reports. In 2021, we issued the report ‘No decarbonisation without digitalisation’.

For information on key social policies and procedures of the ORLEN Group, see ‘Society’. This Integrated Report includes information on the management approach and key projects and metrics related to our social involvement.

For more information, see sections ‘Sustainable Development Strategy’, ‘Society’, ‘Suppliers’ and ‘Clients’.

### Employee Volunteering Programme

<table>
<thead>
<tr>
<th>Year</th>
<th>Number of employees involved</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
<th>2017</th>
<th>2016</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>2,000</td>
<td>1,000</td>
<td>800</td>
<td>2,571</td>
<td>2,098</td>
<td>2,500</td>
</tr>
</tbody>
</table>

In 2018, work was underway on a new volunteering programme formula.

### Social projects

#### ORLEN for Firefighters – amount of funds transferred (PLN million)

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2,802</td>
<td>4,048</td>
<td>3,934</td>
<td>1,391</td>
</tr>
</tbody>
</table>

#### ORLEN for Firefighters – applications submitted (number)

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>267</td>
<td>185</td>
<td>249</td>
<td>360</td>
</tr>
</tbody>
</table>

#### ORLEN for Firefighters – grant-winning applications (number)

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>100</td>
<td>150</td>
<td>200</td>
<td>250</td>
</tr>
</tbody>
</table>

#### My Place on Earth – amount of funds transferred to local communities (PLN million)

<table>
<thead>
<tr>
<th>Year</th>
<th>2021</th>
<th>2020</th>
<th>2019</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,870</td>
<td>1,749</td>
<td>1,750</td>
<td>1,750</td>
</tr>
</tbody>
</table>
Scholarship programmes of the ORLEN Foundation – grant holders [number]

Scholarship programmes of the Unipetrol Foundation – grant holders [number]

The ORLEN Unipetrol Foundation has operated since 2017

Scholarship programmes of the ANWIL Foundation – grant holders [number]

Projects for local communities

Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock, including:

Health for Płock grant programme – applications submitted [number]

the first edition of the programme took place in 2020

Health for Płock grant programme – grant-winning applications [number]

the first edition of the programme took place in 2020

Free Information System for residents of Płock and the Płock region – users [number]
Engaging customers in social projects

Vitay programme and Yanosik application points donated by customers for social causes [number]

Suppliers

PKN ORLEN’s suppliers required to read and accept the PKN ORLEN Supplier Code of Conduct*

Share of products and services sourced from local Płock-based suppliers in PKN ORLEN’s expenses*

Local taxes at key locations paid by ORLEN Group companies

Share of products and services sourced from local Litvinov-based suppliers in Unipetrol’s expenses (Czech Republic)

Share of products and services sourced from local Mažeikiai-based suppliers in ORLEN Lietuva’s expenses (Lithuania)
Human capital

We provide fair and friendly working conditions for our employees. Our relations with internal stakeholders and the external business environment are based on integrity, respect in everyday relationships and on dialogue, cooperation and involvement of each staff member in building a culture consistent with the Company’s core values.

GRI Disclosures

Compliance with the ORLEN Group’s Code of Ethics is monitored by the Ethics Officer, who guarantees that employees, employers and all stakeholders can freely report violations, and raises the employees’ awareness of business ethics and ethical standards, and of the importance of their own role in building the ethical corporate culture. As at the end of 2021, 18 Ethics Officers were appointed at PKN ORLEN and other ORLEN Group companies. The HR area structure also includes an Ethics Team.

PKN ORLEN has in place internal and external mechanisms to obtain advice on how to report a violation or suspected violation of the Code of Ethics. The values, principles and standards defined in the Code of Ethics apply to each ORLEN Group employee from their first day of work, regardless of their position or form of contract. Even if some of the standards of conduct contained in the Code of Ethics do not apply to a given job, this does not relieve the employee of the obligation to respond to or report violations of the Code.

The following are in force at PKN ORLEN: ORLEN Group Anti-Corruption Policy, Internal Order on Anti-Money Laundering and Terrorist Financing, and Rules to Prevent Workplace Bullying, Discrimination, and any Forms of Harassment at PKN ORLEN.

In 2021, PKN ORLEN and a few other ORLEN Group companies successfully implemented the disability employment goals of the current scale or operations and operating strategy, that are relevant to the Company’s business areas – current and prospective employees, as well as students and graduates of vocational schools and universities. Being aware of the need for synergies between business and academia, we actively collaborate with the academic community.

We ensure freedom of trade union activity, and recognise the trade unions active at PKN ORLEN as representatives of all employees in matters concerning their collective rights and interests, within the scope defined by laws of general application. We have agreed to respect the freedom of activity and equality of trade unions and do not discriminate against employees on the grounds of trade union membership or non-membership.

For more information on key policies and procedures, see “Responsible employer” and “Human capital”.

Respecting human rights

In 2021, PKN ORLEN published its new Code of Ethics.

It defines the values, principles of conduct and rules that set ethical standards for all ORLEN Group employees, based on a revised approach to understanding ORLEN Values: Responsibility, Progress, People, Energy and Dependability, as well as the current scale or operations and operating strategy, the requirements of the Group’s environment, and best practices in the field of business ethics.
Workforce by gender

**Women [%]**


- 29
- 27
- 27
- 27
- 27
- 26
- 26
- 26

**Men [%]**


- 71
- 73
- 73
- 76
- 74
- 74
- 74

Workforce by type of job

**White-collar staff [%]**


- 54
- 52
- 46
- 57
- 56
- 56

**Blue-collar staff [%]**


- 46
- 48
- 54
- 54
- 43
- 44
- 44

Workforce by education, including:

**Tertiary [%]**


- 46
- 45
- 41
- 41
- 66
- 65
- 39

**Secondary [%]**


- 37
- 37
- 38
- 38
- 18
- 19
- 35

**Vocational [%]**


- 15
- 16
- 19
- 19
- 16
- 16
- 23

**Primary [%]**


- 2
- 2
- 2
- 2
- 2
- 3

Employees covered by collective bargaining agreements

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polish companies</td>
<td>65%</td>
<td>70%</td>
<td>73%</td>
<td>39%</td>
<td>36%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Foreign companies</td>
<td>85%</td>
<td>86%</td>
<td>92%</td>
<td>94%</td>
<td>66%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Trade unions – trade union membership

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Polish companies</td>
<td>48%</td>
<td>48%</td>
<td>39%</td>
<td>40%</td>
<td>41%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Company Social Benefits Fund

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>States</td>
<td>32,797</td>
<td>32,797</td>
<td>26,233</td>
<td>26,217</td>
<td>26,177</td>
<td>26,177</td>
</tr>
<tr>
<td>Pension</td>
<td>1,249</td>
<td>1,249</td>
<td>1,249</td>
<td>1,249</td>
<td>1,249</td>
<td>1,249</td>
</tr>
<tr>
<td>Foreign employers</td>
<td>7,430</td>
<td>7,430</td>
<td>4,970</td>
<td>4,970</td>
<td>4,970</td>
<td>4,970</td>
</tr>
<tr>
<td>Family members</td>
<td>3,268</td>
<td>3,268</td>
<td>6,206</td>
<td>6,206</td>
<td>6,206</td>
<td>6,206</td>
</tr>
</tbody>
</table>

### Average training hours per employee

<table>
<thead>
<tr>
<th>Year</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
<td>11.0</td>
</tr>
<tr>
<td>Women</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

### Employees by type of contract and gender

#### Ongoing contract

<table>
<thead>
<tr>
<th>Gender</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>2,323</td>
<td>1,591</td>
<td>7,517</td>
<td>1,161</td>
</tr>
<tr>
<td>Women</td>
<td>2,484</td>
<td>2,016</td>
<td>6,365</td>
<td>1,256</td>
</tr>
</tbody>
</table>

#### Probationary period contract

<table>
<thead>
<tr>
<th>Gender</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>1,069</td>
<td>733</td>
<td>4,884</td>
<td>642</td>
</tr>
<tr>
<td>Women</td>
<td>1,069</td>
<td>733</td>
<td>4,884</td>
<td>642</td>
</tr>
</tbody>
</table>

#### Temporary contract

<table>
<thead>
<tr>
<th>Gender</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>764</td>
<td>764</td>
<td>764</td>
<td>764</td>
</tr>
<tr>
<td>Women</td>
<td>764</td>
<td>764</td>
<td>764</td>
<td>764</td>
</tr>
</tbody>
</table>

#### Temporary contract by region

<table>
<thead>
<tr>
<th>Region</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>764</td>
<td>764</td>
<td>764</td>
<td>764</td>
</tr>
<tr>
<td>Women</td>
<td>764</td>
<td>764</td>
<td>764</td>
<td>764</td>
</tr>
</tbody>
</table>

### New hires by age, gender and region

#### Number of hires and gender

<table>
<thead>
<tr>
<th>Age</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>1,117</td>
<td>1,117</td>
<td>1,117</td>
<td>1,117</td>
</tr>
<tr>
<td>Women</td>
<td>1,017</td>
<td>1,017</td>
<td>1,017</td>
<td>1,017</td>
</tr>
</tbody>
</table>

### Employees by employment type and gender

#### Ongoing contract

<table>
<thead>
<tr>
<th>Type</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spain</td>
<td>1,029</td>
<td>1,029</td>
<td>2,058</td>
</tr>
<tr>
<td>Germany</td>
<td>777</td>
<td>777</td>
<td>1,554</td>
</tr>
<tr>
<td>Poland</td>
<td>777</td>
<td>777</td>
<td>1,554</td>
</tr>
<tr>
<td>Other</td>
<td>1,029</td>
<td>1,029</td>
<td>2,058</td>
</tr>
</tbody>
</table>

### Employee turnover

#### Hire rate

<table>
<thead>
<tr>
<th>Year</th>
<th>Men</th>
<th>Women</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>9.0%</td>
<td>9.0%</td>
<td>9.0%</td>
</tr>
</tbody>
</table>

### Employee engagement and satisfaction survey

#### Ongoing contract

<table>
<thead>
<tr>
<th>Region</th>
<th>Spain</th>
<th>Germany</th>
<th>Poland</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Men</td>
<td>795</td>
<td>795</td>
<td>795</td>
<td>795</td>
</tr>
<tr>
<td>Women</td>
<td>795</td>
<td>795</td>
<td>795</td>
<td>795</td>
</tr>
</tbody>
</table>

#### **Employee turnover**

- Number of employees leaving the group in a given year as a proportion of total number of employees in a given group.
Employee engagement and satisfaction survey 2019

<table>
<thead>
<tr>
<th>Job grade</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerk</td>
<td>77%</td>
<td>73%</td>
</tr>
<tr>
<td>Specialist</td>
<td>94.9%</td>
<td>97%</td>
</tr>
<tr>
<td>Manager</td>
<td>103%</td>
<td>106%</td>
</tr>
<tr>
<td>Sales</td>
<td>100%</td>
<td>103%</td>
</tr>
</tbody>
</table>

Female-to-male total pay ratio at PKN ORLEN

<table>
<thead>
<tr>
<th>Job grade</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clerk</td>
<td>555/65</td>
<td>574/65</td>
</tr>
<tr>
<td>Specialist</td>
<td>750/85</td>
<td>732/85</td>
</tr>
<tr>
<td>Manager</td>
<td>1356/144</td>
<td>1390/147</td>
</tr>
<tr>
<td>Sales</td>
<td>960/102</td>
<td>962/102</td>
</tr>
</tbody>
</table>

Human rights training at PKN ORLEN in 2021

<table>
<thead>
<tr>
<th>Title</th>
<th>Number of training units</th>
<th>Share %</th>
</tr>
</thead>
<tbody>
<tr>
<td>New ORLEN Group Code of Ethics</td>
<td>800</td>
<td>14%</td>
</tr>
<tr>
<td>Workplace bullying and discrimination prevention</td>
<td>191</td>
<td>3.68%</td>
</tr>
<tr>
<td>Disability meeting</td>
<td>32</td>
<td>0.54%</td>
</tr>
<tr>
<td>Core values and standards of the ORLEN Group</td>
<td>2</td>
<td>0.38%</td>
</tr>
<tr>
<td>Workplace bullying, discrimination and harassment prevention</td>
<td>1,064</td>
<td>18.10%</td>
</tr>
<tr>
<td>Core values and standards of the ORLEN Group</td>
<td>76</td>
<td>1.32%</td>
</tr>
<tr>
<td>Total</td>
<td>4,103</td>
<td></td>
</tr>
</tbody>
</table>
Safety

Initiatives aimed at ensuring safe working conditions for employees of the ORLEN Group and its external contractors, as well as safety of operational and production processes, are seen as a priority.

GRI Disclosures

With this in mind, we implement multifaceted activities designed to continuously improve our work safety culture and maintain and develop effective safety standards.

In 2021 we continued efforts under the ORLEN Group’s 2017–2021 Personal, Process, and Fire Safety Strategy. As assumed in the Strategy, the key areas of focus in the pursuit of strategic objectives included:

- Continuing implementation of uniform safety standards across the ORLEN Group under the Safety Plus project;
- Improving the contractor management system and developing contractors’ commitment for the shared vision of working together to create a safe workplace;
- Initiating, designing, and implementing projects and solutions addressing the need to counter the COVID-19 pandemic;
- Undertaking diverse activities aimed at increasing occupational safety awareness and promoting proactive attitudes among our staff and contractors.

In 2021, we drafted the ORLEN Group’s Development Directions in Personal and Process Safety for 2022–2026. One of the key initiatives will be to provide support in the area of occupational safety in connection with the acquisition of control over new companies and groups of companies. To this end, a coherent occupational safety management system will be created within the ORLEN Group, mainly with respect to the companies incorporated recently into the Group. A common work safety policy will be defined and implementation of uniform safety standards across the ORLEN Group will be planned.

One of the key targets will be to maintain the following occupational safety KPI levels: TRR1 no higher than 1.70 and TIPSER no higher than 0.3, while implementing the processes of acquisition of equity control over new companies and groups of companies.

For information on the projects and initiatives undertaken in 2021 with regard to occupational health and safety and process safety, see “Occupational Health and Safety”.

For information on key policies and procedures governing occupational health and safety at the ORLEN Group, see the section above.

Combined Total Recordable Rate (TRR) for employees and contractors*

<table>
<thead>
<tr>
<th>Year</th>
<th>TRR</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>1.1</td>
</tr>
<tr>
<td>2020</td>
<td>0.7</td>
</tr>
<tr>
<td>2019</td>
<td>0.9</td>
</tr>
<tr>
<td>2018</td>
<td>1.0</td>
</tr>
<tr>
<td>2017</td>
<td>1.0</td>
</tr>
<tr>
<td>2016</td>
<td>0.9</td>
</tr>
<tr>
<td>2015</td>
<td>0.9</td>
</tr>
</tbody>
</table>

*Calculated as the total number of accidents at work involving employees and contractors of ORLEN Group companies and resulting in the injured person taking sick leave in a given period x 1,000,000 / number of man-hours worked by the employees and contractors in this period.
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Total number of accidents at work involving ORLEN Group employees***</td>
<td>number</td>
<td>12</td>
<td>93</td>
<td>4</td>
<td>78</td>
<td>7</td>
<td>41</td>
<td>4</td>
</tr>
<tr>
<td>Total number of accidents at work involving ORLEN Group contractors****</td>
<td>number</td>
<td>11</td>
<td>22</td>
<td>6</td>
<td>17</td>
<td>16</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>Total number of accidents at work involving ORLEN Group employees and contractors</td>
<td>number</td>
<td>23</td>
<td>15</td>
<td>10</td>
<td>95</td>
<td>23</td>
<td>58</td>
<td>22</td>
</tr>
</tbody>
</table>

*** Number of acknowledged accidents at work resulting in days lost and involving ORLEN Group employees.

**** Number of acknowledged accidents at work resulting in days lost and involving employees of the ORLEN Group's contractors who perform work for a Group company on premises owned or leased by a Group company. The definition of "contractor" covers also employees of the PKW ORLEN service stations.
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GB 402-0
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#### Number of days lost due to post-accident absenteeism at the ORLEN Group

#### Number of days lost due to post-accident absenteeism at the ORLEN Group

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Note: Number of days lost due to post-accident absenteeism at the ORLEN Group.

Note: Number of days lost due to post-accident absenteeism at the ORLEN Group.
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Number of occupational disease cases in each employee group

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Accidents at work involving Orlen Group employees by type of injury

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Accidents at work involving Orlen Group contractors by type of injury

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### Accidents at work involving ORLEN Group employees by type of activity

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*Reported since 2020*

### Accidents at work involving ORLEN Group contractors by type of activity

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### Number of emergencies at the ORLEN Group

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Governance

Corporate governance

GRI Disclosures

GRI 405-1

GRI 102-22

PKN ORLEN ensures easy and equal access to published information using various communication tools.

As a company listed on the Warsaw Stock Exchange, PKN ORLEN complies with the corporate governance principles set forth in the Best Practice for WSE Listed Companies.

From the beginning of 2021, we followed the 2016 Code of Best Practice. Since July 1st 2021, the 2021 Code of Best Practice has been in force (WSE Supervisory Board Resolution No. 13/M134/2021 of March 29th 2021), which now applies to the Company.

We are also developing the ORLEN IN YOUR PORTFOLIO programme, including the Investment Academy. Launched in 2018, it is dedicated to retail investors. In 2021, the number of the programme participants increased by 4,000, to over 13,800, and over 220,000 people used the educational section of the orlenwportfelu.pl website.

Corporate governance issues are discussed in the 'Corporate governance' section of the Integrated Report. The section contains the following information:

- Corporate governance rules
- Control, Risk Management and Compliance System
- Amendments to Articles of Association
- General Meeting

Integrated Management System

The IMS comprises:

- Quality Management System based on the PN-EN ISO 9001 and AQAP 2110 standards;
- Occupational Health and Safety Management System based on the PN-EN ISO 45001 standard;
- Energy Management System (SEEn) based on the ISO 50001 standard;
- Information Security Management System based on the PN-EN/IEC 27001 standard;
- International Sustainability & Carbon Certification System (ISCC EU);
- Environmental Management System based on the PN-EN ISO 14001 standard;
- Occupational Health and Safety Management System based on the PN-EN ISO 45001 standard;
- Energy Management System (SEEn) based on the ISO 50001 standard;
- Information Security Management System based on the PN-EN/IEC 27001 standard;
- International Sustainability & Carbon Certification System (ISCC EU);
- Factory Production Control System (ZKP);
- HACCP Food Safety Management System compliant with Codex Alimentarius standard;
- Quality Management System based on the PN EN ISO/IEC 17025 standard (in place at all the organisational units which conduct research or tests using methods that require approval by the Office of Technical Inspection (UDT));
- Risk Based Inspection Management System (RBI).

These systems meet the highest international management standards and are applied by the company in its day-to-day efforts to ensure professional customer service and maintain top health protection and environmental standards.

Collective Bargaining Agreement

The Collective Bargaining Agreement is a social contract, being a source of labour law, that has been reached through negotiations between the Employer and Trade Unions. It is an HR constitution of sorts that sanctions a motivating and coherent remuneration and bonus system, sets standards for Employer-Employee relationships and provides norms governing an equal partnership between the Employer and Trade Unions.

Counteracting corruption and bribery

The ORLEN Group has in place effective functional control, risk management and compliance supervision systems, as well as an
Internal audit and control function. The simultaneous operation of all these systems and functions allows the Group to exercise ongoing and effective supervision to prevent corruption, illegal bonuses or conflicts of interests.

PKN ORLEN is committed to building an ethical work environment. In May 2021, the 'Core Values and Standards of Conduct of PKN ORLEN' were replaced by a new Code of Ethics. The document presents the key considerations relating to ethics at the Company: it defines the values and standards of conduct which ORLEN Group employees undertake to respect: Responsibility, Progress, People, Energy and Dependability.

In 2018, the ORLEN Group adopted an Anti-Corruption Policy and appointed an Anti-Corruption Compliance Officer. Our trading partners, when entering into business relationships with PKN ORLEN, are required to become familiar with the policy and rules for counteracting corruption.

For key policies and procedures governing prevention of corruption and bribery at the ORLEN Group, as well as a description of key activities, see 'Counteracting corruption and bribery'.

### Diversity Indicators

Composition of governance bodies and breakdown of employees per employee category according to gender, age group and other indicators of diversity

Management Boards of ORLEN Group companies by gender, including:

Supervisory Boards of ORLEN Group companies by gender:

Employees – employment structure by age, including:

W – Women; M – Men
Employees – employment structure by gender, including:

- **30-50 years**
  - M - Managers: 1%
  - NM - Non-managers: 99%

- **Over 50 years**
  - M - Managers: 9%
  - NM - Non-managers: 91%
### Integrated Management System

#### External and internal audits of Integrated Management System at PKN Orlen

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<td>Audits of correct monitoring of CO2 emissions</td>
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### Risk Management

#### Enterprise Risk Management System (ERM)

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<td>1,520</td>
<td>1,657</td>
<td>627*</td>
</tr>
<tr>
<td>Assets assessed</td>
<td>number</td>
<td>1,562</td>
<td>2,890</td>
<td>2,206</td>
<td>2,021</td>
<td>4,001</td>
<td>1,213*</td>
</tr>
<tr>
<td>control mechanisms</td>
<td>number</td>
<td>259</td>
<td>310</td>
<td>345</td>
<td>301</td>
<td>298</td>
<td>83*</td>
</tr>
<tr>
<td>business processes</td>
<td>number</td>
<td>259</td>
<td>310</td>
<td>345</td>
<td>301</td>
<td>298</td>
<td>83*</td>
</tr>
</tbody>
</table>

*PKN Orlen statutory.
Strategic growth directions for the business segments

In response to the energy transition, ORLEN2030 will evolve into a more sustainable multi-utility business.

GRI Disclosures:
- GRI 103
- GRI 103-2

SDGs:
- Goal 7
- Goal 9
- Goal 11
- Goal 12
- Goal 13

Building a multi-utility group requires that our current portfolio be complemented with new, promising business areas.

New business models

Offshore and onshore wind farms as one of key pillars of ORLEN’s decarbonisation strategy

<table>
<thead>
<tr>
<th>Year</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Offshore wind farms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cooperation with Northland Power on 1.2 GW (max) wind farm (ORLEN’s share: 51%), due to be completed in 2026</td>
<td>At least 1.7 GW (share-weighted)</td>
</tr>
<tr>
<td></td>
<td>Participation in all 11 auctions for new Baltic Sea location permits, with potential installed capacity of 10–11 GW</td>
<td>Leader of renewable energy generation in CEE</td>
</tr>
<tr>
<td><strong>Onshore wind farms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>0.4 GW</td>
<td>0.75 GW in onshore renewable energy sources (solar PV + onshore wind farms)</td>
</tr>
<tr>
<td></td>
<td>Installed capacity of 10 wind farms of ORLEN and Energa</td>
<td></td>
</tr>
</tbody>
</table>

Solar photovoltaics (large-scale farms and prosumer units) as one of renewable energy source development directions at the Group

<table>
<thead>
<tr>
<th>Year</th>
<th>2022</th>
<th>2023</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Solar energy</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>3 solar PV farms with a total capacity of 11.4 MW; 1 farm under construction in Wólczań</td>
<td>Up to 25% of the service station network equipped with solar PV panels</td>
</tr>
<tr>
<td></td>
<td>Award procedures for new solar PV farms with a total capacity of ca. 11 MW expected in the coming months</td>
<td>Established player on the solar PV market</td>
</tr>
<tr>
<td></td>
<td>11 service stations with solar PV panels</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Planned procurement procedure for the construction of 30 solar PV micro-installations</td>
<td></td>
</tr>
</tbody>
</table>
### Hydrogen economy development plans as an important element of the Group’s long-term strategy

<table>
<thead>
<tr>
<th>2022</th>
<th>2030</th>
</tr>
</thead>
</table>
| - Hydrogen hubs  
  - Trzcinna hub – automotive hydrogen production  
  - Włocławek hub – automotive hydrogen production (under construction)  
  - Hydrogen refuelling stations:  
    - FE PL: 1 mobile refuelling station, 2 HRS under construction, 5 HRS in the pipeline  
    - DE: 2 HRS  
    - CZ: 2 HRS under construction, 4 HRS in the pipeline  
  - Two analytical laboratories in Poland and the Czech Republic  
  - Application for IPCEI funding for the Hydrogen Eagle flagship project | - 540 MW of new low- and zero-carbon hydrogen capacities based on, among others, renewable energy sources and municipal waste treatment (with an ambition to reach 1 GW beyond 2030)  
  - 10 hydrogen refuelling stations:  
    - FE PL: 1 mobile refuelling station, 2 HRS under construction, 5 HRS in the pipeline  
    - DE: 2 HRS  
    - CZ: 2 HRS under construction, 4 HRS in the pipeline  
  - Stand-alone HVO plant to be constructed in Plock in 2024; the unit will process used cooking oils and animal fats  
  - Hydrogen production in 2030: up to 400 kta in the ORLEN Group  
  - Over 100 hydrogen refuelling stations planned to be completed in 2023 and 2024  
  - E-mobility as a key element of ORLEN’s market position in the new mobility sector |

### Biofuel production as one of strategic growth directions for the refining segment

<table>
<thead>
<tr>
<th>2022</th>
<th>2030</th>
</tr>
</thead>
</table>
| - Investment in:  
  - UCOME production (more low-carbon feedback to be used) in ORLEN Południe  
  - Cellulosic ethanol plant in ORLEN Południe (planned to be completed in 2024)  
  - Stand-alone HVO plant to be constructed in Plock in 2024; the unit will process used cooking oils and animal fats  
  - Biofuel production as one of strategic growth directions for the refining segment | - Significant increase in biofuel output, including non-crop-based biofuels (HVO, co-HVO, UCOME, bioethanol from lignocellulose)  
  - Expansion of biofuel production capacities to ca. 1 million tonnes annually from 0.3 million tonnes annually in 2022 |

### Recycling as one of growth directions for the petrochemical segment

<table>
<thead>
<tr>
<th>2022</th>
<th>2030</th>
</tr>
</thead>
</table>
| - Initiated project development and analysis  
  - Completed concept study for chemical recycling  
  - Ongoing work on the asset integration development strategy  
  - Recycling facilities with installed capacity of up to 400 kta in the ORLEN Group  
  - Mechanical and chemical recycling of polymers from municipal solid waste  
  - Chemical conversion of mixed municipal solid waste into intermediates and petrochemical products | - Significant increase in biofuel output, including non-crop-based biofuels (HVO, co-HVO, UCOME, bioethanol from lignocellulose)  
  - Expansion of biofuel production capacities to ca. 1 million tonnes annually from 0.3 million tonnes annually in 2022 |

### E-mobility as a key element of ORLEN’s market position in the new mobility sector

<table>
<thead>
<tr>
<th>2022</th>
<th>2030</th>
</tr>
</thead>
</table>
| - 405 charging stations of ORLEN and Energa in Poland  
  - Consumer support with dedicated apps and services  
  - Professional consumer support and EV charging to be ensured across the entire network  
  - Use of renewable and low-carbon energy sources | - Over 1,000 fast chargers installed in Poland  
  - International network of multiple-point EV charging hubs along TEN-T routes in Poland and the neighbouring countries  
  - Significant increase in biofuel output, including non-crop-based biofuels (HVO, co-HVO, UCOME, bioethanol from lignocellulose)  
  - Expansion of biofuel production capacities to ca. 1 million tonnes annually from 0.3 million tonnes annually in 2022 |

### Energy

**Main growth area: investment in renewables and gas-fired capacities**

Our key growth area over the next decade will be energy, based mainly on renewables and supported by gas-fired sources. By 2030, we intend to achieve over 2.5 GW of installed RES capacity attributable to the ORLEN Group’s interests in the installed capacities, including 1.7 GW in offshore wind farms and 0.8 GW in onshore wind and solar PV sources. We will also increase the installed capacity of our modern gas-fired power plants from today’s 11 GW to over 2.0 GW. The generation capacity will be supported by the Group’s extensive and modern distribution network, allowing it to reach a broad base of customers and generating a steady stream of profits. The Group will also build energy storage facilities on a pilot basis to optimise the costs of electricity distribution.
Petrochemicals: we are set to become one of Europe’s largest integrated petrochemical producers and expand our recycling business.

By 2030, around a half of our profits from crude oil processing will be derived from the petrochemical business. Expansion of the existing portfolio and entry into new business areas will help entrench our position as a leading petrochemical producer in Central Europe. PKN Orlen is set to ramp up its capacities in olefins and other base products. It will also solidify its position in polymers – a business line with attractive growth potential – by extending the value chain and entering into compounding and concentrates. Concurrently, the share of specialty high-margin products (such as phenol and aromatic derivatives) in the Group’s portfolio will grow from 16% to approximately 25%. Recycling and biomaterials will be new branches of the petrochemical segment. By 2030, we will expand our recycling capacity (mainly in plastics) up to 0.4 million tonnes. We will also implement advanced circular economy technologies.

Power generation: our projects will deliver a fivefold increase in installed RES capacity by 2030.

Refinery

Maintaining the position of a leading regional refiner with major investment into biofuels.

By 2030, refining will remain an important segment of our business. Its transformation will be driven by energy efficiency improvements, increased crude conversion rates and integration with Grupa LOTOS, the Group’s major domestic peer. Expansion of the biofuel and hydrogen fuel output will be another vital driver. Within the coming decade, the Group will emerge as the region’s leading producer of biofuels (including 2G biofuels), with an annual capacity of 2 million tonnes. As part of the strategy, work will be continued on the Group’s hydrogen hub projects in Włocławek and Płock, and steps will be taken to launch green hydrogen production.
Retail

Expansion of the retail network and non-fuel segment

The strategic vision is to vigorously develop our retail arm, based on the network expansion and significant additions to the retail offering. By 2030, the number of Polish ORLEN-branded service stations operating throughout the region will be at least 3,500. The ORLEN Group will focus on developing its network mainly on foreign markets, with the share of foreign locations up from the current 37% to 45%. We seek to enhance the availability of alternative fuels, by deploying at least 1,000 EV fast chargers by 2030 and increasing sales of hydrogen and LNG/CNG. Our broad, integrated offering of non-fuel products and services will keep attracting new customer groups. Based on the RUCH countrywide chain of newsagents, we will expand our store and food service formats beyond service stations, and will also develop our own network of parcel pickup points and e-commerce services. Integration with the Energa Group will help ORLEN develop comprehensive service centres for both retail and business customers, encompassing fuel and electricity sales as well as distributed energy solutions. Delivery of the initiatives outlined in the strategy will drive a 50% increase in gross non-fuel margin relative to 2019.

Upstream

Sustainable portfolio growth, with a focus on natural gas assets.

The strategy envisages prudent expansion of the production asset portfolio, with a special focus on natural gas reserves and potential restoration of the existing portfolio of production assets after merger with Grupa LOTOS. The ORLEN Group will also expand its existing operations in Poland. The Group will pursue growth in upstream while continuously maximising asset value and driving operational excellence.
Our 2030 CO₂ reduction targets are 20% less emissions from the existing refining and petrochemical assets and 33% less emissions per MWh from the energy business. We will spend PLN 30bn on sustainable development projects, with over PLN 25bn to be allocated to measures aimed at reducing our carbon footprint.

**Sustainable development of the ORLEN Group**

The ORLEN Group’s strategy until 2030 sets the long-term objective of achieving full carbon neutrality by 2050.

**Significant investments in R&D and digital transformation**

Pursuit of our strategic objectives will also require changes within the organisation. Over the next decade, we will spend approximately PLN 3bn (ca. 3% of our overall growth capex budget) on research, development and innovation, as a key area of its necessary transformation. The funds will be used to develop the Corporate Venture Capital fund and finance the activities of the ORLEN Research & Development Centre, among other projects. Another essential element will be the digital transformation, driving efficiency gains in production and distribution, helping mitigate the environmental footprint and strengthening customer relations. We will put in place a new management model, tailored to the scale of the Group’s operations and taking into account the ongoing acquisition processes. We will be an organisation relying on knowledge and versatile competences, investing in talent and human capital.
Further growth from stable financial foundations

The strategy is also designed to ensure stable financial foundations for our business. Our value is based on profitable projects, sustainable funding sources and a robust balance sheet. Having capped our net debt/EBITDA ratio at 2.5x, we will align the Group’s CAPEX plans with its current financing capabilities. We will rely on a balanced mix of funding sources with current cash flows supported by an additional debt capacity. We also use alternative funding sources, such as project finance, EU funding for innovation and energy transition projects, and engaging with external partners who would co-fund selected projects. Projects aligned directly with the Group’s carbon neutrality goal are partly financed through green and sustainable bonds issued on the European capital market.

The strategy is expected to drive a two-and-a-half-fold increase in EBITDA, to approximately PLN 26bn in 2030. The energy, petrochemical and refining segments will each generate EBITDA of approximately PLN 7bn; the retail segment — EBITDA of around PLN 5bn; and the upstream segment — EBITDA at ca. PLN 1bn.

EBITDA growth (PLN bn)

EBITDA growth, by operating segment (PLN bn)

Presentation of the ORLEN Group’s 2030 strategy is available here.
In 2021, despite the continuing COVID-19 pandemic, PKN ORLEN managed to consolidate its position and maintain financial ratios at safe levels, posting record-high LIFO-based EBITDA of PLN 14.2 billion.

The main contributors to this impressive result were petrochemicals, energy, and refinery. Since 2021, sound financial foundations have also been supported by green bond issues.

Our earnings and stable financial condition, confirmed by safe levels of debt ratios and Baa2 rating from Moody’s, allowed us to grow our CAPEX by PLN 0.9 billion. The Group allocated PLN 9.9 billion to investment projects, which included: construction of a visbreaking unit in Płock, expansion of the olefins production capacity in Płock, expansion of the fertilisers production capacity in ANWIL, upgrades of the existing assets and connection of new customers in the ENERGA Group, construction of a propylene glycol unit in Trzebinia and the R&D Centre in Płock, development of a wind farm project in the Baltic Sea, and launch of another 300 alternative refuelling points (500 in total). Acquisition processes were also continued in 2021, in accordance with the ORLEN2030 strategy.

In line with the ORLEN 2030 strategy adopted in November 2020, PKN ORLEN has resumed the pre-COVID-19 dividend policy, which means paying dividends of at least PLN 3.50 per share, compared with PLN 10 in 2020, and maintaining or increasing the distributions in the coming years. This dividend level reflects the Group’s robust liquidity and financial position.

In 2021, PKN ORLEN was again awarded the titles of The World’s Most Ethical Company 2021 and Top Employer Polska 2021.
### Key success factors for the strategy

<table>
<thead>
<tr>
<th>Item</th>
<th>ORLEN GROUP 2021</th>
<th>ORLEN GROUP 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OPERATIONS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refining capacities in key markets [million tonnes/year]</td>
<td>ca. 36</td>
<td>ca. 45</td>
</tr>
<tr>
<td>Biofuel production, including 2G biofuels (NIT/NRT compliant) [million tonnes/year]</td>
<td>ca. 0.3</td>
<td>ca. 2.0</td>
</tr>
<tr>
<td>Share of specialty petrochemicals in the product portfolio</td>
<td>16%</td>
<td>ca. 25%</td>
</tr>
<tr>
<td>Installed recycling capacity [million tonnes/year]</td>
<td>0</td>
<td>ca. 0.3-0.4</td>
</tr>
<tr>
<td>Installed renewable generation capacity, including wind and solar [GW]</td>
<td>0.6</td>
<td>over 2.5</td>
</tr>
<tr>
<td>Installed gas-fired capacity [GW]</td>
<td>1.1</td>
<td>over 2.0</td>
</tr>
<tr>
<td>Number of service stations in Central European markets [number]</td>
<td>2,881</td>
<td>over 3,500</td>
</tr>
<tr>
<td>Number of fast charging points for electric vehicles [number]</td>
<td>315</td>
<td>over 1,000</td>
</tr>
<tr>
<td>Daily hydrocarbon production [thousand bbl/day]</td>
<td>16.7</td>
<td>ca. 50</td>
</tr>
<tr>
<td>Internal gas demand covered by integrated production</td>
<td>0</td>
<td>ca. 20%</td>
</tr>
</tbody>
</table>

### ESG

<table>
<thead>
<tr>
<th>Item</th>
<th>ORLEN GROUP 2021</th>
<th>ORLEN GROUP 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Achievement of 20% reduction target for CO₂ emissions from refining and petrochemical assets</td>
<td>+3.1%</td>
<td>100%</td>
</tr>
<tr>
<td>Achievement of 33% reduction target for CO₂ per 1 MWh</td>
<td>-1.7%</td>
<td>100%</td>
</tr>
<tr>
<td>Total recordable rate (TRR)</td>
<td>7.1</td>
<td>below 1.5</td>
</tr>
</tbody>
</table>

1. The actual figures for 2021 include emissions generated by energy assets producing energy for the refinery and petrochemical facilities.
2. The actual figures for 2021 are estimated on the basis of previous emissions of the ORLEN Group energy segment (kWh/MWh of energy), taking into account production of electricity and heat.

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The operating results in 2020 and 2021 include impairment losses of PLN (1,591) million and PLN 811 million, respectively.

As of the end of the year.
Delivery of investment plans

In 2021, ORLEN Group's capital expenditure reached PLN 9,890m, up PLN 898m (10.0%) on the 2020 amount of the capex.

SDGs:
- Goal 9

Capitals:

Share of individual segments in capital expenditure

>30%  24%  26%  12%  4%

Petrochemicals segment  Refining segment  Energy segment  Retail segment  Upstream segment

Increase in non-current assets in 2021 [PLN million]

Change in non-current assets by segments in 2021 [PLN million]

Capital expenditure by market [%]
Major projects carried out in 2021:

- Construction of a visbreaker unit in Płock
- Construction of a polypropylene glycol unit at ORLEN Południe
- Expansion of olefins production capacities at Płock
- Construction of a DCPD plant at ORLEN Unipetrol
- Expansion of fertilizer production capacities at Anwil
- Upgrades of existing assets and connection of new customers at the ENERGA Group
- Upgrade of DCS for the power system in Płock
- Upgrade of the TG1 turbine generator set at the CHP plant in Płock
- Construction of offshore wind farms in the Baltic Sea
- 59 new fuel stations were opened, 33 stations were closed down/partnership was discontinued, and 13 stations were upgraded
- Expansion of the EV charging network (13 new stations)
- 37 Stop Cafe/Star Canned outlets were opened (including convenience stores)
- Alternative refuelling – 263 points launched
- Poland / Canada – focus on the Egide, Micen and Piatki / Kakwa and Ferrier projects

Assessment of project implementation

The ORLEN Group manages the structure of its capital expenditure in line with the developments in market situation, and focuses on the most effective investment projects. For a description of key projects planned for the following years, see section “Market prospects in 2022”.

The ORLEN Group’s financial condition is stable, with cash flows and available financing sources sufficient to implement the investment plans.
Monitoring of strategy implementation

Monitoring of the strategy is ensured through a uniform system of regular tracking of the progress in its implementation.

**Capitals:**

After the strategy was approved, the process of its monitoring was initiated. It comprises reporting on initiatives, projects, activities and specific financial and operational metrics as detailed targets for individual segments and business areas.

The approved detailed targets for each KPI are key to attaining the objectives outlined in the strategy and ensure effective monitoring of the goals and our strategic initiatives.

**The strategy monitoring is of particular importance because it ensures:**

- Clear communication of the Management Board’s expectations – facilitating implementation of the strategy at all levels of the organisation, in all segments and areas of the Group.
- Involvement of all management staff in work towards achievement of the goals, in line with the strategy and the adopted corporate values.

The strategy monitoring methods and persons/units responsible for this task are listed in the table below.

<table>
<thead>
<tr>
<th>Monitoring measures</th>
<th>Forum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review of strategic objectives and goals</td>
<td>Strategy, Innovation and Investor Relations</td>
</tr>
<tr>
<td>Review of implementation of strategic goals (KPI’s and projects)</td>
<td>Management Board/Supervisory Board</td>
</tr>
<tr>
<td>Review of the Company’s activities and the macro environment</td>
<td></td>
</tr>
<tr>
<td>Review of implementation of strategic initiatives</td>
<td>Corporate Strategy Committee</td>
</tr>
</tbody>
</table>
Market prospects in 2022

The economic and social effects of the war in Ukraine and the economic sanctions are difficult to determine. In such circumstances, a reasonable approach is to refrain from predicting what will happen, because dynamic and unpredictable changes driven by geopolitical, including military, factors make baseline scenarios lose their meaning.

SDGs:

- Goal 9

Capital:

- Goal 9

Market prospects in 2022

Regulations

- National Indicative Target – the base level to increase from 8.7% to 8.8% (the reduced indicator for PKN ORLEN is 5.773%)

- Capacity market – the ORLEN Group expects comparable (y/y) support for generating unit

The Governmental Anti-Inflation Shield, including reduced excise duty on fuels, exemption from retail tax and reduced VAT on fuels will result in lower fuel prices at service stations, which should stimulate the demand for fuels.

Investing activities of the ORLEN Group

The amount of capital expenditure planned for 2022 is PLN 15.2bn, including PLN 10.7bn development capex and PLN 4.5bn maintenance capex.

The largest expenditure, of PLN 5.1bn, is planned in the Petrochemicals segment, followed by the Refining segment (PLN 4.5bn), Energy (3.9bn), Retail (PLN 1.0bn), and Upstream (PLN 0.3bn).

Key development projects in 2022:

Refining

- Construction hydrocracking unit – Lithuania
- Construction of 2nd gen bioethanol plant – ORLEN Południe
- Construction of HVO unit (hydrogenation of vegetable oils) – Plock
- Construction of visbreaking unit – Plock

Petrochemicals

- Expansion of olefin production capacities – Plock
- Expansion of fertilizer production capacities – Anwil

Energy

- Upgrades of existing assets and connection of new customers – the ENERGA Group
- Construction of CCST Ostrelce and CCST Grudziądz
- Construction of offshore wind farm in the Baltic Sea

Retail

- Development of service station network (> 30 service stations)
- Development of non-fuel retail network (> 30 Cafe/Star Canned outlets)
- Launch of new services and products

Upstream

- Poland / Canada – focus on the Egde, Miocene and Płotki / Kakwa and Ferrier projects
Planned increase of non-current assets in segments in year 2022 [PLN billion]

- Refinery: 15.2 billion PLN (19%)
- Petrochemicals: 10.7 billion PLN (41%)
- Energy: 4.5 billion PLN (31%)
- Retail: 1.1 billion PLN (6%)
- Upstream: 0.3 billion PLN (3%)

Total planned increase: 15.2 billion PLN
Sustainable development strategy

Sustainable development plays an important role in the process of building a multi-utility group and implementing the ambitious agenda under the ORLEN Group’s strategy until 2030. The new business strategy is a response to the changes in our environment driven by the global climate crisis. It enhances resilience of our business models to climate change and its consequences across the value chain. Over the next decade, PKN ORLEN will allocate PLN 30 billion to sustainability projects, including new business models.

<table>
<thead>
<tr>
<th>GRI Disclosures</th>
</tr>
</thead>
<tbody>
<tr>
<td>GRI 103-1</td>
</tr>
<tr>
<td>GRI 103-2</td>
</tr>
<tr>
<td>GRI 103-3</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SDGs:</th>
</tr>
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<tbody>
<tr>
<td>Goal 1</td>
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<tr>
<td>Goal 2</td>
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<tr>
<td>Goal 3</td>
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<td>Goal 4</td>
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<td>Goal 6</td>
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<td>Goal 7</td>
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<td>Goal 16</td>
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<td>Goal 17</td>
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<table>
<thead>
<tr>
<th>Capitals:</th>
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<tbody>
<tr>
<td>103-1</td>
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<tr>
<td>103-2</td>
</tr>
<tr>
<td>103-3</td>
</tr>
</tbody>
</table>

In 2021, the Management Board of PKN ORLEN adopted the ORLEN Group Sustainable Development Strategy for 2021–2023, which supports the goals of the ORLEN Group’s 2030 business strategy and the decarbonisation strategy announced in 2020, and comprehensively addresses ESG and CSR objectives, providing a robust governance system for sustainability. Building on a history of successful stakeholder dialogue and CSR activities, the ORLEN Group’s revised approach attaches great importance to the environmental needs expressed in multilateral initiatives such as the European Green Deal and Paris Agreement. The strategy provides for the implementation of projects designed to enhance climate management, as recommended by the Task Force on Climate-related Financial Disclosures (TCFD).
Information on the classification of activities in accordance with the Taxonomy

Regulation (EU) 2020/852 of the European Parliament and of the Council of June 18th 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation (EU) 2019/2088 ("Regulation (EU) 2020/852") introduces the obligation for undertakings to include in their consolidated non-financial statement information on how and to what extent the undertaking’s activities qualify as environmentally sustainable¹.

SGDs: © Goal 6  Goal 7  Goal 9  Goal 11  Goal 12  Goal 13

The ORLEN Group has determined which of its activities qualify as Taxonomy eligible based on the activities in its total turnover and the share in its installed capacities. Whether the ORLEN Group’s Taxonomy-eligible economic activities contribute substantially to one of the two environmental objectives, namely climate change mitigation or climate change adaptation, will be determined in the next reporting period.

The ORLEN Group has been consistently building its position of a regional leader in energy transition by deploying clean and environmentally friendly technologies and low- and zero-carbon power generation sources. In 2021, the ORLEN Group adopted its 2021–2023 Sustainable Development Strategy aligned with the ORLEN 2030 business strategy and the decarbonisation strategy until 2050.

The Group has committed to achieve climate neutrality by 2050 and intends to pursue the goals of the Paris Agreement and the European Green Deal in this time horizon. A key growth area of the ORLEN Group over the next decade will be energy transition activities including investments in wind power and solar PV, whether the ORLEN Group’s energy transition activities meet the Technical Screening Criteria and the qualitative information.

The technical screening criteria for determining whether a given economic activity qualifies as environmentally sustainable are set out in the Commission Delegated Regulation (EU) 2021/359 of April 4th 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by establishing the technical screening criteria for determining the conditions under which an economic activity qualifies as contributing substantially to climate change mitigation or climate change adaptation and for determining whether that economic activity causes no significant harm to any of the other environmental objectives ("Technical Screening Criteria"). The obligation to disclose Taxonomy-eligible economic activity in the consolidated non-financial statement has been specified in detail in the Commission Delegated Regulation (EU) 2021/378 of July 8th 2021 supplementing Regulation (EU) 2020/852 of the European Parliament and of the Council by specifying the content and presentation of information to be disclosed by undertakings subject to Articles 19a or 23a of Directive 2013/34/EU concerning environmentally sustainable economic activities, and specifying the methodology to comply with that disclosure obligation ("Regulation 2021/378").²

In accordance with Article 10 of Regulation 2021/378, the disclosure obligation covers the proportion of Taxonomy-eligible and Taxonomy non-eligible economic activities in an undertaking’s total turnover, capital and operational expenditure ("key performance indicators", "KPIs"). Taxonomy-eligible economic activities are the activities described in the Technical Screening Criteria, covering 13 sectors of economy. The disclosure obligation with respect to Taxonomy-eligible economic activities arises irrespective of whether that economic activity meets any or all of the Technical Screening Criteria.

¹ Pursuant to Article 3 of Regulation 2020/852, an environmentally sustainable economic activity is an economic activity that contributes substantially to one or more of the environmental objectives set out in the Regulation, does not significantly harm any of the environmental objectives, is carried out in compliance with the minimum safeguards (including with respect to human rights), and complies with the detailed screening criteria.

² Regulation 2021/378, the Technical Screening Criteria and Regulation 2021/378 are referred to below as the "Taxonomy".
be continued and the related capital expenditures should be included in the ORLEN Group’s sustainable activities reported in the subsequent period.

Importantly, the European Commission has adopted an act supplementing the Taxonomy, laying down Technical Screening Criteria for specific activities in gas and nuclear sector. The list of Taxonomy-eligible economic activities will continue to expand. At present, work is under way on the Technical Screening Criteria for the next four environmental goals, namely sustainable use and conservation of water and marine resources, transition to a circular economy, pollution prevention and control, protection and restoration of biodiversity and ecosystems, which may result in more ORLEN Group’s activities qualifying as Taxonomy-eligible.

Proportion of the ORLEN Group’s Taxonomy-eligible and Taxonomy-non-eligible economic activities in its total turnover, capital expenditure and operating expenditure

![Proportion of the ORLEN Group’s Taxonomy-eligible and Taxonomy-non-eligible economic activities in its total turnover, capital expenditure and operating expenditure](image)

**Accounting policies**

In order to calculate the proportion of turnover, capital expenditure (CapEx) or operating expenditure (OpEx) that is associated with Taxonomy-eligible economic activities, the same accounting principles were applied as those used to prepare the ORLEN Group’s consolidated full-year financial statements. The calculation of the key performance indicators for the Group took into account the relevant consolidation exclusions applied in the preparation of the financial statements.

The presentation of KPIs excludes intra-group sales and turnover resulting from own consumption. It should be noted that no portion of revenue, capital expenditure or operating expenditure was double counted. With respect to turnover, the basis for calculating the KPI was the ORLEN Group’s consolidated revenue for 2021 disclosed in the consolidated financial statements under Revenue, described in Notes B.1, B.2, and B.3.

With regard to capital expenditure, the basis for calculating the KPI was the ORLEN Group’s capital expenditure including increase in property, plant and equipment, intangible assets, investment property and right-of-use assets, together with capitalisation of borrowing costs, and decrease due to penalties received or receivable for delayed contract performance, recognised in the consolidated financial statements for 2021 and described in Note 11 Revenue, expenses, financial results, increase in non-current assets.

In the denominator of the CapEx formula, the ORLEN Group does not include property rights received free of charge, which were presented in the consolidated financial statements in Note 14.2.2 Property rights. The difference between the amount of capital expenditure disclosed in the consolidated financial statements of the ORLEN Group and the denominator of the CapEx formula results from including in the denominator an increase in property, plant and equipment and intangible assets due to acquisition of new companies (excluding goodwill) as at the date of acquiring control. Goodwill is not included in CapEx as it is not defined as an intangible asset under IAS 38. Information regarding the acquisition of material subsidiaries is described in the consolidated financial statements in Note 13 Accounting for acquisitions of shares under IFRS 3 Business Combinations, Note 14.1 Property, plant and equipment and in Note 14.2 Intangible assets.

With respect to operating expenditure, the basis for calculating the KPI was the ORLEN Group’s operating expenditure, which includes direct non-capitalised costs related to research and development, building renovation activities, short term leases, maintenance and repairs, and any other direct costs related to the day-to-day operation of property, plant and equipment. In calculating direct costs related to the day-to-day operation of property, plant and equipment, maintenance costs were taken into account. In particular, cost of maintenance and repair of machinery, maintenance materials cost, and IT cost dedicated to plant maintenance and service cost. The OpEx amount includes the cost of maintenance and repairs services provided also within the ORLEN Group.

**Taxonomy – eligible economic activities**

The list of Taxonomy-eligible economic activities was determined based on a comprehensive review of the ORLEN Group’s operations.

The Parent of the ORLEN Group supervised the process of preparing the key performance indicators, and verified financial data related to the eligible activities in order to avoid double allocation of any amount to the KPIs.

The Taxonomy requires interpretation with respect to both eligible economic activities and the determination of KPIs for these activities. The European Commission’s interpretation of economic activity focuses on the outcome, indicating that economic activity occurs when resources such as capital, goods, labour, manufacturing techniques, or intermediate products are combined to produce specific goods or services. Accordingly, Taxonomy-eligible economic activities are those activities which result in the production of products or services. In calculating the turnover KPI, the ORLEN Group considered activities that generate revenue recognised in the 2021 consolidated financial statements.

Expenditure and expenses associated with the manufacturing of products that are further processed to obtain final products which are Taxonomy-eligible were included in the calculation of the capital expenditure and operating expenditure.

It should also be added that the ORLEN Group carried out other Taxonomy-eligible activities, but the related financial information is not presented in the KPIs. Schemes are below the materiality thresholds defined by the ORLEN Group for Taxonomy disclosures and therefore these activities are not included in the calculation of the KPIs. These activities represent in aggregate 0.03% of revenue, 0.62% of capital expenditure, and 0.01% of operating expenditure of the ORLEN Group.

**Turnover Key Performance Indicator (Turnover KPI)**

The turnover KPI was determined by dividing net revenue from sale of products or provision of services associated with Taxonomy-eligible economic activities of the ORLEN Group by the ORLEN Group’s consolidated revenue. The Parent of the ORLEN Group supervised the process of preparing the key performance indicators, and verified financial data related to the eligible activities in order to avoid double allocation of any amount to the KPIs.

The turnover KPI for Taxonomy-eligible economic activities is 12.1% and the proportion of turnover (revenue) for Taxonomy-eligible economic activities is 87.9%.

The following items represent the largest share of the turnover KPI: activities related to production of basic organic chemicals (4.1%), activities related to the production of plastics in primary forms (3.9%), and activities related to distribution and transmission of electricity (3.1%).

The turnover KPI was calculated using financial data on external sales of products and services associated with Taxonomy-eligible economic activities.
Amount of turnover from products and services associated with Taxonomy-aligned economic activities, by activity

Capital Expenditure Key Performance Indicator (CAPEX KPI)

The CapEx KPI was calculated by dividing total capital expenditure associated with Taxonomy-eligible economic activities by total capital expenditure of the ORLEN Group.

Calculation of the proportion of capital expenditure associated with Taxonomy-eligible economic activities to total capital expenditure of the ORLEN Group took into account capital expenditure related to activities described in the table above, including capital expenditure incurred for own needs indicated in item 76. Where the same items of property, plant and equipment or intangible assets were also used to produce products or services associated with Taxonomy ineligible economic activities or for internal needs, the capital expenditure was disaggregated. In calculating the amount of capital expenditure (numerator), the utilisation rate of the assets was taken into account.

Operating Expenditure Key Performance Indicator (OPEX KPI)

The OPEX KPI was calculated by dividing total operating expenditure associated with Taxonomy-eligible economic activities by total operating expenditure.

Calculation of the proportion of operating expenditure associated with Taxonomy-eligible economic activities to total operating expenditure of the ORLEN Group took into account operating expenditure associated with activities described in the table below.

Amounts of capital expenditure (CapEx) and operating expenditure (OpEx) for products or services associated with Taxonomy-eligible economic activities
Additional disclosures

ORLEN Group has joint ventures accounted for with the equity method, such as Basell ORLEN Polyolefins Sp. z o.o. and Baltic Power Sp. z o.o.

The CapEx KPI does not include capital expenditures of PLN 78m incurred by the ORLEN Group in 2021 on the development of a project to construct a wind farm of Baltic Power Sp. z o.o.

Disclosures on additional KPIs related to investments accounted for with the equity method are not required.
Our commitments

We report on our performance against the commitments we have made and we continue our CSR activities this year.

GRI Disclosures:
GRI 103-3

SDGs:
Goal 3  Goal 4  Goal 6  Goal 10  Goal 11  Goal 13  Goal 15  Goal 17

Delivery on our commitments in 2021

<table>
<thead>
<tr>
<th>Commitment</th>
<th>Project name</th>
<th>CSR Strategy area</th>
<th>Results and effects</th>
<th>Sustainable Development Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Scholarship programmes of the ORLEN</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2.</td>
<td>Grant programmes of the ORLEN Foundation</td>
<td></td>
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<tr>
<td>3.</td>
<td>Year-round Donation Programme</td>
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<tr>
<td>4.</td>
<td>Employee volunteering projects</td>
<td></td>
<td></td>
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<tr>
<td>5.</td>
<td>Cooperation with Foundations</td>
<td></td>
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<tr>
<td>6.</td>
<td>System for communication with the local community in Płock</td>
<td></td>
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<tr>
<td>7.</td>
<td>The Grand Found Foundation for Płock</td>
<td></td>
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</tr>
<tr>
<td>8.</td>
<td>Revision of the Charitable Policy of Polski Koncern Naftowy ORLEN S.A.</td>
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</tr>
</tbody>
</table>

1. The ORLEN Foundation delivered six scholarship programmes: Scholarship programme for Foster Family Group Homes, Bonus Fide scholarship programme, My Above-Average Interests scholarship programme, Scholarships for Fellow Countrymen, Life to the Full programme for athletes with disabilities
2. The ORLEN Foundation delivered four grant programmes: My Place on Earth programme, ORLEN for Firefighters programme, We Keep Watch! We Remember programme, Health for Płock grant programme
3. Execution of the Year-Round Donation Programme of the ORLEN Foundation
4. Coordination of the employee volunteering programme: 1,787 volunteering ORLEN Group employees, almost 7,000 beneficiaries of voluntary work campaigns
5. In implementing the ORLEN Group CSR Strategy until 2022 and the PKN ORLEN Charitable Policy, in 2021 the Company actively supported the foundations of which it is the sole or joint founder: the ORLEN Foundation, the Grant Fund for Płock Foundation, the Foundation of the Ignacy Lukasiewicz Oil and Gas Industry Museum in Bóbrka, the Polish National Foundation, the Grow Up with Us Foundation
6. Communication with the local community in and around Płock was ensured, including through an online platform – Free Information System for residents of the Płock region; in 2021, 53 text messages were sent out to more than 1,000 (1,070) system users
7. „Continued cooperation with the Grant Fund for Płock” – including the organisation of the Happy Holidays 2021 in Płock grant competition, 10th edition of a grant competition for non-governmental organisations and 4th edition of a grant competition for individuals and informal groups, continued streetworking programme in Płock
8. In autumn 2021, work was started to update the Charitable Policy of Polski Koncern Naftowy ORLEN S.A. to align it with the new Sustainable Development Strategy and the changing structure of the ORLEN Group
1. The purpose of the #Sustainable Development Campaign was to foster the image of an environmentally responsible brand and raise awareness of attitudes supporting sustainable and responsible consumption.

2. Information on the bee conservation programme is available in the 'Protecting biodiversity' section.

3. Since 1999, PKN ORLEN has been involved in efforts to restore the peregrine falcon population in Poland, in partnership with the SOKÓŁ FALCON Association. This predatory bird is listed in the Polish Red List of Threatened Species as CR (critically endangered) species. By the end of 2021, over the course of the past 19 years, peregrine falcons already hatched 54 chicks and fostered 4 in the nesting box on the FGD stack in PKN ORLEN’s production plant at Płock.

### Delivery on sustainability and ESG commitments

<table>
<thead>
<tr>
<th>Area</th>
<th>Coordinates</th>
<th>Projects name</th>
<th>Results and effects</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

1. Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock implemented by the National Institute of Oncology and the National Tuberculosis and Lung Diseases Research Institute; this long-term community health programme includes: an oncology and pulmonology prevention hotline, navigator assistance, fast-track diagnostics, Step Smoking Assistance Point and Dietary Advice Point, Respiratory Physiotherapy Point.

2. 3rd edition of the Health City project — in 2021, the project site was visited by more than 1300 residents of Płock and the surrounding areas, who received nearly 2000 medical examinations specialists in the fields of cardiology, ECG, mammography, podiatry, and ENT.

3. Two health promotion meetings were held with members of Farmers’ Wives Associations in two municipalities of the County of Płock; Wyszogród and Łąck in the framework of the 3rd edition of the Health City project.

4. PKN ORLEN continued its cooperation with the Płock City Bike System by equipping it with additional 250 bicycles at 25 locations, which are fully compatible with the existing ones.

5. #GoodDriver: Organisation of a campaign promoting road safety, seeking to encourage motorists to exhibit good driver behaviours such as: staying sober while driving, yielding to pedestrians approaching crossings, keeping children safe in the car, and not exceeding the speed limit; Robert Kubica and leading Orlen Team athletes promoted observance of these rules.

6. Loyalty card: a loyalty scheme as part of which volunteer firefighters registered in the National Firefighting and Rescue System are offered discounts at ORLEN service stations. Loyalty card for WOT soldiers: a loyalty scheme for soldiers of the WOT (Territorial Defence Force) launched on May 1st 2020. Under the scheme, the soldiers are offered discounts at ORLEN service stations.

7. In 2021, 267 volunteer and professional firefighting units received support through funding for the purchase of firefighting equipment.
<table>
<thead>
<tr>
<th>Domain</th>
<th>Activity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Governance</td>
<td>Preparation of the ORLEN Group Sustainable Development Strategy for 2021-2023</td>
<td>The Sustainable Development Strategy for 2021-2023</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Definition of annual targets for consumption and effective use of raw materials</td>
<td>Addition of new environmental indicators and definition of reduction targets for raw material consumption</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Integration of climate risks into the Enterprise Risk Management System</td>
<td>Ongoing project; publication of scope 2 emissions</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Identification of physical and transition risks from climate change</td>
<td>1. Sustainable Development Campaign 2. Energy Planet</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Development of a Climate Policy ORLEN Group Climate Policy until 2030</td>
<td>Project completed; scenario analyses of business model resilience to climate change have been published</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Carbon footprint of products and organisations</td>
<td>Development of an approach to GHG Scope 3 (CO₂) emissions Project completed; publication scheduled for 2022</td>
</tr>
<tr>
<td>Environment/Climate</td>
<td>Launch of a Circular Economy programme</td>
<td>Programme implemented in 2021</td>
</tr>
<tr>
<td>Governance</td>
<td>Green Eurobonds</td>
<td>Green Eurobonds issued in May 2021</td>
</tr>
<tr>
<td>Social/Corporate Social responsibility</td>
<td>Awareness raising and educational projects, cooperation with NGOs, and support for sustainable development</td>
<td>Awareness raising and educational projects, cooperation with NGOs, and support for sustainable development</td>
</tr>
</tbody>
</table>
## Commitments for 2022

<table>
<thead>
<tr>
<th>Area</th>
<th>Committed</th>
<th>Sustainable Development Goals 2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Climate</td>
<td>Publish Scope 3 emissions, in accordance with the GHG Protocol</td>
<td>13 Climate action</td>
</tr>
<tr>
<td></td>
<td>Development biodiversity policy</td>
<td>14 Life on land</td>
</tr>
<tr>
<td>Sustainable management of raw materials</td>
<td></td>
<td>15 Life on land</td>
</tr>
<tr>
<td>Governance</td>
<td></td>
<td>9 No poverty and hunger</td>
</tr>
<tr>
<td></td>
<td></td>
<td>12 Responsible consumption</td>
</tr>
<tr>
<td></td>
<td></td>
<td>13 Life on land</td>
</tr>
</tbody>
</table>

- **13 Climate action**: Integrate ESG goals into the management's MBO system.
- **14 Life on land**: Increase transparency of the ESG information policy.
- **15 Life on land**: Increase transparency of the ESG information policy.
- **9 No poverty and hunger**: Integrate ESG goals into the management's MBO system.
- **12 Responsible consumption**: Increase transparency of the ESG information policy.
How we pursue the Sustainable Development Goals 2030

The ORLEN Group’s projects are consistent with the Sustainable Development Goals of the United Nations which have been adopted by almost 200 countries, including Poland.

The projects we present in this Report, including in the sections ‘Climate responsibility’, ‘Protection of biodiversity’, and ‘Society’, are projects initiated, completed or expanded by the Company which were assigned to strategic Sustainable Development Goals for the fuel and energy industry in Poland.

The ORLEN Group contributes to the SDGs directly at the business level, by engaging in sustainable business projects and extensive CSR activities.

The ORLEN Group contributes to the SDGs directly at the business level, by engaging in sustainable business projects and extensive CSR activities.

The ORLEN Group’s projects contributing to Goals 3, 4, and 11:

1. Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock
2. Health for Płock grant programme
3. My Place on Earth grant programme
4. ORLEN for Płock programme
5. Free Information System for residents of the Płock region
6. #GoodDriver campaign
7. Płock City Bike
8. Health City
9. ORLEN for Firefighters programme

Key ORLEN Group’s projects contributing to Goals 3, 4, and 11:

The ORLEN Group’s initiatives contributing to the tasks set out in the 2030 Agenda for Sustainable Development include: scholarship and grant programmes operated by the ORLEN Group corporate foundations: ORLEN Foundation, ANWIL Foundation, ENERGA Foundation, ORLEN UNIPETROL Foundation, and the donation programme. For more information, see ‘Society’.

Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

The ORLEN Group’s initiatives contributing to the tasks set out in the 2030 Agenda for Sustainable Development include: ensuring universal access to affordable, reliable and modern energy services by 2030, achieving a significant increase in the share of renewable energy sources in the global energy mix, expanding infrastructure and upgrading technologies providing access to modern and sustainable energy services. For more information see ‘Energy’ and ‘Climate responsibility’.

Goal 9: Build robust infrastructure, promote sustainable industrialisation and support innovation

The ORLEN Group’s initiatives contribute to the goal of improving the quality of infrastructure by 2030 and promoting sustainable industrial development by increasing the efficiency of resource use and applying clean and environmentally friendly technologies and production processes. For more information, see ‘Energy’ and ‘Climate responsibility’.

Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

The ORLEN Group implements initiatives to protect and preserve the world’s cultural and natural heritage and seeks to minimise its negative environmental impacts, paying particular attention to air quality and management of municipal waste and other pollutants. For more information, see ‘Society’, ‘Climate responsibility’, ‘Air emissions’, ‘Water and wastewater management’ and ‘Waste’.

Goal 12: Ensure sustainable consumption and production patterns

The ORLEN Group’s initiatives contribute to ensuring sustainable management and efficient use of natural resources by 2030, and implementing sustainable development practices and publishing the related information in its regular reports. For more information, see ‘Climate responsibility’ and ‘Sustainable Development Strategy’.

Goal 13: Take urgent action to combat climate change and its impacts

The ORLEN Group’s initiatives contribute to combating climate change and adapting to climate change. For more information, see ‘Climate responsibility’ and ‘Climate change risks’.

Goals of particular importance to the ORLEN Group:

3. Good Health and Well-being
4. Quality Education
7. Affordable and Clean Energy
8. Decent Work and Economic Growth
11. Sustainable Cities and Communities
12. Responsible Consumption and Production
13. Climate Action
Key ORLEN Group’s projects contributing to Goals 7, 9, 11, 12 and 13:

1. Sustainable Development Strategy
2. Projects designed to achieve net zero carbon footprint by 2050:
   a. Development of renewable energy sources
   b. Hydrogen as a key element of decarbonisation
   c. Offshore windfarms
   d. Onshore renewable energy
   e. Expansion of the Olefins Complex
   f. Investment in biofuel production
   g. Development of the SMR technology
   h. Waste management
   i. Support for the development of innovation in Poland
Respecting human rights

Respect for human rights underpins both relations within the ORLEN Group and with our external stakeholders. The document that contains guidelines on appropriate attitudes and behaviors is the Code of Ethics. Our priority is to treat all employees and external partners fairly, regardless of age, gender, position, disability, religion, nationality or belief.

GRI Disclosures

| GRI 103-1 | GRI 103-2 | GRI 103-3 | GRI 102-16 | GRI 412-2 | GRI 102-17 |

SDGs:

| Goal 5 | Goal 9 | Goal 10 |

Capitals:

Activities related to the area of respect for human rights are carried out mainly in the area of Human Resources.

The Ethics Officer monitors compliance with the ORLEN Group's Code of Ethics, guarantees that employees are aware of the Code of Ethics and ethical standards, and of the importance of their role in building the ethical corporate culture. The Ethics Officer is elected by PKN ORLEN employees and performs his or her duties without remuneration. The Ethics Officer takes steps to clarify and eliminate behaviors which conflict with the Code of Ethics.

- Provides ongoing support to PKN ORLEN employees with respect to their inquiries and concerns regarding ethical issues, including with respect to employee relations;
- Guarantees to all stakeholders, in particular to the employees, an opportunity to freely report violations of the ORLEN Group's Code of Ethics on an anonymous basis, using internal communication procedures and channels;
- Receives, selects and evaluates complaints for legitimacy and materiality; in the case of minor complaints, the Ethics Officer undertakes remedial action on his or her own, while more complex and serious cases are referred to the Secretary of the Human Capital Committee;
- Ensures that employees are aware of business ethics and ethical standards, and of the importance of their role in building the ethical corporate culture; and
- Undertakes remedial action on his or her own, while more complex and serious cases are referred to the Secretary of the Human Capital Committee.

The Ethics Officer now operates as part of the Ethics Team. However, the autonomous and social nature of the Ethics Officer's role have remained unchanged. The Ethics Team and the Ethics Officer are tasked with increasing employee involvement in building corporate culture based on ethics and values, which is to be done by enhancing communication and training activities and implementing consistent ethical standards at PKN ORLEN and other ORLEN Group companies. Ethics Officers operate in ORLEN Group companies employing over 100 employees. In companies employing less than 100 employees, the employer is responsible for ethical issues.

As at the end of 2021, there were 18 Ethics Officers at PKN ORLEN and other ORLEN Group companies.

Other responsibilities of the Ethics Officer include educational activities to foster knowledge of the Code of Ethics, which include lectures on ethics for the management staff and training for all PKN ORLEN employees to promote the ethical values and principles, training during the Onboarding Programme for new hires to familiarise them with the Code of Ethics and the objectives and operation of the corporate ethics system, and a training programme for interns and trainees. In line with global trends relating to compliance with ethical requirements, an Ethics Team has been appointed within the HR function.

Its key responsibilities include:

- Coordination of all ethical issues based on the provisions of the Code of Ethics, in accordance with the assumptions of the ORLEN 2030 strategy and the vision of ORLEN Group growth;
- Development, implementation and updates of policies, procedures and tools aligned with the ORLEN Group's ethical standards;
- Carrying out communication activities promoting a corporate culture based on ethics and the ORLEN values, and behaviors compliant with the adopted principles of conduct;
- Cooperation with PKN ORLEN and other ORLEN Group companies' organisational units in the field of ethics, in particular as regards implementation of the Code of Ethics and ethical standards.

The Ethics Officer now operates as part of the Ethics Team. However, the autonomous and social nature of the Ethics Officer's role have remained unchanged. The Ethics Team and the Ethics Officer are tasked with increasing employee involvement in building corporate culture based on ethics and values, which is to be done by enhancing communication and training activities and implementing consistent ethical standards at PKN ORLEN and other ORLEN Group companies. Ethics Officers operate in ORLEN Group companies employing over 100 employees. In companies employing less than 100 employees, the employer is responsible for ethical issues.

As at the end of 2021, there were 18 Ethics Officers at PKN ORLEN and other ORLEN Group companies.
The policies and internal regulations

The policies and internal regulations concerning the human rights area include:

**Code of Ethics**

**Code of Ethics** defines the values, principles of conduct and rules that set ethical standards for all ORLEN Group employees, based on a revised approach to understanding ORLEN values: Responsibility, Progress, People, Energy and Dependability, as well as the current scale of operations and operating strategy, the requirements of the Group’s environment, and best practices in the field of business ethics. It contains provisions concerning internal, respect for diversity, including fair treatment of all employees regardless of their age, gender, position, religion, nationality or beliefs, equal opportunities for personal and professional development, as well as responsibility for building an ethical, safe and friendly workplace. It also includes provisions discussing ethical and responsible attitudes towards all stakeholders, including employees, consumers, business partners and local communities. Moreover, it is a document supporting the implementation of the ORLEN 2030 business strategy.

**Diversity Policy**

Aims to promote values, policies, norms and behaviours consistent with the principle of equal treatment of employees, to raise awareness and understanding of how important diversity is, and to create conditions for an open and tolerant workplace. For PKN ORLEN, diversity is not merely countering discrimination but rather a deliberate effort to acknowledge different viewpoints or experiences and to appreciate diversity as a value in itself.

**Collective Bargaining Agreements**

Define the conditions which should be met by the substance of an employment relationship, and the rules of remunerating and granting other benefits to employees.

**Rules to Prevent Workplace Bullying, Discrimination, and any Forms of Harassment at PKN ORLEN**

Set out the rules to be followed when a case of bullying, discrimination and harassment is reported, and specifies the rights and obligations of employees in such situations.

**ORLEN Group Anti-Corruption Policy**

**ORLEN Group Anti-Corruption Policy** designed to raise employee awareness, encourage positive attitudes and behaviour, and streamline procedures and business process oversight. The document underscores the importance of training and awareness raising among employees and the responsibility of company’s managements to create conditions that help to prevent and counteract corruption at the ORLEN Group. The person responsible for coordinating the implementation of the Policy objectives in effectively preventing and detecting irregularities and misconduct is the PKN ORLEN Anti-Corruption Compliance Officer.

**Anonymous Misconduct Reporting System**

The system provides a framework for identifying potential irregularities and instances of misconduct, which can be reported via different information channels.

**Supplier Code of Conduct**

**Supplier Code of Conduct** forms an integral element of cooperation with suppliers, including the supplier qualification and evaluation processes, governs business standards in health and safety at work, human rights, business ethics, employee matters and environmental protection. The document helps us to support our suppliers in building awareness and best practices in this area.

**ORLEN Group CSR Strategy until 2022**

Sets out the directions of social responsibility initiatives. Besides seeking to align business with social objectives, other priorities of the CSR Strategy are to build PKN ORLEN’s image as a leader in CSR and sustainability, generate CSR synergies across the Group, and support the pursuit of Sustainable Development Goals and the ‘Accessibility Plus’ programme. The CSR strategy is implemented within five key areas of responsibility: Society, Environment, Employees, Customers, and Business Partners.

**Integrated Management System Policy**

**Integrated Management System Policy** – a declaration to assure quality, minimise environmental impacts, ensure employee safety and information security.

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Fostering desirable attitudes and behaviours in line with the ORLEN Group’s Code of Ethics

PKN ORLEN is consistently engaged in building an ethical working environment, as its first code of conduct was adopted in 2006 and its Ethics Officer was first appointed at the same time. In May 2021, the ‘Core Values and Standards of Conduct of PKN ORLEN’ were replaced by a new **Code of Ethics of the ORLEN Capital Group**. The new document presents in simple terms the key considerations relating to ethics at the Company. It defines the values and standards of conduct which ORLEN Group employees undertake to respect: Responsibility, Progress, People, Energy and Dependability. These values have not changed. The ORLEN Group also adopted a new mission: “By nature, we power the future sustainably” and an updated corporate motto: “ORLEN. Powering the future. Sustainably.”
In 2021, 67.37% of PKN ORLEN employees received human rights training. At other Group companies, training on the ORLEN Group Code of Ethics was delivered to 3,598 employees. The Code of Ethics was implemented at the Polska Press Group, RUCH and ORLEN Transport in 2021.

Overall, 18.51% of the ORLEN Group employees received human rights training (excluding the Polska Press Group companies and ORLEN Transport).

The employee volunteering programme is a project enhancing the ORLEN Group’s corporate culture. It offers a number of involvement opportunities for all employees, regardless of their job and position.

The ORLEN Group also joined the national Two Hours for the Family campaign. On May 15th, the International Day of Families, employees are free to leave two hours early to devote that time to family activities. The theme of the campaign in 2021 was ‘Sports across generations’. As May 15th was a Saturday, PKN ORLEN decided to shorten working hours on May 14th. In 2021, we held an art contest for children of employees of PKN ORLEN and other ORLEN Group companies, themed ‘My idea for winter holidays.’

In 2021, PKN ORLEN was for the eighth time listed in the elite group of the most ethical companies in the world. We are the only company from Poland and Central and Eastern Europe, as well as the only European company operating in the Oil and Gas, Renewable Energy Sources sector, which can boast the distinction of The World’s Most Ethical Company. The title highlights our commitment to prioritising ethical business practices. For years, we have maintained the highest global standards in ethics, as we base all our operations and activities on our fundamental values: Responsibility, Progress, People, Energy and Dependability.

The distinction is granted by an international independent panel of experts of the US-based Ethisphere Institute, the world leader in defining and promoting ethical standards in business. The name of the award refers to ethics, but the candidate must also demonstrate a track record of effective and proven initiatives in such areas as:

- Corporate governance;
- Compliance, i.e. compliance and risk management;
- OHS;
- Sustainable development;
- Employee programmes;
- Anti-bribery and corruption.

Ethisphere Institute pays special attention to activities designed to build value-based organisational culture and evaluates HR management practices, including:

- Equality in employment;
- Countering bullying, discrimination and harassment;
- Training and communication programmes;
- Employee programmes;
- Business ethics structures, processes and documents.

The World’s Most Ethical Company certificate is awarded by the US-based Ethisphere Institute, a global leader in defining.
advancing and actively promoting the standards of ethical business practices. In the 2021 certification process, special emphasis was placed on demonstrating tangible CSR initiatives undertaken by companies. Total expenditure incurred by PKN ORLEN and other ORLEN Group companies on activities related to countering the pandemic exceeded PLN 120 million and included:

- Production of sanitisers;
- Co-financing of purchases of medical equipment for hospitals and rescue services;
- Creation of temporary hospitals in Płock and Ostrołęka in cooperation with the Polish government.

### Internal and external mechanisms to obtain advice on how to report actual or suspected misconduct

The values, principles and standards defined in the Code of Ethics apply to each ORLEN Group employee from their first day of work, regardless of their position or form of contract. Even if some of the standards of conduct contained in the Code of Ethics do not apply to a given job, this does not relieve the employee of the obligation to respond to or report violations of the Code.

A variant path is defined for reporting and analysing information on actual or suspected cases of misconduct, depending on the severity and complexity of the problem and on the confidence of the parties involved. At PKN ORLEN, suspected violations of the values, principles and standards of conduct or any ethical dilemmas may be reported to:

- The line manager;
- The Ethics Officer;
- The Human Capital Committee Secretary.

Reports may also be made through the Anonymous Misconduct Reporting System (ASZN) to the Control and Safety Office.

A variant path is defined for reporting and analysing information on actual or suspected cases of misconduct, depending on the severity and complexity of the problem and on the confidence of the parties involved. The reports received by the Ethics Officer in 2021 predominantly related to cooperation issues, inappropriate communication or poor interpersonal relations. No incidents involving theft of company assets, a conflict of interest or alcohol abuse were reported. The majority of the cases involved infringement of a specific provision of the document ‘Core Values and Standards of Conduct of PKN ORLEN S.A.’ (in May 2021 it was replaced by the ORLEN Group Code of Ethics). Most of the reported issues were investigated, with corrective measures implemented.

PKN ORLEN has in place effective functional control, risk management and compliance supervision systems, as well as an internal audit and control function. The simultaneous operation of all these elements allows the Group to exercise ongoing and effective anti-corruption supervision. The Group has an organised management control system comprising a set of comprehensive procedures.

The following are in force at PKN ORLEN: ORLEN Group Anti-Corruption Policy, Internal Order on Anti-Money Laundering and Terrorist Financing, and Rules to Prevent Workplace Bullying, Discrimination, and any Forms of Harassment at PKN ORLEN.

Every employee across the organisation is responsible for active promotion of the right behaviours, building healthy relationships between employees and upholding the team spirit. It is vital that efforts to foster conduct consistent with the core values and standards of conduct and to ensure that managers stay alert are made on an ongoing basis.
Overview

Our priority is sustainable development understood as care for the natural environment and future generations. This means that in building the ORLEN Group’s position we attach equal importance to our business and CSR agendas. We respect people and their rights. We use natural resources so as not to disturb environmental balance. We value and support Polish culture, science and sports. Because we feel responsible for other members of the communities where we operate, we engage in dialogue and support them in various areas of activity. We seek to build our stakeholder relations on integrity, transparency, mutual respect and professionalism. We are proud that the way we operate contributes to bolstering Poland’s reputation abroad.

GRI Disclosures

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The ORLEN Group companies are key local tax payers at their respective locations. For example, in 2021 the total revenue of the city of Płock related to the operations of PKN ORLEN and the ORLEN Group companies located in the city amounted to more than PLN 223m.

Local taxes paid by ORLEN Group companies at major locations in 2021

As responsible and sustainable development is our driving force, in autumn 2021 we adopted the new ORLEN Group Sustainable Development Strategy 2021–2023, replacing our ORLEN Group CSR Strategy until 2022. Setting ambitious sustainability and CSR goals, the new strategy is closely linked to the CSR goals, the new strategy is closely linked to the ORLEN Group Business Strategy until 2030 launched in autumn 2020, which aims to build a multi-mobility group and develop new lines of business. Through the Sustainable Development Strategy we pursue the ambitious goals of the Paris Agreement, UN 2030 Agenda and European Green Deal. We also respond to the growing expectations of investors, who increasingly pay attention to ESG rankings and reports that show actual commitment of companies to sustainability objectives.
We believe the measures we are taking today will contribute to protecting the planet and the welfare of future generations.

Overview

PKN ORLEN’s corporate social responsibility stands for informed and comprehensive management of CSR and environmental protection initiatives, which we view as our priority. CSR management falls within the remit of the External Relations Office, reporting directly to a member of the PKN ORLEN Management Board. The External Relations Office is specifically responsible for:

- Supervising CSR activities in line with capital market standards, including in particular arranging CSR programmes and running charitable initiatives;
- Building relations with local communities;
- Creating, coordinating and promoting nationwide and regional CSR programmes involving employees in volunteer initiatives;
- Promoting socially responsible attitudes;
- Continuing efforts to maintain a platform for cooperation and sharing experience in corporate social responsibility within the ORLEN Group.

The Sports Marketing, Sponsorship and Events Office is responsible for formulating and implementing a strategy for sports marketing, social sponsorship, events, and culture which is a part of PKN ORLEN’s marketing strategy.

Policies in place

The ORLEN Group has a number of policies and internal regulations in place that govern the social area. They provide guidance on taking responsible actions towards sustainability.

- **ORLEN Group Code of Ethics** – defines the values, principles of conduct and rules that set ethical standards for all ORLEN Group employees, based on a revised approach to understanding ORLEN values: Responsibility, Progress, People, Energy and Dependability, as well as the current scale of operations and operating strategy, the requirements of the Group’s environment, and best practices in the field of business ethics. Moreover, it is a document supporting the implementation of the ORLEN 2030 business strategy.

- **ORLEN Group CSR Strategy until 2022** – served as the document setting out the directions of social responsibility initiatives until the autumn of 2021. The CSR strategy was implemented within five key areas of responsibility: Society, Environment, Employees, Customers, and Business Partners.

- **ORLEN Group Sustainable Development Strategy 2021–2023** – the new ORLEN Group Sustainable Development Strategy 2021–2023 is integrated with the ORLEN 2030 business strategy and the decarbonisation strategy until 2050. This synergy of activities allows us to pursue an ambitious business agenda for the next decade, to strengthen the Group's financial performance, and to build long-term value for all stakeholders. The Sustainable Development Strategy also implements the ambitious goals of the Paris Agreement, UN 2030 Agenda and European Green Deal. It is built around three ESG pillars: Environmental, Social and Governance.

- **Charitable Giving Policy** – an important tool for implementing the new ORLEN Group Sustainable Development Strategy 2021–2023. It sets out the four priorities of our charitable involvement:

**ORLEN for the environment**

Supporting initiatives related to rational shaping of the environment and sustainable management of natural resources, anti-pollution initiatives, initiatives designed to conserve and restore elements of the natural environment, and initiatives furthering the concept of circular economy.

**ORLEN for society**

Supporting foster family group homes and young people leaving children’s homes, the socially excluded groups including people with disabilities, initiatives to assist returnees and their families, and initiatives of local communities and local partners.

**ORLEN for safety and health**
Supporting professional and voluntary rescue services, road safety stakeholders, medical institutions and facilities, and initiatives to promote healthy and active lifestyles.

**ORLEN for sports, education and culture**

Supporting initiatives for the development of sports, education, science and young talents, initiatives for the conservation and restoration of historical monuments, and initiatives promoting Polish culture and history.

The Charitable Giving Policy also defines the principles of giving, using and accounting for gifts and donations. Charitable support is offered directly by the ORLEN Group and through the ORLEN Foundation, ANWIL Foundation, ORLEN Universal Foundation and Energa Foundation.

In 2021, the External Relations Office started work on updating the Charitable Giving Policy of Polski Konsern Naftowy ORLEN S.A. to align it with the new ORLEN Group Sustainable Development Strategy 2021–2023 and the changing structure of the ORLEN Group. Seeking to create synergies in its social initiatives, the ORLEN Group developed the Organisational Standard for Supervising Foundations Sponsored or Co-Sponsored by PKN ORLEN or ORLEN Group Companies. The standard is based on the Policy on Supervising Foundations Sponsored by PKN ORLEN or ORLEN Group Companies, approved by the Management Board of PKN ORLEN on December 17th 2020.

- **PKN ORLEN Standards of Conduct in Relations with Local Communities** – the document is a set of guidelines on how to cooperate with local communities in the areas where PKN ORLEN conducts its business activities. It is intended for internal use and binding on all PKN ORLEN employees.

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**ORLEN Group Procurement Policy**

The document defines the mission, vision and purpose of the procurement policy.

**Procurement Instruction**

It implements the Procurement Policy and serves as a tool to achieve its objectives.

**Supplier Code of Conduct**

A revised version of the document was implemented at all companies of the ORLEN Group in 2021. It is consistent with the assumptions and objectives set out in the ORLEN 2030 business strategy and contains a set of supplier selection criteria divided into five key categories: Responsibility, Progress, People, Energy and Dependability. The document supports suppliers in building awareness and developing best CSR and sustainability practices.

**ORLEN Group Anti-Corruption Policy**

The document defines a fair and transparent model for the conduct of the ORLEN Group’s business, guaranteeing trust, security, free competition and value for all stakeholders.

**Diversity Policy**

The document aims to promote values, norms and behaviours consistent with the principle of equal treatment of employees, to raise awareness and understanding of how important diversity is, and to create conditions for an open and tolerant workplace. For PKN ORLEN, diversity is not merely countering discrimination but rather a deliberate effort to acknowledge different viewpoints or experiences and to appreciate diversity as a value in itself.

**PKN ORLEN Rules for Accepting and Offering Gifts**

The document defines the rules for accepting and offering gifts at PKN ORLEN.

**Restructuring Agreement with Trade Unions**

It defines the rules of cooperation between social partners in restructuring processes and the employees’ rights in such processes.

**Integrated Management System Policy**

Being a declaration to assure quality, minimise environmental impacts, ensure employee safety and information security, it is closely related to the PKN ORLEN core values.

**Food Safety Policy**

Declaration of the commitment to ensuring the highest quality of food products and our food and drink service, care for the health and safety of customers as well as for their culinary tastes, by continually developing the Standards and Best Practices in Food and Drink Services in accordance with the HACCP principles.
CSR Strategy implementation

Directions of our CSR activities are defined in the CSR strategy, which is aligned with the business strategy.

In 2021, we proceeded with the implementation of the ORLEN Group CSR Strategy until 2022 within five key areas of responsibility: Society, Environment, Employees, Customers, and Business Partners. The identification of these areas facilitated the allocation of tasks corresponding to the needs of specific stakeholder groups. The ORLEN Group’s ambition is to best fulfill the role of a responsible corporate citizen and employer, a member of the community and a good neighbour.

GRI Disclosures

We are open to the world, in tune with people’s needs and ready to help. Our activities address the needs of local communities, bringing about real change in the lives of their target beneficiaries. The ORLEN Group wants its initiatives to be wide-ranging so that its charitable efforts reach all places where they are needed.

The ORLEN Group CSR Strategy until 2022 builds on the Company’s business strategy, our internal code of ethics – the Core Values and Standards of Conduct of PKN ORLEN, and Agenda 2030 – the UN resolution on sustainable development at the global and local level.

Apart from seeking to align business with social objectives, other priorities of the CSR Strategy are to foster PKN ORLEN’s image as a leader in CSR and sustainability, generate CSR synergies across the Group, and support the pursuit of the UN Sustainable Development Goals and the Accessibility Plus programme.

The CSR strategy is implemented within five key areas of responsibility: Society, Environment, Employees, Customers, and Business Partners. In order to best implement the CSR Strategy, the actions undertaken within its framework are prioritised. In 2019–2021, emphasis was placed on projects involving environmental protection, promotion of safety (including road safety), as well as promotion and protection of health. The Group also engages in projects supporting disease prevention (including as part of the fight against COVID-19) as well as education on active and healthy lifestyles. Our employees and trading partners are guaranteed the best possible OHS conditions, and the safety of our production processes is being constantly improved in order to ensure safe living conditions to the local communities. Another key element of corporate social responsibility is protection of the natural environment. Together with other ORLEN Group companies, PKN ORLEN undertakes various initiatives to appeal to people’s environmental conscience, protect biodiversity and optimise business impacts.

In autumn 2021, the new ORLEN Group Sustainable Development Strategy 2021–2023 was adopted, replacing the ORLEN Group CSR Strategy until 2022. It is built around three ESG pillars: Environmental, Social and Governance. As part of the social pillar, we will continue activities supporting the potential of local communities with respect for their rights, offering various educational (e.g. promoting responsible consumption), sports and cultural programmes and engaging in projects that foster social and environmental awareness among stakeholders. Out of concern for the natural environment, we will continue to build a portfolio of green non-fuel products and services for customers at our service stations, for example by introducing green packaging, expanding the vegetarian food range, and waste recycling.
Social engagement

The main goals we pursue in the Society area are to support the development of local communities, prevent social exclusion and promote equal opportunities, ensure safety and health protection, and preserve the national heritage. The CSR strategy is implemented within five key areas of responsibility:

- Society
- Environment
- Employees
- Customers
- Business Partners

In 2021, we continued countrywide projects targeted at local communities, such as the grant programmes: My Place on Earth, We keep watch! We remember!, and ORLEN for Firefighters. The ORLEN Foundation conducted successive editions of scholarship programmes, including For Eagles, dedicated to children of PKN ORLEN’s and other ORLEN Group companies’ employees and residents of Płock and the County of Płock, and BONA FIDE, a unique programme in Poland addressed to outstanding students who continue their education (second- and third-degree studies) at the world’s top universities from the Shanghai List. 2021 also saw the second edition of the Health for Płock grant programme, addressed to non-governmental and local government organisations active in Płock and the neighbouring Counties of Płock, Sierpc and Gostynin. In 2021, we increased our involvement in health promotion. Responding to the needs of Płock residents, PKN ORLEN continued cooperation with the Maria Skłodowska-Curie National Institute for Oncology under an agreement concerning the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancer and Respiratory System Diseases for Residents of the City and County of Płock. The Programme is run by the National Institute of Oncology, together with the National Tuberculosis and Lung Diseases Research Institute, under the patronage of the Ministry of Health. The project’s key objective is to undertake pre-health initiatives relating to respiratory system diseases and cancers, as well as the implementation of educational programmes on the causes of these diseases. One of its goals is to make the residents of Płock and surrounding areas aware of the need to change their lifestyles, as this may significantly reduce the risk of illness.

Actions implemented under the programme in 2021:

- Continued operation of pulmonology and oncology infirmaries for residents and medical staff from Płock and its surroundings. The consultants advised on oncology prevention activities and arranged recommended consultations and appointments with specialists from the institutes; navigators’ assistance is provided for people undergoing the diagnostic/treatment process.
- Online training for doctors and nurses, with participants receiving a completion certificate.
- Regular updates to the programme website at www.zdrowiedlaplocka.pib-nio.pl, an ample source of information on the Programme, its activities, disease prevention and treatment.
- Continued operation of a stop-smoking assistance point and a dietary advice point, providing access to consultations with doctors, nurses, psychologists and dieticians, and launch of a respiratory physiotherapy aid point, where a specialist helped to select basic breathing exercises appropriate to age and health condition.
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- Grant programmes, such as the My Place on Earth, We keep watch! We remember!, responding to the needs of Płock residents, PKN ORLEN continued cooperation with the Maria Skłodowska-Curie National Institute for Oncology under an agreement concerning the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancer and Respiratory System Diseases for Residents of the City and County of Płock. The Programme is run by the National Institute of Oncology, together with the National Tuberculosis and Lung Diseases Research Institute, under the patronage of the Ministry of Health. The project’s key objective is to undertake pre-health initiatives relating to respiratory system diseases and cancers, as well as the implementation of educational programmes on the causes of these diseases. One of its goals is to make the residents of Płock and surrounding areas aware of the need to change their lifestyles, as this may significantly reduce the risk of illness.

#GOODDRIVER Nationwide Public Awareness Campaign

In 2021, the third edition of the #GoodDriver public awareness campaign was held to promote the rules of road safety.

It sought to encourage motorists to exhibit good driver behaviour such as: staying sober while driving, yielding to pedestrians, staying sober while driving and not exceeding the speed limit. Adherence to these rules was advocated by Robert Kubica and other leading sportsmen of the ORLEN Team.

Nawet dziecko wie...
#DobryKierowca
dba o bezpieczeństwo pasażerów
Stop Cafe Sustainable Food Offering Campaign
Our efforts to promote pro-environmental behaviours included a campaign advertising the sustainable food offering of STOP CAFEs. Its purpose was to encourage customers to make right consumer choices and take informed buying decisions.

ORLEN for Firefighters Gala
A ceremonial gala summing up another edition of the ORLEN for Firefighters programme was held in the Grand Theatre – National Opera in 2021.

The aim of the programme is to support State Fire Service and Voluntary Fire Service brigades by subsidising or financing the purchase of equipment necessary for them to perform their tasks, in particular to fight fires, natural disasters and other local threats in their areas of operation. During the ceremony, symbolic cheques were presented to representatives of the brigades. 267 fire stations of the 2,802 that applied received the grants.

Good Energy Homes
In 2021, PKN ORLEN, together with the ORLEN Foundation and Energa S.A., implemented a social outreach project Good Energy Homes.

Solar PV panels were mounted on the roofs of two foster family group homes, in Szczawin Kościelny near Płock and in Gostynin, which can now produce green energy for their own use and reduce their environmental impact. PKN ORLEN and the ORLEN Foundation provided active in-kind and financial support to combat the COVID-19 epidemic, in particular to medical and uniformed services and hospitals tasked with saving the life and health of infected persons, as well as to staff and residents of nursing homes.
The following institutions received support through the ORLEN Foundation: Independent Public Healthcare Establishment of the Provincial Ambulance Service and Medical Transport Station in Płock, Central Police Headquarters in Warsaw, Dr. Józef Piłsudski Warsaw Province Specialist Hospital in Ostróda, nursing homes. The support took the form of in-kind donations, including masks and disinfectant fluids. As part of the struggle with COVID-19, we offered a possibility of redeeming the points collected in the VITAY loyalty scheme for a new award - support to hospitals in the fight against the coronavirus pandemic. It was included in the Award Catalogue on April 1st 2020 (as the implementation of the idea of a VITAY customer, who shared it on the PKN ORLEN profile) and maintained in 2021.

In 2021, PKN ORLEN was also involved in community projects aimed at reducing inequalities. Their intended beneficiaries were children under the care of foster family group homes and the Róża Czacka Centre for Blind Children in Laski, as well as senior citizens. The events were supported by volunteers of the ORLEN Foundation. In 2021, the Christmas Gift Box for Poznań Senior Citizens project was carried out for the second time. Christmas dishes were delivered to 3,800 people in need. The initiative was warmly welcomed by the oldest residents of Poznań. The boxes were distributed on December 23rd and 24th so that the seniors would receive fresh food for the holidays. The Poznań ORLEN Polish Open tennis tournament was held in Poznań for the 26th time. It has been included in the International Tennis Federation calendar since 1995 and is an integral part of the global UNIQLO Wheelchair Tennis Tour. Poznań ORLEN Polish Open is a sporting event which at the same time promotes an extraordinary social aspect - the return of severely disadvantaged people to a normal active life. PKN ORLEN was also the Main Sponsor of regional conferences held by the Chance for the Blind Foundation in Kraków, Wrocław and Gliwice in October. The 16th Accessibility Seriously conference aimed to promote local integration of blind and visually impaired people, share information about modern rehabilitation opportunities, and draw public attention to the problems faced by people with disabilities.

In the current international security crisis, the ORLEN Group has become strongly involved in humanitarian aid for Ukraine. Its activities are directed both to conflict-affected areas and to people arriving in Poland.

In the first days of March 2022, the ORLEN Foundation set up rest points (tents) in four locations on the Polish-Ukrainian border, where refugees could have a warm meal, get warm, and find out how and where to seek further assistance. Since April, a similar point has been operated by the ORLEN Foundation at the Central Railway Station in Warsaw.

At the beginning of the armed conflict in Ukraine, PKN ORLEN declared its readiness to host refugees at the Company’s Petrochemia hotel in Płock. We provide accommodation, meals and counseling services. In addition, in May this year we handed over the Hotel Oława Grand, owned by the ORLEN Group, to the city of Płock. Until the end of June it provided shelter to mothers with children and senior citizens. Moreover, owing to support provided by the ANAWIL Foundation, a group of refugees was lodged in a palace in Włocławek.

At the beginning of the armed conflict in Ukraine, PKN ORLEN declared its readiness to host refugees at the Company’s Petrochemia hotel in Płock. We provide accommodation, meals and counseling services. The ORLEN Foundation also provides considerable support to several dozen non-governmental organizations and associations that help people fleeing the war conflict. It donated fuel cards to many NGOs transporting people, drugs and wound dressings, food and other essentials. It lent a car free of charge to Caritas Ukraine, which has been using it to deliver donations and humanitarian aid across Ukraine.

Moreover, in response to current needs, the ORLEN Foundation set up day centres for the youngest refugees staying in Poland, offering a wide range of activities for children of different ages at reception points of the largest halls for refugees – at the Global Expo Trade Fair and Congress Centre, at the Central Sports Centre in Warsaw and in the PTAK Warsaw Expo hall in Nadarzyń near Warsaw. The children were also given an opportunity to visit museums, combined with workshops and Polish language lessons. For instance, Ukrainian children visited the Museum of Sport and Tourism and participated in Polish-Ukrainian family integration workshops at Zachęta National Gallery of Art. With the support of the ORLEN Foundation, the Operation Mobilization Association launched a project Cinema for Ukrainian Children, as part of which as many as 50 days of film screenings in the Ukrainian language were planned for children and their accompanying persons at refugee centres across Poland. The cinema shows are accompanied by information and education campaigns focusing on the protection and safety of children who had to flee Ukraine with their parents, as well as emotional support for families in distress. In March 2022, PKN ORLEN donated satellite internet kits connected to the Starlink telecommunication system for use by Ukrainian residents. Already at destination, the hardware provides high-speed internet access, enabling information flow and uninterrupted communication.

The help efforts have also been actively joined by our employees. The ORLEN Group carried out donation drives among its staff. Aid was provided by employees of PKN ORLEN, ORLEN Eko, ORLEN Unipetrol, ORLEN Serwis and the ENERGA Foundation. The ORLEN Foundation offers opportunities for a sponsoring funding for employee volunteering campaigns, which are actively used by employees across the Group in their grassroots initiatives to help war refugees.

The Company enabled transfers of VITAY loyalty programme credit to humanitarian aid to Ukraine. PKN ORLEN donates PLN 5 for every 1000 VITAY points transferred by loyalty programme participants, or PLN 25 for every 5000 points. The ORLEN Paczka service can now be used to send donations for free from all parcel lockers in Poland. Thanks to cooperation with the General Consulate of the Republic of Poland in Lviv, the parcels will eventually get to the civilian population in Ukraine. A Help Ukraine section was added to the ORLEN Paczka website, where visitors could find a verified list of current needs and send products using a system of nearly 1000 ORLEN parcel lockers.
Support for sports and culture, community sponsorships

PKN ORLEN is the largest sponsor of Polish sports, offering assistance to professional and amateur athletes. It is also in the vanguard among companies most dedicated to sponsorship. PKN ORLEN’s well thought-out sponsorship policy brings benefits at three levels: business, sports and social.

The most active sponsors – TOTAL sponsorship activity

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The most recognised sponsors of SPORTS

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The most recognised sponsors of CSR PROJECTS

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PKN ORLEN’s flagship sports sponsorship project is cooperation with Alfa Romeo F1 Team ORLEN and support for Robert Kubica’s races. This is closely connected with our international expansion and efforts aimed at building recognition of the ORLEN brand as the ORLEN Group transforms into international multi-utility group. In 2021, Robert Kubica’s races with ORLEN Team WRT in the European Endurance Championship were some of the key projects supporting ORLEN brand recognition on foreign markets. The team finished first in the season, winning the champion title in the prototype class. PKN ORLEN is also present in many other motorsport disciplines. The colours of the 23-year-old ORLEN Team are worn by cross country, car racing, Formula 1 Powerboat Racing, aerobatics, motorcycle racing and powered paragliding competitors. The Company supports Poland’s only professional cross country rally team, whose members take part in the Dakar Rally, the most challenging rally in the world. In 2021, Jakub Przygoda, Maciej Giemza and Kamil Włodarczyk took part in its 44th edition, with Przygoda ranking 4th in the category. Błażej Marczyk won the titles of Individual World Speedway Vice-Champion and Individual Champion of Poland, Mikołaj ‘Mike’ Marczyk became 2nd Vice-Champion of Europe, Kacper Włodarczyk reached for the title of 2nd Vice-Champion of Poland in class 2 in the Polish Rally Championship and was ranked 6th in the general classification of the Championship, Bartłomiej Markowski finished the season in the 7th position in the Individual general classification of the FIM World Championship. In 2021, PKN ORLEN carried out a number of projects to promote road safety as part of the #GoodDriver campaign, which featured the participation of the ORLEN Team members. A picnic event was organised at the racing track in Medlin to support the communication of changes in traffic regulations. Also, an information campaign was run on PKN ORLEN’s social media channels, with Robert Kubica, Maja Warszawska, Kacper Włodarczyk and Bartłomiej Marczyk taking part. Workshops on improving safe driving skills were held for almost 700 people, including PKN ORLEN employees and inhabitants of Płock. Mikołaj ‘Mike’ Marczyk and Kacper Włodarczyk acted as ambassadors of the Christmas campaign ORLEN Team for the Children’s Memorial Health Institute. Throughout December, the child patients could try their hand at being rally drivers on two race car simulators set up in the hospital, and during the game they could also ‘compete’ against ORLEN Team drivers.

For years, PKN ORLEN has been a strategic sponsor of the Polish Olympic Committee and the Polish Olympic Team, providing long-term support in preparations for the most important sports event in the world. The 2020 Olympics were the 32nd edition of the Olympic Games and were held in Tokyo, Japan in 2021. Poland was represented by a team of 251, including 100 women and 150 men, who competed in 28 sports. The Polish Olympic Team won 14 Olympic medals in Tokyo; 4 golds, 5 silvers and 5 bronzes, reaching a high 10th position in the medal table. The top medal count was held by sportsmen competing in track and field, who won nine medals, of which five went to sportsmen from the ORLEN Sports Group. Athletics, led by Poles and dubbed ‘queen of sports’, is one of the leading sports supported by PKN ORLEN.

The ORLEN Group cooperates with the Polish Athletics Association, and the ORLEN Sports Group of individual athletes receiving financial support from PKN ORLEN included more than 30 title winners, of whom as many as 16 are track and field competitors.

In 2021, the European Para Athletics Championships were held for the first time ever in Poland. The event took place in Bydgoszcz and PKN ORLEN was its main sponsor. It is the fifth largest paralympic sporting event in the world in terms of the number of participants. About 1,300 athletes representing 40 countries competed in the Championships.

In 2021, the Polish athletics team had a lot of successes at major international sporting events, including ten medals at the European Athletics Indoor Championships in Turin, a podium medal at the European Athletics Team Championships in Chorzów, five medals, including two golds and three silvers, at the World Athletics Relays in Zagreb, and nine medals at the Olympic Games in Tokyo. The cooperation with the Polish Athletics Association also involved training of children and youth.

In the Athletics for Everyone programme, more than 16,000 young people were able to develop their sporting interests. Support was also extended to 16 Regional Athletics Associations. Furthermore, PKN ORLEN continued to partner with the Polish Paralympic Committee, supporting disabled athletes participating in sports competitions. In 2021, the 16th Summer Paralympics...
were held in Tokyo. 89 Polish athletes arrived in the capital of Japan. The Polish Paralympic Team won 25 medals, including 7 golds, 6 silvers and 12 bronzes, which ultimately placed them in the 17th position in the medal table. The ORLEN Foundation awarded 22 scholarships to medal winners of the Tokyo Paralympic Games as part of its Life to the Full programme.

For nearly a decade, PKN ORLEN has been committed to supporting Polish volleyball. It sponsors the Polish indoor and beach
volleyball national teams across all age categories and a volleyball training programme for the most talented youth, helping them succeed. In 2021, the most important test for the Polish men’s national team was participation in the Olympic Games in Tokyo, in which the team reached the quarterfinal. The Polish national team took the 3rd place in the European Men’s Championship and 2nd in the Men’s Nations League. The men’s Polish National Beach Volleyball Team took 3rd place in the European Championship and 1st place in the World Tour. The Polish men’s national volleyball team in the under 19 category achieved a great success, winning the gold medal at the world championship.

PKN ORLEN continued its cooperation with Long Team, organizing professional and amateur cycling races. In 2021, the ORLEN National Race was held – a competition for young cyclists sporting national colours – as well as the ORLEN Lang Team Race, including ORLEN Tour de Pologne Amateurs, consisting of three amateur cycling races.

An important part of the PKN ORLEN sports sponsorship strategy is an effective training system for children and youth, aimed at developing a pipeline of future champions. Together with the Polish Athletics Association, the Company implements the Athletics for Everyone programme. It has also partnered with the Polish Volleyball Federation to develop young volleyball talents in the framework of School Volleyball Centres, which have brought together about 10,000 children and youth. PKN ORLEN supports young kart racers competing in Poland and Europe, of whom two trained in the Sauber Karting Academy powered by ORLEN. In addition, the Company is involved in the School Sports Club (SŚS) programme initiated by the Ministry of Sport and Tourism, re-established in Polish schools after years of absence. PKN ORLEN supported projects aimed at encouraging young people to practise sport by organizing sports competitions or sports activities combined with fun. It was involved, among other things, in organizing the finals of the TrackField Thursdays, with nearly 2,000 children from all over Poland competing in various sports, as well as in the Hoop Street and From Backyard to a Running Track projects, in which a total of about 3,000 children took part. In 2021, PKN ORLEN became the main partner of the Museum of Sports and Tourism in Warsaw. As part of the cooperation, a motor sports zone was created at the museum, displaying, among other things, the motorcycle of the speedway world champion Bartosz Zmijewski and the racing outfits of Robert Kubica, Jakub Przygoński and Bartłomiej Marczak, the ORLEN Team members.

PKN ORLEN also supports professional sports in Poland. As a strategic sponsor of the ORLEN Wisła Płock handball team and the Wisła Płock football team, the sponsorship of these teams is not merely a business decision – it is a CSR project created together with the Płock community. PKN ORLEN remains the General Sponsor of the ORLEN Wisła Płock handball team for the 2021/2024 season and the Strategic Sponsor of the Wisła Płock football team for 2021/2022. PKN ORLEN’s support for the handball and football teams is a manifestation of the Company’s commitment to the matters of Płock and the region as well as its understanding of the local community’s needs.

The Energa Group, which has been part of the ORLEN Group since 2020, has been involved in supporting professional and amateur sports for years.

The Energy Team sports and education project was continued again in 2021, encouraging children and young people to exercise regularly. The cooperation involving sponsorship of the Polish Amp Football team was carried on and evolved into the support of the European Amplified Football Championship held in Kraków.

Support was also offered to sport academies, e.g. Benamínek Kreza Football Academy, Gryf Słupsk Football Academy, and Gdynia Basketball Academy. The Energa Group provided support to Blozów Team Sports Club in the organization of the 5th Wrestling Gala and the 1st Maciej Płażyński Wrestling Memorial in Pelplin. It also contributed funds to the construction of a sailing zone at the Łeba Marina, which is accessible for children with disabilities.

PKN ORLEN builds its brand recognition through sports not only in Poland but also abroad: in the Czech Republic, handball in Germany, and a basketball club in Lithuania.

As a national giant, PKN ORLEN also supports initiatives designed to protect Polish national heritage.

In 2021, it continued cooperation with the Grand Theatre – National Opera and the Fryderyk Chopin Institute. PKN ORLEN was a patron of the 18th International Chopin Piano Competition, which has been the pride of Poland for almost a hundred years, evoking positive associations with the country and effectively promoting Polish culture. Its last year edition enjoyed the greatest popularity so far, with a record high number of pianists from around the world participating and the concert broadcasts being followed by millions of music lovers from all corners of the world. Six prizes were awarded, including to Jakub Kurzak, a Polish pianist who won the 4th prize ex aequo. The winner of the competition was Bruce (Kaiyoo) Liu of Canada. Also in 2021, the ORLEN Foundation supported the Fryderyk Chopin Institute in purchasing priceless letters written by the composer to George Sand and Therese Schumann. Support was also provided to a historic building complex in Frombork, which will use the donations to renovate and restore part of its cathedral complex. Additionally, the infrastructure will be adapted for people with disabilities.

PKN ORLEN once again provided assistance to the Ludwig van Beethoven Easter Festival and the Eufanie International Music Festival of Central and Eastern Europe. PKN ORLEN was also a partner of the 50th Anniversary of the Reconstruction of the Royal Castle in Warsaw and took part in a socio-cultural event in the Beskids in Warsaw exhibition, the biggest temporary exhibition of Zdzisław Beksiński’s paintings that has ever been displayed. PKN ORLEN is a strategic partner of Poland’s participation in the World Expo 2020 Dubai. The event promotes the economic, cultural and scientific achievements of individual countries and brings together close to 200 countries and international organizations. The Company was also a patron of the Chopin at Expo 2020 Dubai project with daily piano recitals held in the Polish Pavilion. Moreover, thanks to the support of PKN ORLEN, an
November 11th a concert to celebrate the Polish Independence Day was given in the Dubai Millennium Amphitheatre by Martín García García, one of the winners of the 10th International Chopin Piano Competition, who performed together with the National Philharmonic Orchestra.

PKN ORLEN was the Main Partner of the 12th Film Festival ‘The Rebellious, the Invincible, the Cursed’, which screens Polish history-themed audiovisual works, bringing together cultural institutions and film, music, and fine artists.

PKN ORLEN was once again involved in the HeroesON – Switch on History project, as a sponsor of its 5th edition. The goals of the campaign were to commemorate and honour the participants of the Warsaw Uprising and to promote the 20th-century history of Poland. The ORLEN Foundation received the Silver HeroesON award in the non-profit organisation category in recognition of its efforts, including the ‘We keep watch! We remember!’ project, supporting revitalisation of memorial sites. To date, 60 burial sites and places of death of national heroes have been renovated as part of its three editions. Furthermore, PKN ORLEN supported the Protective Kit for Insurgents campaign, where a total of 1,400 packages with coronavirus protection products, containing sanitisers, masks, and gloves, were distributed to senior citizens who had fought in the Warsaw Uprising. The funds donated by the ORLEN Foundation were used to provide them with hot meals, psychological assistance, and medical visits at home.

With PKN ORLEN’s support, a concert The Miracle of Life by Andrea Bocelli was held in Warsaw. The official premiere broadcast on TVP1 had three million viewers. PKN ORLEN was also a sponsor of one of the concerts in the ‘The Most Beautiful of All’ series, featuring hits of a popular Polish singer Krystyna Krawczyk, and supported the organisation of an open-air concert commemorating the 82nd anniversary of the outbreak of World War II, held in front of the World War II Museum in Gdańsk. In 2021, PKN ORLEN sponsored a documentary about Sister Mother Róża Czacka who founded the Congregation of Franciscan Sisters and established the Centre for the Blind Children in Laski.

At the Energia Group, major activities aimed at the protection of national heritage and promotion of patriotic attitudes included financial support for the 80th anniversary of the World War II Museum in Gdańsk entitled Musical Performance on the Anniversary of the Outbreak of World War II. As part of its cultural promotion efforts, the Energia Group continued its cooperation with the Polish Baltic Philharmonic, organised the EnergiaCamerimage Festival, and supported various projects such as the Gdańsk Music Festival, Festival of Farmers’ Wives’ Associations, or a charity concert for Ostrów County community, entitled ‘An Evening for the Soul’.

Rescue organisations which save the lives and health of the Poles on a daily basis are an extremely important focus area for community sponsorships. For many years, PKN ORLEN has been supporting the activities of the Volunteer Mountain Rescue Service, Volunteer Mountain Rescue Service in Płock and Legionowo, to name just a few.

For more information on the ORLEN Group’s ongoing activities in the area of sponsorship of sports, culture and social projects, see the ORLEN Group Sponsorship Report for 2021.

Involvement with local communities

In 2021, the Company actively collaborated with local communities, particularly in Płock and its other business locations. 28 projects were completed in 2021 under the ORLEN for Płock programme, which has been in place for many years now. The Company’s cooperation with the Polish Water Volunteer Rescue Service (WOPR) continued. A lifeguard maintained a bathing spot on Lake Górska near Płock was organised for the first time. It was used by nearly 40,000 people during the summer holidays. Free swimming lessons for children from grades 4 to 8 and adults aged 40+ were organised for the sixth time and attended by 100 residents of Płock. PKN ORLEN has been a sponsor of the Płock Sports Club’s Volleyball Section, supporting the players at both youth (about 50 girls and 20 boys) and senior (9 players) team level. Training activity of the Club helped to promote sports, particularly volleyball, among young and adult residents of Płock.

PKN ORLEN became a sponsor of the Hetman Płock Chess Club, offering top-class training and development conditions for all age groups, i.e. children, youth, junior, and adult players. 24 adults and 32 younger players have participated in the project. In 2021, adult players scored a very good sixth place in the Polish Team Championships of Chess Extra League. PKN ORLEN was the main sponsor of the Ryk展ski Ultra Trail 2021 sports competition held in the Gdaski-Wrzesławski Landscape Park in Łack near Płock. The running routes over different distances were prepared: 36 km (Sępólno Brdy), 72 km (Racza Łąka) and 108 km (Rogacz). 536 runners from all over Poland participated in the event. PKN ORLEN sponsored the Children and Youth Show Jumping Championships organised at the Łack Stud Farm near Płock, with 70 competitors from all around Poland. In the theatre season autumn 2021/spring 2022, PKN ORLEN gave its patronage to Płock Dramatic Theatre. The theatre has over 65,000 viewers per year and stages, on average, 8 premieres each season. They include some of the best Polish and world classics, contemporary drama, farces, and comedies, as well as fairy tales for children. Performances are complemented by a range of accompanying events, such as exhibitions, discussions, workshops, meetings, and theatre lessons combined with a tour around the theatre. PKN ORLEN supported the celebration of the 41st anniversary of the formation of the NSZZ Solidarność trade union in the Płock region. The Company became a patron of the permanent exhibition He Taught Us Freedom, John Paul II in Płock in the Płock Diocesan Museum and sponsored a concert in celebration of the 200th anniversary of the Mazovian Museum in Płock.

In 2021, 250,000 LED lights illuminated the Tumskie Hill as part of the Gardens of Light event organised in Płock for the fifth time. The illumination took the visitors to a fabulous world of colourful animals and glowing trees.
Two health promotion meetings were held in 2021 for members of Farmers' Wives Associations in two municipalities of the County of Płock: Wyszogród and Łąck. They were a continuation of a project initiated in 2019 to support the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases for Residents of the City and County of Płock. This year's edition focused on rural areas. The meetings included live lectures on broadly understood prevention of cancers and respiratory diseases and offered access to basic medical tests and advice at four medical diagnostics facilities. There was also a herbal stall and an information desk of the Płock branch of the National Health Fund (NFZ), providing information on rehabilitation stays for people suffering from persistent effects of COVID-19. The NFZ information desk issued European Social Security Cards (EHIC). Communication with the local community in and around Płock was ensured, inter alia, by an online platform Free Information System for residents of the Płock region ORLENinfo. The system was used by the Company to send text messages and emails about, among other things, sports and cultural events, safety system tests, maintenance shutdowns, operation of the stop-smoking assistance point and medical offices organized under the Comprehensive Programme for the Prevention, Diagnostics and Treatment of Cancers and Respiratory System Diseases, and ORLEN Foundation's assistance programmes. Due to the pandemic restrictions, the number of communications was comparable to that of the previous year, but lower than in 2019. In 2021, 53 text messages were sent out to more than 1,000 (1,070) system users. In order to encourage other ORLEN Group companies to strengthen their direct relationships with external stakeholders, an online meeting was organized with their representatives to present the text message and email-based Free Information System for residents of the Płock region. During the meeting, persons tasked with communication and CSR at Group companies learned about the benefits offered by the use of such communication platform and how it could be developed within the Group, taking into account the needs and specific nature of each company. They received a full package of information on the technical rules for joining the system.

PKN ORLEN continued its cooperation with the Płock City Bike system by equipping it with additional 250 bicycles at 25 bike rental points.
Environment

Environmental protection is a key element of our CSR strategy. The main objectives pursued in the Environment area include mitigating our environmental impacts, protecting biodiversity, and raising environmental awareness.

The ORLEN Group is aware of the objectives and challenges associated with the impact of its operations on climate change. It strives to develop its business based on innovative low-carbon technologies and products, in accordance with the principles of circular economy.

We pursue this objective by investing in best available techniques (BAT) in environmental protection and minimising the environmental footprint of our production, storage and distribution processes.

Since 1999, PKN ORLEN has been involved in efforts to restore the peregrine falcon population in Poland, in partnership with the SOKÓŁ (FALCON) Wildlife Protection Association. This predatory bird is listed in the Polish Red List of Threatened Species as CR (critically endangered) species. The first hatch of peregrine falcon chicks was documented in May 2002. By the end of 2021, over a period of 19 years, peregrine falcons already hatched 54 chicks and fostered 4 in the nesting box on the FGD stack at PKN ORLEN’s production plant in Płock. Ornithologists working with the Company point out that the great effort of many companies, institutions and individuals led to the restoration of the peregrine falcon species in Poland.

In 2021, PKN ORLEN launched a project to restore the population of Kampinos Forest bee. ORLEN recognises the problem of disappearance of bees and actively engages in their protection. The Company’s employees are involved in a project aimed at educating residents of Płock and the surrounding rural areas about the importance of bees for humans, and at introducing new bee colonies to enrich the natural environment. To this end, apiaries have been set up in the vicinity of the PKN ORLEN production plant in Płock, where bees are bred. Since 2021, they have included the Kampinos Forest bee threatened with extinction in Poland. It is a Central European breed line. The species has been included in the Genetic Resources Conservation Programme since the 1970s. Płock is one of only three places in Poland where a conservation colony is being established. The initiative was made possible by our cooperation with the Zootechnical Institute of Balice near Kraków and the Breeding Apiary in Parzniew, which are responsible for the Genetic Resources Conservation Programme. Beekeeping equipment was purchased as part of the project, and an apiary workshop was set up in the MODR building in Płock.

In 2020, the first flower meadow (750 m²) was sown on the premises of the ORLEN service station at 7 Chemików Street in Płock. In May 2021, this initiative was continued: another meadow (1350 m²) was planted in cooperation with the Meadow Foundation on the premises of the Primary School in Maszewa Dąb near Płock, thus supporting biodiversity. Also in May 2021, a Sow a Meadow with Us campaign for ORLEN Group employees was implemented on the premises of the Płock production plant (Długa Street), with an accompanying workshop conducted by the Meadow Foundation. The participants learned why meadows should replace lawns, where to sow meadows, and how to prepare the land, and what plants to choose to start a meadow. Then the participants proceeded to sowing a meadow (1350 m²). Finally, every participant received a packet of seeds as an encouragement to use the knowledge gained at the workshop and plant a meadow in their neighbourhood. The Sow a Meadow with Us campaign and further meadow projects were conducted as part of a larger initiative: Beaming Service Station, carried out by the Meadow Foundation and financed by the ORLEN Foundation, with the support of the Environmental Protection Office of PKN ORLEN.

Other ORLEN Group companies, including the Energa Group, ANWIL and ORLEN Unipetrol, also engage in numerous environmental initiatives, including fish stocking of rivers, cleaning of waterfront areas, setting up apiaries on the premises of production plants, and protecting peregrine falcons. From September to November 2021, the ORLEN Foundation ran the Energy Planet programme, a continuation of an educational project launched in 2010 by Energa S.A. to promote pro-environmental attitudes among the participants. The programme was organised in the form of a mobile learning zone, which visited 50 towns in Poland and was attended by over 30,000 people.

For more information on the environmental protection efforts of the ORLEN Group, see 'Biodiversity protection'.
Employees

The main objectives in the employees area are to create a safe work environment, ensure fair working conditions, tackle inequalities, foster employee development, and help employees to successfully balance their personal, career, and social goals.

PKN ORLEN consistently implements its human resources management policy, which sets out the priorities and key tasks defined by reference to best market practices, reflecting market challenges and trends in human capital development. The policy defines activities in such areas as reinforcement of the Group's corporate culture, segmentation-based management, employee development, compensation and employee benefits, employer branding, and performance management, to name just some.

The main objectives pursued in the Employees area are to create a safe work environment, ensure fair working conditions, tackle inequalities, foster employee development, and help employees to successfully balance their personal, career and social goals.

The most important initiatives implemented in 2021 included activities aimed at building the image of an attractive employer, including expansion of the ongoing trainee programmes, implementation of an ambassador programme, social media presence and building partnerships with the academic community.

In recognition of its best practices in HR solutions and processes, for a decade PKN ORLEN has been awarded the TOP Employer certificate, placing it among the best employers in the country.

PKN ORLEN is committed to offering employment opportunities to people with disabilities. In 2021, PKN ORLEN and a few other ORLEN Group companies continued to participate in the Work – Integration programme of the State Fund for Rehabilitation of Persons with Disabilities (PFRON), whose aim was to employ people with disabilities. The ORLEN Group companies joined the programme in 2019, while recruitment of employees (people with disabilities) was conducted in 2020 and 2021. What is more, PKN ORLEN deem it necessary to raise the awareness of its employees around disabilities, and to this end it organises special information and consultation meetings. Consisting of regular training sessions and one-on-one consultations on disability-related issues, the programme is intended for all PKN ORLEN employees. Its purpose is to raise employee awareness of disability-related issues and to build the image of PKN ORLEN as an inclusive employer, providing equal opportunities to all employees, in keeping with its core values and standards of conduct. Six meetings were held in 2021, including workshops and one-on-one meetings (the meetings were mostly conducted online due to the ongoing pandemic).

PKN ORLEN’s activities targeting people with disabilities were noticed and appreciated. In 2021, PKN ORLEN was awarded the Employer with Heart title. The title is awarded by a panel of five representatives of disability confident employers to honour businesses and public entities for their outstanding achievements, proactive attitude and selfless service to people with disabilities. PKN ORLEN was distinguished for its activities following an assessment of its commitment to corporate social responsibility and raising awareness of the mutual benefits of hiring people with disabilities. The aim of the campaign is to break stereotypes and social barriers created by discrimination against people with disabilities and artificial divisions in society, and to improve job opportunities for the disabled.

PKN ORLEN attaches great importance to promoting the experts employed at the company – in 2021 we continued the first edition of the Employer’s Brand Ambassador programme to reinforce our image as an attractive employer, which included communicating PKN ORLEN’s strengths as an employer and building personal employee brands to show the people who form the ORLEN Group. This is an image building programme implemented through an internal and external campaign, involving a group of professionals and young talent. In collaboration with the Warsaw University of Technology, the Ambassadors served as mentors for engineering students. Recruitment for the second edition of the Ambassador programme was conducted in 2021, with new professional Ambassadors to start their service in 2022.

The ORLEN Group believes in social dialogue based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules. The rules of social dialogue are founded on internal regulations and generally applicable laws, which facilitates development of constructive and lasting solutions in partnership with employee representatives.

In 2021, a European Works Council was formed at the ORLEN Group. The Council is another form of collective dialogue, in this case at the European level, as continued growth of the ORLEN Group enables establishment of mechanisms that engage employees in broad collective efforts not only at the national but also at the international level. The ORLEN Group offers employee benefits, which include co-financing of employee holidays or sanatorium treatment, childcare, holidays for children and teenagers, and school starter kits. Also, employees’ children receive Christmas gifts. The employer provides financial support for families with low incomes. Employees may also apply for partial financing of sports and recreational activities, cultural and educational activities, physical therapy treatments for children with disabilities as well as non-repayable allowances and repayable housing loans. PKN ORLEN offers a uniform employee benefits package to employees of all ORLEN Group companies participating in the joint social benefits programme. Any ORLEN Group employee who is in a difficult life situation may also apply to the ORLEN Foundation for financial assistance. The non-refundable financial support may be awarded for instance for medical treatment and rehabilitation of an employee or an employee’s child or spouse. ORLEN Foundation also offers the possibility of collecting donations in the form of 1% of taxpayer’s income tax without any additional fees.
As a company implementing modern-day solutions aimed at keeping the balance between work and family life, PKN ORLEN runs the Family-Friendly Employer programme, offering such benefits as additional two days off to care for a child under three years of age, two days off to care for a disabled child under 24 years of age, a nursery school for children of employees, one additional hour for breastfeeding, medical care during pregnancy, baby feeding rooms, gifts for newborn babies, and providing employees on parental childcare leaves with up-to-date information on developments across the Group. Many of the components of this programme have also been implemented by other ORLEN Group companies as part of best practice sharing.

PKN ORLEN also provides extensive medical care going beyond the scope of occupational medicine. Medical plans and preventive healthcare programmes are run in cooperation with Centrum Medycyny Medica Sp. z o.o. of Płock and the Military Institute of Medicine at Warsaw Military University project to investigate health impacts of the work environment. A uniform standard for medical plans is in place across the ORLEN Group.

In response to the epidemic situation in Poland, the following initiatives were implemented:
- COVID-19 vaccination campaign for ORLEN Group employees in all regions of Poland
- SARS-CoV-2 antibody testing in Płock, Warsaw and Włocławek

Disease prevention efforts included webinars for employees on healthy lifestyles. The Blood Donors Club at PKN ORLEN organised convalescent blood and plasma collections. The campaigns were carried out in mobile ambulances at the Company’s locations in Płock, Warsaw and Tczew. PKN ORLEN supports the mental health of its employees by offering workplace counselling. The support is provided by the Occupational Psychology Centre, which is part of the company structures and is tasked with providing support and psychological assistance to employees and their immediate family members who are in personal or professional distress. Caring for the mental health of employees is important for the organisation as well as the employee, as it affects employee performance and, most importantly, employee well-being. In 2021, PKN ORLEN was the main partner of a campaign organised by Employers of Poland, ‘Understand, Feel, Act’, which aims to raise awareness among employers of the need to support employees in their struggle with mental problems.

For more information, see ‘Employee-related issues and respect for human rights’. In 2021, the ORLEN Foundation continued its employee volunteering programme. Employees completed more than 100 campaigns and volunteered a total of more than 14,000 hours. Volunteers delivered meals and shopped for groceries for seniors, prepared gift packages for nursing home residents, and offered assistance at an animal shelter. To celebrate the 20th anniversary of the Foundation, volunteers planted over 20,000 trees in three days in the Łąck Forest District near Płock. The Foundation also held the second edition of the Volunteering Week under the slogan Good Strength (Dobre Siłę). It was meant to inspire people to act and, most importantly, delivered a few environmental and animal protection projects. A video of the event, with the invited volunteers, was made and can be watched on PKN ORLEN’s YouTube channel.

For more information on employee matters, see ‘Responsible employer’.

Clients

The main objectives pursued within the Customers area are to ensure health and safety, respond to customer expectations, improve accessibility and inspire responsibility.

GRI Disclosures

497-1

PKN ORLEN actively engages in a number of initiatives aimed at improving road safety. In 2021, the third edition of the #GoodDriver public awareness campaign was held to promote the rules of road safety, safe driving and good driving habits: never drink and drive, give way to people approaching pedestrian crossings, keep children safe in the car, and never exceed the speed limit. Robert Kubica and leading Orlen Team athletes promoted observance of these rules. The Company is actively pursuing its efforts to improve road safety also by supporting rescue services. For example, it runs a loyalty scheme for volunteer firefighters registered in the National Firefighting and Rescue System, who can buy fuel at ORLEN service stations at discounted prices. In 2021, 3,797 BIZNESTANK loyalty cards were issued, enabling the purchase of 21.4 million litres of fuel. A total of 107.8 thousand BIZNESTANK loyalty scheme cards have been issued since the partnership was forged in 2018.

At the beginning of 2020, a partnership was also initiated with the Territorial Defence Force, under which soldiers volunteering were offered loyalty cards entitling them to fuel discounts at PKN ORLEN service stations. The Territorial Defence Force (WOT) is a separate type of Poland’s armed forces, established at the beginning of 2017. Today, WOT counts nearly 25,000 soldiers, building its potential on volunteer service. As training takes place mainly on days off work, WOT soldiers are able to maintain a healthy balance between family and professional life. The mission of WOT is to defend and support local communities in times of peace. WOT forces engage in, among other activities, preventing and combating the effects of natural disasters, and carrying out emergency rescue missions. During the COVID-19 epidemic, the Territorial Defence Force changed its mode of operation, moving from training to crisis prevention. The discount card scheme was launched on May 1st 2020, with a total of 32,000 cards issued by the end of 2021 and 5 million litres of fuel purchased by WOT soldiers using the cards in 2021. A social campaign Thank You
was initiated in late 2021 for uniformed services deployed on the Polish-Belarusian border, with coffee and rest areas suited to soldiers’ needs set up as part of the project. The campaign aims to promote patriotic behaviours and honour the uniformed men and women who risk their lives to keep us safe on a daily basis.

PKN ORLEN takes steps to actively involve its customers in activities for social causes. VITAY programme participants are offered an opportunity to donate their points to charity. The points are converted into amounts in the zloty and every six months the donation is transferred to the ORLEN Foundation to be spent for designated purposes. The charity-related VITAY programme rewards include support for children under the care of foster family group homes, environmental protection activities and animal shelters.

Development of the product and service portfolio and facilities for customers

For more information, see ‘Clients’.

Business partners

The main objectives pursued in the Business Partners area are to inspire responsibility, engage in and foster successful business partnerships, and promote responsible attitudes.

In 2021, PKN ORLEN opened its own Research and Development Centre in Płock, built under the Petrochemical Development Programme. Worth around PLN 184m, the project is in line with the ORLEN 2030 business strategy objectives of increasing investment in research, development and innovation. For PKN ORLEN, the Centre will also act as a state-of-the-art platform for collaboration between PKN ORLEN and start-ups, inventors, institutes, and universities. PKN ORLEN’s partner network already includes all technical universities in Poland operating in the fields of interest to the Company, for example Warsaw University of Technology and its Płock branch, Gdańsk University of Technology, Warsaw University, Research Institutes and Institutes of the Łukasiewicz Research Network.

Another vital objective of the project is to promote science and education. The educational trail located on the Centre premises focuses on science and the ORLEN Group’s operations. There are plans to engage students and young researchers in the implementation of research projects, giving them an opportunity to gain experience and acquire new competencies. In mid-2021, the ORLEN Skylight Accelerator programme was launched. It is addressed to young technology companies from all over the world that offer innovative solutions ready for pilot implementation, scaling or commercialisation as part of PKN ORLEN’s strategic goals. The programme will help acquire new technologies that will be scaled and implemented in partnership with Poland’s largest agency promoting scientific and technology projects and innovation-driven countries. All innovation and development tools allow for quick testing and implementation across various business segments of PKN ORLEN with most of them used in the course of collaboration with top Polish universities and scientists that support delivery of the ORLEN Group’s strategic goals.

The following R&D projects are being implemented in collaboration with Polish scientists:

Collaborative partnerships with scientific and research institutions and startups

In 2021, PKN ORLEN increased the availability of ORLEN IN YOUR PORTFOLIO, the first long-term programme for retail investors in Poland. Its purpose is to broaden the knowledge of retail investors about the capital market and safe investing. In 2021, participation in the programme increased by 4,000, to over 13,800 participants, and over 220,000 people used the educational section of the orlenwportfelu.pl website. The key activities implemented under the programme in 2021 included the third edition of the Investing Academy exams and completion of the second and commencement of the third Investing in Practice series. Most of the meetings and events were held online due to the pandemic. Under the programme, PKN ORLEN collaborates with six brokerages, which operate 60% of all individual investment accounts in Poland.

In May 2021, PKN ORLEN opened its own Research and Development Centre in Płock, built under the Petrochemical Development Programme. Worth around PLN 184m, the project is in line with the ORLEN 2030 business strategy objectives of increasing investment in research, development and innovation. For PKN ORLEN, the Centre will also act as a state-of-the-art platform for collaboration between PKN ORLEN and start-ups, inventors, institutes, and universities. PKN ORLEN’s partner network already includes all technical universities in Poland operating in the fields of interest to the Company, for example Warsaw University of Technology and its Płock branch, Gdańsk University of Technology, Warsaw University, Research Institutes and Institutes of the Łukasiewicz Research Network.

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The following R&D projects are being implemented in collaboration with Polish scientists:
PTA hydrogenation catalyst
The first offline demo unit was launched at the PTA (terephthalic acid) Plant in Włocławek, enabling innovative solutions to move from the experimental phase straight to testing in a real-like industrial environment before their full-scale implementation at a production plant. The challenge allows employees to participate in the work to develop Poland’s first catalyst formulation. Implementation-based doctoral programmes are run in the area of catalysis.

State-of-the-art corrosion monitoring system Kormon
The world’s first innovative dual sensor system enabling simultaneous assessment of the corrosion rate and susceptibility to hydrogen embrittlement and cracking through continuous hydrogen concentration monitoring.

Implementation-based doctoral programmes are run in the area of corrosion.

Circular Economy Programme
Plastics Recycling
The option to use the innovative HydroPRTSM technology in implementing plastics chemical recycling projects is being analysed. The raw materials obtained in the process would be used to make petrochemical and refining products. An implementation-based doctoral programmes are run in the area of plastic recycling.

NEON (New Orlen)
Joint venture
PKN Orlen and the National Centre for Research and Development will allocate PLN 200m under a grant programme for innovative research and development projects in the areas of biomass use, decarbonisation, circular economy and Industry 4.0. The programme is open to scientific institutions, businesses and their consortia. The best project deliverables will be applied by the Group in its operations to support its sustainable development. The first competitions will be announced by the end of 2022.

Digital Transformation Programme
A Digital Transformation Programme was launched at the ORLEN Group, with an objective of promoting solutions based on emerging technologies across the organisation and supporting projects showing the greatest economic and environmental potential. How digital solutions are supporting decarbonisation is discussed in PKN Orlen’s expert report of December 2021 entitled ‘No decarbonisation without digitalisation. Sustainability needs digital technology’. The report is the 14th in a series of publications entitled ‘Powering the future’, which serves PKN Orlen, as the largest company in Central and Eastern Europe, to initiate a debate on relevant business, economic and social topics.

Inspiring responsibility
One of the priorities of the ORLEN Group’s CSR strategy across all areas—Society, Environment, Employees, Customers, and Business Partners—is to inspire a sense of responsibility by sharing best practices. In 2021 PKN Orlen presented its activities in reports drawn up by its parties, at national conferences, such as the Development Vision Forum and the Economic Forum in Karpacz and during stakeholder meetings. PKN Orlen and its stakeholders advocated for various CSR and sustainability initiatives in 2021.

- with PKN Orlen’s experts actively participating in Circular Week 2021, a series of events promoting sustainable and circular solutions. Circular Week seeks to promote the idea of a circular economy, support sustainable business models and establish partnerships between stakeholders. The fourth edition of Circular Week was held between October 11th and October 17th, bringing together over 3,000 participants from all over Europe. The event featured 50 expert panels, training sessions, meetings and webinars that presented solutions to key circular economy challenges: extended producer responsibility, food waste prevention, advancement of bioeconomy, challenges facing the fashion industry, and the future of recycled materials.
- An important incentive to act responsibly is education through play. In 2021 3,000 copies of the educational family game Treasure Hunt were produced. The game acquaints players with PKN Orlen’s pre-environmental initiatives and encourages pro-environmental behaviour. The winners receive wildflower seeds they can sow in their home gardens. Pop-up elements are an interesting addition to the game, with a PKN Orlen service station equipped with rooftop photovoltaic batteries, wind farm, electric vehicle charging station and green landscape elements rendered as 3D shapes. The board also highlights the biodiversity of the area near the Plack production plant, including the endangered species PKN Orlen helps to protect (the peregrine falcon and the local honey bee species).
- Tree for a Bottle—a waste collection event was held in Plack and Warsaw from September 21st to September 24th, where employees could drop off certain types of waste, like used batteries, expired drugs and electronic waste, in exchange for a tree seedling as the symbol of the campaign, carried out under the Responsible Care Programme. The report is the 14th in a series of publications entitled ‘Powering the future’, which serves PKN Orlen, as the largest company in Central and Eastern Europe, to initiate a debate on relevant business, economic and social topics.

- Orlen Foundation Volunteering Week—was held from June 14th to June 20th and comprised various environmental and animal protection initiatives, including a wildflower planting event, a riverbank cleanup, etc. The event provided a platform for sharing inspiration and experiences in employee volunteering. Volunteers invited to the studio talked about the ongoing and planned initiatives. The material is available on PKN Orlen’s YouTube channel.
- Mr Carp Restocks the Vistula—a competition held with a slogan ‘The Flowing, Windy Vistula’. The competition is intended for preschool and schoolchildren in three age groups, living in towns on the Vistula river (ANWIL SA).
- Safed on the Way Home—a meeting devoted to road safety was held with children in Municipal Kindergarten No 10 in Plack in late September and early October of 2021. The project was carried out by ORLEN Serwis.
- A library for ORLEN Centrum Usług Koperacyjnych employees—an employee library opened at ORLEN Centrum Usług Koperacyjnych at the end of September 2020. It has been made as a simple book exchange, which is a perfect solution for those who want to swap books they have read for books they want to read. The programme was continued in 2021.
- In 2021 in partnership with the Municipal Police Headquarters in Plack and using the government innovation programme GovTech Poland, we commenced work on the pilot nationwide educational platform Safe Future on the Road, which will contribute to changing the attitudes of young driving test candidates from Plack and its neighbouring areas to safe driving and the knowledge of traffic rules. The project will enable future drivers to enhance their knowledge of safe driving rules, change negative attitudes and behaviours on the road and, ultimately, contribute to improving road safety.

Responsible supply chain
For more information, see ‘Suppliers’.
Activities under the Charitable Giving Policy

In accordance with its Charitable Giving Policy, in 2021 PKN ORLEN implemented and supported initiatives aligned with the four priorities set out in the document: ORLEN for the environment, ORLEN for society, ORLEN for safety and health, ORLEN for sports, education and culture.

GRI Disclosures:

GRI 415-1

The Charitable Giving Policy is an important part of corporate social responsibility, as it too supporting the Company in its role as a responsible corporate citizen and employer, member of the local community, and good neighbor. The ORLEN Group not only initiates and carries out charity activities, but also participates in such initiatives as a partner.

The ORLEN Foundation, established in 2001 to fulfill the social responsibility mission of its founder, PKN ORLEN, plays an important role in pursuing these objectives. Since its inception, the Foundation has provided comprehensive assistance to faster group homes by funding scholarship trips during summer and winter holidays, additional education and rehabilitation care for children, covering the cost of dwelling repairs or redecorations, or financing fuel cards. At the moment the Foundation provides assistance to the charges of more than 300 such homes. The Foundation runs numerous scholarship programmes, both for children of ORLEN Group employees and for students from Poland and the surrounding area. The aim of such programmes is to help young people in their education and pursuit of their passions, improve their motivation, and also encourage their social involvement, e.g., through volunteer work. In 2021, the Foundation ran the fourth edition of the BONA RIDE scholarship programme together with partners: J.K. Steczkowski BGK Foundation, Energa Foundation, LOTOS Foundation and Halina Kanazawa LOTTO Foundation. Under the programme, the Foundation supports second- and third-degree students at a foreign university ranked among the world's top 50 academic institutions (the Shanghai List). The Foundation's mission is to support world-class development and education of students who wish to become the future leaders in various sectors of the economy or public administration. In 2021, the ORLEN Foundation continued four grant programmes. In addition to the two decades old ORLEN for Firefighters, there were two programmes launched in 2018: My Place on Earth, which encourages local communities to make a difference for the better in their immediate surroundings, and We keep watch! We remember! In which foundations, associations or local institutions commemorate national heroes, restoring memorial sites dedicated to often forgotten heroes of local fights for Poland's independence. Launched in 2020, the Health for Poles grant programme, addressed to non-governmental and local government organisations active in Poland and the neighboring Counties of Płock, Sierpc and Gostynin, was continued in 2021. The organisations may receive grants of up to PLN 20,000 for disease prevention project. In the fourth edition of the ORLEN Foundation's programme My Place on Earth grants to fund the proposed projects, ranging from PLN 5,000 to PLN 20,000, went to various common interest societies, farmers’ wives associations, schools, libraries, sports clubs, parishes and other beneficiaries. The initiatives for the benefit of local communities were evaluated by independent experts. In 2021, the Foundation financed 185 projects. For 20 years, PKN ORLEN and the ORLEN Foundation have supported the State Fire Service and voluntary fire brigades. In 2021, 267 units received financial support totalling PLN 2m, which they used to purchase necessary equipment. Thanks to regular support from the ORLEN Foundation, over the last two decades fire brigades have been equipped with the necessary equipment to fight fires and respond to natural disasters, as well as equipment used in medical, technical, medical, chemical, environmental and rescue operations. The ORLEN Foundation also runs local community education initiatives.

As part of these efforts, it launched the first edition of the ORLEN Foundation Academy, a series of workshops intended for beneficiaries of the ORLEN Foundation's grant programmes. The series included 12 online workshops designed to improve the competencies necessary for an organisation in a professional way. Representatives of more than 80 organisations received training as part of the first edition of the project. The Foundation also created an educational board game Trial by Fire, which is intended for members of Youth Fire Brigades working with Volunteer Fire Brigades. The project seeks to reinforce the young people’s firefighting skills, their ability to cope well under the pressure of time and their ability to cooperate and compete. More than 40 copies of the game were donated to Volunteer Fire Brigades in 2021. The programme will be continued in 2022. The Foundation rolled out its employee volunteering programme in 2021. The ORLEN Group's seventeen-year history of corporate volunteering shows growing interest in social activism. ORLEN Group employees who submit a volunteering idea may receive a PLN 3,000 grant and a day off work to pursue their project. The employee volunteering programme includes initiatives like Volunteering Week and the Volunteering Project of the Year competition, which was postponed until 2022. Furthermore, the ORLEN Foundation pursues its statutory objectives by granting donations to other entities in 2021, it provided in-kind and financial support to entities responsible for combating the pandemic. The support was addressed in particular to medical services, hospitals and uniformed services tasked with saving the life and health of infected people, as well as to the staff and charges of nursing homes. The CSR initiatives of PKN ORLEN and the ORLEN Foundation also engage the ORLEN Group also operates other corporate foundations – the ANWIL Foundation, Energa Foundation and Unipetrol Foundation.

No donations were made to political parties, politicians or similar institutions in 2021. In line with its Charitable Giving Policy, PKN ORLEN will not review requests for donations from trade unions, employers’ organisations, professional self-governments, sports clubs operating as companies under commercial law, as well as political parties and their foundations or associations.
Established in 2014 the ANWIL Foundation supports projects aimed at raising the level of education of the Włocławek residents, countering social and economic exclusion, improving the condition of the natural environment, preserving the historical heritage, as well as protecting and promoting health. Over the past seven years, the Foundation has allocated over PLN 8.5 m to its statutory activities. With these funds, 593 projects were implemented by the beneficiaries (schools, kindergartens, universities, NGOs, farmers’ wives associations, volunteer fire brigades, and other public benefit organisations). As part of the ANWIL Helps employee volunteering programme, ANWIL employees participated in 83 volunteering projects for non-governmental organisations, care providers, foster care centres, educational institutions, schools, sports organisations, and science, culture and art centres operating in the city of Włocławek and neighbouring communes. A total of 283 scholarships for talented youth and undergraduate students were awarded under two scholarship programmes: Primi Inter Pares (for eighth-grade students of primary schools and students of secondary school) and Youth with ANWIL (for junior and senior science students). In 2021, the Foundation completed the following projects:

- Be Healthy – a health promotion programme;
- Fifth edition of Learning with ANWIL, a programme promoting science;
- Second edition of the I Choose Sports and Say Goodbye to Bedridden project, which promotes physical activity and healthy lifestyles;
- Health City – an event held in the form of a family picnic, designed to foster healthy lifestyles among the residents of Włocławek and the surrounding areas, raise awareness of health-related issues, promote and support preventive health care. Doctors and specialists in various medical fields provided a total of nearly 2,000 examinations and consultations;
- Holidays with the Foundation – a project which aims to provide creative, attractive and safe leisure activities for children and young people from Włocławek and neighbouring municipalities who stay at home during the summer holidays. In 2021, thanks to the Foundation’s support 1,477 children benefited from various forms of holiday recreation free of charge;
- Sixth edition of the Building Bridges grant competition, seeking to support people in the area of the Foundation’s activities in initiatives undertaken for their communities and focusing on countering social and economic exclusion, improving public safety, raising the level of education of residents and developing civic awareness, as well as strengthening the sense of belonging and integration with the local community. 3,683 participants took part in the activities implemented under the project.

In 2021, the Foundation assisted the local community in their fight against the COVID-19 pandemic, allocating an additional PLN 400 thousand for the cause. Thirteen entities benefited from the funding, including the Provincial Specialist Hospital in Włocławek, which received close to PLN 300 thousand.

Operating since 2009, the Energa Foundation provided financial support in excess of PLN 6.2 m to 674 persons in total, including 521 natural persons and 153 legal entities, in 2021. One-third of the funds (over PLN 2 m) was spent to cover cost of treatment, surgery and rehabilitation. A record 71 Energa employees received support last year (6% more than in 2020) for the total amount of PLN 844 thousand. In 2021, the Energa Foundation also donated about PLN 100 thousand to fund hand surgery of a little girl, Hania Kolek. With the financial support of the Energa Foundation, the surgery could be performed by the Paiey European Institute in Warsaw. Under the programme, the Energa Foundation provided financial support in excess of PLN 12 m to public benefit organisations and health care, security and medical emergency providers, including:

- Regional Hospital in Kielce (purchase of personal protective equipment);
- District Hospital in Jarosław (purchase of medical equipment);
- Drop of Energy Foundation (hosting a blood donation drive);
- Volunteer Fire Brigades (purchase of firefighting equipment);
- Provincial Specialist Complex of Healthcare Establishments for Lung Diseases and Tuberculosis in Wałbrzych (removal of the cost of ambulance equipment, purchase of additional equipment for a vaccination station and assistance with the cost of a defibrillator for the emergency team);
- Independent Public Healthcare Facility – Sanatorium in Sołtan (purchase of an SRT machine);
- Copernicus Medical Facility (supporting the fight against COVID-19);
- Włocławek Volunteer Water Rescue Service (purchase of a car to transport people and rescue equipment).

In addition, the Energa Foundation provided financial support to the Whatever You Did Foundation. The organisation donated funds to purchase gifts for poor families and single people who have Polish roots and currently live in the Vilnius area.

The Czech-based ORLEN Unipetrol Foundation operates a scholarship programme for students of secondary schools and universities providing life science and technology education, and a grant programme for secondary schools and teachers assisting them with the purchase of technical equipment and implementation of projects run by students as part of science clubs and workshops. The Foundation runs the Fairy Tale Chemistry Day to teach chemistry to primary and secondary school students in a fun way and to portray chemistry as an up-to-date and exciting field of science. ORLEN Unipetrol became a strategic partner of the University of Chemistry and Technology in Prague in 2002, having since donated almost CZK 30 m for educational and development projects. ORLEN Unipetrol has also established collaboration with municipalities near its production plants (Ústí nad Labem, Kralupy nad Vltavou and Neratovice).

In 2021, the Energa Foundation provided financial support in excess of PLN 1 m to public benefit organisations and health care, security and medical emergency providers, including:

- whichever institution in the name of the Foundation, the number of beneficiaries of the projects funded by the Foundation exceeded 5,000.

For information on our involvement in sustainability initiatives organised by third parties, see ‘Organisations and associations’. For key performance indicators in the social area, see ‘Social capital’. For a description of significant risks relating to the group’s business and the risk management methods, see ‘Risk management’.
Responsibe employer

We provide fair and friendly working conditions for our employees. Our relations with internal stakeholders and the external business environment are based on integrity, respect in everyday relationships and on dialogue, cooperation and involvement of each staff member in building a culture consistent with the Company’s core values.

GRI Disclosures

- GRI 103-1
- GRI 103-2
- GRI 103-3
- GRI 102-8
- GRI 102-41
- GRI 4011
- GRI 404-1
- GRI 404-2
- GRI 405-2

Responsibilities of the HR function include:

- Recruitment, development and retention of key management staff to ensure achievement of strategic objectives;
- Development and implementation of policies, principles and standards in human resources management, in particular recruitment, adaptation, development and training, hiring and dismissal of employees, compensation systems, bonuses, perquisites, social benefits, collective bargaining agreements;
- Supervision over the setting of bonus related targets for key management staff;
- Shaping social relation standards in the organisation;
- Human resources management, in particular: recruitment, adaptation, development and training, hiring and dismissal of employees, compensation systems, bonuses, perquisites, social benefits, collective bargaining agreements;
- Drafting and implementation of collective labour regulations at PKN ORLEN and development of related standards for the ORLEN Group;
- Communication with company trade unions and coordination of efforts with regard to collective bargaining agreements and social matters;
- Development, maintenance and application of the Remuneration Policy for Members of Management and Supervisory Boards of ORLEN Group Companies;
- Preparing proposals of redundancy benefits for employees affected by workforce restructuring measures;
- Coordination, planning and spending under the compensation budgets and bonus systems (including incentive schemes); conducting training, recruitment and covering the costs of other HR management tools and systems;
- Operation of uniform ethics standards and procedures within the ORLEN Group;
- Building the image of an attractive employer;
- ORLEN Group Age Management Policy
- ORLEN Group Human Resources Management Policy
- ORLEN Group Age Management Policy
- ORLEN Group Remuneration Policy for Members of Management and Supervisory Boards of ORLEN Group Companies

Policies in place

The policies and internal regulations concerning the employee area include:

Code of Ethics

Code of Ethics defines the values, principles of conduct and rules that set ethical standards for all ORLEN Group employees, based on a revised approach to understanding ORLEN values: Responsibility, Progress, People, Energy and Dependability, as well as the current scale of operations and operating strategy, the requirements of the ORLEN Group’s environment, and best practices in the field of business ethics. It contains provisions concerning: solidarity, inter alia, respect for diversity, including fair treatment of all employees regardless of their age, gender, position, religion, nationality or beliefs, equal opportunities for personal and professional development, as well as responsibility for building an ethical, safe and friendly workplace. It also includes provisions discussing ethical and responsible attitudes towards all stakeholders, including employees, consumers, business partners and local communities. Moreover, it is a document supporting the implementation of the ORLEN 2030 business strategy.

Collective Bargaining Agreements and Work Rules

agreed between employers and employees represented by trade unions, they are the primary source of labour law for individual ORLEN Group companies. They play a significant role in defining the employment relationship and mutual obligations of employers, employees and trade unions. In addition, they set forth, respectively, work process organisation and policies and the principles of remuneration and other employee benefits.

ORLEN Group Human Resources Management Policy

sets out the priorities and key tasks defined in accordance with best market practices, reflecting market challenges and trends in human capital development. The Policy defines activities in such areas as reinforcement of the Group’s corporate culture, segment based management, employee development, compensation and employee benefits, and performance management, to name just some.

ORLEN Group Age Management Policy

describes the practices and tools implemented by PKN ORLEN and other ORLEN Group companies to maintain the continuity and efficiency of their business processes by preventing competence gaps and securing knowledge and skill transfers in the face of current and projected demographic shifts on the labour market.

Remuneration Policy for Members of Management and Supervisory Boards of ORLEN Group Companies

ensures that the salary cap act is complied with by the ORLEN Group. The document sets out the approach to HR decisions in...
connection with the corporate supervision, guaranteeing that the process of appointing and remunerating management board and supervisory body members at the ORLEN Group companies is compliant with the provisions of the Act on Rules of Remunerating Persons Managing Certain Companies. In order to maintain a common HR policy within the ORLEN Group, key performance indicators, including ‘Employment and labour cost effectiveness’, are additionally addressed in the objective setting and reporting system for the Group’s management board members. The indicators deemed to have been achieved, inter alia, when the budget for personnel and employment costs is met in line with segment recommendations and the ORLEN Group’s remuneration policy is pursued in an effective manner:

**Bonus System Rules**

the PKIN ORLEN Management Board, Management Boards of other ORLEN Group companies, as well as directors reporting directly to the Management Board, and PKIN ORLEN employees are covered by bonus schemes. The key positions at the ORLEN Group are rewarded based on the annual bonus system: the bonus is granted for achieving individual qualitative and quantitative targets, which are reviewed after the end of the year for which they were set. Other PKIN ORLEN employees are rewarded based on one of the following three bonus schemes: a quarterly, biannual, or monthly scheme. The process of target setting and reporting, as well as granting of bonuses, is standardised on an ongoing basis to ensure workflow consistency and transparency.

**Corporate Social Benefit Activity Rules**

define the scope of social benefits and the rules for granting such benefits to the current and former employees of PKIN ORLEN and its subsidiaries covered by agreements on the joint social benefits programme, as well as the employee’s family members. Additionally, PKIN ORLEN offers a uniform employee benefits package to employees of all ORLEN Group companies participating in the joint social benefits programme.

**Well-Being Policy**

offers key solutions to improve the quality of life and broaden the definition of employee wellbeing, and is broken down into several areas: wellness, work comfort, work satisfaction, work-life balance, external environment. Well-being within the organisation means continuous and dynamic management of employee wellbeing by addressing employee needs in every dimension.

**Expatriate Policy**

defines the rules of secondment of employees to foreign ORLEN Group companies with respect to hiring and agreeing on contract terms and benefits for expatriates at PKIN ORLEN and other ORLEN Group companies.

**ORLEN Group Best Employee Mobility Practices**

allow the Group to leverage its internal capabilities. Mobility at the ORLEN Group supports the key business objectives, fosters a corporate culture aligned with the ORLEN Group’s values and rules of conduct, and allows the Group to leverage the capabilities and potential of its employees in an effective manner. Mobility is also aligned with the Group's strategic plans to build human capital with extensive professional experience in the long term.

**Employee Onboarding Policy**

aligned with the objectives of the Employee Onboarding Programme, which include effective introduction of new hires to new conditions, tasks, responsibilities, and the work environment, while familiarising them with the Company’s procedures and rules, including the Core Values and Standards of Conduct.

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**Employee Pension Plan**

guarantees additional financial resources to PKIN ORLEN employees, to be used once they leave employment and retire. The basic contribution under the scheme is funded by the employer, while the employee has the option to fund an additional contribution.

**Employee Savings Plan**

a pension and savings scheme enabling PKIN ORLEN employees to save additional funds for their future pension on favourable market terms.

**Employee Capital Plan (PPK)**

a long-term retirement savings scheme, with the option to disburse the funds early or after the employee turns 60. Savings in PPK accounts constitute the employee's fully private and inheritable financial capital. PPK contributions originate from three sources: the employee, the employer and the state.

**Pay on Request**

a benefit which gives employees quick and easy access to their salaries before pay day.

**Legal Benefit**

a service offering access to unlimited legal advice on personal matters provided by email and telephone, including family and civil law, real estate purchases and rentals, as well as consumer complaints, relations with banks and insurers, traffic incidents, contacts with authorities in administrative proceedings, to name just some.

**Cafeteria**

an online platform allowing employees to manage their benefits according to their personal needs. They can redeem points obtained from the employer for a broad range of benefits.

**Academy of Personal Finance**

a series of practical training courses aimed at building the financial awareness of employees, improving their understanding of planning and household budget management and developing healthy financial habits.

**MyCar**

a car-related benefit offered as an alternative to a company car. It is a monthly cash benefit for the purchase or rental of a private car for business purposes, equivalent to the lease payment for a company car. In addition, MyCar beneficiaries are provided with a shopping card to pay for fuel, non-fuel products and services at ORLEN service stations within a predefined limit.

**ORLEN Passion**

a scheme designed in response to the needs of employees who wish to pursue and develop their hobbies and out-of-work passions. With the funding offered by the company, they are able to take up activities which often require support.
Master Benefit and Car Platforms

car benefits supporting car rentals in the subscription model.

Discount Chocolate

a set of discounts integrated into the Comfort package of benefits. Its purpose is to create an environment providing employees with a sense of safety and stability and supporting the work-life balance. It is a virtual space for employees with discounts available on products and services of PKN Orlen’s partner companies, for example computer equipment, FEU insurance products, Apple products, mobile plans, banking products, discounts for eyeglasses, etc.

Policy for Assisting Employees During Crises

defines the rules for supporting employees going through a personal crisis. In providing support, the employer takes into account the particular occurrence, the type and scale of damage or loss sustained, as well as the personal and financial circumstances of the affected employee. Depending on the above criteria, the employee may be provided with financial, medical, psychological or legal assistance.

Psychological support at the workplace

the tasks of our Occupational Psychology Centre include provision of support and psychological assistance to employees and their closest family members who are going through personal or professional issues. Since the onset of the pandemic, a permanent psychologist assistance service has been available at the Occupational Psychology Centre in addition to other forms of mental health support for employees. Employees could use a psychological assistance telephone helpline in addition to dedicated support provided by the Occupational Psychology Centre. The helpline was staffed by an outside psychologist. The Occupational Psychology Centre offers immediate assistance in emergencies.

Internal order on the Family Friendly Employer Programme and Initiatives celebrating long service, retirement and birthdays of former employees

sets forth the rules for the operation of the Family Friendly Employer programme and governs all activities related to celebrating long service, retirement and birthdays of former employees. It sets out the rules governing initiatives for employees celebrating long service or those retiring, as well as pensioners celebrating their 70th, 75th, 80th, 85th and following birthdays.

Disability Employment Policy

defining the work conditions and rules for people with disabilities — the objective of this policy is to provide people with disabilities with equal opportunities in the workplace, taking into account the type and degree of disability, enabling them to obtain and maintain adequate employment, return to work, receive promotion, as well as support them in independent living and their integration with other employees.

Restructuring Agreement with Trade Unions

sets out the rules of cooperation between social partners in restructuring processes and the employees’ rights in such processes.

Workforce

In 2021, the ORLEN Group’s hiring policy was focused on recruiting top quality specialists for both day-to-day tasks and strategic projects. Acquisition of the Polska Press Group (1,827 people) and ORLEN Transport (850 people) in 2021 and expansion of the ORLEN Group’s power generation, IT and retail areas led to a year-on-year increase in total workforce by 2,047 people, to 35,426 employees. In 2021, the average annualised workforce at the ORLEN Group was 34,908, an increase by 1,716 employees year on year.

Employee relations KPIs at the ORLEN Group
Company Social Benefits Fund (data for PKN ORLEN and companies – shared social activities), including:

<table>
<thead>
<tr>
<th>Persons</th>
<th>2021</th>
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<tr>
<td>Women</td>
<td>14,811</td>
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<tr>
<td>Men</td>
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<td>17,100</td>
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<td>Family members</td>
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Other employee data for 2020 and 2021

EMPLOYEE RELATIONS KPIS UoM

<table>
<thead>
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<th>Gender</th>
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<th>2021</th>
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<tbody>
<tr>
<td>Women</td>
<td>586,211</td>
<td>580,450</td>
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<tr>
<td>Men</td>
<td>196,190</td>
<td>204,040</td>
</tr>
</tbody>
</table>

Other employee data for 2020 and 2021

EMPLOYEE RELATIONS KPIS UoM

<table>
<thead>
<tr>
<th>Gender</th>
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Other employee data for 2020 and 2021

EMPLOYEE RELATIONS KPIS UoM

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Other employee data for 2020 and 2021

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In 2021, an employee sentiment survey was conducted to examine the areas of professional activity, management support, and organisational measures taken over the past year in the wake of the COVID-19 pandemic. The survey asked questions about the aspects of the work environment that are gaining prominence in the pandemic reality and have the greatest impact on building employee engagement. The results across all work environment categories included in the survey were high, most of them above the applied benchmarks. Particularly worthy of note was the large increase in employee satisfaction with leadership elements: supervisor feedback, appreciation, and recognition.

Also, a pulse check was performed to examine key metrics related to employee engagement and satisfaction:

- Employee engagement rate, which was 74%, up 10 percentage points from the previous survey conducted in 2019. The result is well above the 2019 and 2020 average for Poland (91%)
- Overall employee satisfaction rate, which was 76%.

## Remuneration policy

The rules of remuneration in place at PKN ORLEN are laid down in the Collective Bargaining Agreement. The main components of remuneration are base pay (determined according to the Pay Grade Table and Base Pay Table) and a bonus. Employees are covered by monthly, quarterly, quarterly/annual or annual bonus schemes, depending on positions held. Employees are also entitled to receive an extra annual bonus for achievement of solidarity targets, and a number of allowances, including shift-work allowance, chemical emergency service allowance, or expat allowance. For particularly outstanding achievements, an employee may be awarded a prize, financed from the Employer Prize Fund.

The ORLEN Group companies have implemented consistent rules for granting awards under the Employer Prize Fund (set forth in a formal document), and the award process for task-integrated companies is carried out through the centralised IT system SEESK.

Moreover, components of the new ORLEN Group strategy were addressed in the 2021 MBO Sheets in all ORLEN Group companies. The concept of the process of objective setting for 2021 was developed taking into account the expansion of the ORLEN Group, the need to standardise the mechanisms of the objective setting and performance evaluation process in newly acquired companies, and the need to individualise the scope of the objectives set.

The collective bargaining agreement made with the trade unions active at ORLEN Ochrona in 2021 will become effective in April 2022. Lithuanian companies ORLEN Lietuva and ORLEN Service Lietuva reached new fixed-term collective bargaining agreements with their social partners (the previous agreements expired at the end of 2021). Also, remuneration rules were implemented at CGG Ostrołęka and Energa Green Development.

In 2021, PKN ORLEN entered into a pay agreement for 2021, which provided for obligatory base pay rises of PLN 150 for employees graded 11a 7. Furthermore, Christmas bonuses totalling PLN 3,000 were agreed. Pay agreements are in place at all ORLEN Group companies. They were adapted to each company’s financial capabilities and additionally depended on its position on the pay market.

In 2021, the average gross monthly remuneration (including base pay, bonuses, awards, lump-sum allowances and overtime) at the ORLEN Group was PLN 8,867.
Collective Bargaining Agreement

The Collective Bargaining Agreement is a social contract, being a source of labour law, that has been reached through negotiations between the employer and trade unions. It is an HR constitution of sorts that sanctions a motivating and coherent remuneration and bonus system, sets standards for employee-employee relations and provides norms governing an equal partnership between the employer and trade unions. The Collective Bargaining Agreement regulates the broad base of labour relations management concept in accordance with applicable laws and best market practices. It is an element of integration and harmonisation of industrial relations, supporting execution of business processes. It serves as an effective and objective tool for regulating HR management policies, with a particular focus on the hiring, promotion and remuneration systems, by applying transparent solutions regarding the pay scale, base pay and bonus system. The Collective Bargaining Agreement enables effective and open dialogue with social partners by regulating important issues concerning collaboration with trade unions.

With regard to employees' right to freedom of association and collective bargaining, the PKN ORLEN Collective Bargaining Agreement provides that the employer:

- Recognises the trade unions active at PKN ORLEN as representatives of all employees in matters concerning their collective rights and interests, within the scope defined by laws of general application;
- Agrees to respect the freedom of activity and equality of trade unions and not discriminate against employees on the grounds of trade union membership or non-membership.

The Collective Bargaining Agreement outlines general rules governing negotiation of annual pay rises, cooperation between the employer and the trade unions in restructuring matters, and negotiation of matters relating to the Agreement.

Human resources management policy

In 2021, the ORLEN Group defined the pillars of its HR strategy for 2020–2030 in connection with the newly adopted ORLEN2030 Strategy. The strategic pillars included building competencies of the future in new professions and business areas, upskilling existing, changing and diversity management, unique knowledge management, implementing best practices to enhance HR segment management, and advanced digital solutions (automation and digitalisation of HR processes). Accordingly, a key task was to develop a new Competence Model for the ORLEN Group to be used for the purposes of competence management. Further efforts were made to foster a feedback culture, including through deployment of the Career Development Session process at the ORLEN Group and building employee involvement and well-being. The ORLEN Group consistently implemented its age management policy and continued to deploy its recruitment process standard.

Development of the human resources functions and standardisation of processes across the ORLEN Group

HR and payroll solutions at the ORLEN Group evolve continually so as to effectively support its business processes. Based on the HR policy for the ORLEN Group, HR and payroll processes at the Transaction Centre are optimised on an ongoing basis. IT systems are developed to streamline staff administration activities and improve the efficiency of HR processes in the Group. In 2021, a project team consisting of representatives of various functions and companies continued a project aimed at standardising HR processes across the ORLEN Group. The digitalisation of PKN ORLEN S.A. and ORLEN Group HR and payroll services continued throughout 2021. An application supporting the onboarding process at the ORLEN Group was further developed, and so was the ORLEN Group’s cafeteria system, which was also deployed in other Group companies. KCP, a workplace planning and reporting tool, was implemented in further ORLEN Group companies, resulting in further standardisation and improvement of efficiency of the working time management process. An electronic attendance sheet and a leave planning support application were deployed, and new personnel requests were added in the Service employee system at PKN ORLEN and some other Group companies. The continuous development of HR functions, combined with process digitalisation, improves the HR processes, guaranteeing their high quality and transparency. The pandemic in 2020 showed that HR digitalisation was the most appropriate development direction for HR functions and enabled the ORLEN Group to adapt to new needs and requirements, including home office arrangements, in a very short timeframe. In 2021, a project team was assembled to prepare a concept and rules for implementing a hybrid remote working system at the Group. All recruitment processes, image building efforts, and a complete range of training and development activities were carried out remotely, providing employees with uninterrupted access to training and development opportunities. Recruitment processes and campaigns were communicated on social media and career sites and by attending online events. Knowledge sharing and employer branding activities (presence at universities – the ORLEN Knowledge Days) were also carried out remotely.

Development and training

A series of educational projects for managers and employees promoting ethics and respect for corporate values were implemented in 2021. These included training an anti-corruption policies, working hours, labour law, and countering workplace bullying and discrimination. A project of great importance was the training course devoted to the new Code of Ethics, which was mandatory for all PKN ORLEN managers and employees. Also, educational meetings were held for people interested in disability issues, including in the context of professional activity. With global trends in skills and jobs at the future in mind, lectures were held for employees on workplace diversity, innovation, shifts in traditional business models, lean management philosophy, personal efficiency, and social media literacy. In the area of employee well-being, lectures on dealing with emotionally difficult situations were delivered. Separate development activities were prepared for women returning to work after maternity and parental leaves. Dedicated lectures discussed issues related to returning to work after a long absence and building a new way to balance work and life. Competencies in innovation and project work were developed in 2021. Also, open access training sessions were held to share knowledge on building a collaborative environment, communication skills, innovation and creativity, personal efficiency, responding in difficult situations, work planning and organisation, coping with stress, etc. Training to build mentoring and coaching skills for managers and knowledge sharing skills among employees was an important component of the 2021 education activities. Relevant self-use materials were prepared in the form of manuals and e-learning courses. Mentoring skills will also be developed in the coming years as a vital element of knowledge sharing and building openness to feedback and engagement. Communication, project management, stress management, organisation and planning, and business relations building materials were added to the e-learning library as part of the online tool rollout process. The platform’s resources include a separate section that features materials for practical use in knowledge sharing and mentoring techniques for peer mentoring. A new edition of the Career Development Session was carried out in 2021 to help design personal development plans based on the assessment of an employee’s development needs and business requirements in a given business area. The sessions are essentially based on gathering and mutual feedback and therefore improvement of feedback skills and fostering an everyday feedback culture were an important part of the development effort. Apart from being a tool used to identify development needs, the project supports a culture of openness and dialogue. We continued to implement a management staff development program.
programme centred on fostering engaging leadership, value-based management, performance improvement and building multifaceted team collaboration and innovation as well as team management skills. The programme covers all managers, including those newly promoted.

**Development efforts addressed to managers in the field of mentoring and feedback skills, preventing workplace bullying, labour law and business and management ethics were also continued.**

Those projects demonstrate the Company’s particular concern for management based on ethics and respect for corporate values. Efforts were also made to improve the skills of PKN ORLEN managers in conducting recruitment processes, with a special focus on harnessing the potential and skills of internal candidates.

The Group employees benefited from a wide range of diversified development activities. They attended tailored training events (both open and closed), designed specifically to address the needs of a given area or employee in terms of the required field of expertise, as well as postgraduate courses or MBA programmes. In addition, they were offered opportunities to broaden and share their knowledge of the market through participation in trade conferences and events. As in previous years, programmes supporting an occupational safety culture, including educational projects and a number of mandatory training courses, were continued. These included training in driving company cars, delivered to improve safe driving techniques and the ability to respond in difficult situations on the road.

Employees also improved their foreign languages skills as part of the PKN ORLEN Language Academy and summer English courses. Training and development activities were carried out not only on a classroom basis, but also as e-learning courses. PKN ORLEN supports the continuity of employment of persons whose contracts are terminated as a result of restructuring processes by offering them training packages. As part of a package, PKN ORLEN provides financing for training which a given person has indicated as useful in their further career.

**Age Management Policy**

Activities related to the Age Management Policy were continued in 2021. The purpose of the Policy is to mitigate the adverse impacts of demographic shifts on the labour market, including by raising management’s awareness of age management, intergenerational diversity, transfer of knowledge and skills, and employer branding activities aimed at building relations with external stakeholders, notably local labour markets, schools, and universities. It was imperative that the same standard for the Policy implementation be put in place across the ORLEN Group.

**Social dialogue and employee benefits**

The ORLEN Group believes in social dialogue based on independence of the parties, legal compliance, as well as trust, mutual willingness to compromise, and observance of the rules.

The rules of social dialogue are founded on internal regulations and generally applicable laws, which facilitates development of constructive and lasting solutions in partnership with employee representatives. In 2021, a European Works Council was formed at the ORLEN Group. The Council is another form of collective dialogue, in this case at the European level, as continued growth of the ORLEN Group enables establishment of mechanisms that engage employees in the broad collective efforts not only at the national but also at the international level. The ORLEN Group offers employee benefits, which include co-financing of employee holidays, sanatorium treatment, childcare, holidays for children and teenagers, and school starter kits. Also, employees’ children receive Christmas gifts.
The employer provides financial support for families with low incomes. Employees may also apply for partial financing of sports activities. The ORLEN Group has a common group life insurance package in place for all employees who declared their intention to work for the company every year. The benefits of the Social Benefits Fund are extended to former employees of PKN ORLEN and other Group companies covered by the joint social benefits programme. Employees of the ORLEN Group have access to a psychological assistance telephone helpline in addition to dedicated support provided by the Occupational Psychology Centre. Additionally, a permanent psychologist assistance service has been available at the Occupational Psychology Laboratory. Employees could use a psychological assistance telephone helpline in addition to dedicated support provided by the Occupational Psychology Centre. PKN ORLEN makes every effort to provide ongoing support for the psychological well-being of employees, which is not a permanent state but may be affected by various life events.

Image-building activities

The most important initiatives implemented in 2021 included activities aimed at building the image of an attractive employer, including expansion of the ongoing trainee programmes, implementation of an ambassador programme, social media presence, and building partnerships with the academic community. In 2021, we continued the first edition of the Employer’s Brand Ambassador programme to reinforce our image as an attractive employer, which included communicating PKN ORLEN’s strengths as an employer and building personal employee brands to show the people who form the ORLEN Group. The programme is based on promoting projects implemented by project ambassadors, which fosters the image and reputation of the employer’s brand while identifying the key areas of their activities, processes and innovation, showcasing the contribution of employees to the company’s strategy.

As a company implementing modern-day solutions aimed at keeping the balance between work and family life, PKN ORLEN runs the Family-Friendly Employer programme, offering such benefits as additional days off to care for a disabled child under three years of age, two days off a year to care for a disabled child under 24 years of age, a nursery school for children of employees, one additional hour for breastfeeding, medical care during pregnancy, baby feeding sessions, gifts for newborn babies, and providing employees on parental childcare leaves with up-to-date information on developments across the Group. Many of the components of this programme have also been implemented by other ORLEN Group companies as part of best practice sharing. PKN ORLEN also provides extended medical care going beyond the scope of occupational medicine. Medical plans and preventive healthcare programmes are run in cooperation with Centrum Medycyny Medycznej Sp. z o.o. at Płock and the Military Institute of Medicine of Warsaw as part of a project to investigate health impacts of the work environment. A uniform standard for medical plans is in place across the ORLEN Group.

In response to the epidemic situation in Poland, the following initiatives were run:

- COVID-19 vaccination campaign for ORLEN Group employees in all regions of Poland.
- SARS-CoV-2 antibody testing in Płock, Warsaw and Włocławek.
- Disease prevention efforts included webinars for employees on healthy lifestyles. The Blood Donors Club at PKN ORLEN organized convoluted blood and plasma collections. The campaigns were carried out in mobile ambulances at the company’s locations in Płock, Warsaw and Tczew. As a responsible and conscious employer, PKN ORLEN looks at the needs of its employees in a holistic way, offering a benefits package tailored to individual requirements and life cycle stages of employees and providing mental health care. The tasks of our Occupational Psychology Centre include provision of support and psychological assistance to employees and their immediate family members who are in personal or professional distress. Since the onset of the pandemic, a permanent psychologist assistance service has been available at the Occupational Psychology Laboratory. Employees could use a psychological assistance telephone helpline in addition to dedicated support provided by the Occupational Psychology Centre. PKN ORLEN makes every effort to provide ongoing support for the psychological well-being of employees, which is not a permanent state but may be affected by various life events.
**Education and talent acquisition policy**

PKN ORLEN works consistently to satisfy its talent acquisition and retention needs, focusing on specific target groups relevant to the Company’s business areas – current and prospective employees, as well as students and graduates of vocational schools and universities. Being aware of the need for synergies between business and academia, the ORLEN Group collaborates with the academic community.

PKN ORLEN has also committed to offering employment opportunities to people with disabilities. In 2021, in partnership with several ORLEN Group companies, it successfully implemented the disability employment goals of the Work – Integration programme of the State Fund for Rehabilitation of Persons with Disabilities (PFRON). Participation in the programme was initiated in 2019, while recruitment of employees (people with disabilities) was conducted in 2020 and 2021.

Due to the obligation to PFRON for 2021, the ORLEN Group transferred the amount of over PLN 26 million. Last year, 367 people with disabilities were employed, including: 34 people with severe, 208 with moderate and 128 with a slight degree of disability.

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Gdynia Maritime University. PKN Orlen cares for the professional development of young people − students, university graduates and school leavers, by providing them with an opportunity to acquire their first professional experience on internship and work placement programmes and by organising educational events for students and graduates. PKN Orlen participated in career fairs (Engineer Career Fair, Career and Internship Fair for Computer Specialists and Electronic Engineers at the Faculty of Electronics and Information Technology of the Warsaw University of Technology), reaching over 400 potential job applicants at technical universities, and supporting students and graduates in gaining professional experience and finding work placements. Educational and communication projects were also implemented. These included Orlen Knowledge Day for students of the Warsaw University of Technology, Płock Branch of the Warsaw University of Technology, Military University of Technology, Main School of Fire Service, Silesian University of Technology and Nicolaus Copernicus University in Toruń in the fields related to chemistry, live science and chemical technology (over 460 students). PKN Orlen participated in the Meet Your Employer event at the Warsaw University of Technology, an initiative organised as part of the Orlen Knowledge Day online for students of technology and economics universities. For ten years in a row, PKN Orlen has been recognised by experts from Top Employers Institute as Poland’s leading employer. Based on the results of an independent study of the HR policies of surveyed companies, PKN Orlen won the Top Employer Polska title once again in 2021 and for the first time in history it topped the ranking table. The Top Employers Institute survey is conducted among the world’s best employers whose HR practices are in line with international standards.

Health and safety topics covered in formal agreements with trade unions

We take care to maintain a transparent social dialogue within the Orlen Group. Health and safety issues are mutually agreed on and covered in formal documents negotiated with trade unions effective at Orlen Group companies domiciled in Poland, which include:

- Collective Bargaining Agreements registered by the Regional Inspector of the National Labour Inspectorate, in accordance with the provisions of Part X of the Polish Labour Code and the Minister of Labour and Social Policy’s Regulation on the procedure to be followed in the case of registration of collective bargaining agreements, keeping the register of collective bargaining agreements and registration files, as well as forms of registration clauses and registration cards; and/or

- Work Rules established in accordance with the provisions of Section IV of the Polish Labour Law. Those documents provide for ensuring working conditions that meet safety and hygiene standards, including personal protective equipment against agents that are hazardous and harmful to human health, as well as working clothes and footwear. Occupational health and safety issues are covered by Collective Bargaining Agreements also at Unipetrol in the Czech Republic and Orlen Lietuva in Lithuania, the Orlen Group’s foreign subsidiaries. Employees of Orlen Deutschland, where there are no active trade unions, are not parties to any formal or collective agreements. The same holds true for Orlen Upstream Canada, whose entire workforce is subject to occupational health and safety regulations applicable in Alberta.

Description of significant risks within the employee area and methods of managing these risks can be found in the ‘Risk management’ section.
Overview

Our ambition is to build an innovative and integrated multi-utility group with a presence in international markets. To achieve this goal, the group we are building needs to be strong also in terms of safety culture.

GRI Disclosures:
- GRI 103-1
- GRI 103-2
- GRI 103-3

SDGs:
- Goal 3

Capitals:

Moreover, in 2021 we drafted the ORLEN Group's Development Directions in Personal and Process Safety for 2022–2026.

The following factors were taken into account when outlining the development directions:
- The need to continue and further develop the strategic activities in the area of occupational safety which had been defined for 2017–2021;
- Adoption of the ORLEN 2030 Strategy and identification of actions and solutions to support its implementation;
- Identification of changing external and internal Requirements concerning occupational safety;
- Issues related to awareness and changing of the perception of the occupational safety system by our employees and contractors.

The development directions have been defined for key management areas of the ORLEN Group's personal and process safety system:
- **Management and leadership** – building a workplace safety culture within the Group in line with its values and a combination of individual and group values, attitudes, perceptions, competences, and behaviours;
- **Personal safety** – creating a safe and healthy working environment for the Group's employees, including a contractor supervision system, taking preventive measures designed to ensure fire safety at the Group, and defining standards and relevant organisational initiatives;
- **Process safety** – activities involving definition of methods and measures to protect people and the environment against the consequences of industrial accidents; identification of existing needs before technological, process or organisational changes; organisational and technical measures undertaken at every stage of a process to guarantee safe process management, safety of the process personnel, and thus process reliability.

2021 saw continued efforts to deliver the ORLEN Group’s 2017–2021 Personal, Process, and Fire Safety Strategy. As assumed in the Strategy, the key areas of focus in the pursuit of strategic objectives included:

- Continued implementation of uniform safety standards
- Initiating, designing, and implementing projects and solutions addressing the need to counter COVID-19 pandemic;
- Undertaking diverse activities aimed at increasing occupational safety awareness and promoting proactive attitudes among our staff and contractors.
One of the key initiatives contemplated in the ORLEN Group’s Development Directions in Personal and Process Safety for 2022–2026 is providing support in the area of occupational safety in connection with the acquisition of control over new companies and groups of companies. To this end, a coherent occupational safety management system will be created within the ORLEN Group, mainly with respect to the companies incorporated recently into the Group. This will include defining a common work safety policy and implementing uniform safety standards across the ORLEN Group.

In addition, the above development directions include activities related to:

- Maintaining and improving the Safety Plus project assumptions, broadening their scope to cover other ORLEN Group companies, implementing new safety standards, continuing the RETAIL+ and LOGISTICS+ projects;
- Improving supervision over the ORLEN Group’s Company Fire Brigades;
- Defining key process safety principles;
- Maintaining and developing preventive measures designed to reduce accident rates;
- Defining key safety principles for operations involving handling of dangerous goods;
- Improving the contractor safety management system;
- Defining safety principles for Operations and Rescue activities;
- Management of Change (MOC);
- Operational and hazard assessment;
- Fire prevention;

One of the key objectives underlying the actions outlined above is to maintain the following occupational safety KPI levels: TRR1 ≤ 1.70 and TIPSER2 ≤ 0.3, while implementing the processes of acquisition of equity control over new companies / groups of companies.
Policies and internal regulations

SDGs:

Goal 3

Capitals:

Occupational safety at the ORLEN Group is governed by national legislation applicable to a given area, European Union regulations, harmonised national standards and principles resulting from best practices identified in the fuel and energy industry.

As regards personal, process and fire safety as well as safety of operations involving handling of dangerous goods, uniform Safety Standards, Technical Standards and Guidelines for ORLEN Group companies are in place. They contain best practices identified at the Group companies, as well as standards applied in the areas concerned by industry leaders. In 2021, the ORLEN Group completed the implementation of a uniform safety framework as part of the Safety Plus project, comprising 15 standards that represent the highest safety benchmarks in the fuel and energy industry. Initiatives are planned for the coming years to maintain and further develop the standards and to expand the scope of their application to other ORLEN Group companies.

In 2021, technical standards were developed and issued for the LOGISTICS+ and RETAIL+ projects. The purpose of the projects is to put in place a uniform safety framework and improve work safety in the areas of logistics and service stations at the ORLEN Group. The technical standards, prepared in collaboration with representatives of work safety functions of the companies covered by the projects, form a set of guidelines on best practices applied at the ORLEN Group.
In addition, the companies have systems of internal by-laws in place that include personal, process and fire safety policies, rules, internal orders, procedures, manuals, work instructions etc. A significant majority of ORLEN Group companies have an Occupational Health and Safety Management System conforming to PN-N-18001/ OHSAS 18001 until March 11/ ISO 45001 in place – certification covers their businesses and only a single process exemption has been applied.

The certification extends to all employees of the organisations which have this system in place.

The ORLEN Group’s production companies have implemented the Process Safety Management System conforming to US OSHA 1910.119 standard. The system provides an effective framework for achieving operational excellence, as it improves technical safety of the process, storage and auxiliary units, and thus prevents any undesirable incidents that could affect the safety of staff and/or production processes.

The Process Safety Management System, as a component of PKN ORLEN’s overall management and organisational system, has been introduced to ensure the highest safety standards in the workplace and meet the national requirements of Art. 352 of the Environmental Protection Law of April 27th 2001 (consolidated text: Dz.U. of 2021, item 1973, as amended) with respect to systemic process safety management and further improvement of the effectiveness and efficiency of measures aimed at preventing major industrial accidents.

Furthermore, the following regulations are in place at the ORLEN Group that have been implemented by PKN ORLEN in the first place.

**ORLEN Group’s OHS Strategy until 2021**

An OHS management concept, based on building and developing a uniform safety framework for the ORLEN Group, while enhancing excellence in operations and preventive measures related to personal and process safety. The strategy covers the following strategic areas: management and leadership, personal safety and process safety. In the coming years, its objectives will be pursued as part of implementation of the ORLEN Group’s Development Directions in Personal and Process Safety for 2022–2026.

**Comprehensive Prevention System**

The key component of the OHS Management System, which consists of internal organisational documents related to occupational health and safety, fire and chemical safety, radiation protection, technical and process safety, and safety of operations involving handling of dangerous goods. They include the PKN ORLEN Process Safety Management System, Radiation Safety Instruction for the Płock Production Plant and Włocławek PTA Plant, PKN ORLEN Fire and Chemical Safety Rules, and company regulations concerning road transport of dangerous goods.

**PKN ORLEN Safety Points**

are a set of basic principles required to be observed together with all applicable regulations and standards. Safety Points for PKN ORLEN Company-Owned Service Stations are the key rules that must be adhered to on the premises of the service stations owned by PKN ORLEN.

The Safety Points are the requirements describing the attitudes and behaviours expected by the ORLEN Group companies of their employees and contractors. These requirements, together with all applicable laws, instructions and standards, must be complied with by all employees and contractors (regardless of their position), as well as by guests.

**ORLEN Group Safety Standards, Technical Standards and Guidelines**

uniform requirements for work safety, process safety, fire safety, and safety of operations involving handling of dangerous goods, including best practices identified at ORLEN Group companies, as well as standards applied in the areas concerned by industry leaders.
Key projects in the area of occupational health and safety

GRI Disclosures:
- GRI 403-1
- GRI 403-2
- GRI 403-3
- GRI 403-4
- GRI 403-5
- GRI 403-6

Occupational safety have been identified within the ORLEN Group, taking into account the business in which the companies are engaged. Measures have been taken to ensure that the Requirements are met, and the legislative changes in the area of occupational safety are monitored on an ongoing basis. In 2021, it was an important element of the process to ensure compliance with respect to the implementation of preventive measures relating to the COVID-19 pandemic in the context of evolving legal requirements. Ongoing monitoring of and response to such changes.

Safety management of operations involving handling of dangerous goods - ensuring compliance with ADR and RID regulations

A number of activities were carried out in 2021 to ensure the Company’s compliance with ADR and RID regulations during storage, handling, and carriage of dangerous goods. The syllabus for position-specific training was modified to account for the changes in ADR/RID regulations. Over 2,300 position-specific trainings on operations involving dangerous goods were delivered. The process of preparing shipping documents was reviewed, drivers’ authorisations were verified, and legal compliance of vehicles intended for the carriage of dangerous goods was checked. Labelling of vehicles and individual packages as well as the required on-board equipment were also checked for completeness and correctness. Supervision was exercised over proper storage and labelling of dangerous goods and storage areas for dangerous goods and hazardous waste generated by the production plant in Płock, the PTA plant and CC GT plants in Włocławek, the railway terminal in Płock, and fuel terminals at various locations in Poland. Regulations concerning handling of dangerous goods in place at PKN ORLEN were also reviewed and updated.

An annual report on the carriage of dangerous goods was prepared and submitted to the Provincial Road Transport Inspectorate (WIDT) by the deadline prescribed in the applicable regulations. Regular email correspondence was exchanged in response to inquiries about ORLEN Group operations involving handling of dangerous goods. Our representatives visited the areas of Public Company ORLEN Lietuva and ORLEN Unipetrol RPA involved in handling of dangerous goods, and representatives of those companies visited the facilities in Płock to share experience and analyze internal regulations directly related to operations involving handling of dangerous goods. Applicable sanitary procedures were observed at all times during the visits.

Continuous improvement of the occupational safety management system

The ORLEN Group engages in various efforts to continuously improve its occupational safety management area. These include setting and implementing strategic objectives at the ORLEN Group and company level, monitoring occupational safety KPIs for individual companies and the ORLEN Group, developing OHS improvement plans, performing annual analyses of the OHS situation, projects designed to improve employee and contractors’ work safety culture (such as: Safe Contractors, Safe ANWIL, Safe OHS Office area - the key ones include the Employee Guidance Book (OHS Office area) and the Recommendations for Contractors on the Prevention of SARS-CoV-2 Coronavirus Infection. The Group was also involved in awareness campaigns on the subject, co-organised with other partners.

Legal compliance

- GRI 403-1
- GRI 403-8

Occupational safety have been identified within the ORLEN Group, taking into account the business in which the companies are engaged. Measures have been taken to ensure that the Requirements are met, and the legislative changes in the area of occupational safety are monitored on an ongoing basis. In 2021, it was an important element of the process to ensure compliance with respect to the implementation of preventive measures relating to the COVID-19 pandemic in the context of evolving legal requirements. Ongoing monitoring of and response to such changes.

Efforts to counter the COVID-19 pandemic

As regards occupational safety of ORLEN Group employees and contractors, a number of procedures and information materials related to the COVID-19 pandemic have been updated. The key ones include the Employee Guidance Book (OHS Office area) and the Recommendations for Contractors on the Prevention of SARS-CoV-2 Coronavirus Infection. The Group was also involved in awareness campaigns on the subject, co-organised with other partners.
Report a Hazard, Behaviour-Based Safety programmes, Work Safety and Health Protection Days at the ORLEN Group, etc., external and internal control and audit systems, an extensive employee and contractor training system, incentive schemes addressed to employees and contractors (such as: the OHS Incentives Programme, competitions: Safety Eagles, Best Practices in Personal and Process Safety at the ORLEN Group, and Millions of Accident-Free Man-Hours at ORLEN Group Employees and Contractors), implementing post-audit recommendations and preventive and corrective measures identified in the occupational safety area, implementing best practices identified in the fuel and energy industry.

Consultations with external advisers and cooperation with universities are carried out with a view to improving the safety management system. In 2021, consultations on the ISO 45001:2018 Occupational Health and Safety Management System were held at selected companies, while PKN ORLEN continued to pursue its strategy of cooperation with universities. ORLEN Group companies pursue their occupational safety objectives and perform their occupational safety tasks with the use of in-house OHS functions, supported by ORLEN E&P’s resources, or complemented by limited outsourcing of OHS services.

Best practices are identified on an ongoing basis through experience sharing across the ORLEN Group and drawing on the lessons learned by other oil and gas companies with a global footprint. Projects completed in this area include the LOTO System and the Employee Support System.

**Employee Support System (ESS)**

It is a behavioural programme aimed at encouraging safe behaviours while eliminating unsafe ones. Its implementation is one of the multidimensional actions aimed at improving the safety culture at the ORLEN Group. In 2021, a workshop was organised for ESS Consultants to develop effective training skills and share knowledge and experience with employees of PKN ORLEN and its contractors. The workshop employed various methods of knowledge transfer. A vital element of the system is the ESS Consultants’ engagement in a dialogue with PKN ORLEN employees and contractors. For this reason, ESS Consultants should be able to communicate effectively so that their message best reflects their intentions and is understood correctly by employees.

**Internal control and audit system at the ORLEN Group**

Internal audits of the companies are held regularly at the ORLEN Group. In 2021, there were six consultancy visits (audits) and one re-audit procedure. Furthermore, a number of consultancy and review visits were organised in connection with the incorporation of new companies and groups of companies (ORLEN Transport Sp. z o.o., the RUCH Group, and Poliska Press Group) into the ORLEN Group. The visits were conducted in compliance with the applicable sanitary procedures. The audits include an important component called Safety Walks, consisting in safety reviews at the visited facilities. Results of the assessments and observations made during such visits serve as the basis for formulating and implementing correction and refinement plans and workplace health and safety improvement plans. Audits carried out at the Group companies include internal audits, audits by certification bodies, and audits by risk management consultancies.

Regular safety audits of contractors performing work for the ORLEN Group are conducted, as prescribed in the Group’s approved methodology. In 2021, PKN ORLEN, ORLEN UOP, INERPA, and Public Company ORLEN Lietuva were visited by reinsurers. One of the key issues of interest for the reinsurers was the level of involvement of the visited companies in the occupational health and safety tasks of the ORLEN Group. The visits were conducted in compliance with the applicable sanitary procedures.

The audits include an important component called Safety Walks, consisting in safety reviews at the visited facilities. Results of the assessments and observations made during such visits serve as the basis for formulating and implementing correction and refinement plans and workplace health and safety improvement plans. Audits carried out at the Group companies include internal audits, audits by certification bodies, and audits by risk management consultancies.

**Cooperation with universities**

The fifth edition of Technical Safety lectures was organised in 2021 as part of full-time and extramural curricula of the Chemical Technology studies. It was a continuation of the project carried out in 2017–2020 by the OHS Office and Technology Office of PKN ORLEN in cooperation with the Płock Branch of the Warsaw University of Technology. The initiative was to deliver a series of
Improving the process safety management system

The documentation for plants classified as upper-tier and lower-tier establishments was updated as part of the ongoing process safety oversight of the Company’s facilities, in compliance with the Requirements of the Environmental Protection Act. Analyses of hazards in investment projects as well as periodic reviews and updates were performed. Knowing the actual level of adverse event risks is crucial when making decisions on testing the effectiveness of safety measures taken to prevent failures/accidents.

Process safety management system training was provided to newly hired employees (as part of the training programme delivered at the Training Centre) and to employees of the Fuel Terminals. The training proved that knowledge sharing is one of the practical organisational actions that can result in lower risk of emergency events.

Continuous improvement of the safety management system at the ORLEN Group

The ORLEN Group took a number of measures to integrate recently acquired companies and groups of companies into the Group’s work safety management system, including projects designed to standardise and further develop their respective safety standards. The Energa Group received further support in the pursuit of strategic activities in occupational safety improvement and development set for 2021–2023.

In 2021, consultancy visits (internal audits) were conducted at new companies joining the ORLEN Group (ORLEN Transport, Polfix Press Grupa) to review consistency of the rules in place at a given company/group of companies with the safety management coordination model adopted at the ORLEN Group.

Improvement of the contractor safety management system For the ORLEN Group

Contractor safety is equally important as the safety of its own employees. Therefore, a number of activities were undertaken in 2021 to improve the existing contractor safety management system, e.g.:

- Contractor accident rates were monitored, and the accident statistics were taken into account in the calculation of the ORLEN Group occupational safety KPIs (a comprehensive analysis of contractor accidents at work was carried out and the TRR was calculated based on this data).
- Information on accidents at work involving contractors and on remedial actions undertaken in the case of particular accidents was communicated within the ORLEN Group (Safety Alerts, Personal, Process and Fire Safety Reports).
- The tasks prescribed in the safety standard M2 ‘Subcontractor management’ were carried out.
- Inspections and audits were conducted to verify work safety and contractors’ preparation for work to be performed, including inspections and audits required under the ORLEN Group’s technical standards entitled ‘Classification and supervision of safety at third party companies located on the premises of ORLEN Group companies or providing services to ORLEN Group companies’.
- The ORLEN Group companies carried out ongoing hazard identification activities, including any technical, qualitative, efficiency-enhancing, communication, organisational and infrastructural solutions. The competition contributes to improving and streamlining the components of OHS management and boosting employee motivation. It also provides an opportunity to share knowledge and experience in fostering safety culture between different ORLEN Group companies.
- Another competition for Group companies is ‘Millions of Accident-Free Man-Hours of ORLEN Group Employees and Contractors’, designed to promote accident-free work. 2021 saw the 9th edition of Best Practice in Personal and Process Safety and the 7th edition of ‘Millions of Accident-Free Man-Hours of ORLEN Group Employees and Contractors’.

Further development of the work safety culture

Tasks aimed at building work safety awareness and promoting proactive attitudes among our staff and contractors were performed as part of the work safety culture improvement initiatives.

The Employee Support System put in place at ORLEN Group is one of the programmes aimed at strengthening personal security. Research on occupational safety at ORLEN Group was conducted with partners, covering:

- Workplace safety culture and climate;
- Professional and other activity of employees aged 50+ and retirees.

The purpose of the first of these research projects is to design a modern and innovative programme for further development and monitoring of personal safety culture at ORLEN ORLEN with a view to increasing active involvement of employees in the development of personal safety at and outside work. The second project aims, among other things, at developing and implementing a preventive healthcare programme at ORLEN ORLEN Active 50+ Employee and Retiree.

Hazard identification, risk assessment, and incident investigation

The ORLEN Group companies carry out ongoing hazard identification, risk assessment and incident investigation. The process includes developing and updating the Occupational Risk Assessment for individual positions, carrying out work environment studies, identifying hazards in work instructions, and monitoring of working conditions. The Report a Safety Hazard programmes run by the companies are an important part of the process.
The process is supported by a system of inspections, audits, job reviews and Safety Walks. Group companies have procedures in place that allow employees and contractors to abandon their work if they identify a potential hazard to their health and life. Conclusions formulated in the process of hazard identification, risk assessment and incident investigation are used as inputs for the continuous improvement of the ORLEN Group’s occupational safety system.

In connection with a fatal collective accident at work involving a contractor that occurred at ORLEN Unipetrol RPA in 2018, remedial and preventive measures were taken at that company, the ORLEN Unipetrol Group, and the ORLEN Group. First, a special team was formed to investigate the circumstances and causes of the accident, and to make recommendations to prevent similar accidents in the future. Industry experts from the ORLEN Group level were delegated to support identification of areas for improvement, formulate conclusions, and design solutions aimed at eliminating the causes of the accident. Another important aspect of their visits was establishment of preventive measures to avoid the occurrence of similar events at other ORLEN Group companies.

Changes were implemented at ORLEN Unipetrol RPA and the ORLEN Unipetrol Group with respect to drafting and issuing work authorisations and communication among work supervisors. In addition, a series of trainings on contractor supervision were conducted for production installation employees. The ORLEN Group carried out a Lessons Learned process, including an incident alert and presentation of causes of the incident and potential areas for improvement for the companies. Implementation of ORLEN Group Safety Standards covering, among other things, subcontractor work safety management, system of written authorisations, and the LOTO system ensuring secure energy source isolation, was completed.

**Report a Safety Hazard to Contractors at PKN ORLEN**

The system is dedicated to the employees of external companies. Anyone who identifies an occupational safety hazard may report it by sending a text message to a designated telephone number.

**Execution of the hazard identification, risk assessment and incident investigation process at the ORLEN Group level**

The process of hazard identification, risk assessment and incident investigation is carried out at the company level and the ORLEN Group level. In the latter case, it uses the following tools: Safety Alerts, Lesson Learned, event tree analysis of accidents at work, Safety Meeting.

**Safety Alerts and Lesson Learned at the ORLEN Group**

Any accidents or emergencies that occur at the ORLEN Group are analysed and assessed in terms of the likelihood of their recurrence.

Communication of near misses and emergencies is based on Safety Alerts. In the case of emergencies, Lesson Learned actions are organised based on checklists designed to identify preventive measures in different ORLEN Group locations. Special tasks have been implemented for analysing the potential risk of accidents at work and emergencies, and the findings of such analyses serve as the basis for taking preventive measures. Process hazards are reviewed at the ORLEN Group using a range of methods, including HAZOP, which is used to establish the probability of hazards in industrial facilities. HAZOP consists in a systematic review of design assumptions and processes for potential deviations from predetermined parameters.
A continually improved element which requires wider development across the ORLEN Group is interdisciplinary Safety Meetings of representatives of the personal, process and fire safety functions, the Technology Office, and other areas of the organisation.

They are held to analyse emergency events that occurred at the ORLEN Group by identifying their causes and collecting information about their consequences. On the basis of collected information and available source materials, such as Reports from Emergency/Techical and Reliability Teams (investigation reports), various measures are formulated, which are then addressed to relevant areas of the ORLEN Group companies. The aim of this exercise is to capture lessons learnt and minimise the risk of similar incidents in the future. All information analysed during Safety Meetings is stored in an internal database of PKN ORLEN.

**Occupational health services at the ORLEN Group**

Employees of the ORLEN Group companies are provided with access to basic medical care. It includes occupational health services, for instance employer-funded preventive care examinations during working hours, where possible. The services include issuance of medical opinions and assessment of employees’ capacity to work, monitoring the health of employees in risk groups, examinations for diagnostics of occupational diseases and other work-related illnesses. An occupational medicine doctor is involved in the process of identifying workplace hazards in particular positions as part of the Occupational Risk Assessment, which is developed and then updated as necessary, attends OHS Committee meetings, and is consulted on the contents of first aid kits.

In some cases, the scope of services is extended to include additional benefits, e.g., occupational psychology advice. Work environment tests are carried out for particular work posts. The companies also run additional health prevention campaigns and initiatives, such as preventive vaccinations (including against COVID-19), medical examination packages and disease prevention programmes (e.g., hearing and vision exams, prostate cancer screening, ultrasound and mammography exams, blood tests, densitometry, diabetes prevention, COPD prevention, etc.), SARS-CoV-2 antibody tests, a programme researching the impact of work environment on health, assistance with the cost of prescription eyeglasses for employees. Also, ORLEN Group employees and their families are offered additional healthcare packages and benefit from various initiatives organised by the companies (ultrasound scans for employees’ children, etc.).

**Consultation of employee representatives on health and safety, and communication**

OHS Committees are in place at ORLEN Group companies (PKN ORLEN, ORLEN Laboratorium, Basel, ORLEN Palywienst, ANW, ORLEN OIL, ORLEN Pardősíp, ORLEN Serwis, ORLEN Ochrona, KS Selina, ORLEN KoTrans, ORLEN Polska, ORLEN Centrum Utręba Kępna/ Gryf, ORLEN Centrum Seawise, ORLEN admistracja, Polska Press, ORLEN Transport, Energa Group companies in

Responsibilities of an OHS Committee include:

- Issuing opinions on proposed changes in workplace organisation and equipment;
- Analysing conclusions from the Occupational Risk Assessment;
- Issuing opinions on standards for employee personal protective equipment, clothing and footwear;
- Reviewing periodic assessments of health and safety at work.
which establishment of an OHS Committee is required. There is an equal representation of the employer, including Company Social Labour Inspector, on each OHS Committee.

OHS Committee proceedings are held regularly, at least once a quarter. In addition, committees with a similar scope of responsibilities operate at the ORLEN Unipetrol companies, Public Company ORLEN Lietuva, ORLEN Deutschland and ORLEN Baltics Retail.

As regards consultations on occupational health and safety issues at ORLEN Group companies, employees are represented by employee representatives and trade unions. Employee representatives and trade unions are a party in consultations on occupational safety matters, such as development and updates of the Occupational Risk Assessment, employee entitlements to protective clothing and shoes and proper/lastic meals and beverages, determination of the scope of basic medical care for employees, and identification of solutions to improve occupational safety. They are also involved in the activities of OHS Committees.

The ORLEN Group provides access to information on occupational safety through the Company’s internal communication system, including the PKN ORLEN Intranet available to employees of the ORLEN Group companies. This information is also disseminated during Occupational Safety Days and Topics of the Month as well as through security alerts and special programmes for employees such as the Employee Support System.

Employees are involved in the development and improvement of work safety through the Report a Safety Hazard system.

**Occupational Safety Day at PKN ORLEN and Topic of the Month**

Topic of the Month is a project carried out on the first Thursday of each month. It includes self-assessment of OHS, fire protection and process safety issues by heads of organisational units. Short Talks on Safety with the employees, and a discussion of a Topic of the Month are addressed in a given month prepared by the PKN ORLEN Occupational Health and Safety Office. It concerns a selected work safety issue or promotion of healthy lifestyles and good balance between work and rest. The project’s objectives are to:

- Identify threats, including psychosocial threats, and ways to protect against them;
- Look for safer ways to perform specific work activities and additional precautions.

Occupational Safety Days is an initiative aimed at raising awareness of hazards and threats, including those of a psychosocial nature.

**OHS training**

The ORLEN Group organises mandatory training programmes on safety for its employees and contractors to familiarise them with the safety standards applicable at the Group companies. The programme focuses on raising the employees’ and contractors’ awareness of the importance of correct assessment of the situation, knowledge of potential risks and risk mitigation methods, and adherence to OHS rules and procedures, proper use of protective systems and equipment, and the need to report potentially dangerous incidents. The programme includes tools for checking the employees’ and contractors’ knowledge.

OHS training provided to ORLEN Group employees includes initial and periodic training on first aid, fire safety, evacuation exercises, as well as other training with elements of OHS. The training is provided free of charge to employees during working hours and, where needed, in different language versions. Its effectiveness is assessed by holding theoretical and practical examinations.

ORLEN Group companies’ contractors receive training on general OHS, fire safety and process safety issues, working methods, local hazards, and specialist training with elements of OHS. Theoretical and practical examinations are carried out to assess effectiveness of the training, with the system for auditing contractors’ work serving as an additional verification tool.

PKN ORLEN and ORLEN Unipetral RPA operate **Training Centres**.

**PKN ORLEN Training Centre**

Training Centre is a concept of training employees of external contractors involved in any work at the Company’s production facilities, as well as at its own new hires staffing the production area.

It involves detailed checking of the staff’s theoretical and practical knowledge within four thematic blocks: OHS, machinery, electrical systems, and local hazards at PKN ORLEN’s production facilities.

Knowledge of and skills in mechanical and electric engineering are checked through practical tasks. A similar initiative addressed to employees has been implemented at ORLEN Unipetral RPA. Selected ORLEN Group companies have systems in place to assess the quality of training through training assessment or service provider assessment procedures.

**Information campaigns promoting occupational safety and healthy lifestyles**

**Occupational Safety and Health Protection Days at the ORLEN Group**

Occupational Safety and Health Protection Days is an annual event dedicated to promoting work safety and healthy lifestyles among the Group’s employees and contractors. Each edition of the project and its planned events present a unique opportunity for employees of the ORLEN Group companies, as well as for external contractors, to participate in activities designed to consolidate and check their OHS knowledge.
Occupational Safety and Health Protection Days are announced annually by the Head of the PKN ORLEN Occupational Health and Safety Office for all ORLEN Group companies at the same time, although each company prepares its own programme of the event, in keeping with the announced main theme. Participants of the successive editions of Occupational Safety and Health Protection Days at the ORLEN Group have had an opportunity to visit the Driver Awareness site, medical booths, VR simulators, gaming and OHS competition areas, as well as exhibitions of OHS businesses and representatives of the ORLEN Group companies.

In 2021, selected ORLEN Group companies hosted the event in person, operating in compliance with sanitary regime regulations put in place in response to the ongoing COVID-19 pandemic. Other companies held virtual or hybrid meetings. When planning the programmes, special attention was paid to prevention and topics related to COVID-19 pandemic containment projects. PKN ORLEN set up COVID-19 vaccination points in three locations: Plock, Warsaw, and Wloclawek. Vaccination was offered to employees, employees' families and contractors. The following were also implemented: an energy bike zone, virtual first aid courses, oxygen bars, thematic workshops (plant terrarium, macrame), medical stands, food and drink areas, games and competitions with prizes. The Energa Group and the RUCH Group also actively participated in the planning and hosting of Occupational Safety and Health Protection Days. First aid training, evacuation drills, webinars, dietary workshops, medical consultations, free vehicle fire extinguisher inspections, health and safety equipment inspections, and many other initiatives for employees were conducted.

Other projects in the field of occupational safety

To the Rescue app on employees’ company phones

The app was designed for ORLEN Group employees to enable them to use professional guidance in the event of an emergency either in or outside the workplace. The GPS location feature will enable the user to quickly call emergency services. The app also provides a comprehensive source of first aid knowledge, contains instructions on how to act in case of fire or an emergency and makes calling for help easier.

Prevention and mitigation of occupational health and safety impacts directly liked by business relationships

The company has in place a safety standard entitled „Classification and supervision of safety of third-party companies located on the premises of ORLEN Group companies or providing services to ORLEN Group companies” Implementation of the standard consists in periodic audits of external companies, which are classified in three categories:

- Companies of strategic importance, which have a significant direct impact on the company’s functioning, core business, and critical infrastructure – Group A.
- Companies providing contractor and execution services, such as day-to-day plant maintenance, and executing smaller investment projects, which have a direct impact on the functioning of PKN ORLEN and ORLEN Group companies located on premises owned by PKN ORLEN, which are not of strategic importance, companies performing particularly hazardous work on premises owned by PKN ORLEN and/or are involved in the collection, storage and transport of dangerous substances produced by the company – Group B.
- Companies operating auxiliary or support processes, which do not have a direct impact on the company’s functioning, have indirect ties in the operation of processes, act as subcontractors to external companies of strategic importance or carrying out plant maintenance activities, which do not work on operating production facilities – Group C.

External companies classified in:

- Group A are audited at least once a year;
- Group B are audited using the sampling method at least once every three years;
- Group C are not audited, but may be audited at the request of the Head of the PKN ORLEN Occupational Health and Safety Office.

The process includes a comprehensive audit covering, among other things: the company’s certified safety management systems, risk and hazard management, accident and crisis identification systems, hazard reporting and mitigation programmes, work safety culture building and improvement area, management of employee conduct, work organisation, fire, process and technical safety.

In addition, the ORLEN Group companies regularly assess supplies in terms of safety of their work.

Company Fire Brigade

The core responsibility of the Company Fire Brigade is to carry out rescue and firefighting activities on the premises of PKN ORLEN, as well as in the entire territory of Poland as part of the National Rescue and Firefighting System and the Assistance System for the Transport of Hazardous Materials (SPOT), and to supervise the readiness of the Company’s facilities for rescue and firefighting activities. The Company Fire Brigade provides chemical and technical rescue, seals leaks, mans
safety stations under plant emergency conditions and during hot works on the premises of the production plant in Plack, and performs fire prevention functions. Firefighters specialise in firefighting in the refining and petrochemical industry, chemical rescue activities, as well as water rescue, technical rescue, medical care at first responder level and rope rescue activities.

For several years, they have been actively cooperating with fire brigades operating across the ORLEN Group by taking operational and preventive measures for safety improvement. Firefighters are equipped with more than 20 specialist firefighting and rescue vehicles, high volume pumps and water cannons, a rescue boat and specialist protective equipment for staff. A new snow and dry powder fire truck was purchased in 2021. It will replace a vehicle that has been in use for over 40 years. The SCANA chassis vehicle is equipped with extinguishing dry powder tanks with a total capacity of 3,000 kg, eight 30 kg cylinders with carbon dioxide, and two mobile fire extinguishers with halon alternatives. The vehicle is dedicated to extinguishing fires involving flammable gases and electrical and electronic equipment. In 2021, measures were undertaken to improve and develop fire safety at the ORLEN Group. Employees of PKN ORLEN's Company Fire Brigade underwent specialist courses and training in fire rescue and chemical safety assessment, which included a course intended for fire safety inspectors.

Emergency drills and training involving employees and rescue and firefighting services

Regular emergency drills are conducted at the ORLEN Group companies, building employees' knowledge of how to behave in an emergency. The drills are also an opportunity to improve cooperation with national rescue services in order to minimise the potential consequences of an industrial accident. In 2021, the Company Fire Brigade conducted an initial test for 77 candidates for Company Chemical Rescuers on the chemical training track, with 70 people having successfully completed the course. As of December 15th 2021, PKN ORLEN had 646 Company Chemical Rescuers.

Development of the Fire Safety function at the ORLEN Group

Projects implemented under the ORLEN Group company fire brigades segment-based management system were continued in 2021. There are nine company fire brigades, located in Plack, Wieluń, Trzebinia, Jedlicze, Mażejki, Litwinów, Neratovice, Pardubice and Kolín. The process to implement the segment-based management system included a number of measures initiated and implemented to ensure internal standardisation of the fire protection area.

PKN ORLEN Petrochemicals' overhaul 2021

The largest-to-date overhaul and replacement exercise was carried out at the PKN ORLEN Olefins plant's Olefins 2 unit in 2021. Considering the scope of the project and given the fact that it was undertaken during the third wave of the COVID-19 pandemic, multidirectional measures were designed, launched, implemented and supported to ensure the safety of contractors and process plant personnel performing the works. These included continuous oversight by the OH&S personnel (ORLEN Eko Sp. z o. o., ORLEN Group OH&S and Prevention Coordination Department, contractors), on-going cooperation with the overhaul coordinator, contractor meetings, introduction of 'day-ahead work plans', development of a schedule for the Company Fire Brigade's standby posts, etc.

The effects of safety measures undertaken at the ORLEN Group were appreciated by independent expert bodies

PKN ORLEN was awarded the Gold Card of Safe Work Leader. It is the highest national award for the members of the Safe Work Leaders' Forum, given for special and effective efforts for work safety. The Safe Work Leaders' Forum evaluated PKN ORLEN's initiatives to improve work safety. The Company qualified for the prestigious Gold Card award. This reflects its utmost commitment to personal safety and positive effects delivered by its initiatives in the area.

ANWIL won the National Labour Inspectorate's Employer – Provider of Safe Work competition.

The purpose of the competition is to promote companies which organise work so as to guarantee the highest level of employee safety and health protection, and which diligently observe labour law regulations and the lawfulness of employment. ANWIL became one of the five companies in Poland presented with an award in the current edition of the competition and was included in the Golden Employer List of the best managed, safest and most profitable companies in Poland.
Main performance indicators in the area of occupational health and safety

The calculation of the following three KPIs: Combined TRR, Safety Culture Indicator, and T1RIR did not include contractor data of two companies of the ORLEN Group, i.e. Poland Press Grupa and ORLEN Transport.

**Accidents and safety KPIs**

### Total Recordable Rate (TRIR) and Tier 1 Process Safety Events Rate (T1 PSER)

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<td>TRIR  for employees</td>
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**In 2021, ORLEN Transport and Poland Press Grupa did not report on all data components of the TRIR for contractors and TRIR for employees and contractors, i.e. they did not report on data relating to contractors, therefore the TRIR for contractors and TRIR for employees and contractors inclusive of the ORLEN Transport and Poland Press Group data will be reported for 2022. In 2020, the Energa Group did not report on all data components of the TRIR for contractors and TRIR for employees and contractors, i.e. they did not report on data relating to contractors, therefore TRIR for contractors and TRIR for employees and contractors inclusive.

**In 2020, the Energa Group did not report on all data components of the Safety Culture Indicator, i.e. they did not report on data relating to contractors and Work Safety Hazard Reports, therefore the Safety Culture Indicator for the ORLEN Group inclusive of the ORLEN Transport and Poland Press Group data was reported for 2022.

**In 2020, the Energa Group did not report on all data components of the Safety Culture Indicator, i.e. they did not report on data relating to contractors and Work Safety Hazard Reports, therefore the Safety Culture Indicator for the ORLEN Group inclusive of the Energa Group data is reported starting from 2021**

> The Safety Culture Indicator is a sum of:

- The product of the percentage showing achievement of the target for the combined TRIR (company and contractors) by a company and 0.7 as a co-tenant rate weight in the Safety Culture Indicator.
- The product of the percentage showing achievement of the target for the Risk Notification and Handling Indicator by a company and 0.3 (risk notification weight in the Safety Culture Indicator).

### Accidents at work involving ORLEN Group employees and contractors

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<tr>
<td>ORLEN Group</td>
<td>81</td>
<td>91</td>
</tr>
</tbody>
</table>

**In 2020, ORLEN Transport and Poland Press Grupa did not report on all data components of the Combined TRR, i.e. they did not report on data relating to contractors, therefore the Combined TRR for the ORLEN Group inclusive of the ORLEN Transport and Poland Press Grupa data will be reported for 2022. In 2020, the Energa Group did not report on all data components of the Combined TRR, i.e. they did not report on data relating to contractors, therefore the Combined TRR for the ORLEN Group inclusive of the Energa Group data will be reported for 2022.

**In 2022, the Energa Group did not report on all data components of the Safety Culture Indicator, i.e. they did not report on data relating to contractors and Work Safety Hazard Reports, therefore the Safety Culture Indicator for the ORLEN Group inclusive of the Energa Group data is reported starting from 2021.**

> The Combined TRR is calculated as follows:

\[
\text{Combined TRR} = \frac{\text{Total number of workplace accidents involving employees and contractors}}{\text{number of man-hours worked by employees and contractors in the same period}} \times 1,000
\]

---

1 Total Recordable Rate (TRIR) – an internationally recognized metric of a company’s rate of workplace accidents calculated as follows: number of workplace accidents involving employees and contractors that result in days lost in a reference period/number of man-hours worked by employees and contractors in the same period x 1,000,000.

2 Tier 1 Process Safety Events Rate (T1 PSER) – number of process safety events according to API 754 (number of events of greater consequence related to substance release into the environment)/number of man-hours x 1,000,000.

3 In 2021, ORLEN Transport and Poland Press Grupa did not report on all data components of the Combined TRR, i.e. they did not report on data relating to contractors, therefore the Combined TRR for the ORLEN Group inclusive of the ORLEN Transport and Poland Press Grupa data will be reported for 2022. In 2020, TRIR for employees included data concerning employees of ORLEN Transport Sp. z o.o. and Poland Press Grupa. Therefore, in 2021 TRIR for the ORLEN Group employees was 1.74, up in the 1.22 reported in 2020.

4 In 2020, the Energa Group did not report on all data components of the Combined TRR, i.e. they did not report on data relating to contractors, therefore the Combined TRR for the ORLEN Group inclusive of the Energa Group data will be reported starting from 2021.

5 TRIR for employees – number of workplace accidents involving employees that result in days lost in a reference period/number of man-hours worked by employees in the same period x 1,000,000.

---

<table>
<thead>
<tr>
<th>GRI: 403-9, 403-10</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Recordable Incident Rate (TRIR) **</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>0.31</td>
<td>0.31</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>GRI: 403-9, 403-10</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of accidents at work involving employees and contractors ***</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>91</td>
<td>86</td>
</tr>
<tr>
<td>Total number of accidents at work involving employees</td>
<td>9</td>
<td>86</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>9</td>
<td>86</td>
</tr>
<tr>
<td>Total number of accidents at work involving employees and contractors **</td>
<td>81</td>
<td>91</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>81</td>
<td>91</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>GRI: 403-9, 403-10</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Recordable Incident Rate (TRIR) **</td>
<td>x x</td>
<td>x x</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>0.31</td>
<td>0.31</td>
</tr>
</tbody>
</table>

---

[248]
### Total Recordable Incident Rate (TRIR) at ORLEN Group employees and contractors

<table>
<thead>
<tr>
<th>TRIR(^a)</th>
<th>UoM</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORLEN Group</td>
<td>[number]</td>
<td>0.95</td>
<td>0.33</td>
</tr>
<tr>
<td>ORLEN Group</td>
<td>[number]</td>
<td>0.10</td>
<td>0.06</td>
</tr>
</tbody>
</table>

\(^a\) In 2020, ORLEN Transport and Polish Press Group did not report on all data components of the Combined TRIR. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021. ORLEN Transport and Polish Press Group are entities of the ORLEN Group, which are subsidiaries of the ORLEN Group. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data:

<table>
<thead>
<tr>
<th>Total number of accidents at work involving employees(^b)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>12</td>
<td>4</td>
</tr>
<tr>
<td>Men</td>
<td>19</td>
<td>78</td>
</tr>
</tbody>
</table>

\(^b\) Number of employee-acknowledged accidents at work involving employees (excluding accidents at work involving contractors). In 2020, the ORLEN Group had 587,000 employees and contractors. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021.

<table>
<thead>
<tr>
<th>Total number of accidents at work involving contractors(^c)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>11</td>
<td>6</td>
</tr>
<tr>
<td>Men</td>
<td>22</td>
<td>17</td>
</tr>
</tbody>
</table>

\(^c\) Number of employee-acknowledged accidents at work involving contractors. In 2020, the ORLEN Group had 587,000 employees and contractors. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021.

<table>
<thead>
<tr>
<th>Total number of accidents at work involving ORLEN Group employees and contractors</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>23</td>
<td>19</td>
<td>10</td>
</tr>
</tbody>
</table>

\(^d\) Number of employee-acknowledged accidents at work involving employees (excluding accidents at work involving contractors). In 2020, the ORLEN Group had 587,000 employees and contractors. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021.

#### Safety Culture Indicator at ORLEN Group employees and contractors

<table>
<thead>
<tr>
<th>Safety Culture Indicator (^e)</th>
<th>UoM</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>ORLEN Group (^f)</td>
<td>100(^f)</td>
<td>100(^f)</td>
<td></td>
</tr>
</tbody>
</table>

\(^e\) In 2020, ORLEN Transport and Polish Press Group did not report on all data components of the Safety Culture Indicator, i.e., they did not report on data relating to contractors and Work Safety Hazards. Therefore, the Safety Culture Indicator for the ORLEN Group includes the ORLEN Transport and Polish Press Group data. The Safety Culture Indicator for the ORLEN Group includes the ORLEN Transport and Polish Press Group data. The Safety Culture Indicator for the ORLEN Group includes the ORLEN Transport and Polish Press Group data. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data:

<table>
<thead>
<tr>
<th>Total number of accidents at work involving employees(^g)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>61</td>
<td>43</td>
</tr>
<tr>
<td>Poland</td>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>Germany</td>
<td>9</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malta</td>
<td>10</td>
<td>8</td>
</tr>
<tr>
<td>Malta</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total number of accidents at work involving contractors(^h)</td>
<td>2021</td>
<td>2020</td>
</tr>
<tr>
<td>Poland</td>
<td>25</td>
<td>0</td>
</tr>
<tr>
<td>Poland</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Germany</td>
<td>11</td>
<td>0</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Malta</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total number of accidents at work involving ORLEN Group employees and contractors</td>
<td>2021</td>
<td>2020</td>
</tr>
<tr>
<td>Poland</td>
<td>120</td>
<td>26</td>
</tr>
<tr>
<td>Poland</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Germany</td>
<td>39</td>
<td>2</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

\(^g\) Number of employee-acknowledged accidents at work involving employees (excluding accidents at work involving contractors). In 2020, the ORLEN Group had 587,000 employees and contractors. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021.

\(^h\) Number of employee-acknowledged accidents at work involving contractors. In 2020, the ORLEN Group had 587,000 employees and contractors. Therefore, the Combined TRIR for the ORLEN Group includes the ORLEN Transport and Polish Press Group data and will be reported for 2021.

### ORLEN Group employees and contractors

<table>
<thead>
<tr>
<th>GENDER</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Men</td>
<td>1</td>
<td>6</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENDER</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>Men</td>
<td>12</td>
<td>39</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>GENDER</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Women</td>
<td>12</td>
<td>47</td>
</tr>
<tr>
<td>Men</td>
<td>12</td>
<td>39</td>
</tr>
</tbody>
</table>
### Regions

<table>
<thead>
<tr>
<th>Regions</th>
<th>Poland</th>
<th>Czech Republic</th>
<th>Lithuania</th>
<th>Germany</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2020</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

In 2021, the ORLEN Group did not report any severe accidents at work involving contractors. In 2020, all accidents at work involving ORLEN Group contractors were minor accidents. In 2021, the ORLEN Group recorded two collective accidents at work involving contractors (PKN ORLEN), while in 2020 there were none. Every accident at work at the ORLEN Group is investigated using the event tree analysis, accounting for accident causes and corrective measures. Moreover, regular meetings of the ORLEN Group OHS personnel are organized to discuss the analyses of accidents at work. In 2021, a special Technical Team was appointed to investigate one of the accidents; it was tasked with identifying all possible causes of the accident and recommending appropriate corrective measures. The corrective measures included the development and implementation of a technical standard: "Discharging the contents of apparatus with the use of vacuum equipment".

### GENDER

<table>
<thead>
<tr>
<th>ORLEN Group</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women</td>
<td>Men</td>
</tr>
<tr>
<td>Number of total accidents at work involving contractors</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>Number of minor accidents at work involving contractors</td>
<td>11</td>
<td>20</td>
</tr>
<tr>
<td>Total number of accidents at work involving contractors</td>
<td>11</td>
<td>22</td>
</tr>
</tbody>
</table>

### ORLEN Group employees by type of injury

<table>
<thead>
<tr>
<th>TYPE OF INJURY (employees)</th>
<th>Unit</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>cuts</td>
<td></td>
<td>17.14</td>
<td>20.48</td>
</tr>
<tr>
<td>bruises</td>
<td></td>
<td>15.65</td>
<td>11.46</td>
</tr>
<tr>
<td>burns</td>
<td></td>
<td>13.40</td>
<td>12.25</td>
</tr>
<tr>
<td>fractures</td>
<td></td>
<td>23.81</td>
<td>10.64</td>
</tr>
<tr>
<td>dislocations and sprains</td>
<td></td>
<td>21.90</td>
<td>32.53</td>
</tr>
<tr>
<td>other</td>
<td></td>
<td>10.40</td>
<td>7.23</td>
</tr>
</tbody>
</table>
### Accidents at work involving ORLEN Group contractors by type of injury

<table>
<thead>
<tr>
<th>TYPE OF INJURY (injuries)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>cuts</td>
<td>11.15</td>
<td>26.69</td>
</tr>
<tr>
<td>bruises</td>
<td>11.15</td>
<td>31.74</td>
</tr>
<tr>
<td>burns</td>
<td>0.00</td>
<td>4.35</td>
</tr>
<tr>
<td>fractures</td>
<td>21.71</td>
<td>30.43</td>
</tr>
<tr>
<td>dislocations and sprains</td>
<td>12.12</td>
<td>15.04</td>
</tr>
<tr>
<td>other</td>
<td>30.36</td>
<td>4.35</td>
</tr>
</tbody>
</table>

### Accidents at work involving employees of the ORLEN Group by type of activity

<table>
<thead>
<tr>
<th>TYPE OF INJURY (employees)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>day-to-day operation of plant and equipment</td>
<td>11.10</td>
<td>20.73</td>
</tr>
<tr>
<td>movement</td>
<td>49.00</td>
<td>49.24</td>
</tr>
<tr>
<td>plant engineering, maintenance and repairs</td>
<td>25.70</td>
<td>23.17</td>
</tr>
<tr>
<td>road collisions</td>
<td>6.77</td>
<td>7.52</td>
</tr>
<tr>
<td>other activities</td>
<td>13.33</td>
<td>8.54</td>
</tr>
</tbody>
</table>

### TTR for ORLEN Group employees

<table>
<thead>
<tr>
<th>GENDER</th>
<th>ORLEN Group</th>
<th>Total</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>1.74</td>
<td>1.66</td>
<td>0.69</td>
<td>2.75</td>
</tr>
<tr>
<td>Women</td>
<td>0.69</td>
<td>0.50</td>
<td>0.69</td>
<td>1.75</td>
</tr>
<tr>
<td>Men</td>
<td>2.15</td>
<td>2.16</td>
<td>1.26</td>
<td>2.75</td>
</tr>
</tbody>
</table>

### Accidents at work involving contractors of the ORLEN Group by type of activity

<table>
<thead>
<tr>
<th>TYPE OF INJURY (activities)</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>day-to-day operation of plant and equipment</td>
<td>3.03</td>
<td>8.70</td>
</tr>
<tr>
<td>movement</td>
<td>12.13</td>
<td>17.89</td>
</tr>
<tr>
<td>plant engineering, maintenance and repairs</td>
<td>24.51</td>
<td>7.90</td>
</tr>
<tr>
<td>road collisions</td>
<td>3.03</td>
<td>8.70</td>
</tr>
<tr>
<td>other activities</td>
<td>36.99</td>
<td>64.82</td>
</tr>
</tbody>
</table>

### TRR for ORLEN Group employees

<table>
<thead>
<tr>
<th>REGIONS 5</th>
<th>ORLEN Group</th>
<th>Total</th>
<th>Poland</th>
<th>Czech Republic</th>
<th>Lithuania</th>
<th>Germany</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2020</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5.36</td>
<td>5.28</td>
<td>5.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>5.28</td>
<td>5.36</td>
<td>5.28</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>5.36</td>
<td>5.28</td>
<td>5.36</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5 Regions – markets in which the ORLEN Group has assets.

A slight increase in the TTR for ORLEN Group employees was recorded in 2021 relative to 2020. It was attributable to the acquisition of equity control over new companies or groups of companies in 2020–2021.

### Severity rate for accidents at work involving ORLEN Group employees in 2021

<table>
<thead>
<tr>
<th>GENDER</th>
<th>ORLEN Group</th>
<th>Total</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2020</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5.36</td>
<td>4.71</td>
<td>5.36</td>
<td></td>
</tr>
<tr>
<td>Poland</td>
<td>5.36</td>
<td>4.71</td>
<td>5.36</td>
<td>17.01</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Lithuania</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Germany</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>12.91</td>
</tr>
<tr>
<td>Canada</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

5 Quotients of the number of days lost due to post-accident absences of ORLEN Group employees and the number of employee-acknowledged accidents at work of ORLEN Group employees resulting in days lost.

6 Regions – markets in which the ORLEN Group has assets.
Number of days lost due to post-accident absenteeism at the Orlen Group in 2021

<table>
<thead>
<tr>
<th>GENDER</th>
<th>Women</th>
<th>Men</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>675</td>
<td>4,978</td>
</tr>
<tr>
<td>2021</td>
<td>5,603</td>
<td></td>
</tr>
</tbody>
</table>

Number of days of absence from work of an Orlen Group company employee due to sickness resulting from an employee-acknowledged accident at work in a period.

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>Total</th>
<th>Poland</th>
<th>Czech Republic</th>
<th>Lithuania</th>
<th>Germany</th>
<th>Canada</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>5,603</td>
<td>4,251</td>
<td>1,352</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Number of acknowledged occupational disease cases is the number of decisions issued by the State Sanitary Inspector to confirm recognition of an occupational disease of a current or former employee of an Orlen Group company.

Cases of occupational diseases recorded in 2020 were attributable to factors associated with lifting and carrying of loads, noise, and work involving exposure to hazardous materials. These factors contributed to a spinal disease, hearing injury, and respiratory disease. In 2021, the factors included noise, lifting and carrying loads, mechanical vibrations, forced body posture during work, causing workers to suffer from spinal disease, carpal tunnel syndrome, and hearing impairment.

The Orlen Group does not report on the incidence of occupational diseases in contractors’ employees due to the absence of tools or legal regulations that would enable it to obligate third parties to report such data. This is also the case with obtaining information on third-party and Orlen Group employee deaths from occupational diseases.

Workers with high incidence or high risk of occupational diseases

The Orlen Group constantly monitors and identifies factors that may cause occupational diseases among its employees. Work environment surveys are performed on a regular basis and their results are analyzed to assess the risk of potential impact on the employees’ health. With respect to all factors identified for jobs with a high risk of occupational disease, systemic preventive measures have been implemented in the form of technical and organizational solutions offering personal and collective protection.

The use of such solutions eliminates the risk of employees developing occupational diseases as a result of harmful factors in their work environment. Consequently, the number of Orlen Group employees suffering from occupational diseases in 2021–2020 was stable.

OHS training

<table>
<thead>
<tr>
<th>OHS training</th>
<th>LWM</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of employees trained</td>
<td>23,099</td>
<td>19,907</td>
<td></td>
</tr>
<tr>
<td>Orlen Group</td>
<td>[number]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

In 2020–2021, the Orlen Group did not report on OHS training by employee group.
Process safety

GRI Disclosures:
GRI OG-13 GRI 306-3
Process safety events by business activity
OG-13
TIER1, TIER2 and TIER3 process safety events

TIER1 process safety events

These are emergencies with a significant impact related to a sudden and unexpected substance release due to ineffective protection layers. Such emergencies include a sudden and unexpected release of hazardous substances or non-toxic and non-flammable substances (steam, condensate, hot water, nitrogen, compressed air, CO2) during ongoing industrial processes, having one or more consequences not classified as TIER1, including:

- Injury to an employee of the ORLEN Group or of a contractor or subcontractor;
- Release of excessive pressure into the atmosphere in an amount equal to or higher than the threshold amount in any one-hour period;
- Release of a substance (without causing its ignition) in an amount equal to or higher than the threshold amount in any one-hour period, excluding release of pressure into the atmosphere with the use of pressure relief devices.

TIER2 process safety events

These are events of lesser consequence related to a sudden and unexpected substance release due to ineffective protection layers. Such emergencies include a sudden and unexpected release of hazardous substances or non-toxic and non-flammable substances (steam, condensate, hot water, nitrogen, compressed air, CO2) during ongoing industrial processes, having one or more consequences not classified as TIER1, including:

- Fire or explosion resulting in losses in the form of direct costs of at least USD 2,500;
- Release of excessive pressure into the atmosphere in an amount equal to or higher than the threshold in any one-hour period;
- Officially announced evacuation of local residents or recommendation for them not to leave their homes.

TIER3 process safety events

It has been assumed that TIER3 process safety events are emergency shutdowns of installations or process nodes triggered by active or passive protections (automatic or mechanical). TIER3 rate is calculated as follows:

- TIER3 process safety events in the production area – number of emergency shutdowns of installations or process nodes triggered by active or passive protections (automatic or mechanical);
- TIER3 process safety events in the logistics area – ratio of the number of emergency shutdowns of installations leading to relasticization and restart (without causing its ignition) of tank cars and tankers triggered by active or passive protections (automatic or mechanical) to the total number of loading operations performed at a given time.

Number of TIER1, TIER2 and TIER3 process safety events

Number of TIER1 process safety events – the ORLEN Group

Number of TIER2 process safety events – the ORLEN Group

Number of TIER3 process safety events in the production area at the ORLEN Group

Number of process safety events at the ORLEN Group

<table>
<thead>
<tr>
<th>Country</th>
<th>2020</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poland</td>
<td>156</td>
<td>154</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>73</td>
<td>68</td>
</tr>
<tr>
<td>Lithuania</td>
<td>14</td>
<td>12</td>
</tr>
</tbody>
</table>
Information on each spill reported by ORLEN Group companies is presented in the table below.

Most of these spills involved contamination of equipment and the units' site. In some cases there was a localised impact on soil and in one case there was a localised impact on groundwater. In addition, most of these incidents required covering the costs of rescue operations by Company Fire Brigades as well as repair or replacement of damaged equipment, disposal of soil contaminants and land remediation. No person suffered any injuries as a result of these incidents.

### Total number and volume of significant spills in 2020

<table>
<thead>
<tr>
<th>No.</th>
<th>Number of spills</th>
<th>Volume of spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.06</td>
<td>ca. 0.5 Mg</td>
</tr>
<tr>
<td>2</td>
<td>0.08</td>
<td>ca. 0.08 Mg</td>
</tr>
</tbody>
</table>

### Total number and volume of significant spills in 2021

<table>
<thead>
<tr>
<th>No.</th>
<th>Number of spills</th>
<th>Volume of spills</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>0.05</td>
<td>ca. 0.05 Mg</td>
</tr>
<tr>
<td>4</td>
<td>0.02</td>
<td>ca. 0.02 Mg</td>
</tr>
</tbody>
</table>

### Spills reported by ORLEN Group companies in 2020

<table>
<thead>
<tr>
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</table>

### Spills reported by ORLEN Group companies in 2021

<table>
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<td>ca. 0.02 Mg</td>
</tr>
</tbody>
</table>
Most of the organizational and technical documents (Emergency instructions / SEVESO documentation) operating in the ORLEN Group companies and the type of substances present determine the amount of the released substance in Mg and not m3, therefore, to simplify reporting, the number of significant spills is reported in mass units, not volume.

Most of these spills involved contamination of equipment and the unit sites, without any impact on soil or water surface. In addition, most of these incidents required covering the costs of rescue operations by Company Fire Brigades as well as repair or replacement of damaged equipment. Two cases of partial release of gaseous substances into the atmosphere were reported.

Four employees of ORLEN Group companies were injured as a result of the events referred to above (three of them inhaled gas/vapour, one suffered a first-degree burn injury). All of them were provided with on-site medical assistance, in two cases the employees were hospitalised.

Description of significant risks in the area of Occupational Health and Safety and the methods of managing these risks can be found in the ‘Risk management’ section.
Counteracting corruption and bribery

We are committed to ensuring a fair and transparent business model for the ORLEN Group which guarantees trust, safety, free competition and value for all stakeholders.

Financial Control, Risk Management and Compliance Office:

Financial Control Department

- As part of financial audits performed at PKN ORLEN and other ORLEN Group companies – reveals irregularities and cases of misconduct of an economic nature, examines employees’ compliance with the applicable laws, and assesses internal regulations; estimates the consequences of any identified irregularities or cases of misconduct and defines remedial measures, designating the persons responsible for their implementation;
- Provides relevant information to support decision-making processes by formulating post-audit instructions which specify actions that must be taken to address the irregularities or improve performance of the area under review;
- Monitors the implementation of instructions issued following financial audits at PKN ORLEN and other ORLEN Group companies.

Compliance Management Department

- Supervises compliance by the ORLEN Group companies with applicable laws, internal regulations, voluntary standards of conduct and ethical standards;
- The key objective of the ORLEN Group’s compliance system is to proactively monitor the regulatory environment of all corporate business processes and to ensure a uniform approach to implementing and reporting compliance requirements across the Group;
- At PKN ORLEN, the compliance system is a dispersed function, where compliance risk is managed by Directors reporting directly to a member of the Management Board, under the supervision of the Head of the Financial Control, Risk and Compliance Management Office; the compliance management process is regularly reported to the PKN ORLEN Management and Supervisory Boards;
- Provides comments and prepares proposals for amendments to internal rules, procedures and regulations, both for PKN ORLEN and other ORLEN Group companies.

Enterprise Risk Management Team

- Coordinates the enterprise risk management process and provides methodology support during risk self-assessment and testing of controls put in place for PKN ORLEN and other ORLEN Group companies; assessment of process, project and strategic risks, and on controls testing methodologies;
- Supports business areas, project managers and persons involved in project activities in defining and evaluating risks using the functionalities of the Magique system and the CA Clarity PPM system;
- Actively participates in meetings aimed at improving the functionalities of the Magique and PPM CA Clarity systems in enterprise and project risk management.

Management Systems Team

- Actively participates in meetings aimed at improving the functionalities of the Magique and PPM CA Clarity systems in enterprise and project risk management.

GRI 103

SDGs:

- Goal 10
- Goal 16

Financial Control, Risk Management and Compliance Office:

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Management Systems Team

- Actively participates in meetings aimed at improving the functionalities of the Magique and PPM CA Clarity systems in enterprise and project risk management.
The Audit Office contributes to Company value growth by providing recommendations of solutions and standards to be implemented to enhance the probability of achieving the Company’s goals by reducing the risks, improving effectiveness of the internal control system assessment, and enhancing the efficiency of business processes.

• Supervises the proper operation and improvement of Quality, Environmental, Safety and Occupational Health, Information Security, Energy and ISCC and IS2 INI G Management Systems, which form part of the Integrated Management System (IMS) at PKN ORLEN;
• Maintains contacts with independent certification bodies, institutions, research centres, associations and Management System users;
• Supervises implementation of the objectives adopted by the Management Board in the IMS Policy, their validity and revision in response to changing internal and external conditions;
• Supervises assessment of the implementation of the Integrated Management System Policies by the heads of organisational units;
• Organises and performs audits of existing and newly implemented Management Systems;
• Assesses operation of the Integrated Management System based on the results of internal audits, Management Reviews, and submitted complaints;
• Performs and supervises documented IMS monitoring;
• Analyses data relating to, and evaluates the effectiveness of, corrective/preventive measures;
• Analyses data on the Management Systems at designated ORLEN Group companies.

**Audit Office**

- Initiates preventive measures to mitigate risks to the Group’s objectives, improve the efficiency of business processes and effectiveness of the Group’s internal control system by recommending specific solutions and standards;
- Ensures continuous development of the functional control system in order to improve the efficiency of business processes;
- Identifies inefficiencies in processes, procedures and structural solutions at the Group;
- Monitors the implementation of post-audit recommendations at PKN ORLEN and other ORLEN Group companies;
- Cooperates with the Head of the Control and Security Office with respect to measures taken by the Company in the case of proceedings conducted by law enforcement authorities or competent external institutions, in order to safeguard the Company’s interests in such proceedings.

The Audit Office contributes to Company value growth by providing recommendations of solutions and standards to be implemented to enhance the probability of achieving the Company’s goals by reducing the risks, improving effectiveness of the internal control system assessment, and enhancing the efficiency of business processes.

**Policies in place**

The anti-corruption and anti-bribery policies and internal regulations include:

**Code of Ethics**

- **Code of Ethics** – a document describing the standards of ethical conduct by PKN ORLEN employees in situations involving accepting or offering anything of value.

**Enterprise Risk Management Policy and Procedure**

- **Enterprise Risk Management Policy and Procedure** – laying down the principles of Enterprise Risk Management for PKN ORLEN and the roles and responsibilities of each individual involved in the process.

**Rules of Control and Verification Procedures Carried out at PKN ORLEN**

- **Rules of Control and Verification Procedures Carried out at PKN ORLEN** – a document prepared on the basis of the applicable Organisational Rules of PKN ORLEN in order to lay down the principles of control and verification procedures conducted by the Control and Security Office.

**ORLEN Group Anti-Money Laundering and Terrorist Financing Rules and Instructions**

- **ORLEN Group Anti-Money Laundering and Terrorist Financing Rules and Instructions** – laying down detailed procedures to be followed in countering money laundering and terrorist financing at the ORLEN Group. The rules are addressed to all companies’ employees in customer-facing positions and employees who have direct access to financial documents or participate in the execution of transactions.

**ORLEN Group Regulatory Risk Management Policy, being a part of the Compliance Policy**

- **ORLEN Group Regulatory Risk Management Policy, being a part of the Compliance Policy** – governs regulatory risk management processes resulting from existing or proposed legal regulations, excluding tax risks.

**Anonymous Misconduct Reporting System**

- **Anonymous Misconduct Reporting System** – the system provides a framework for identifying potential irregularities and instances of misconduct, which can be reported via indicated information channels.

**Policy on Corporate Governance and Allocation of the Companies**

- **Policy on Corporate Governance and Allocation of the Companies** – in which PKN ORLEN holds Equity Interests to PKN ORLEN Management Board.

**Members in Charge of Business Oversight of the Companies**

- **Members in Charge of Business Oversight of the Companies** – a document containing instructions on the selection of candidates for members of the ORLEN Group companies’ governing bodies and the rules for setting and reviewing Individual Bonus-Related Targets for members of the ORLEN Group companies’ management boards. It provides for full corporate supervision over the ORLEN Foundation.

**Rules for Managing the Risk of Losing Information Security**

- **Rules for Managing the Risk of Losing Information Security** – attributes information and guidelines on the process of managing the risk of losing security attributes.

**ORLEN Group Anti-Corruption Policy**

- **ORLEN Group Anti-Corruption Policy** – a declaration that our business objectives are to be pursued in a transparent, fair and
The policy is designed to raise employee awareness, encourage positive attitudes and behaviours, and streamline procedures and business process oversight. The document underscores the importance of training and awareness-raising among employees and the responsibility of company management for creating conditions that help to prevent and counteract corruption at the ORLEN Group.

Policy for the Detection and Management of Conflicts of Interest at Polski Koncern Naftowy ORLEN S.A.

Governs identification and management of conflicts of interest.

Supplier Code of Conduct

Supplier Code of Conduct – defines ethical standards that must be met by the ORLEN Group suppliers. It includes guidance on activities related to countering corruption, and promotes high ethical standards in business activities.

Integrated Management System Policy

Integrated Management System Policy – a document describing the working standards for quality assurance, reduction of environmental impacts, health and safety at work, information security and food safety.

Rules for Financial Control Procedures Carried out by the Office of Financial Control, Risk and Compliance Management

Set out the rules governing financial audits at PKN ORLEN and other ORLEN Group companies.

PKN ORLEN Financial Auditing Standards

Set out the framework for management, performance and quality assurance in audit activities. The purpose of the Standards is to ensure and maintain a professional level of financial audits carried out by the Financial Control Department at the PKN ORLEN Financial Control, Risk and Compliance Management Office and to standardise the approach to preparation, conduct and recording of financial audits and assessment of their findings.

Rules for the Implementation of Audits, Consultancy and Business Analysis Assignments at PKN ORLEN

Define the rules for conducting audits, consulting projects and business analyses at PKN ORLEN, other ORLEN Group companies and other entities, to the extent permitted by law.

PKN ORLEN Rules for Accepting and Offering Gifts

Define how PKN ORLEN employees should behave when accepting or offering gifts.

Rules of Integrated Trade Partner Safety Reviews

Define how employees should act to reduce the level of risk associated with establishing relations with business partners.

Business Process Safety Monitoring Rules

Govern the conduct of relevant PKN ORLEN units to minimise the risk of misconduct in business processes where a medium or high risk of misconduct is identified.

Non-financial key performance indicators

The ORLEN Group seeks to eliminate any instances of corruption and bribery.

PERCENTAGE AND TOTAL NUMBER OF OPERATIONS ASSESSED FOR RISKS RELATED TO CORRUPTION; IDENTIFIED RISKS

At PKN ORLEN and the ORLEN Group companies covered by the Enterprise Risk Management (ERM) System, the following risks in the anti-corruption and bribery area have been identified and assessed, depending on each company’s specific characteristics:

- Fraud and other misconduct – the risk of employees acting unethically and committing fraud or other misconduct. The risk of fraud and other misconduct has been identified in 34 processes in the areas of retail, wholesale, procurement, marketing, safety, and finance.

- Violation of ethical standards or their inappropriate implementation – The risk that ORLEN Group employees will undertake actions inconsistent with corporate policies and enforcement of these standards will not be effective and consistent with the corporate objectives. The risk has been identified in the Value System and Rules of Conduct process.

- Violation of ethical standards or their inappropriate implementation – The risk that ORLEN Group employees will undertake actions inconsistent with corporate standards of ethical or that the definition, implementation and enforcement of these standards will not be effective and consistent with the corporate objectives. The risk has been identified in the Value System and Rules of Conduct process.

The risks related to anti-corruption and bribery were assessed in a controls effectiveness review conducted by the relevant business areas in respect of 38 processes and in an independent review performed by the Internal Control Department based on the irregularities identified during inspections.

In 2021, the ERM System covered PKN ORLEN, ANWIL, ORLEN Unipetrol Group, ORLEN Ustka Group, ORLEN Deutschland GmbH, ORLEN Paliw and ORLEN Centrum Ustru Kapitałowych, which represent close to 10% of all the ORLEN Group companies. In 2021, as part of an annual risk self-assessment process and risk controls tests at PKN ORLEN, 536 risks were assessed based on tests of 1,002 controls in 164 business processes. The ORLEN Group companies assessed 191 risks and tested 660 controls in 95 processes. Given the nature of anti-corruption and anti-bribery issues, the ORLEN Group seeks to eliminate any instances of corruption and bribery. The Audit Office personnel are acquainted with internal procedures to be followed by employees in the case
Communication and training about anti-corruption policies and procedures

The ORLEN Group’s Anti-Corruption Policy was made available at www.orlen.pl and on the intranet in 2019. Our trading partners and representatives are notified about the policy and the rules for countering corruption at the time of establishment of the business relationship. In addition, when registering on the Connect procurement platform, suppliers also receive information on the anti-corruption policies and rules. In 2019, all members of the Management Board (100%) were made familiar with the ORLEN Group’s Anti-Corruption Policy. In accordance with the procedure for educating the Group’s workforce on the internal regulations, the Anti-Corruption Policy was made known to all (100%) employees. In 2019, the Central and Security Office launched a training programme delivered on an annual basis across business functions with the highest risk of misconduct, in the form of classroom or e-learning training provided to ORLEN Group employees and new hires. The topics covered included criminal liability and disciplinary sanctions for corruption offences, identification of such offences, procedures to be followed in the case of suspected corruption by employees, whistleblowing options and channels, accepting and giving of gifts and building safe relationships with business partners.

In 2021, 236 employees of the ORLEN Group companies received in-person training on these topics. The anti-corruption e-learning course was provided to over 80 PKN ORLEN employees. In-person training was significantly reduced in 2020, but the anti-corruption awareness raising system for employees was maintained. The Policy for the Detection and Management of Conflicts of Interest at Polski Koncern Naftowy ORLEN S.A. came into force in 2021 and is being implemented as a standard at all of the ORLEN Group companies. Also, an e-learning course on managing conflicts of interest has been completed by 976 people at PKN ORLEN and 31 people at other ORLEN Group companies so far.

Due diligence procedures

In accordance with the Code of Best Practice for WSE Listed Companies, PKN ORLEN has in place effective functional control, risk management and compliance supervision systems, as well as an internal audit and control function. The simultaneous operation of all these systems and functions allows the Group to exercise ongoing and effective anti-corruption supervision. PKN ORLEN has implemented a structured management control system, comprising a set of comprehensive procedures. The procedures are managed through a dedicated IT system which ensures their consistency through multifaceted agreements as well as approvals at each level in the organisation.

Key roles in the Enterprise Risk Management System

In order to minimise the risk of misconduct and corruption, PKN ORLEN has adopted the popular Three Lines of Defence Model: The first line of defence involves risk management by employees and business units, and controls related to the operational processes. The second line is compliance functions, and the third — internal audit and control, supporting the correct functioning of the specified prevention measures.

FIRST LINE OF DEFENCE/PREVENTION — INTEGRATED ENTERPRISE RISK MANAGEMENT SYSTEM (ERM)

Risk management is a continuous process, however it is revised in response to the ever-changing economic environment. As part of enterprise risk management, risk self-assessment processes and tests of controls are carried out at PKN ORLEN and other ORLEN Group companies on a regular basis.

SECOND LINE OF DEFENCE/ PREVENTION — COMPLIANCE FUNCTION

PKN ORLEN’s compliance function is based on the following four elements:

- the ERM system, which supports the process of assessment of financial and operational risk compliance with regard to the effectiveness of controls and the ERM Policy and Procedure;
- the internal audit and control function — with respect to compliance of the processes with internal regulations;
- assessment of compliance with integrated management systems (ISO);
- managing the risk of non-compliance with legal regulations, standards and ethical norms based on the requirements of the PKN ORLEN Compliance System documentation, with a particular focus on risks related to the Company’s business sector.

PKN ORLEN’s Integrated Management System takes into account the findings of audits and reviews as well as complaints and grievances. Additionally, preventive and corrective measures are taken to address any irregularities identified in the above
Financial Control

The Financial Control Department carries out financial audits aimed at identifying any economic irregularities and fraud, verifying if PKN ORLEN and ORLEN Group employees respect the applicable laws, internal policies and professional standards, estimating the impact of any potential irregularities or cases of misconduct, defining corrective measures and designating responsible persons, as well as assessing internal policies.

The audited area is scrutinised mainly against legal compliance, relevance, cost efficiency, reliability, efficiency and legitimacy criteria, with the interests of PKN ORLEN and ORLEN Group companies taken into consideration. Independence of the Financial Control Department is assured through appropriate functional reporting lines within the company’s organisational structure.

Financial audit activities are performed on the basis of annual plans approved by the President of the PKN ORLEN Management Board. Additionally, the Financial Control Department can also perform ad hoc and investigative audits upon requests submitted to the Head of the Financial Control, Risk and Compliance Management Office by Members of the PKN ORLEN Management Board and individual business functions.

On the basis of findings presented in the financial audit reports, follow-up instructions are issued which specify and prioritise measures to be taken to eliminate irregularities or improve the performance of the audited area. The implementation of post-audit instructions is monitored continuously until it is confirmed that the corrective measures have been implemented.

Reports summarising the financial audits are drawn up for the PKN ORLEN Management Board and the Audit Committee of the PKN ORLEN Supervisory Board twice a year.

THIRD LINE OF DEFENCE/ PREVENTION – INTERNAL AUDIT AND INTERNAL CONTROL FUNCTION

The audit function is performed by the Audit Office. Its purposes include independent, impartial and objective evaluation of functional control systems and analysis of business processes in accordance with the generally applicable laws and internal policies. The activities of the Audit Office conform to the International Standards for the Professional Practice of Internal Auditing (IIA).

Independence of the Audit Office is assured through appropriate functional and administrative reporting lines within the company’s organisational structure. The Audit Office performs its functions (audits, consultancy projects and business analysis) on the basis of an annual audit plan approved by the company’s Management Board. The annual plan is presented to the Audit Committee of the company’s Supervisory Board in order to obtain its opinion, and then is submitted directly to the Supervisory Board for approval. As part of their activities, the Audit Office and the Control and Security Office verify an ongoing basis if processes are executed in line with the applicable internal regulations. Ad hoc audits may also be conducted by the Audit Office when and as requested by the company’s Supervisory or Management Board.

The Audit Office continuously monitors its recommendations, based on which it prepares a report containing information on their implementation status. All monitoring reports are submitted to the company’s Management Board and the Audit Committee of the company’s Supervisory Board, which is in charge of ongoing assessment of the entire organisation’s functioning.

The Central and Security Office, on the basis of the ongoing monitoring of recommendations and post-audit instructions, prepares a report on the status and scope of implementation of the recommendations. Its activities consist in prevention and detection of irregularities. They are complemented by activities performed by ORLEN Ochrona, which has due authorisations and appropriate tools, such as an authorisation to use the services of business intelligence agencies and detectives.

If any instance of corruption is suspected, relevant steps are taken in close cooperation with law enforcement agencies, including the police and Central Anti-Corruption Bureau (CBA). With simultaneous operation of all the systems and functions described above, the Group is able to exercise ongoing and effective anti-corruption supervision. Since 2018, ORLEN Group companies have appointed Anti-Corruption Compliance Officers or, in case of these companies which do not have separate organisational units in charge of security, persons cooperating with the Anti-Corruption Compliance Officer of PKN ORLEN S.A.

In 2021, an interdisciplinary project team was established at PKN ORLEN S.A. to develop assumptions for the Rules for Reporting Breaches of Law and Protecting Persons who Report Breaches of Law at the ORLEN Group (Whistleblowing and Whistleblower Protection Rules) on the basis of Directive (EU) 2019/1937 of the European Parliament and of the Council of October 23rd 2019 on the protection of persons who report breaches of Union law and on the basis of proposed national legislation. The solutions developed by the team have been prepared for implementation across the ORLEN Group as an organisational standard, and implementation of the regulations is planned for 2022.
Suppliers

Suppliers are one of the key groups of our stakeholders. They are required to accept specific criteria relating to ORLEN values and responsibility. The Procurement area cooperates closely with the stakeholders, analyses their needs, puts forward common priorities, plans, KPIs and improvements.

GRI Disclosures

| GRI | 102-9 | 103-1 | 103-2 | 103-3 | 308-1 | 414-1 | 204-1 |

SDGs:

- Goal 11
- Goal 12

 Capitals

102-9 103-1 103-2 103-3

In a significant step towards ensuring a responsible supply chain, PKN ORLEN incorporated responsible business and sustainability criteria into its procurement management standard. The Company promotes social responsibility among its suppliers and seeks to cooperate with trade partners that respect human rights and operate in compliance with the law, ensure safe and fair working conditions, follow the best standards of ethical conduct and care for the natural environment. CSR and ESG criteria have been defined and compiled into a single document, i.e., the Supplier Code of Conduct. Compliance with the Code is a mandatory criterion in the process of trading partner selection at ORLEN Group companies. The suppliers are selected based on the ORLEN Group's standardised and uniform social, environmental, legal, and ethical criteria.

102-9 103-1 103-2 103-3

The ORLEN Group trades with a group of carefully selected suppliers. In 2021, almost 4,000 tendering procedures were held at PKN ORLEN.

The Company worked with more than 9,000 suppliers, while the ORLEN Group as a whole had relationships with over 25,000 suppliers.

In an effort to continuously improve procurement processes, the Group works to enhance and ensure greater consistency of vendor selection procedures. We developed a model for vendor selection in procurement category management strategies, and the key suppliers are evaluated on a regular basis as part of the supplier relationship assessment process. The supplier selection and assessment criteria, which are based on best market practices, facilitate mitigation of reputation, financial and process risks, and ensure high quality of cooperation with suppliers.

A material element of our efforts as part of the responsible supply chain is the ORLEN Group's Procurement Centralisation Project, started in December 2020. In 2021, we defined the procurement categories to be managed under the centralised model. Also, the final versions of end-to-end process maps were developed. Work is underway to standardise the IT systems and procurement procedures across the Group. The project will significantly improve the efficiency of the procurement function, mainly through departure from the dispersed organisation structure, as well as economies of scale and gradual expansion of the scope of centralised purchases.

204-1

Local partners are important.

By using their services, the ORLEN Group contributes to the development of the market and business in its close neighbourhood. Such suppliers know the local market and are often well aware of the needs and expectations of the ORLEN Group companies. Their close proximity also reduces costs, e.g., of transport and accommodation. In 2021, goods and services sourced from Polish-based companies accounted for some 9.7% of PKN ORLEN's spending. By cooperating with suppliers from its close neighbourhood, the Company supports growth of the local market and implements the objectives of its CSR strategy within the supply chain.

At key foreign companies of the ORLEN Group, Unipetrol (Lithuania) and ORLEN Lietuva (Lithuania), spending on services provided by local suppliers was 2.84% and 0.66%, respectively, of their total expenditure in 2021.

1 Excluding purchases from suppliers of crude oil and natural gas.

All existing and potential suppliers of the ORLEN Group are obliged to know and accept the requirements concerning human rights, compliance with the law, safe and decent working conditions, the highest ethical standards, and care for the natural environment. Acceptance of the Supplier Code of Conduct by prospective and existing suppliers is a formal precondition for participating in procurement procedures. If a bidder does not accept the Code, their bid will not be considered in the procurement process because the formal criteria are not satisfied. The purpose of the Code is to promote responsibility among the ORLEN Group's stakeholders and encourage responsible practices among the suppliers. Moreover, every bidder taking part in a procurement procedure is required to read, understand and accept the ORLEN Group Anti-Corruption Policy and the PKN ORLEN Rules for Accepting and Offering Gifts.
Clients

One of the principal aspects of the ORLEN Group's operations is a steady improvement in the quality of its products, services and customer service standards. Customers are a key stakeholder for the ORLEN Group.

GRI Disclosures

GRI 104
GRI 111
GRI 112
GRI 113
GRI 141

SDGs:

Goal 11

Goal 12

Over 3,500 ORLEN-branded service stations are operated in Central and Eastern Europe by 2030. The Group will seek to enhance the availability of alternative fuels, for instance by deploying at least 1,000 EV fast chargers and developing the sales of hydrogen and LNG/CNG.

The ORLEN Group manages Central and Eastern Europe's largest chain of over 2,800 service stations located in Poland, the Czech Republic, Germany, Slovakia and Lithuania. As at the end of 2021, the chain comprised more than 2,000 Stato-Café outlets within the ORLEN retail chain. By participating in the Fairtrade programme, ORLEN supports the development of farming communities in the global South countries.

Facilities for people with disabilities at PKN ORLEN stations: Almost 1,480 service stations have toilets adapted to the needs of people with disabilities, and at 1,204 stations there are special parking spaces for the disabled. Ramps for people with disabilities are available at 1,054 stations. We are gradually expanding present-day solutions to enhance the accessibility of our services. At all ORLEN service stations, customers can pay for fuel at the pump via the ORLEN Pay mobile application, using a special QR code displayed on each pump. In 2021, to achieve further service improvements, the Mobile Cashier and the Fast Lane programmes were extended.

Our service stations have CCTV systems that record events inside and outside the service stations. As a socially responsible company, friendly to families with children, PKN ORLEN has joined the Large Family Card programme. Holders of the card are offered discounts at ORLEN service stations across Poland when purchasing fuel. Stato-Café products or using car wash services.

The ORLEN Group consistently adapted its service station chain to sell alternative fuels. As at the end of 2021, customers had access to 454 EV charging stations, located mainly in Poland, 2 hydrogen refuelling stations, and 44 CNG stations. 400 automated parcel machines were placed in service as part of the ORLEN Paczka (ORLEN Parcel) service, and a new retail format ORLEN w ruchu (ORLEN on the move) – retail stores outside the service station chain – was launched. In addition, the Group completed the acquisition of 100% of the shares in OTP, Poland's largest road carrier of liquid fuels.

Growth of the Company's retail segment is driven by enlargement of the sales network and significant expansion of the product portfolio offered to customers.

Over 3,800 service stations of the ORLEN Group are located mainly in Poland, 2
hydrogen refuelling stations, and 44 CNG stations. 400 automated parcel
machines were placed in service as part of the ORLEN Paczka (ORLEN Parcel)

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outside the service station chain – was launched. In addition, the Group completed
the acquisition of 100% of the shares in OTP, Poland's largest road carrier of liquid
fuels.

Our broad integrated offering of non-fuel products and services is expected to keep attracting new customer groups. The ORLEN 2030 Strategy, published in November 2020, provides for growing retail sales, including through the development of modern communication channels and digitalisation of sales formats based on the RUCH network. RUCH is not only a network of newsstands in very good locations, but also advanced courier services. The launch of RUCH's potential development of new store and food service formats outside ORLEN service stations, as well as the network of parcel pick-up points, will accelerate growth of our retail segment. Through RUCH, PKN ORLEN acquired 4,500 parcel collection points. PKN ORLEN is also rolling out its ORLEN Pay and mFLOTA ORLEN services, enabling payments at the pump. Their latest versions allow customers to purchase e-tickets for toll sections of state motorways (A2 in Kraków – Stryków and A4 in Bielany Wrocławskie – Gliwice Sośnica) for vehicles with a maximum permissible weight below 3.5 tonnes.

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GRI Disclosures

GRI 103
GRI 102
GRI 416
GRI 418

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Goal 12

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Health and safety

Our service stations are a safe place for both customers and employees

All sites are equipped with burglar and robbery alarm systems. Contracts with professional security providers guarantee quick arrival of a patrol if needed. All of our service stations have CCTV systems that record events inside and outside the stations.

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hydrogen refuelling stations, and 44 CNG stations. 400 automated parcel
machines were placed in service as part of the ORLEN Paczka (ORLEN Parcel)

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Health and safety

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All sites are equipped with burglar and robbery alarm systems. Contracts with professional security providers guarantee quick arrival of a patrol if needed. All of our service stations have CCTV systems that record events inside and outside the stations.
The stations also have their own rules for vehicle and human traffic on their premises which, combined with luminescent markings, increase the overall safety level.

The stations with LPG pumps are adapted to enable safe refuelling of gas-powered vehicles. Service station attendants are always ready to assist customers and help them refuel their cars.

All PKN ORLEN service stations apply the HACCP Food Safety Management System. It is based on the Codex Alimentarius requirements applied by the ORLEN Group since 2005. The HACCP system is steadily improved and developed along with our dynamically growing food and beverage services. Its purpose is to guarantee that food products sold at the stations satisfy all sanitary requirements, are safe, and their quality meets the relevant standards. Both in the case of individually packaged products and all products prepared in accordance with the food offering of the Stop Cafe, Stop Cafe Bistro, and Stop Cafe 2.0 outlets and in the restaurants.

HACCP has a significant impact on the quality and safety of the products we sell. Standardised food handling procedures include the requirements for delivery, receipt, storage and warehousing, as well as the rules and conditions for preparation for sale and consumption of food products offered by ORLEN. The system safeguards used in HACCP ensure that food-related processes are registered and monitored. ORLEN’s regulations in this area include hygiene and production best practices, including the principles of traceability, supervision of allergens or handling of incidents that may affect food safety.

Service stations have access to the electronic version of the HACCP System Documentation through the Ekosystem website for CDOD service stations and the DOFO Service Stations Portal. HACCP, standing for Hazard Analysis and Critical Control Points, is a system used to identify health threats and the risk of their occurrence at various stages of food production and distribution. It helps control and mitigate all hazards to consumer safety and health. As basically HACCP is a preventive system, its safeguards aim to minimise hazards related to food sale, protecting consumers by guaranteeing safety and high quality of purchased foodstuffs. It also protects food manufacturers, who are able to prove that their products are safe if their production processes are run correctly and are properly documented. The whole system features internal verification components and is audited on a regular basis.

In 2021, there were no incidents of non-compliance with regulations and voluntary codes concerning the health and safety impacts of products and services during their life cycle, by type of outcomes.

The station personnel are instructed to strictly obey the ban on selling alcoholic beverages and tobacco products to minors. Appropriate notices are put up at every site, and awareness training is organised for the staff. Another practice is to make service station personnel sign declarations in which they undertake to observe the Upbringing in Sobriety and Alcoholism Prevention Act, verify the age of potential customers, and refuse a sale if they suspect it could be in breach of the Act.

PKN ORLEN has consistently taken action to prevent the spread of the coronavirus pandemic. The hand sanitizer produced by the ORLEN Group’s Jediecz plant and protective masks, mainly from domestic producers, have been available for sale at all ORLEN service stations. During the dynamic spread of the coronavirus epidemic, rescue service workers were served out of turn at the service stations. In connection with the epidemic, emergency procedures have been implemented at the stations to ensure safety of the customers and employees:

- the stations have been equipped with air-purifying sterilizers;
- hand sanitizer and disposable gloves have been provided;
- routine sanitizing of customer contact surfaces has been implemented;
- additional HACCP guidelines have been introduced (individually wrapped coffee accessories and food products)

Customer service standards

The ORLEN Group regularly monitors customer satisfaction and loyalty. As the service stations are constantly developed, the range of products and services available to customers is diverse and dynamic with new products and special offers regularly introduced in the catering, fuel and store product portfolio. The quality of service is regularly verified based on internal assessments carried out by micromarket managers by means of surveys completed on mobile devices, and using a “mystery shopper” at all CDOD and DOFO stations. Customer satisfaction is measured on an ongoing basis based on the service satisfaction index and Net Promoter Score (NPS) for VITAY customers. The customer satisfaction metrics have invariably been at high levels.

It is also vital to monitor customer satisfaction with various aspects of service station activities. One of the elements enhancing customer relations is the Company’s approach to customers’ feedback and complaints. The customers have several options to contact us and express their opinion about a service station or the services: over the Internet, by phone, or personally at service stations. In each case, the contact is registered in the complaints management system, which also records positive opinions and thanks from customers.
In 2021, customers at the ORLEN Group service stations completed 424,035,178 transactions.

**Care for the natural environment**

The ORLEN Group is particularly committed to environmental protection and this commitment also extends to its service stations.

With environmental protection in mind, PKN ORLEN is working to optimise the quality of packaging and accessories and replace them with biodegradable substitutes (subject to biochemical decomposition), e.g., plastic straws have been replaced with paper ones; multi-material food packaging has been replaced with single-material packaging (mainly paper-based); plastic cutlery is being withdrawn and replaced with wooden cutlery; disposable plastic packaging (e.g., for lettuce or hot meals) is being replaced with packaging made of sugar cane (bagasse) pulp. Most of our paper and cardboard packaging is FSC certified (the Forest Stewardship Council® certification system makes it possible to distinguish wood products sourced from sustainably managed areas) or PEFC certified (the Chain of Custody of Forest-based Products certification facilitates identification of the origin of the wood materials from which packaging is made at every stage of its processing and flow).

**This is particularly important in the case of oils, operating fluids and automotive chemicals.**

All packaging is checked on delivery and if any damage is discovered the product is returned.

Appropriate storage and display policies help mitigate the risk of damage to a product or its packaging and quality deterioration. Our service stations provide containers for used oil and other liquids packaging that may be harmful to the environment. They also provide primary waste collection containers.

All automotive products (oils, fluids, car cosmetics) come with safety data sheets specifying how the product should be stored and what to do in the case of contamination or poisoning.

In the case of oils, the focus on environmental protection is our priority. Some solutions employed with this objective in mind are double-walled tanks to mitigate the risk of fuels leaking into the ground, fuel leak detection systems, station forecourt surface preventing fuels from seeping into the ground, hydrocarbon separators in forecourt rainwater drainage systems to prevent fuel penetration into the ground or ground water, containment integrity tests during fuel unloading (to significantly reduce vapour emissions), nozzles with the VRS system enabling recirculation of vapour from the car tank directly to a service station tank, and neutralising agents to remove spills or leaks that may occur during refuelling or unloading. The special environmentally-friendly formula of Efecta gasolines reduces emissions of particulate matter and nitrogen oxides, thus limiting the formation of smog. Importantly, the customers do not pay more for this environmentally friendly fuel and receive a product that has a great positive effect on engine performance.

**Customer privacy**

PKN ORLEN processes personal data in accordance with the applicable personal data protection laws, including in particular Regulation (EU) 2016/679 of the European Parliament and of the Council of April 27th 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.
ENVIRONMENT AND CLIMATE
Climate responsibility

The ORLEN Group is consistently implementing the objectives of its ORLEN 2030 business strategy and sustainable development strategy in order to achieve carbon neutrality by 2050. A vital element of these efforts is investment in modern technologies supporting all business areas of the ORLEN Group. As we develop our business in a sustainable way, we recognise the growing importance of low-carbon technologies in environmental protection and in building competitive advantage.

The ORLEN Group's top priorities - sustainable development and we report the results of our environmental protection efforts.

Govenerance around environmental and climate-related issues

The Environmental Protection Office

The Environmental Protection Office is involved in PKN ORLEN’s environmental protection activities and ensures that they are carried out in compliance with the law. The responsibilities of the Environmental Protection Office include:

- Coordinating activities designed to implement identified legal requirements for obtaining required environmental permits;
- Carrying out environmental monitoring activities on PKN ORLEN’s sites;
- Supervising activities related to air quality analysis, including operation of the Company’s Environmental Inspection System;
- Coordinating and taking responsibility for activities related to monitoring, reporting and securing free CO2 emission allowances;
- Environmental reporting in accordance with the legal requirements and calculating and paying environmental charges;
- Issuing opinions and agreeing on environmental aspects of all development plans, investment, upgrade and maintenance projects at the ORLEN Group;
- Participating in environmental inspections of PKN ORLEN facilities carried out by external and internal authorities;
- Coordinating with public administration authorities with regard to formal and legal arrangements and fulfilment of obligations impost by such authorities;
- Cooperating with environmental protection services of ORLEN Group companies, supervising the activities of ORLEN Eko;
- Supervising the scope and progress of remediation work at ORLEN Group facilities, consulting and coordinating such activities at other ORLEN Group companies;
- Implementing and maintaining the leak detection and repair system (LDAR) at the Płock production plant and the PTA plant in Włocławek;
- Contributing to PKN ORLEN’s positive image through environmental education and protection of biodiversity. Our environmental objectives are set out in the Integrated Management System Policy.

Key ORLEN Group companies also have Integrated Management Systems or Environmental Management System Policies in place, incorporating a commitment to protect the environment, which includes preventing pollution, and hold all permits required by law for their operations.

Environmental initiatives are also carried out by the Water and Wastewater Management Office and the Power Generation Area.

Water and Wastewater Management Office

Responsibilities of the Water and Wastewater Management Office at PKN ORLEN include:

- Managing operations in the area of production of water, collection and treatment of wastewater from the Płock production plant's site, and coordinating the water and wastewater management activities at the ORLEN Group;
- Ensuring continuity of production and distribution of different water types and collection and treatment of wastewater;
- Ensuring compliance with environmental standards, legal regulations, and permits while maintaining continuity of water production and wastewater collection at the Płock production plant.

Power Generation Area

Responsibilities of the Power Generation Area include:

- Implementing strategic projects relating to commercial and industrial power generation and renewable energy sources, i.e. wind, sun, biomass;
- Developing offshore wind projects in the Baltic Sea;
- Trading in heat, electricity and property rights in certificates of origin for electricity;
- Producing and distributing heat and electricity;
• Ensuring compliance with environmental standards, legal regulations, and permits while maintaining continuity of power generation in its area;
• Coordinating hydrogen projects implemented at the ORLEN Group, seeking synergies in the process of creating a strategic hydrogen system;
• Supervising over standardisation of hydrogen systems at the ORLEN Group with respect to process, technological and technical parameters;
• Developing electromobility at the ORLEN Group.

Strategy Area

In the Strategy Area, the Sustainable Business Development Department was created, with responsibility for:

• Coordinating and supervising activities related to the decarbonisation programme, in particular support to ORLEN Group companies;
• Creating sustainable development strategies reflecting ESG criteria;
• Promoting new sustainability projects at the ORLEN Group;
• Working with investors on sustainable development;
• Conducting analyses related to long-term conditions for sustainable development of the ORLEN Group.

Sustainable Business Development Department. Sustainable development plays an important role in the process of building a multi-utility group and implementing the ambitious agenda under the ORLEN Group Strategy 2020. The new business strategy is a response to the changes in our environment driven by the global climate crisis. It enhances resilience of our business models to climate change and its consequences across the value chain. Over the next decade, PKN ORLEN will allocate approximately PLN 30 billion to sustainability projects, including new business models. Within ten years, PKN ORLEN is going to implement more than 60 projects increasing the energy efficiency of its existing production assets. The new refining and petrochemical projects will use the best and most emission-efficient technologies. PKN ORLEN also intends to strengthen its position as a regional leader in biofuels by implementing five significant investment projects related to the manufacturing of biofuels such as HVO, co-HVO, UCOME, lignocellulose bioethanol and bio-methane. The projects are expected to increase biofuel output by some 500 thousand tonnes annually by 2030.

In 2021, the Management Board of PKN ORLEN adopted the ORLEN Group Sustainable Development Strategy for 2021–2023. The new strategy is centred on three areas of ESG management: Environmental, Social and Governance, and six strategic pillars.

In the Environmental area, we focus on climate, climate risk management and effective implementation of raw material management practices. In the Social area, the focus is on local communities as a permanent and valuable source of inspiration for our CSR initiatives. In cooperating with our suppliers, we are going to use ORLEN’s influence to promote sustainability principles in value chain. The goal is to extend our product responsibility to cover the entire product lifecycle, including the raw material used, product development, manufacturing and use, and then its recycling. We seek to engage our customers and promote responsible consumption patterns among them. The Governance area focuses on developing solutions that facilitate incorporation of ESG principles into ORLEN’s management systems, appropriate and transparent reporting, ethics and organisational values. The most significant and complex ESG initiatives have been reflected in the remuneration policy, in which MBO objectives were included both at the level of the Management Board and at the appropriate level of management.

For information on compliance with the TCFD recommendations, see the ‘TCFD Table’ section.

Management of environmental issues is carried out through the implementation of policies and procedures that are described in the section ‘Policies and internal organizational acts’.

Sustainability, Taxonomy and climate transition

The management of climate change risks and opportunities falls within the remit of the President of the Management Board, who is the direct superior of the Executive Director for Strategy, Innovation and Investor Relations, overseeing the work of the Sustainable Business Development Department.
Decarbonisation strategy

Climate change poses a significant challenge to PKN ORLEN and the ORLEN Group companies. PKN ORLEN has addressed this challenge by announcing in September 2020, as the first fuel company in Central Europe, an intention to achieve net zero carbon footprint by 2050.

In 2021, climate issues were discussed at 21 meetings of the PKN ORLEN Management Board (about 40 topics) and at 22 meetings of the PKN ORLEN Supervisory Board (about 32 topics, including about 6 topics at 5 meetings of the CSR Committee and about 6 topics at 6 meetings of the Strategy and Development Committee).

### Sustainable ORLEN

**Energy Transition Leader**

- Most efficient plants
  - 20% reduction in CO₂ emissions from existing refining and petrochemical assets by 2030

- Clean energy
  - Leading producer of auto-biofuel in Europe: Reduction of CO₂ emissions per MWh by 33% by 2030

- Low-carbon fuels
  - Five large biofuel production projects

- Green finance
  - ORLEN to become a regular issuer of green and sustainable bonds

**Strategy pillars**

- Energy efficiency in production
- Zero-carbon power generation
- Fuels of the future
- Green finance

**Decarbonisation strategy activities completed in 2021**

- **Energy Efficiency** - ongoing projects to improve energy efficiency and greenhouse gas intensity
- **Renewable Energies**
  - Energy efficiency in production
  - Zero-carbon power generation
  - Fuels of the future
  - Green finance

**All this to achieve net carbon neutrality in 2050**

- **CO₂ reduction**
- **CO₂ avoidance**
- **CO₂ recycling**
- **CO₂ sequestration**

**WE WILL ALLOCATE PLN 30 BILLION TO GREEN INVESTMENT PROJECTS BY 2030**

**In 2021**

- **Decarbonisation strategy**
  - ORLEN will become a net zero carbon business by 2050
  - 20% reduction in CO₂ emissions from existing refining and petrochemical assets
  - CO₂ avoidance in refining and petrochemicals
  - CO₂ avoided per MWh of power generated

**Pillars and activities**

- **Environmental**
  - Decarbonisation strategy
  - ORLEN will become a net zero carbon business by 2050

- **Social**
  - ORLEN will become a net zero carbon business by 2050

- **Sustainable Supply Chain**
  - ORLEN will become a net zero carbon business by 2050

- **Corporate Social**
  - ORLEN will become a net zero carbon business by 2050

**Net CO₂ emissions**

- **2020**
  - ORLEN 2030
  - ORLEN 2050
  - Net zero carbon emissions

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Green and sustainable funding for the ORLEN 2030 Strategy

Second tranche of sustainability bonds

In March 2021, PKN ORLEN issued the second tranche of 10,000 Series D unsecured sustainability bonds with a total nominal value of PLN 1,000,000,000, bearing interest at a fixed rate which will depend on the ESG rating from MSCI ESG Research (UK) Limited or its legal successor or an alternative ESG rating. The rating measures the Company's susceptibility to material risks related in particular to its performance in terms of environmental, social and governance practices, as well as management of these risks. The interest rate applicable to the first interest period is 2.875% per annum. It will remain so or may be changed by 0.1% or 0.2% per annum in subsequent interest periods, depending on the ESG rating, in accordance with the Terms and Conditions. The Company will use proceeds from the bond issue for general corporate purposes, including the achievement of the ESG objective, which is to sustain or improve the Company's rating from MSCI ESG Research (UK) as assigned at the bond issue date.

Key projects

International Hydrogen Scheme

PKN ORLEN has launched its Hydrogen Eagle programme, spanning Poland, the Czech Republic and Slovakia.

Learn more

Small reactors

In 2021, PKN ORLEN and Synthos signed a cooperation agreement to jointly develop and implement zero-carbon nuclear energy technologies based on micro and small modular reactors.

Learn more
Green glycol

Poland's first and Europe's largest green propylene glycol production unit at its biorefinery in Trzebinia.

Learn more

Expansion of the Olefins Complex

The largest petrochemical project in Europe

Learn more

RES projects

Wind energy onshore, offshore in the Baltic Sea, photovoltaics, education.

Learn more

Research and development

PKN ORLEN has launched a modern Research and Development Centre in Płock.

Learn more

Development of biomethane production

A letter of intent signed with PGNiG provides for stepping up cooperation in the development of renewable energy sources.

Learn more
ORLEN Group to launch international Hydrogen Scheme

For years PKN ORLEN has consistently reduced its environmental impacts by investing in best available techniques in the area of environmental protection and following the principles of sustainable development. PKN ORLEN is fully aware of the challenges posed by the need to develop the alternative fuel sector. The changes taking place in the fuel market clearly indicate that hydrogen is going to be a readily accepted and widely used fuel. That is why PKN ORLEN has launched its Hydrogen Eagle project, aiming to develop and implement zero-carbon nuclear energy technologies based on micro and small modular reactors (MMRs and SMRs). MMRs and SMRs are electricity-generating units which, unlike traditional nuclear power plants, can reach a total capacity of up to 300 MW, are mass manufactured and delivered as a whole to a site to be installed. The mass manufacturing process makes it possible to achieve economies of scale and a relatively short construction time. Small and larger energy systems can be built depending on the needs. The deployment configuration of SMRs can vary between standalone or multi-module plants, and a relatively short construction time.

The main pillar is building a value chain by implementing research and development projects, putting in place systematic solutions to train specialized personnel, and engaging in activities supporting regulatory processes in cooperation with PESA Bydgoszcz. PKN ORLEN plans to purchase a modern locomotive that will be the first hydrogen-powered rail vehicle in Poland. This will be a major step towards large-scale use of zero-carbon hydrogen fuel in rail transport.

Small modular reactors as another step towards zero-carbon energy

In 2021, PKN ORLEN and Synthos signed a cooperation agreement to jointly develop and implement zero-carbon nuclear energy technologies based on micro and small modular reactors (MMRs and SMRs). MMRs and SMRs are electricity-generating units which, unlike traditional nuclear power plants, can reach a total capacity of up to 300 MW, are mass manufactured and delivered as a whole to a site to be installed. The mass manufacturing process makes it possible to achieve economies of scale and a relatively short construction time. Small and larger energy systems can be built depending on the needs. The deployment configuration of SMRs can vary between standalone or multi-module plants, gradually placed in operation, making the entire project easier to finance.

Green propylene glycol in the ORLEN Group product portfolio

In 2021, ORLEN Poludnie brought on stream Poland’s first and Europe’s largest green propylene glycol production plant at its biorefinery in Trzebiatów. The unit has a capacity of 30,000 tonnes a year, enough to cover as much as 75% of the domestic demand for the product. This PLN 400m capex project will add over PLN 90m to the Group’s annual EBITDA. An integral part of the complex is Poland’s first hydrogen hub. Green glycol is a high-margin bio-based product that is clean and environmentally safe. It is used for a wide range of applications, including in medicine, cosmetics, and the food industry. It can also be used in aviation as an anti-icing and de-icing agent, for aircraft ORLEN Poludnie will produce 30,000 tonnes of green glycol a year. An impressive 10,000 tonnes more than Europe’s only unit of this type located in Belgium.

Renewable energy projects – pioneering activities in the Baltic Sea

The selection of Northland Power Inc. of Canada as a partner for PKN ORLEN’s offshore wind farm is a milestone in this pioneer project on the regional scale. By combining PKN ORLEN’s local experience gained in the course of development work on the project, which is now well advanced, with Northland Power’s global know-how, we will be well placed to quickly and effectively deliver subsequent stages of this venture. We have found a partner whose business model and vision for energy transition are in line with the ORLEN Group’s long-term plans. The cooperation will provide a major growth stimulus for the offshore industry, including Polish companies along the supply chain. Cooperation with Northland Power Inc. is to involve the development, construction, and operation of a wind farm with a target capacity of up to 2 GW. Start of the project construction is
Major developments in the area of renewables also include new projects in the Pomeranian region. Construction of a 20 MW PV Gryf solar photovoltaic farm owned by the ORLEN Group's Energia has commenced near the Przykora Wind Farm (Province of Pomerania) that has been in operation since July 2020. The Gryf farm is yet another project built within the premises of the former Adamów lignite mine in the Przykora commune. This location is significant as it uses existing transmission infrastructure. The land owned by Energia in the Przykora commune has great investment potential. According to estimates, assets with a total capacity of about 160 MW can be built on this 300 ha site.

The Kanin wind farm, located in the Szczecin province, has added 20 MW to the ORLEN Group's renewable energy portfolio. Since 2012, the farm was purchased by PKN ORLEN from two foreign investment funds - Stage Capital and Mahan Energy. The acquisition was in line with the ORLEN 2030 business strategy, which provides for strong development of zero-carbon power generation, both through construction of new capacities and acquisition of already operating assets.

Three onshore wind farms with a total capacity of approximately 90 MW will be added to the renewable energy portfolio of the ORLEN Group. The Company signed an agreement to purchase wind farms operating in the Pomeranian region from Spanish investment funds. Following the acquisition, the ORLEN Group has 353 MW of installed wind power capacity in Poland and is the fifth largest player on that market.

Five ORLEN Group companies involved in energy projects on the Baltic Sea signed a sectoral agreement. The document, being the outcome of work of the government administration, investors, companies, institutions and organisations taking part in the development of the Polish offshore wind power sector, sets the growth directions for this industry in Poland. In accordance with the adopted assumptions, the signatories will seek to ensure maximum participation of Polish companies in offshore wind power projects. The expected share of local content in projects to be executed as part of the first phase is 20-30% of their total value. This share is to increase to at least 45% for projects to be executed by 2030 and at least 50% for projects after 2030.

PKN ORLEN has launched its first offshore wind power power programme. Its graduates will gain technical knowledge necessary to work on the development and operation of wind farms that will soon be built on the Baltic Sea.

The largest petrochemical project in Europe

PKN ORLEN has invested in the expansion of the Olefins Complex at the Plack production plant, the largest petrochemical investment project in Europe in the last 20 years. The Olefins Complex will be built using state-of-the-art technologies to ensure, among others, greater energy efficiency, including a 30% reduction of CO2 emissions per ton of the product in view of the rising CO2 prices, this will directly improve the competitiveness of the Plack production plant. The project is scheduled for completion in the first quarter of 2024 and production launch is planned for early 2025. The petrochemical products manufactured in the Olefins Complex will be the basis for producing all kinds of everyday items, such as cleaning hygiene and medical products, as well as synthetic fibres for the production of protective clothing and masks. They will also be used to produce car parts, components of household appliances and electronic devices, etc.

Innovative technologies to be created at the Research and Development Centre

PKN ORLEN has launched a modern Research and Development Centre in Plack. Worth around PLN 184 m, the project is in line with the ORLEN 2030 business strategy objectives of increasing investment in research, development and innovation. PKN ORLEN, as a major step towards more effective development of new technologies and products, building its own know-how, and obtaining patents for innovative solutions. Innovative projects developed by the Centre will fully rely on the potential of Polish scientific institutions. According to the ORLEN 2030 business strategy, over the next 10 years the Company is to allocate 10% of its total investment pool, i.e. at least PLN 3 billion, to investments in this area, including new mobility, hydrogen, recycling, research and development, and digitalisation. PKN ORLEN views this as an investment in the future.

Development of renewable energy sources

A letter of intent signed with PNGiG provides for stepping up cooperation in the development of renewable energy sources. The companies plan to establish a special purpose vehicle to invest in the creation of a network of biomethane plants with a target capacity of up to 2.0 GW. The company is going to generate green energy from the sun. The ORLEN Group expects to invest in the development of solar photovoltaics with a target capacity of up to 2.0 GW. As part of the joint initiative, it is planned to cooperate with the sugar production company Krajowa Spółka Cukrowa, which has a letter of intent to cooperate with the sugar production company Krajowa Spółka Cukrowa.

Development of biomass production

The ORLEN Group is going to generate green energy from the sun. The Company has signed a letter of intent with the City of Plock and Przedsiębiorstwo Gospodarowania Odpadami of Płock. For information on climate risks, see the "Climate change risks" section. For information on climate risks, see the "Climate change risks" section. For information on climate risks, see the "Climate change risks" section.
Environmental compliance

Operations of the Płock production plant are regulated under integrated permits, which cover all units, i.e. the refinery, petrochemical plant, central wastewater treatment facility, CHP plant and CCGT unit. PKN Orlen also holds the required permits and has made relevant submissions necessary for the operation of the PTA and CCGT units in Włocławek and the Research and Development Centre in Płock.

The permits define emission limits which are safe for the environment and human health and whose observance is subject to monitoring.

Emission volumes from 22 of the plant’s emitters are measured on an ongoing basis; measurements from the other emitters are taken periodically. In addition, PKN Orlen has a modern automated air quality monitoring station fitted with state-of-the-art instruments, which constantly measures the concentrations of selected substances in the air. The station is part of the State Monitoring System, with the readings automatically transmitted to the Chief Inspectorate for Environmental Protection in Warsaw (GOS) and posted on the Inspectorate’s public website. Integrated permits and sector permits need to be updated on an ongoing basis in order to keep up with the evolving legal environment and business needs.

In 2021, an amendment to the decision approving the monitoring methodology plan for PKN Orlen units was obtained, granting permits for greenhouse gas emissions from the refinery and ethylene oxide and glycol units. Furthermore, an amendment to the decision of the Marshal of the Province of Bydgoszcz was obtained, granting PKN Orlen an integrated permit for the 460 MW CCGT unit in Włocławek regarding compliance with BAT conclusions for large combustion plants (LCP) and an integrated permit for the PTA teraphthalic acid production unit regarding waste processing and compliance with BAT conclusions for LVOC. PKN Orlen secured a new decision of the Director of the Regional Water Management Authority in Gdansk granting PKN Orlen a water-law permit to discharge industrial wastewater containing substances particularly harmful to the aquatic environment from the teraphthalic acid unit at the PTA Plant in Włocławek into the sewage system belonging to AWWL.

109 water-law permits were obtained altogether for PKN Orlen service stations and fuel terminals in 2021.

Environmental compliance of the ORLEN Group’s activities last year was verified by the Płock and Włocławek Branches of the Provincial Inspectorate of Environmental Protection and Polish Waters State Water Management Agency, which carried out nine inspections. Nine inspections involved incidents of non-compliance. Following corrective measures, the company applied for an amendment to the integrated permit regarding the operating hours of certain emitters. Another case of non-compliance was remedied by updating the method of presentation and reporting of the results of measurements made in connection with the operation of the central wastewater treatment plant. Moreover, the scope of groundwater monitoring was adjusted to match that specified in the integrated permit, and organisational measures were implemented to ensure proper supervision of data entered into the continuous air emission measurement system for the CCGT unit in Płock.

In 2021, 75 environmental inspections were carried out at ORLEN Group companies, resulting in 11 follow-up orders. The most important ones concerned the cleanup of contamination on the Baltic Sea resulting from failure of ORLEN Lietuva’s oil pipeline, bringing VOC emissions from the hydrogen production unit of the Makówka refinery to the permitted level, and extension of the integrated permit regarding the type of substances present in the wastewater discharged to the environment from the oil terminal in Būtingė. Energo Generacja was obliged to establish a new, extended range of parameters of fuels burned in the Żychlin CHP plant to ensure compliance with the applicable emission limits. ORLEN Pbud was obliged to clean non-operated wastewater collection and pretreatment facilities and record waste generated.

As a result of inspections carried out by competent administrative bodies, ORLEN Unipetrol was fined EUR 7,800 for exceeding dust emission limits from the fluid catalytic cracking (FCC) unit at the Kralupy refinery following a dust collector failure. ORLEN Lietuva was charged penalties totalling EUR 170 for VOC emissions and phthalates in wastewater.

Environmental fees and charges

Under the EU law, an entity using the natural environment and discharging substances to the environment is required to pay relevant fees and charges pro rata to the type and scale of its environmental impact. In Poland, environmental fees and charges are governed by the Environmental Protection Law. The ORLEN Group companies must pay fees for waste storage and gas and dust emissions from its process units, and fugitive emissions, for example from disinfectants used to prevent and reduce transmission of COVID-19. In addition, under the Water Law Act, the ORLEN Group companies pay fees for withdrawal of underground and surface water and for discharge of effluents to water and soil.

In 2021, the companies paid environmental fees for air emissions, water withdrawal, discharge of effluents, and storage of waste in own landfills in a timely manner.

Therefore, there were no additional payments resulting from failure to correctly calculate the fees or to meet the payment deadline. Increased fees rates for water services were charged in connection with occasional non-compliance with the quality standards for sanitary wastewater discharged to the environment from PKN Orlen service stations. To prevent similar incidents from occurring in the future, upgrades to the wastewater treatment systems are underway at distribution facilities.

As a result of prolonged administrative procedures for the issuance of water permits, increased fees rates were also charged by the Polish Waters State Water Management Agency in respect of five service stations due to the lack of the permits.
Climate changes risks

In 2020, the ORLEN Group commenced scenario analyses of the transition (regulatory) risks and physical climate change risks, taking into account the dual materiality perspective.

GRI Disclosures

| GRI 102-15 | GRI 103-1 | GRI 103-2 |

Capitals

The analyses led to the initial identification of transition risks and physical risks in the short and long term. The activities will be continued in the next years.

Scenario analyses of business model resilience to climate change

<table>
<thead>
<tr>
<th>Scenario 1</th>
<th>Scenario 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Global warming linked to F-C assumption:</td>
<td>Global warming linked to F-C assumption:</td>
</tr>
<tr>
<td>- Collaboration and coordination effort of the public sector business and consumers.</td>
<td>- No coordinated effort; activities focus on maintaining existing business models.</td>
</tr>
<tr>
<td>- Effective measures are defined and implemented to reduce greenhouse gas emissions.</td>
<td>- Emissions remain high, leading to global warming and other physical climate changes.</td>
</tr>
</tbody>
</table>

The 2030 time horizon has been adopted for the purposes of the analysis, corresponding to the operational horizon of the ORLEN 2030 business strategy. The scope of the sensitivity analysis covered ORLEN’s entire value chain.
### Operating costs

<table>
<thead>
<tr>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>– The pace of decarbonisation of refining and petrochemical assets, and in particular the costs and charges paid by the refining and petrochemical industries, will prevent ORLEN from generating sufficient revenues to be able to complete key transition projects and investments necessary to maximise opportunities in new business areas.</td>
</tr>
<tr>
<td>– The pace of change expected by banks and EU regulators exceeds the capacity for technological change in Poland’s economy, e.g. in the transport sector, as fuel consumption in Poland is growing.</td>
</tr>
<tr>
<td>– Warming temperatures and extreme weather events increase the cost of energy needed to cool facilities and buildings.</td>
</tr>
<tr>
<td>– Increased OPEX spending on repairs of distribution network assets due to damage caused by extreme weather.</td>
</tr>
</tbody>
</table>

### Changes to the business model

A strong multi-utility conglomerate with the refining operations balanced by new business streams. The pace of business model transition is slower, but too rapid renewable capacity expansion without securing continuity of supply leads to overheating and transition recession, i.e. growth rather than a reduction of CO emissions. As demonstrated by the market today, higher CO emissions translate into higher emission allowance prices, thus encouraging investment in renewables and discouraging investment in power generation based on fossil fuels, which is currently the only reliable security against supply disruptions.

### Changes to the portfolio mix

By 2030, coal assets are phased out across the ORLEN Group, which significantly reduces ORLEN’s carbon footprint and EU ETS costs. This is accompanied by a surge in renewable generation capacities, especially offshore wind farms. Coal assets are not phased out across the ORLEN Group, which gradually raises costs of operations.

### Changes to the technology investment profile

ORLEN has developed an emission reduction strategy to achieve net zero emissions by 2050 as part of the ORLEN 2030 business strategy, which includes a phased transition from coal to renewable energy sources. The company plans to increase its investment in renewable energy technologies to support the transition to a low-carbon economy. The strategy also involves the development of carbon capture and storage technologies to reduce CO2 emissions from existing fossil-fuelled power plants and heavy industry.

### Transition risks

The ORLEN Group analyses new regulations resulting from the European Green Deal on an ongoing basis and adjusts its business models accordingly. The ambitious agenda of the ORLEN 2030 business strategy is designed to capture the opportunities created by Europe’s economic transformation which aims to meet the obligations under the Paris Agreement and implement the UN Agenda 2030.

### Transition risks related to the European Green Deal

Both internal and external data was used in the scenario analysis. 2019 and 2020 data was used to calculate ORLEN’s decarbonisation rate in the period to 2030. External data was used to understand climate risks and opportunities. It was sourced from the International Energy Agency and the European Environment Agency.

### Transition and technological change risks

A marginal abatement cost curve organises the logic behind transition risk management with respect to Scope 1 (direct emissions), Scope 2 (indirect emissions), and Scope 3 (value chain emissions). Depending on the decarbonisation costs, further technologies across the ORLEN value chain will be applied in the period to 2050. This makes it possible to plan R&D work on technologies that currently are not supported by any business rationale, and at the same time facilitates optimisation of the investment and development programme in the context of available emission reduction options along the value chain.
Regulatory risks until 2030 broken down by PKN ORLEN’s four business segments

<table>
<thead>
<tr>
<th>Regulatory risks</th>
<th>Impact on the segment</th>
<th>Regulatory risk level</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 EU ETS</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>2 Effort Sharing Regulation (ESR)</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>3 CRM</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>4 RED</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>5 RED</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>6 ISO</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>7 CO2 for cars</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>8 RTN</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>9 Refund UE Aviation</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>10 Fast Oil Maritime</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>11 SDF</td>
<td></td>
<td>High</td>
</tr>
<tr>
<td>12 LPG</td>
<td></td>
<td>High</td>
</tr>
</tbody>
</table>

The transition is also affecting PKN suppliers and they also switch to new technologies

1 Bio-based materials and waste – lower emissions in the supply chain
   - Circular economy and recycling
   - Pressure to reduce carbon footprint
   - Decarbonisation of the entire supply chain

2 Higher cost of raw materials in upstream business
   - Increased interest in carbon footprint from oil and gas production (methane emissions)

Private and bottom-up renewable energy projects

- Rapid growth of private competition in solar photovoltaics
- International players in offshore power generation
- Distributed energy resources
- Battery and energy storage manufacturers

Transition risks across the PKN ORLEN’s value chain

Strategic alliance with Automotive coming to an end
- Faster technological change and phasing out of internal combustion engines in the EU by 2035

Valuable work with DSO and R&D in power generation
- Underdeveloped power infrastructure in Poland vs renewables integration (BCDIE target)
- R&D Hydrogen for power generation, energy storage
### Climate transition and climate risks

#### Business model climate transition risks integrated into the enterprise risk management system

#### Climate transition risks

<table>
<thead>
<tr>
<th>Business models</th>
<th>Risk description</th>
<th>Risk mitigation methods</th>
<th>Risk development trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Electromobility development programme</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
- Compliance with the requirements of the Construction Law Office of Technical Inspection (JOTI), Act on Electromobility, actuarial market development forecasts for electromobility, delays in the implementation of the charging stations development plan, IT system implementation | Monitoring progress and execution of infrastructure projects in accordance with the approved schedule. | ![Diagram] |

| B. Development of onshore renewable energy sources (RES) | 
- Failure to implement RES projects and strategic initiatives contemplated in the Group's strategy: 
  - Development of a RES portfolio based on wind and solar projects, 
  - Construction of the Wawel hydroelectric power plant | Coordination of the Group's activities concerning legal and regulatory issues, monitoring changes in the regulatory environment, participation in the legislative process, including monitoring and providing opinions on regulatory initiatives, formation of a dedicated company - Green Development, responsible for the development of RES with respect to the Wawel hydroelectric power plant, providing expert support to the project sponsor in project development and in obtaining administrative decisions | ![Diagram] |

| C. Implementation of decarbonisation initiatives in power generation | 
- Failure to implement power generation decarbonisation initiatives and strategic projects contemplated in the Group's strategy | Appointment of the NEW team; daily reporting on the progress of projects and initiatives. | ![Diagram] |

| D. Development of offshore wind farms | 
- Failure to obtain permits to construct and use artificial islands, structures and facilities (PSGW), delays in the implementation of offshore wind projects | Monitoring of the regulatory environment of the offshore wind industry, taking active steps to obtain new location permits in accordance with procedures. | ![Diagram] |

| E. Development of gas-based power generation | 
- Delays in the commissioning of investment projects, unfulfilled budget overruns, failure to meet performance targets for individual units, failure to obtain financing from the capacity market, problems with securing the required administrative decisions in a timely manner or with concluding connection contracts with grid operators | Oversight of ongoing investment processes with the necessary external consultants, ongoing monitoring of project progress against schedule, mitigation of the regulatory risks by ongoing analysis of the capacity market regulatory environment and proposing amendments to the relevant legal acts where necessary. | ![Diagram] |

#### F. PKO ORLEN hydrogen programme

- Regulatory risks: Construction Law Office of Technical Inspection (JOTI), actuarial market, development forecasts for hydrogen fuel, emergence of other major players in the market, risk of insufficient funding
- The project is at an early stage of development, and so is the hydrogen sector in Poland. ORLEN Group employees are involved in regulatory processes concerning the hydrogen industry.

#### G. Decarbonisation projects

- No defined projects to meet the 2050 Strategy objective, further proposals of regulatory changes (Green Deal for 55 package)
- The decarbonisation project is at an early stage. Taking steps to identify and operationalise further decarbonisation projects/initiatives (feasibility study for decarbonisation of the PGE production plant, CCS feasibility study).

#### H. Implementation of sustainable development initiatives

- Risk of loss of the market position and growth opportunities due to insufficient investment in sustainable development projects
- Ongoing monitoring of the activities, economic analysis of projects

#### Effects of application of control mechanisms in risk management – positioning of risks on the risk map

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Short- and medium-term physical climate risks integrated into the enterprise risk management system

- **Climate transition risks**
  - Risk materiality: A, B, C, D, E, F, G, H
  - Risk level after taking into account the control mechanisms: A', B', C', D', E', F', G', H'

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![Risk Map Diagram]
Climate risks

Business models

A. Reliability of raw water supply to the production plant

- Faulty flood protection system
- No flood prevention committee / Flood prevention committee does not cover all required locations
- No monitoring or ineffective monitoring of flow pressure in manifolds
- Faulty anti-flood valves
- Equipment replacement schedule is not aligned with risk statistics and results of technical condition surveys

Risk description

- Lack of raw water supply will result in disruptions to the operation of all units of the PKN Orlen production plant. Raw water supply is continuously monitored by the technical and plant maintenance staff.

Risk mitigation methods

F. Implementation of technical solutions which fail to deliver the expected outcome

- Lack of quality products
- High production losses
- High energy intensity of processes

Analysis of licence provider's documentation; analysis of the adopted solutions and proposing steps to increase energy efficiency of a project and/or improve project quality. Deployment of proven solutions at the Orlen Group project and process prediction. These measures help to mitigate the risks, including data associated with high energy intensity of processes or products of insufficient or poor quality.

G. Failure to implement a low-temperature heat utilization programme

- No low-temperature heat utilization programme is implemented

Monitoring the effects of the implemented SKI initiatives; managing the effects taking into account the current macroeconomic condition. Implementation of the project as planned - project monitoring based on reports from the area of implementation and PKN Orlen's reports. The solutions implemented at the units were properly and delivered the expected results. The risk of delay in the implementation of the planned solutions, additional work, and monitoring, with the involvement of the contractor has been introduced.

H. Lack of thermal integration of the key refinery units

- Thermal integration of the key refinery units is not measured

Monitoring the effects of the implemented SKI initiatives; managing the effects taking into account the current macroeconomic conditions. Activities completed in two out of three units selected for implementation. No risk of failure to implement the last project by the set deadline.

I. Efficiency improvement at key Orlen Group units

- No improvement of the energy intensity ratio at the Olefin units at PKN Orlen and Orlen Unipetrol
- No improvement of the energy intensity ratio at the PX/PTA unit
- Excessive losses and consumption in petrochemicals
- Ineffective utilization of the refinery production capacity

A key energy efficiency improvement project (planned for the strategy) for 2013-2017 has been completed. Further optimisation projects are being implemented under the current Orlen 2030 strategy.

D. Maintenance of the logistics infrastructure (fuel terminals, transmission pipelines)

- Failure of storage infrastructure
- Failure of the loading and unloading infrastructure
- Product pipeline leakage

Reduced contract service for the servicing and maintenance of equipment and facilities at the terminals and long-distance pipelines. Significantly reduce the probability of the risk materialising and its possible financial consequences.

E. Availability of energy for the production plant units and other customers

- External constraint on the availability of fuel electricity and natural gas in the long term
- Malfunction or abnormal operation of

Appropriate plant maintenance policy in place and reporting on key technical indicators including availability of turbines and boilers; reduce the risk of losses due to disruptions in the refinery's operation caused by lower than expected availability of resources such as electricity, process steam and usefulness.
Long-term physical climate risks and mitigation measures to be applied in the long term after 2030

The active approach of the ORLEN Group is contributing to mitigating adverse effects of climate change for the Group.

<table>
<thead>
<tr>
<th>Climate risk</th>
<th>Described impact</th>
<th>ORLEN Group’s mitigation measures</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extreme weather</td>
<td>High probability of local floods caused by extreme temperatures</td>
<td>1. PLN 25m investment in new water and sewage system technologies</td>
</tr>
<tr>
<td>Rising water level</td>
<td></td>
<td>2. Implementation of flood protection standards.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Reduction of water consumption in 2020 by 55% relative to 1980</td>
</tr>
<tr>
<td>High temperatures</td>
<td>Potential reduction of water availability due to rising temperatures and groundwater conflict with higher water demand</td>
<td>1. 55% improvement in water management relative to 1980</td>
</tr>
<tr>
<td>Droughts</td>
<td></td>
<td>2. Implementation of best practices and instruments in water management at industrial plants</td>
</tr>
<tr>
<td>Rising temperatures</td>
<td>Impact on technological processes and employee productivity high water demand</td>
<td>1. Implementation of alert systems and improvement of fire protection technologies</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Reduction of emissions to improve air quality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Improved fire protection management</td>
</tr>
</tbody>
</table>

Information on the mitigation of risks associated with water and wastewater management is in the section ‘Water and wastewater management’.
Policies and internal regulations

GRI Disclosures:
GRI 103-2

Environmental issues are managed by implementing the following policies and procedures:

- Integrated Management System Policy — a document describing the working standards for quality assurance, reduction of environmental impacts, health and safety at work and information security.
- PKN Orlen Energy Policy — a document describing the approach to improving the Company's energy performance, containing declarations on energy optimisation and ensuring energy security.
- Food Safety Policy at PKN Orlen — a document describing the working standards for food safety.

Other internal documents in place at PKN Orlen, resulting from the systems implemented at the organisation and decisions of public administration bodies, including:

- Environmental Monitoring Procedure — ensuring correct monitoring of air emissions, wastewater, rainwater and snowmelt produced at fuel terminals, and groundwater and in the vicinity of the Plock production plant site and on the fuel terminal sites, as well as identification and recording of key metrics of the Responsible Care programme relating to environmental protection, health protection, process safety (including safety and distribution of chemicals) and work safety.
- Responsible Care Management Framework — management system compliant with the guidelines of the European Chemical Industry Council (CEFIC), providing support in the development of management systems implemented at the organisation. Adopted as a result of PKN Orlen subscribing to the Declaration of Support for the ICCA Responsible Care Global Charter in 2007, it is a continuation of the Responsible Care programme that PKN Orlen has been implementing since 1997.
- Integrated Permits — decisions issued for the IPPC installations of PKN Orlen refining units, petrochemical units, CHP units, CCGT units, wastewater treatment plants on the premises of the Plock production plant and the PTA plant and CCGT unit in Wloclawek, specifying operating conditions that must be met for the units to be safe to the natural environment and people.
- CO2 Instruction on the Operation of the PKN Orlen System for Carbon Dioxide Emission and Activity Level Monitoring and Reporting — a document specifying the rules for timely and reliable entering of data in the IT system for CO2 emissions monitoring and reporting, including data on activity levels from each installation covered by free allocation allowances.
- Instruction for Calculating and Paying Charges for Air Emissions of Gas and Particulate Matter and Charges for Water Services at PKN Orlen — a procedure put in place to introduce a uniform calculation methodology, improve the quality of data acquisition, and ensure timely and reliable transfer of data serving as the basis for calculation of the charges.
- Waste Management Procedure — defines activities related to recording, storage, collection and disposal of waste generated in refining, power generation, storage, auxiliary and security processes.
- Instruction for the Packaging Management at Polski Koncern Naftowy Orlen Spółka Akcyjna — a procedure put in place to ensure compliance with the requirements under the Act on Packaging and Waste Management and the requirement to report on actual packaging volumes.
- Instruction on the Operation of the LDAR System at Polski Koncern Naftowy Orlen S.A. — describes implementation and maintenance of the leak detection and repair system in order to identify and reduce diffuse emissions of volatile organic compounds, and thus mitigate the environmental impact of the production plant in Plock and the PTA plant in Wloclawek, reduce losses of raw materials and products, and improve process safety.
- Procedure for Identifying Environmental Aspects and Determining Material Aspects — defines the process of identification, determination of materiality and periodic reviews of environmental aspects as well as allocation of responsibility for these activities.
- Fulfilment of REMIT obligations by PKN Orlen — this document sets out, in particular, the rules of conduct applicable to insiders and the procedure of disclosing inside information to the public.
- Rules of Conduct Relating to Regulations on Introducing Restrictions in the Supply and Consumption of Electricity in the Territory of the Republic of Poland — the objective is to safeguard the operations of PKN Orlen if restrictions are imposed by the state authorites.
- Instruction on Forecasting and Balancing requirements for Energy Utilities — MEBP for Organisational Units Located in Plock, the PTA plant in Wloclawek and External Customers — the goal is to keep a proper balance of consumption of energy utilities in specific areas of PKN Orlen and by external customers connected to the power grid.
- Rules for Managing and Trading in Electricity and the Related Property Rights — this document sets out the rules for managing and trading in electricity and property rights at PKN Orlen as part of GAHE (Active Energy Trading Platform). The regulation also applies to the Orlen Group companies operating within GAHE.
- Rules for the Performance of the Energy Trading and Technical Operator Tasks — includes processes involved in trading in electricity, property rights in certificates of origin for electricity, energy efficiency certificates, guarantees of origin, the related energy ranges and ancillary services.
- Detailed Rules for Recognition of Qualifications Held by Persons Involved in the Operation of Power Equipment, Units and Networks at PKN Orlen — include the types of work and positions, as well as power equipment, units and networks in the case of which the operator is required to have specific qualifications, and the list of knowledge required to obtain recognition of qualifications held by persons involved in the operation of power equipment, units and networks, and the qualification verification procedure.

The environmental objectives are set out in PKN Orlen's Integrated Management System Policy and the Energy Policy.

The Company holds valid certificates of compliance with ISO 9001:2015, AQAP 2110, ISO 14001:2015, ISO 45001:2018, ISO/IEC 27001:2015, ISO 50001:2015, ISCC, KZR INiG, and ZKP. These systems meet the highest international management standards and support the Company’s day-to-day efforts to ensure professional customer service and maintain top quality, safety, health protection, climate, and environmental standards. The key ORLEN Group companies have Integrated Management Systems in place, which include an Environmental Management System implemented and maintained in accordance with the ISO 14001 standard as their integral part.

The Group companies also follow Integrated Management System/Environmental Management System Policies, providing for an obligation to protect the environment, which includes pollution prevention and other specific obligations relevant to the operations of individual companies. These policies also include a requirement to comply with the law and other external and internal requirements identified in cooperation with our Stakeholders.

All systematic activities, in particular those which are material to the safety of people and the natural environment, are aligned with the ORLEN Group Strategy, which takes into account the aim to optimise technological processes, reduce greenhouse gas emissions, achieve climate neutrality and zero emissions, and comply with sustainable development principles.
Water and wastewater management

The process of water and wastewater management at the ORLEN Group has for years focused on the optimisation and efficiency of water withdrawal and consumption.

GRI Disclosures

<table>
<thead>
<tr>
<th>GRI 103</th>
<th>GRI 103-2</th>
<th>GRI 103-3</th>
<th>GRI 103-4</th>
<th>GRI 303-1</th>
<th>GRI 303-2</th>
<th>GRI 303-3</th>
<th>GRI 303-4</th>
<th>GRI 303-5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goal 6</td>
<td>Goal 12</td>
<td>Goal 13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SOGs:

- Goal 6
- Goal 12
- Goal 13

Capitals

Water

Sweet surface waters are the main water source for the Group companies, their dry residue is below 1000 mg/l. Sweet surface water is withdrawn by the Group's largest companies: the ENERGA Group, ANWIL, IKŚ S女装, PKN ORLEN, ORLEN Paliwowa, ORLEN Lietuva, ORLEN Unipetrol, Paramo and Spolana, and then distributed through water mains to their own production facilities, to other ORLEN Group companies, and to third parties. Group companies also abstract groundwater, albeit in significantly smaller quantities, and some of them use water provided by external suppliers. The volume of surface water, groundwater and mains water withdrawn by the ORLEN Group in 2021 totalled over 519 million m³, of which the largest amount was withdrawn by Energa Elektrownie Ostroleka (191 million m³ of surface water and 283,000 million m³ of groundwater).

The significant growth of water withdrawal volumes was caused by increased generation of electricity and heat to ensure safe and economical operation of the National Power System. At the same time, the volumes are within the limits defined in the integrated permit for the units.

PKN ORLEN withdrew a total of 25.3 million m³ of water in 2021 for its production plant, service stations and fuel terminals (including 23.7 million m³ of surface water and 0.4 million m³ of groundwater), down by 2.6 million m³ in 2020. The decrease is attributable to lower water demand from the petrochemical operations.

Water consumption at ORLEN Group companies

<table>
<thead>
<tr>
<th>Water intake point</th>
<th>Water withdrawn [m³]</th>
<th>Change [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Surface water</td>
<td>52,409,857</td>
<td>-3.46</td>
</tr>
<tr>
<td>Groundwater</td>
<td>147,478</td>
<td>-4.35</td>
</tr>
<tr>
<td>Total</td>
<td>109,932,335</td>
<td>-3.91</td>
</tr>
</tbody>
</table>

In addition, Energa OZE withdrew 351 billion m³ of water for the operation of hydroelectric power plant turbines, and returned the same volume of water in unimpaired condition. Hydroelectric power generation involves returning of water, i.e. the water that flows through the power plant turbines is returned to the environment in the same amount and without any significant change in its physical and chemical parameters. High-efficiency turbines operating in such plants not only support generation of greater electricity volumes with less water flow, but also make it possible to treat the water, which is beneficial to aquatic organisms, especially during periods of high temperatures.

Climatic conditions and demand for water are key factors that have a direct impact on the operation of ORLEN Group production plants. The risk of droughts, due to climate change and low levels of rainfall, can cause fresh water deficits in rivers and groundwater layers.

The ORLEN Group's units that are most exposed to temporary water deficits are the plants in Inowrocław, Kalisz, Jeżycze, Mažeikiai and Litvinov.

Amount of water withdrawn from areas with impaired water availability

Water discharge Effluents

Effluents from all ORLEN Group companies are directed to industrial and rainwater sewage systems and then undergo treatment. Wastewater discharged to the environment is monitored. In 2021, the ORLEN Group's overall discharge volumes were close to 503 million m³, including 494 million m³ of industrial wastewater. A significant volume of wastewater was discharged by Energa Elektrownie Ostroleka at 416.8 million m³.

In addition to PKN ORLEN, the following companies operate their own wastewater treatment systems: Energa Elektrownie Ostroleka, Energa Kogeneracja, ANWIL, Ship Service, Paramo, PKN Unipetrol, ORLEN Lietuva, ORLEN Paliwowa, ORLEN Paliw, ORLEN Budnictwo, Naftopolution, IKŚ S女装 and ORLEN Balta Retail. All wastewater undergoes a treatment process which includes mechanical, physical, chemical and/or biological treatments. Once wastewater is treated in accordance with the companies' integrated permits, it is discharged into rivers: Vistula, Oder, Narew, Elbląg, Sisa, Błina, Dubicz, Obielau, Wisła, Jastrzębie, Prasna, Brzegińca, Rapina and Sowina, and into the Baltic Sea.

The other companies divert their wastewater streams to wastewater systems of other Group companies or third parties.

Treated wastewater at the ORLEN Lietuva refinery and at the production plant in Plock is partly reused, which reduces the amount of water withdrawn from the environment for utility and firefighting purposes. In 2021, ORLEN Lietuva and PKN ORLEN reused 41 million m³ and over 3.5 million m³ of wastewater, respectively.
At ANWIL’s PVC plant, heat is recovered from process wastewater. The volume of wastewater transferred to third parties (outside the ORLEN Group) was 1,744,819 m³, of which 1,438,126 m³ was industrial wastewater. The ORLEN Group does not use rainwater collected directly or treated wastewater generated by entities from outside the Group.

**Volumes of treated effluents discharged into the environment by ORLEN Group companies**

<table>
<thead>
<tr>
<th>Effluent type</th>
<th>Volumes of treated effluents discharged into the environment (m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
</tr>
<tr>
<td>Industrial wastewater</td>
<td>494,392,004</td>
</tr>
<tr>
<td>Other</td>
<td>8,298,050</td>
</tr>
<tr>
<td>Total</td>
<td>492,600,054</td>
</tr>
</tbody>
</table>

The significant rise in wastewater discharge volumes was caused by increased water withdrawal for electricity and heat generation to ensure safe and economical operation of the National Power System. At the same time, the discharge volumes are within the limits stated in the integrated permit issued to Energa.

The quality of wastewater discharged into the environment and to external sewage facilities is monitored in accordance with the law through regular measurement of the contents of individual substances in wastewater samples. In addition, in-service maintenance of the wastewater treatment equipment is performed.

**Share of substance loads in effluents discharged into the environment**

- Sulfates 19,997 Mg (34%)
- Chlorides 12,854 Mg (22%)
- Dissolved inorganic salts 18,451 Mg (31%)
- Total suspended solids 517 Mg (1%)
- Other substances (including phosphorus compounds, hydrocarbons and metals) 1,22 Mg (1%)
- Sodics 5,771 Mg (10%)
- Nitrogen compounds 809 Mg (1%)

The substance load in effluents discharged into the environment totaled nearly 59,000 Mg.

**Water consumption**

In recent years, the ORLEN Group has made a number of investments that result in a more efficient use of water and increase the safety of water and sewage systems.
Mitigation of risks associated with water and wastewater management at PKN ORLEN

The process of water and wastewater management at PKN ORLEN has for years focused on the optimisation and efficiency of water withdrawal and consumption. The effectiveness of our responsible management of water resources and investments in state-of-the-art technologies is demonstrated by the developments seen at the Płock refinery over the last 40 years, where steady growth of production and crude oil processing was accompanied by a gradual decrease in the water consumption and wastewater discharge volumes.

Reduction of water consumption and wastewater discharge volumes vs crude oil throughput in 1980–2021

<table>
<thead>
<tr>
<th>Crude oil throughput (million m³)</th>
<th>Withdrawal of water (million m³)</th>
<th>Discharge of wastewater (million m³)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021 14.5</td>
<td>2021 23.7</td>
<td>2021 13.6</td>
</tr>
</tbody>
</table>

Water for power generation and cooling purposes is sourced from the Vistula, whereas all water for technical safety purposes is produced from wastewater treated on the plant premises, which is an element of a semi-closed loop water system.

Cooling water is abstracted from the Vistula and then treated to remove impurities. This water, called process water, is directed to cooling water towers, where it is added to the water circulating in the closed loop system between the cooling water towers and the production units. Cooling water needs to be refilled to make up for its losses (about 2% of the total amount of the cooled water) caused by partial evaporation during water cooling processes occurring in the cooling towers.

Water for technical safety purposes is water produced from treated wastewater and subjected to a final purification process. Water for fire protection purposes is directed to the Company’s fire hydrant network to be used in case of fire. A part of this water is directed to the utility water hydrant network and is used for other technical purposes at the plant. The plant also produces drinking water for its own use from water drawn from the Company’s own deep wells located in the area of Biała Stara and treated on the premises of the production plant.

Water cycle at the Płock production plant

PKN ORLEN uses 23.7 million m³ of water a year, with 305 million m³ of water circulating in its systems annually.

Water is essential for the operation of the production plant in Płock. It is used for:
- power generation;
- cooling;
- technical safety.
Energy saving measures include:

1. Operation of pumps with frequency inverters.
2. The inverter can control any of the power supply units available at the pumping station. The leading parameter for the operation of an inverter is the pressure in an operating manifold.
3. Pumping water through three manifolds instead of one.
4. Each meter of pumping height means some 10.5 kW of additional power consumption. If a single pipeline is in operation, linear losses grow in line with the increase in flow velocity, resulting in an increase in the pumping height and thus in higher power consumption.
5. Maintaining a low water level in the tower tanks reduces the pumping height and thus mitigates power consumption growth.
6. The purchase of a new inverter improved the control efficiency by a few percent. Effect: reduction of electricity consumption by 3,000,000 kWh a year.

Efficient water and wastewater management

Approximately 3.7 m³ of wastewater per year is recycled to produce water for fire protection purposes at the Płock production plant.

Production of cooling water [millions m³]

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>900</td>
<td>905</td>
<td>890</td>
</tr>
</tbody>
</table>

Electricity consumption rate for water circulation [kWh/m³]

<table>
<thead>
<tr>
<th>Year</th>
<th>2017</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>0.286</td>
<td>0.264</td>
</tr>
</tbody>
</table>
Air emissions

Air emissions are monitored through periodic or continuous measurements.

GRI Disclosures

<table>
<thead>
<tr>
<th>GRI 305-7</th>
<th>GRI 305-4</th>
<th>GRI 305-6</th>
<th>GRI 305-1</th>
<th>GRI 305-2</th>
</tr>
</thead>
</table>

SOGs:

GRI 305-7

Capitals

GRI 305-7

Management of greenhouse gas emissions

Direct greenhouse gas (GHG) emissions at the ORLEN Group include CO₂ emissions reported under the EU Emissions Trading Scheme (EU ETS) and non-EU ETS emissions.

Total CO₂ emissions from EU ETS installations were 17,609,161 Mg in 2021, while non-EU ETS CO₂ emissions from small-scale local heat sources and waste incineration plants totalled 42,857 Mg.

Greenhouse gas emissions were balanced monthly for the ORLEN Group companies' units which participate in the Emissions Trading Scheme (ETS). The utilisation of the CO₂ emission allowance allocations was monitored on an ongoing basis for each unit. The total pool of free allowances granted to ORLEN Group installations for 2021 was 7,606,860 Mg.

Verified CO₂ emissions (Mg) from ORLEN Group's EU ETS installations in 2020–2021

<table>
<thead>
<tr>
<th>Company</th>
<th>2021</th>
<th>2020</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENERGA</td>
<td>1,071,305</td>
<td>1,071,305</td>
</tr>
<tr>
<td>Basell Orlen Polyolefins</td>
<td>821,609</td>
<td>821,609</td>
</tr>
<tr>
<td>ORLEN Lietuva</td>
<td>1,789,123</td>
<td>1,789,123</td>
</tr>
<tr>
<td>ORLEN Południe</td>
<td>2,219,248</td>
<td>2,219,248</td>
</tr>
<tr>
<td>ORLEN Group companies</td>
<td>17,609,161</td>
<td>17,777,829</td>
</tr>
</tbody>
</table>

The Group monitors actual CO₂ emissions against its allowances on an ongoing basis, seeking to ensure that it has the required allowance amounts.

Emissions of all greenhouse gases totalled 17,654,205 Mg, or 17,777,829 Mg of eCO₂ equivalent.
Greenhouse gas emissions at the ORLEN Group

<table>
<thead>
<tr>
<th>Substance</th>
<th>Emissions [Mg]</th>
<th>Emissions [Mg eCO₂]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
<td>2020</td>
</tr>
<tr>
<td>Carbon dioxide (CO₂)</td>
<td>1919.78</td>
<td>1901.022</td>
</tr>
<tr>
<td>Methyl chloride (CH₃Cl)</td>
<td>1.38</td>
<td>0.78</td>
</tr>
<tr>
<td>Sulfur hexafluoride (SF₆)</td>
<td>0.04</td>
<td>0.03</td>
</tr>
<tr>
<td>Sulfur hexafluoride (SF₆)</td>
<td>0.01</td>
<td>0.01</td>
</tr>
<tr>
<td>Hydrofluorocarbons (HFC)</td>
<td>1.47</td>
<td>1.47</td>
</tr>
<tr>
<td>Total</td>
<td>2273.90</td>
<td>207.022</td>
</tr>
</tbody>
</table>

* Calculations based on 100-year Global Warming Potential (GWP) values from the IPCC Fifth Assessment Report.

Emissions of ozone-depleting substances


Types and quantities of ozone-depleting substances and F-gases at ORLEN Group companies

<table>
<thead>
<tr>
<th>Substance</th>
<th>Emitted [Mg]</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2021</td>
</tr>
<tr>
<td>Methyl chloroform (MCF)</td>
<td>3.90</td>
</tr>
<tr>
<td>Nitrogen tribromide (Ntribromide)</td>
<td>0.04</td>
</tr>
<tr>
<td>Sulfur hexafluoride (SF₆)</td>
<td>0.01</td>
</tr>
<tr>
<td>Bromomethane useful brands</td>
<td>0.37</td>
</tr>
<tr>
<td>SF₆</td>
<td>0.01</td>
</tr>
<tr>
<td>Total</td>
<td>4.35</td>
</tr>
</tbody>
</table>

The substances are used in laboratory and analytical testing, in refrigerating and air conditioning equipment, and as process reagents in the production of chlorine and caustic soda. Trichlorofluoromethane equivalent (CFC11) for the emitted substances was calculated in accordance with Regulation No. 1005/2009 of the European Parliament and of the Council of September 16th 2009, and amounted to 5.95 Mg.

Carbon footprint

We are pursuing a decarbonisation strategy, which is one of the commitments under the ORLEN Group’s new business strategy. In 2030, PKN ORLEN has declared its intention to achieve carbon neutrality by 2050. In furtherance of this goal, the Group aims to reduce carbon emissions from its existing refinery and petrochemical assets by 20% and cut down carbon emissions per megawatt-hour of electricity by 33% by 2030. The net zero emissions strategy is based on four pillars: energy efficiency in production, zero carbon power generation, fuels of the future, and green finance.

We have taken steps to develop a methodology for calculating our carbon footprint. The methodology is compliant with the GHG Protocol Corporate Accounting and Reporting Standard for Scope 1 and Scope 2 (market-based approach) emissions. Work on Scope 3 is currently underway.

The sources of direct (Scope 1) emissions are electricity and steam generation, heating and cooling processes. These emissions are produced as a result of the combustion of fuels in boilers, furnaces, engines and turbines, and in technological processes. The methodology used to calculate direct emissions takes into account continuous and periodic measurements of GHG emissions as well as monitoring of the type and amount of fuels used, and converts them to GHG CO₂e.

Indirect (Scope 2) GHG emissions are calculated using the market-based method. They include emissions from the generation of purchased or externally sourced electricity, heating, cooling, and steam consumed.

CO₂ emission volumes at PKN ORLEN S.A. [Mg of CO₂e]

<table>
<thead>
<tr>
<th>Year</th>
<th>Emission Volume [Mg CO₂e]</th>
</tr>
</thead>
<tbody>
<tr>
<td>2019</td>
<td>2,022</td>
</tr>
<tr>
<td>2020</td>
<td>2,397</td>
</tr>
<tr>
<td>2021</td>
<td>2,821</td>
</tr>
</tbody>
</table>

* Unverified emission estimates.

Biogenic emissions

Biogenic carbon emissions (i.e., emissions of carbon that is already part of the natural carbon cycle) at the ORLEN Group are emissions produced in the combustion of bioenergy-based fuels. Based on IPCC reports, CO₂ emissions from burning biodiesel and biomass as alternative fuels are consistently offset by the amounts of carbon dioxide absorbed by plants.

In accordance with the GHG Protocol, biogenic emissions are reported separately from Scope 1 and Scope 2 emissions.

In the case of PKN ORLEN S.A., biogenic emissions have been calculated based on the biodiesel combustion values from the DEFRA database and amounted to 7 Mg of CO₂e.
Waste

The Group is implementing a circular economy programme. To this end, it is consolidating ORLEN Group’s operations related to waste recycling and waste processing into high-margin products and energy, for instance by implementing a polymer recycling technology with an installed capacity of 300,000 tonnes by 2030.

GRI Disclosures

GRI 103-1  GRI 103-2  GRI 103-3  GRI 306-1  GRI 306-2  GRI 306-5  GRI 306-4

SDGs:

Goal 12  Goal 13  Goal 14

 Capitals

PKN ORLEN engages in various projects and programmes designed to utilise alternative and waste materials. These include:

- PGOZ – a project to increase the use of waste materials in the circular economy system, which focuses on recycling and reuse of plastic materials;
- COMBO – comprehensive management of all municipal waste types by implementing appropriately scaled technologies that take into account the morphological structure of the waste. The following processes are being considered as part of the project:
  - pyrolysis of plastic as feedstock for refining and petrochemical processes;
  - thermal treatment of waste, e.g. gasification to produce hydrogen or generate electricity;
  - biogas plants using biogas to generate electricity or biofuel (biohydrogen).

In addition to reducing the amount of landfilled waste, the circular economy and materials recycling have another important effect from the point of view of economic growth: they improve production efficiency.

In a world where demand and competition for resources are already steadily growing, leading to resource depletion and soaring commodity prices, there are economic and environmental benefits to be gained from more efficient resource management.

As the environmental and climate awareness of the public is rising, it is easier to implement products based on technologies that reduce the environmental footprint, such as new low-carbon products and technologies with a lower overall environmental impact.

The initiatives planned as part of the circular economy programme also have a significant decarbonisation potential since plastics recycling, both mechanical and chemical, is a way to save significant amounts of energy and raw materials used in the manufacturing process.

Circular economy aspects have been implemented in some of PKN ORLEN’s processes. The flue gas desulfurisation unit operated in Połock not only helps reduce emissions but also delivers high-quality synthetic gypsum, which has been recognised as a product in its own right. Production of gypsum helps protect its natural resources. In 2021, the gypsum output was 110,000 tonnes.

ORLEN Południe is Poland’s only company that operates a specialist hydrodegradation line, enabling safe regeneration of waste oils into base oils used to make lubricating oils. The process is a model example of a circular economy solution. In 2021, 47,000 tons of oils and lubricants were recovered using the waste oil regeneration unit. Moreover, waste in the form of used edible oils and fats is recovered at ORLEN Południe in the process of ester and glycerine production. In 2021, a total of 15,500 tonnes of used cooking oils were processed into high-quality methyl esters (biodiesel) and distilled glycerine.

Waste

Waste generated by the ORLEN Group includes primarily waste from processing of crude oil, production of organic chemicals and fuel combustion, as well as sludge from treatment of industrial wastewater, waste oils and post-repair waste.

The total volume of waste other than municipal waste generated in 2021 by the Group companies exceeded 295,700 Mg. The largest volumes were generated by Energa Group companies: more than 86,800 Mg, including over 84,900 Mg of non-hazardous waste. Of the total waste volumes generated last year, 22,900 Mg was transferred to third parties for recovery or disposal, while 11 Mg was transferred to licensed collection companies within the ORLEN Group. Group companies recovered almost 86,000 Mg of waste generated internally and collected from third parties, and disposed of almost 120,500 Mg of waste in their own facilities. In 2021, 20,200 Mg of waste was landfilled.

Waste generated by the ORLEN Group includes primarily waste from processing of crude oil, production of organic chemicals and fuel combustion, as well as sludge from treatment of industrial wastewater, waste oils and post-repair waste.

Data on the amounts of generated hazardous and non-hazardous waste is presented below.

### Waste volumes generated at ORLEN Group companies

<table>
<thead>
<tr>
<th>Waste type</th>
<th>2020</th>
<th>2020</th>
<th>Change [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-hazardous</td>
<td>238,700</td>
<td>233,991</td>
<td>1.95</td>
</tr>
<tr>
<td>Hazardous</td>
<td>5,850</td>
<td>5,798</td>
<td>0.90</td>
</tr>
<tr>
<td>Total</td>
<td>244,550</td>
<td>239,789</td>
<td>1.94</td>
</tr>
</tbody>
</table>
ORLEN Group companies manage their own waste produced in connection with their operations as well as waste accepted from waste generators from outside the Group. The waste is subjected to recovery and disposal processes at the Group’s own facilities. Waste that cannot be managed using the Group’s facilities is transferred to licenced third-party operators (companies from outside the Group). Waste that could not be managed on an ongoing basis or transferred to other operators was landfilled (it can be stored for strictly limited period of time).

Waste disposal methods

<table>
<thead>
<tr>
<th>Waste disposal methods</th>
<th>Hazardous waste [Mg]</th>
<th>Non-hazardous waste [Mg]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waste recovered at own facilities</td>
<td>44,500</td>
<td>2,079</td>
</tr>
<tr>
<td>Waste disposed of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>throughухотелечные насыпи</td>
<td>22,316</td>
<td>72,864</td>
</tr>
<tr>
<td>landfilled in own landfills</td>
<td>2,994</td>
<td>7,968</td>
</tr>
<tr>
<td>Total</td>
<td>69,810</td>
<td>94,011</td>
</tr>
</tbody>
</table>

The largest volumes of the recovered waste were oils recovered using the waste oil regeneration unit at ORLEN Południe. Waste in the form of used edible oils and fats is recovered at ORLEN Południe in the process of ester and glycerine production.

Additionally, Ship-Service operates recovery and disposal processes in its liquid petroleum waste recovery and disposal unit.

Thermal processing of waste takes place mainly in the hazardous waste thermal treatment facility operated by ORLEN Eko. The facility is also used to treat waste received from third parties. Furthermore, internally generated waste is recovered and disposed of at the ORLEN Group’s own production units, including the terephthalic acid production unit at PKN ORLEN, the unit for hydrogen chloride recovery from organic chloride waste at ANWIL, and wastewater treatment plants of ORLEN Lietuva.

The landfills of Energa, ORLEN Eko and Spolana received a total of 80,200 Mg of waste.

The Group complies with the Basel Convention, which means that it operates in accordance with the Convention as well as the EU legislation on cross-border transport of waste. Such transport involves designated border crossing points and designated customs offices. For waste to be exported, the ORLEN Group makes the required notifications or obtains the necessary decisions. In 2021, 3.7% i.e. 1,084.7 Mg of generated waste, including 7,855 Mg of hazardous waste (spent catalysts), was transported to other countries.

Cross-border transport of waste
**Capital expenditure**

Investments made by ORLEN Group companies include projects aimed at reducing environmental impacts of the existing business segments as well as driving green growth of new business areas.

**GRI Disclosures**

- GRI 103-1
- GRI 103-2
- GRI 103-3

**SDGs:**

- Goal 6
- Goal 7
- Goal 11
- Goal 12
- Goal 13

**PKN ORLEN has been also implementing solar photovoltaic projects.**

In 2021, work was underway to construct a solar PV plant at the CCGT unit site in Włocławek and on PKN ORLEN’s site in Plack.

**Steps were taken to prepare the Plack production plant for co-hydrogenation of vegetable oils (VO) and used cooking oils (UCO) to achieve the National Indicative Target of 8.5% of fuel biocomponent production.**

Line drainage system and water supply/sewerage/sanitary connections were constructed, and washers and separators were installed at PKN ORLEN distribution facilities (at newly constructed facilities in new locations or at existing purchased/eased facilities being adapted to the Company’s standards). At PKN ORLEN’s fuel terminals, wastewater treatment systems were upgraded and vapour recovery systems were installed for handling operations.

**PKN ORLEN expanded its leak detection and repair (LDAR) system to cover more production units, this time in the petrochemical section of the Plack and Włocławek production plants.** Hence, the relevant requirements of Best Available Techniques were finally met in a timely manner. The purpose of the project is to identify, monitor and reduce diffuse emissions of volatile organic compounds, thereby contributing to the reduction of the plants’ environmental impact and feedstock and product losses, as well as to improving the process safety and staff’s working conditions. Roughly 170,000 potential emission points were examined at 16 production units as part of the implementation activities in the petrochemical section of the Plack and Włocławek production plants. Importantly, the examination showed a very low leak rate of less than 1% at the petrochemical units.

A number of investment projects were carried out in ORLEN Lietuva process units where high-pressure steam was replaced with low-pressure steam, thus reducing the consumption of fuel. Upgrade of the heat exchangers and sealing of the heaters enabled reuse of heat for heating lower temperature streams. The projects have helped to optimise fuel and energy consumption for the production of process steam.

**ORLEN Unipetl** completed the construction of a new boiler house at the steam cracking unit, which now meets the BAT emission requirements for LVOC units. The company also carried out a number of projects concerning wastewater management, which included replacement of the industrial sewage pipeline, installation of equipment for collection and transport of sludge at the wastewater treatment plant, commissioning of new pumping stations, and commencement of construction of an emergency sulfur drain and overflow tank.

A state-of-the-art flue gas desulphurisation unit was constructed at Energa Elektrownie Ostrołęka, significantly reducing SO₂ and dust emissions. At Kalisz CHP Plant, a peak-load reserve water gas-fired boiler house was constructed, with two 20 MWt boilers and one 10 MWt boiler.

Installation of a heat pump along with solar photovoltaic system and adjustment of the central heating system was completed in the ORLEN KelTrans administration building in Włocławek.

**PKN ORLEN is dedicated to the development of renewable energy sources.** Along with other entities, including ORLEN Południe, it has signed an agreement to step up activities in the area of biogas and biobutane. The development of this segment of the renewable energy sector will play an important role in increasing Poland’s energy security and reducing imports of energy resources. This is yet another initiative of PKN ORLEN aligned with the ORLEN 2030 strategy objective of achieving carbon neutrality by 2050. ORLEN Południe, a member of the ORLEN Group, has signed a contract for the construction of UCO (used cooking oils) and FAME (fatty acid methyl ester) production and distillation lines in Trzebinia; the new facilities will convert vegetable oils and animal fats into 30,000 tonnes of esters and 7,000 tonnes of glycerine annually. Deployment of the related innovative and environmentally friendly solutions will mark yet another milestone in the process to transform ORLEN Południe into a state-of-the-art biorefinery and also step up development of alternative fuel lines, which is one of the ORLEN Group’s strategic objectives. The investment project in Trzebinia, with a value estimated at approximately PLN 127m, will be completed in the first quarter of 2023. Importantly, the project is also aligned with the EU’s Renewable Energy Directive II, offering special incentives to encourage the processing and reuse of waste products, and will contribute to the reduction of CO₂ emissions, in line with the National Reduction Target.

In 2021, as part of the process to adapt its petrochemical units to the best available techniques (BAT) for large volume organic chemicals (VOC), PKN ORLEN completed a construction of a continuous flue gas monitoring system at the dielectric furnaces and the paraxylene unit. In 2021, the necessary decisions were obtained for the construction of a Claus unit for gaseous hydrogen sulphide treatment and Shell Claus off-gas treatment (SCOT) unit for tail gas treatment (TGTU). In addition, a new tank with a capacity of 10,000 m³ and a floating roof is under construction at the sewage treatment plant of the Plack production plant, which will reduce fugitive emissions of volatile organic compounds (VOCs) and limit the odour nuisance from open storage reservoirs.

In 2021, ORLEN Group companies included projects aimed at reducing environmental impacts of the existing business segments as well as driving green growth of new business areas.
In November 2021, ORLEN Projekt completed another environmentally friendly project.

ORLEN Projekt installed an AC charging station for electric cars next to its office building in Płock, where two cars can be charged simultaneously. The rated power of each charging point is 22.1 kW. The AC charger is equipped with a standard connector that makes it possible to charge almost every electric car model available in the European Union. The power is obtained from a micro PV installation built in 2020 by ORLEN Projekt. Renewable energy from this source is sufficient for roughly 1300 charging cycles, which fully covers the company’s current fleet requirements, bringing it closer to zero emissions.

ORLEN Aviation implemented a solar photovoltaic programme: electricity generated by solar panels currently covers 5% of its electricity demand.

Renewable energy projects were also carried out by other companies of the ENERGA Group, ANWIL, and ORLEN Południe.

ORLEN Południe upgraded the sewage sludge dewatering node within the central separator, thus reducing waste volumes.

PKN ORLEN, ORLEN Eko, and ANWIL undertook adaptation measures based on a review of their waste recovery and disposal units’ compliance with the requirements under the Commission Implementing Decision establishing the best available techniques (BAT) conclusions for waste incineration. The waste incineration unit at PKN ORLEN’s PTA plant will be adjusted to the requirements of the BAT conclusions for energy recovery and emissions monitoring. ORLEN Eko commenced work at its incineration plant (ITPON) to meet more stringent requirements concerning air emissions and wastewater discharged to the sewage system. At the same time, work was under way to adapt the waste shredding and disposal facility to the emissions monitoring requirements of the BAT conclusions for waste treatment. The facility will be equipped with a scrubber for plant air purification. In addition, the construction of a hazardous waste landfill section commenced, to provide safe storage of process residues from the incineration plant.

Investment projects pursued by ORLEN Group companies include organisational measures, such as implementation of environmental and energy management systems, staff training, environmental R&D, as well as technical projects aimed at mitigating the environmental impacts of the existing business segments and sustainable development of new business areas.

The total cost of environmental projects incurred by PKN ORLEN in 2021 amounted to €21 m.

Capex spent by ORLEN Group companies on environmental projects and initiatives in 2021 amounted to €67 m.
In 2021, 36 complaints regarding environmental impacts were filed with the Environmental Inspection System of the PKN ORLEN production plant in Płock. They concerned odour nuisance and were resolved in accordance with systematic internal procedures.

Information on the complaints was submitted to the relevant administration authorities. Most of the complaints were registered when production units were shut down for maintenance work and preparation for process startups, which involved emptying and blowing apparatuses, as well as steam cleaning of individual systems containing mixtures of hydrocarbons. As part of the complaint resolution process, measurements were taken with portable devices at the location of the reported nuisance, and the relevant unit's operation was checked for potential causes of odour nuisance in the production, repair and maintenance processes. Such action was not taken in the case of two complaints, as it was decided, based on the wind direction and large distance, that the nuisance could not originate from PKN ORLEN's facilities. In the case of two further complaints, the sources of nuisance were identified outside the plant – the cause was burning leaves and work on sewer manholes in the town.

Six complaints were registered at the ORLEN Group Czech companies, including five in Unipetrol, and one in Spolana. All of them concerned odour nuisances. In each case the companies carried out relevant inspections and promptly took measures to remedy the situation.

ORLEN Lietuva received three complaints. Two of them were related to water and wastewater management and one to odour nuisance. The company took steps to remove contamination in the Baltic Sea resulting from failure of ORLEN Lietuva's oil pipeline.

ORLEN Południe received six complaints about odour nuisance in 2021. The company took olfactometer measurements at the indicated facilities and cleaned non-operational wastewater collection and pre-treatment facilities.
Biodiversity protection

PKN ORLEN implements initiatives supporting biodiversity conservation and endangered species protection.

GRI Disclosures:

GRI 103
GRI 304

SDGs:

Goal 13
Goal 14
Goal 15

The Płock production plant site and the adjacent land are nature-rich areas and home to rare, and in some cases protected, species. This was confirmed by the botanists, ornithologists, ichthyologists, and other scientists conducting a wildlife survey at that location and its adjacent area covering almost 1,300 hectares. The project team, assisted by naturalists of a consulting agency, conducted field observations of flora and fauna, which served as the basis for mapping the most precious habitats and the most interesting species of invertebrates, fish, birds, and mammals. In total, nearly 290 animal and plant species inhabit the area, of which almost 160 are included in the International Union for Conservation of Nature’s Red List of Threatened Species.

Similar surveys were conducted by ANWIL, Energa Group, ORLEN Unipetrol, and Spolana. The list of species living near our plants includes many animals that are sensitive to the quality of the environment.

Energa OZE mitigates the impact of its hydroelectric power plants on biodiversity in lakes and rivers and monitors the effects of related activities, including through participation in regular restocking of rivers and lakes and installation of fish ladders at hydroelectric power plants.

Protected areas in which Energa OZE’s plants and units are located:

<table>
<thead>
<tr>
<th>Protected area type</th>
<th>Number of areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natura 2000 Special Areas of Conservation</td>
<td>10</td>
</tr>
<tr>
<td>Natura 2000 Special Protection Areas</td>
<td>7</td>
</tr>
<tr>
<td>Nature Reserves</td>
<td>2</td>
</tr>
<tr>
<td>National/landscape parks</td>
<td>3</td>
</tr>
<tr>
<td>Protected landscape areas</td>
<td>12</td>
</tr>
</tbody>
</table>

In 2021, Energa Elektrownie Ostrołęka commenced a project to investigate the impact of Ostrołęka B Power Plant on the ichthyofauna of the Narew river. The investigation aims to assess the current condition of the ichthyofauna and plan measures to eliminate potential adverse impacts of the power plant. As part of the Energy of Biodiversity initiative, a comprehensive environmental and educational project, wildflower meadows were sown to increase biodiversity. The project was implemented in Ostrołęka, where nearly 2.7 hectares of meadows were created on a combustion waste landfill site and in front of the company’s head office.
Also, Energa Group companies, in collaboration with naturalists, undertake **white stork conservation** initiatives and related education projects in Poland. A programme to secure nests built by storks on low voltage power poles have been in place for over two decades. The number of nest platforms installed in the area where Energa operates is about 12 thousand.

A programme to secure nests built by storks on low voltage power poles have been in place for over two decades. The number of nest platforms installed in the area where Energa operates is about 12 thousand.

**List of protected areas and areas of high biodiversity value where Energa Operator operates HV lines:**

<table>
<thead>
<tr>
<th>Protected area</th>
<th>Number of areas</th>
<th>Length of HV lines (km)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Landscape parks</td>
<td>17</td>
<td>178</td>
</tr>
<tr>
<td>Landscape parks buffer zones</td>
<td>12</td>
<td>221</td>
</tr>
<tr>
<td>Nature reserves</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Nature reserve buffer zones</td>
<td>6</td>
<td>5</td>
</tr>
<tr>
<td>Protected landscape areas</td>
<td>91</td>
<td>1,277</td>
</tr>
<tr>
<td>Natura 2000 sites</td>
<td>48</td>
<td>47</td>
</tr>
</tbody>
</table>

For the fifth time in 2021 PKN ORLEN joined a Responsible Care Programme initiative called **Tree for a Bottle**, where expired medications and electronic waste were collected from employees in exchange for a tree sapling, the symbol of the campaign, provided by the Responsible Care Programme secretariat. Over 1,000 tree saplings were distributed as part of the campaign.

PKN ORLEN works with the SOKÓŁ Society for Wild Animals, supporting the peregrine falcon conservation efforts in Poland.

The peregrine falcon is listed on the Polish Red List of Animals as a CR (critically endangered) species. The programme is a showcase of PKN ORLEN’s long-term environmental initiatives. Falcons living on PKN ORLEN’s premises are closely monitored all year long, based on inspections of nest boxes, video recordings and photographs of nesting falcons, as well as ringing of falcon nestlings. The monitoring enables continuous observation and regular checks, particularly during the breeding season, which is an exciting experience every year. Peregrine falcon nests are also to be found on the sites of ORLEN Unipetrol and ANWL.

ANWL runs other environmental initiatives, including **Mr Carp Restocks the Vistula**. A programme singled out by the Ministry of Development as one of the 30 most valuable environmental projects of the last three decades.

The area around Spolana’s plant, and the retention pond in particular, is a refuge for many protected and endangered species. The presence of otters, teals, kingfishers and trout, which are species very sensitive to the quality of the environment, indicates the site is clean. Since 2018, Spolana has been taking care of the bee hives located on the site of the former chocolate and saccharine factory, and regularly bottles floral honey of excellent quality, as confirmed by tests conducted by the accredited laboratory of the Beekeeping Institute.
Feedstocks and production processes

In its refining and petrochemical operations, the Group processes various raw materials and semi-finished products. Crude oil is the principal raw material used in production, and other feedstocks include biocomponents and chemicals.

GRI Disclosures

GRI 301* GRI-OC-14 GRI-OC-8 GRI-417-1

SDGs:

Goal 7  Goal 9  Goal 12

Capitals

In order to protect the environment and in view of the national requirements to ensure the mandatory minimum share of biofuels in transport, in 2021 the ORLEN Group used over 800,000 tonnes of methyl esters, over 250,000 tonnes of bioethanol and over 40,000 tonnes of synthetic bio-hydrocarbons. All the biofuels used by the ORLEN Group in its markets met the sustainability criteria specified in the RES Directive and Fuel Quality Directive.

For information and data on major feedstock types in the Power Generation segment, see ‘Energy Management’.

Consumption of biofuels meeting the sustainability criteria

In order to protect the environment and in view of the national requirements to ensure the mandatory minimum share of biofuels in transport, in 2021 the ORLEN Group used over 800,000 tonnes of methyl esters, over 250,000 tonnes of bioethanol and over 40,000 tonnes of synthetic bio-hydrocarbons. All the biofuels used by the ORLEN Group in its markets met the sustainability criteria specified in the RES Directive and Fuel Quality Directive.

All the biofuels used by the ORLEN Group in its markets met the sustainability criteria specified in the RES Directive and Fuel Quality Directive.

Volumes of biofuels used by the ORLEN Group – biofuels meeting the sustainability criteria on the Polish, Czech and Lithuanian markets

<table>
<thead>
<tr>
<th>Year</th>
<th>Poland*</th>
<th>Czech Republic**</th>
<th>Lithuania***</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>416,768</td>
<td>184,400</td>
<td>118,026</td>
</tr>
<tr>
<td>2020</td>
<td>124,796</td>
<td>45,000</td>
<td>43,750</td>
</tr>
<tr>
<td>2019</td>
<td>105,750</td>
<td>40,000</td>
<td>39,750</td>
</tr>
</tbody>
</table>

For information and data on major feedstock types in the Power Generation segment, see ‘Energy Management’.

Consumption of raw and other materials

Non-renewable raw materials [t]

<table>
<thead>
<tr>
<th>Year</th>
<th>PKN ORLEN</th>
<th>ORLEN Lietuva</th>
<th>ORLEN Polska</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>1,232,165</td>
<td>76,347</td>
<td>1,268,412</td>
<td>682,682</td>
</tr>
<tr>
<td>2020</td>
<td>1,197,014</td>
<td>77,477</td>
<td>1,265,412</td>
<td>677,482</td>
</tr>
</tbody>
</table>

Renewable raw materials [t]

<table>
<thead>
<tr>
<th>Year</th>
<th>PKN ORLEN</th>
<th>ORLEN Lietuva</th>
<th>ORLEN Polska</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>7,644,828</td>
<td>768,136</td>
<td>6,876,692</td>
<td>3,619,965</td>
</tr>
<tr>
<td>2020</td>
<td>7,746,545</td>
<td>788,136</td>
<td>6,924,409</td>
<td>3,619,965</td>
</tr>
</tbody>
</table>

Crude oil consumption

<table>
<thead>
<tr>
<th>Year</th>
<th>PKN ORLEN</th>
<th>ORLEN Lietuva</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>14,427,875</td>
<td>764,136</td>
<td>15,192,011</td>
</tr>
<tr>
<td>2020</td>
<td>14,350,875</td>
<td>764,136</td>
<td>15,114,011</td>
</tr>
</tbody>
</table>

Benzene, lead and sulfur content in fuels

The key function of the ORLEN Group refinery is to produce liquid fuels meeting the applicable regulatory requirements and technical standards. All processes along the production chain are designed to obtain high-quality fuel components to be processed into fuels meeting the applicable requirements.

Note: Bio-components not produced by ORLEN Poludnie were purchased from third-party suppliers.

*Bio-components used for blending fuels for the Polish market.
**Bio-components marketed on the Lithuanian, Latvian and Estonian markets.
***Bio-components marketed on the Czech and Lithuanian markets.
The benzene, lead and sulfur content in liquid fuels, by Group company, is presented in the TABLE.

PKN ORLEN, production plant in Płock

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in:
- Cracking unit
- Alkylation unit
- Reforming unit
- Isomerisation unit
- Diesel fuel hydrodesulphurisation unit
- Hydrocracking unit
- Petroleum tar hydrodesulphurisation unit

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons having lower molecular mass, conversion of low-octane C5-C6 aliphatic hydrocarbons into higher-octane isomers, dearsenatisation, and demetalisation.

Also, sulfur, benzene and lead are removed to achieve concentration levels ensuring the components meet the required quality standards.

Liquid fuels are made by blending selected components (including biocomponents in the case of some fuel types) and adding boosters and additives according to a blending formula.

ORLEN Południe

The main purpose of the plant is to produce biodiesel (fatty acid methyl esters; FAMEs).

The key steps in FAME production include:
- Chemical degumming,
- Continuous refining,
- Esterification of fatty acids,
- Transesterification of rapeseed oil,
- Washing and drying of biodiesel

during which the following processes occur: removal of phosphorus compounds and the fatty acids from rapeseed oil, reduction of acetyls, reacting oil with methanol to form methyl esters, biodiesel washing and drying. There is no need for desulphurisation or benzene and lead removal processes.

ORLEN Lietuva

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in:
- Cracking unit
- Reforming unit
- Isomerisation unit
- Diesel fuel hydrodesulphurisation unit
- Hydrocracking unit
- Visbreaking unit
- Oligomerisation unit
- Diesel fuel hydrodesulphurisation unit

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons having lower molecular mass, conversion of low-octane C5-C6 aliphatic hydrocarbons into higher-octane isomers, dearsenatisation, and demetalisation.

Also, sulfur, benzene and lead are removed to achieve concentration levels ensuring the components meet the required quality standards.

Liquid fuels are made by blending selected components (including biocomponents in the case of some fuel types) and adding boosters and additives according to a blending formula.

UNIPETROL RPA – Litvínov and Kralupy refineries

Crude oil is separated into fractions (distillates) in fractional distillation units.

At subsequent stages, the distillates are further processed in:
- Cracking unit
- Reforming unit
- Isomerisation unit
- Diesel fuel hydrodesulphurisation unit
- Hydrocracking unit
- Visbreaking unit
- Hydrocracking unit

where the following processes occur: hydrogenation, conversion of nitrogen and oxygen compounds, cracking of paraffin, olefinic and aromatic hydrocarbons with side chains into hydrocarbons having lower molecular mass, conversion of low-octane C5-C6 aliphatic hydrocarbons into higher-octane isomers, dearsenatisation, and demetalisation.

Also, sulfur, benzene and lead are removed to achieve concentration levels ensuring the components meet the required quality standards.

Liquid fuels are made by blending selected components (including biocomponents in the case of some fuel types) and adding boosters and additives according to a blending formula.

In order to meet the environmental requirements, biocomponents characterised by lower CO₂ emissions are used in the processes.
Product and service labelling

Requirements for product and service information and labeling, are the basic source of information on the classification and hazards for the chemicals manufactured or imported by the ORLEN Group companies. Products are classified based on research and expert knowledge of their properties, and the classification makes it possible to label them correctly (in accordance with the CLP Regulation) and identify risks in transport, based on which the dispatchers prepare the ADR labels (hazard warning labels). Safety data sheets are mainly a source of information on products intended for industrial and professional applications.

In the case of products marketed directly for use by general consumers, the relevant information is provided by ORLEN Group companies by appropriate labelling of product packaging. In addition to pictograms, labels on product packaging contain appropriate hazard and precautionary statements (H and P statements). Given the wide range of applications of ORLEN Group products, information on product packaging is supplemented with detailed data required under specific legal provisions applicable to detergents, fertilizers, etc. Starting from January 1st 2021, ORLEN Group companies are obliged to notify hazardous mixtures to Poison Centres in accordance with the provisions and deadlines set out in Annex VIII of the CLP Regulation. Such notifications will be made through an IT tool developed by the European Chemicals Agency (ECHA). To make a notification, a UFI code will have to be generated for each mixture. The UFI code will then be placed on the packaging and safety data sheet.
Energy management

The key area of the ORLEN Group's development in the next decade will be energy, based mainly on renewable energy sources and supported by gas capacities.

The ORLEN Group is a significant producer of electricity and heat, which is largely used for its own production needs, and is also one of the main distributors of electricity in Poland. It is also one of the largest gas consumers in Poland and an active participant in the gas market liberalization process.

The concern will also implement pilot energy storage facilities, enabling optimization of electricity distribution costs.

For more information on the development of the Energy segment, see Strategy 2030.

Main energy KPIs at PKN ORLEN and the ORLEN Group.
Indicator calculations are based on the energy assets of the ORLEN Group. Major assets by country:

- Poland: PKN ORLEN's CHP plant in Płock, CCGT unit in Płock and CCGT unit in Włocławek, ANWLS CHP plant, ORLEN Pekin's CHP plant in Tychy and CHP plant in Jedlicka; Energa Group's generating units, including Ostrołęka Power Plant B; renewable energy sources (hydropower plants, wind farms, solar power plants);
- Lithuania: CHP plant in Mažeikiai;
- Czech Republic: CHP plant in Litvínov.

The 2020 data is for the whole year, except for the Energa Group, for which the data covers the period after the company joined the ORLEN Group, i.e. from May 1st to December 31st 2020. The 2021 data for the wind farms owned by ORLEN Wind 3 cover the period from the consolidation of individual farms in the ORLEN Group.

Energy consumption by type of energy source

The indicator was calculated as the difference between total chemical energy used in fuel plus energy purchased from the ORLEN Group’s third-party suppliers and sales of heat and electricity to customers outside the ORLEN Group.

<table>
<thead>
<tr>
<th>Energy consumption by type of energy source</th>
<th>Value (GJ)</th>
<th>Value (MWh)</th>
<th>Value (GJ)</th>
<th>Value (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total consumption</td>
<td>3,253,170</td>
<td>2,523,660</td>
<td>3,253,170</td>
<td>2,523,660</td>
</tr>
<tr>
<td>Heating</td>
<td>10,668,280</td>
<td>9,301,668</td>
<td>10,668,280</td>
<td>9,301,668</td>
</tr>
<tr>
<td>Cooling</td>
<td>80,928</td>
<td>67,857</td>
<td>80,928</td>
<td>67,857</td>
</tr>
<tr>
<td>Power</td>
<td>7,779,841</td>
<td>6,649,322</td>
<td>7,779,841</td>
<td>6,649,322</td>
</tr>
<tr>
<td>Total</td>
<td>18,251,117</td>
<td>16,444,081</td>
<td>18,251,117</td>
<td>16,444,081</td>
</tr>
</tbody>
</table>

Installed capacity, broken down by primary energy source

The indicator is calculated as installed capacity broken down by primary energy source.

<table>
<thead>
<tr>
<th>Installed capacity, broken down by primary energy source</th>
<th>Value (MWe)</th>
<th>Value (MWh)</th>
<th>Value (MWe)</th>
<th>Value (MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Natural gas</td>
<td>1,256</td>
<td>1,094</td>
<td>1,255</td>
<td>1,093</td>
</tr>
<tr>
<td>Multi purpose</td>
<td>1,042</td>
<td>923</td>
<td>1,042</td>
<td>923</td>
</tr>
<tr>
<td>Lignite</td>
<td>195</td>
<td>166</td>
<td>195</td>
<td>166</td>
</tr>
<tr>
<td>Hard coal</td>
<td>837</td>
<td>710</td>
<td>837</td>
<td>710</td>
</tr>
<tr>
<td>Biomass</td>
<td>221</td>
<td>186</td>
<td>221</td>
<td>186</td>
</tr>
<tr>
<td>Wind power plants</td>
<td>1,203</td>
<td>1,040</td>
<td>1,203</td>
<td>1,040</td>
</tr>
<tr>
<td>Solar power plants</td>
<td>498</td>
<td>425</td>
<td>498</td>
<td>425</td>
</tr>
<tr>
<td>Hydroelectric power plants (including CHP boilers)</td>
<td>103</td>
<td>83</td>
<td>103</td>
<td>83</td>
</tr>
<tr>
<td>Power plants</td>
<td>1,380</td>
<td>1,185</td>
<td>1,380</td>
<td>1,185</td>
</tr>
<tr>
<td>CHP plants</td>
<td>1,380</td>
<td>1,165</td>
<td>1,380</td>
<td>1,165</td>
</tr>
<tr>
<td>Heat plants</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Net energy output broken down by primary energy source

The indicator is calculated as net energy output broken down by primary energy source.

Average generation efficiency of CHP plants by energy source and regulatory requirements

The total generation efficiency was calculated as the quotient of total net energy output (electricity and/or heat) and the volume of fuel supplied, broken down by primary energy source. The electricity generation efficiency was calculated as net electricity output divided by the volume of fuel supplied for electricity generation (in the case of cogeneration units, established based on the physical division, i.e., in proportion to the heat and electricity volume generated), broken down by primary energy source.

Average generation efficiency of CHP plants by energy source and regulatory requirements

The electricity generation efficiency was calculated as net electricity output divided by the volume of fuel supplied for electricity generation (in the case of cogeneration units, established based on the physical method).

Net energy output from renewable energy sources

The indicator includes electricity produced by wind, solar, biomass-fired and biogas-fired sources and hydropower plants. Production from the Żydowo pumped storage power plant has not been included.

Number of installed EV chargers and number of charging hours

Amounts of fuel for electricity generation by cogeneration units were established based on the physical method. Consistency of the 2020 data has been ensured.
RISKS AND OPPORTUNITIES
Risk management

The ORLEN Group conducts ongoing monitoring and risk assessment and takes steps to minimize its impact on the financial situation.

GRI Disclosures:

GRI 102-15
GRI 103-1
GRI 103-2

Enterprise Risk Management System

In 2021, the organization and underlying principles of the Enterprise Risk Management System did not change relative to the previous year.

Based on its Enterprise Risk Management Policy and Procedure, the ORLEN Group monitors and assesses its risk exposures on an ongoing basis and takes steps to minimize their probability and impact.

As required by these regulations, the Financial Control, Risk Management and Compliance Office was established at PKN ORLEN S.A. to coordinate the enterprise risk management (ERM) processes across all levels of the organization. The Management Boards of all ORLEN Group companies are responsible for risk management at their respective companies.

The Enterprise Risk Management System is a tool used to support effective delivery of the ORLEN Group’s operational and strategic objectives. It provides information on any identified risks and supports effective risk management.

Key roles in the Enterprise Risk Management System

- Risk assessment at the process level
- Coordination of the self-assessment of controls
- Management of major risks
- Supervision of control activities in the processes in which they are involved
- Self-assessment of controls

ORLEN Group employees

Risk assessment by business areas in PKN ORLEN and the ORLEN Group companies is carried out periodically as part of risk self-assessment processes and testing of control mechanisms. Its key goal is to update the risk assessment, taking into account the verification of the adequacy and effectiveness of control mechanisms. It is the responsibility of process and risk owners based on their position and scope of responsibility.

In the risk assessment, the materiality of each risk is determined under three scenarios:

- Where there are no risk-specific controls in place (gross risk assessment)
- Where the existing risk-specific controls are in place (net risk assessment). The net risk assessment requires testing relevant risk mitigating controls, in line with the guidelines adopted by the Company as part of the Enterprise Risk Management Procedure, prepared in accordance with the Enterprise Risk Management Policy adopted by the Company’s Management Board;
- Where the risk is at a desired (acceptable) level – target risk assessment.

Once the risk assessment and risk controls testing processes are completed, the Company’s Management Board and Supervisory Board receive a report highlighting risks assessed as key by the business segments.

Risks at PKN ORLEN S.A. and other ORLEN Group companies are defined based on a common model, and further detailed at the level of individual business processes or strategic objectives.

In 2021 as part of an annual risk self-assessment process and risk controls tests at PKN ORLEN S.A., 536 risks were assessed based on tests of 1,002 controls in 164 business processes. The ORLEN Group companies evaluated 191 risks and tested 660 controls across 96 processes.

In 2021, the Enterprise Risk Management System covered the following entities: PKN ORLEN S.A., Anwil S.A., ORLEN Lietuva Group, Unipetrol Group, ORLEN Deutschland GmbH, ORLEN Paliwa Sp. z o.o., and ORLEN Centrum Usług Korporacyjnych Sp. z o.o.

Classification of risks and processes along with control mechanisms within the ERM functioning

In the Enterprise Risk Model adopted by the ORLEN Group, all identified risks are classified into the following categories:

1. **STRATEGIC RISKS** – directly related to strategic objectives, specific actions and performance indicators.
In each of these categories, a given risk may appear in many processes.

The levels of the value of risks in individual processes result from the individual impact of risks on the processes in which they are located. Hence, the classification table below shows examples of corporate risks, without any valuation.

### Risk and process classification with their control mechanisms functioning within ERM system

<table>
<thead>
<tr>
<th>Category</th>
<th>Risk</th>
<th>Control Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strategic Risks</td>
<td>Inconsistent, unrealistic strategic objectives and assumptions</td>
<td>Conducting regular reviews of the strategic objectives and assumptions, and ensuring their alignment with the company’s strategic goals.</td>
</tr>
<tr>
<td>Operational Risks</td>
<td>Inadequate division of responsibilities among personnel</td>
<td>Developing clear and explicit job descriptions for all positions.</td>
</tr>
<tr>
<td>Financial Risks</td>
<td>Inadequate knowledge of workplace safety standards or contracts</td>
<td>Implementing comprehensive safety training programs.</td>
</tr>
<tr>
<td>Project Risks</td>
<td>Incorrect project cost estimates</td>
<td>Conducting thorough cost estimates prior to project start.</td>
</tr>
<tr>
<td>Process Risks</td>
<td>Incorrect assumptions about time to complete project milestones</td>
<td>Developing project timelines based on accurate and realistic assumptions.</td>
</tr>
</tbody>
</table>

**Risk mitigation methods**

- **Comprehensive plan:** Developing comprehensive risk management plans that include strategies for risk prevention and mitigation.
- **Regular monitoring:** Conducting regular monitoring of risks to identify and address potential issues early.
- **Review process:** Implementing regular reviews of risk management processes to ensure their effectiveness.
- **Response planning:** Planning responses to identified risks to minimize their impact.
- **Emergency procedures:** Establishing clear emergency procedures to be followed in case of a risk occurrence.
- **Resource allocation:** Allocating sufficient resources to manage risks effectively.
- **Communication:** Ensuring effective communication among all stakeholders regarding risk management.
- **Training:** Providing training to employees on risk management practices.
- **Policy and procedure development:** Developing policies and procedures to manage risks effectively.
- **Regulatory compliance:** Ensuring compliance with relevant regulations and guidelines to prevent risks.
- **Monitoring and control:** Implementing monitoring and control mechanisms to manage risks effectively.
- **Risk assessment:** Conducting periodic risk assessments to identify and address new risks.
- **Risk transfer:** Exploring options to transfer risks through insurance or other mechanisms.
- **Risk reduction:** Implementing measures to reduce the likelihood or impact of risks.
- **Risk acceptance:** Accepting risks that cannot be mitigated or transferred and implementing plans to manage them.
- **Risk monitoring:** Regularly monitoring the effectiveness of risk management measures.
- **Review of strategies:** Conducting regular reviews of risk management strategies to identify areas for improvement.
- **Risk communication:** Communicating risk management strategies to all stakeholders.
- **Risk reporting:** Developing a risk reporting system to monitor and report on risks.
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Periodic inspections of the logistics infrastructure

Regular monitoring of product inventory and planning for complementary shipments. Checking the correctness of the secondary logistics scheduling process. (See Section 6.2.8 regarding the high-quality logistics services provided for the ORLEN Group.)

Non-compliance with ethical standards, employees fraud, bribe agreement and other misconduct

Purchasing policies in airlines and the exchange of shares of the Group’s companies, and investigation of any violation of laws or regulations that may be committed by the Group’s employees, such as bribe agreements or other misconduct.

Pricing policy that fails to maximize advantage and develop market potential

Detailed price agreements to achieve greater effective pricing policy.

Product range at service stations deviating from market standards

Optimizing the product range so as long as the sector standards are met.

Unfavorable perception of the brand by external audiences due to adverse events relating to food service at service stations

Regular quality control inspections at service stations.

Readiness to quickly respond to changes in the supply chain and production through adjustments to the sales targets

Regular monitoring of sales and efforts to increase and meet sales targets with the assistance of additional marketing activities, if necessary.

Insufficient progress of negotiating contractual terms and execution of unfavorable commercial contracts

Negotiation failure of commercial contracts and other issues and factors that affect the terms of the contracts. Regular verification of the correctness of the negotiated price terms, if necessary.

Trading partner’s failure to meet its financial obligations

Payment of goods and services is the key to maintaining a healthy supply chain. Payment defaults or other breaches of contract may have a material impact on the ORLEN Group.

Commodity risk — related to changes in margins on sales of products, Brent/Ural’s differential, crude oil and product prices, prices of CO₂ emission allowances, risk related to commodity prices in cash-and-carry arbitrage transactions

Market risk management (see Section 16.1). See Section 6.2.1 regarding the implementation of risk management strategies. Complete information on the commodity risk management strategy is displayed on price totems at PKN ORLEN S.A. service stations.

Foreign exchange risk — related to the currency exposure in connection with cash inflows and outflows, investments, assets and liabilities denominated in foreign currencies

Market risk management (see Section 16.1). See Section 6.2.1 regarding the implementation of risk management strategies. Complete information on the foreign exchange risk management strategy is displayed on price totems at PKN ORLEN S.A. service stations.

Interest rate risk — related to assets and liabilities in respect of which interest income and interest expenses depend on interest rate fluctuations

Market risk management (see Section 16.1). See Section 6.2.1 regarding the implementation of risk management strategies. Complete information on the interest rate risk management strategy is displayed on price totems at PKN ORLEN S.A. service stations.

Liquidity risk — related to an unforeseen shortage of cash or unavailability of financing sources

Market risk management (see Section 16.1). See Section 6.2.1 regarding the implementation of risk management strategies. Complete information on the liquidity risk management strategy is displayed on price totems at PKN ORLEN S.A. service stations.

Risk of loss of cash and deposits — the risk of bankruptcy of domestic or foreign banks with which ORLEN Group keeps or deposits its cash

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Credit risk — related to customers’ default on payments for the received products and services

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Regulatory changes or new regulations with a material impact on the ORLEN Group, its financial position and performance

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Corporate management

Cybersecurity of IT and communication systems

Having a procedure in place for managing logical access to IT systems. Including a list of authorized persons and a list of authorized actions, as well as access control mechanisms and password management, to prevent unauthorized access. Ensuring uniform data formats for corporate planning and preparing precise work schedules.

Improperly configured operational planning and supply chain optimization model conducing to non-optimal business decision making

Ensuring uniform data formats for corporate planning and preparing precise work schedules.

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Ensuring uniform data formats for corporate planning and preparing precise work schedules.

Climate change risks

The management of climate change risks and opportunities falls within the remit of the President of the Management Board, who is the direct superior of the Executive Director for Strategy, Innovation and Investor Relations, overseeing the work of the Sustainable Business Development Department. In 2021, the ORLEN Group continued work on scenarios for the transition (regulatory) risks and physical climate change risks, taking into account the dual materiality perspective. The analyses led to the initial identification of transition risks and physical risks in the short and long term. The activities will be continued in the next years.

See the “Climate change risks” section for more information on:

- Analysis of business model resilience scenarios to climate change
- Risk of climate transformation of business models integrated with the corporate risk management system
The risks of transformation and technological change

The risks of transformation and technological change include long-term physical risks from climate change and how to mitigate them in the long term after 2030. Mitigation of risks related to water and sewage management is also important.

Regulatory environment

Changes in Polish and EU regulations having an impact on the Orlen Group’s operations and results:

Biofuels

The Act on Bicompounds and Liquid Biofuels of August 25th 2006 (as amended) sets out the obligations for the placing on the market of biocomponents and biofuels (NIT), imposed on producers and importers of transport fuels. In the first place, the Act includes a requirement to achieve the National Indicative Target (NIT), i.e. to ensure the required minimum share of biocomponents in the total volume of liquid fuels and biofuels, both sold on the market and used for the operator’s own needs, in a given calendar year. Failure to achieve the NIT is subject to a penalty calculated on the basis of the formula set out in the Act. The minimum share of biocomponents in a given calendar year is: in the case of motor gasoline - 3.2% in 2020–2022, and in the case of diesel oil - 4.95% in 2021, 5% in 2022 and 6.2% in subsequent years. From 2015 onwards, only those biocomponents which meet the criteria of sustainable development set out in the EU and Polish laws may be used to fulfill the NIT obligation. The NIT for 2021–2024 is as follows (base level): 1.8% for 2021; 2.8% for 2022; 3.9% for 2023; 4% for 2024. The Act defines conditions under which NIT may be reduced by applying a reduction factor of 0.82 in 2020–2022, and provides for the option to discharge the NIT obligation by paying an emissions charge calculated on the basis of the formula set out in the Act, subject to the achievement of the base level of the NIT in 80% in 2020–2022 and in 85% in subsequent years.

Quality of transport fuels and NRT

The Act on Fuel Quality Monitoring and Control System of August 25th 2006 (as amended) sets out the quality requirements for fuels transported, stored and placed on the market, including at service stations, and provides for penalties for failure to comply with the quality requirements. The Act also obliges manufacturers and importers of transport fuels to reduce the emission intensity of fuels used in transport relative to the 2010 reference emissions level – the National Redution Target (NRT). The minimum annual emission reduction is 6%. Failure to achieve the NRT is subject to a penalty calculated on the basis of the formula set out in the Act. The Act provides for the option to achieve the NRT jointly with other entities engaging in the production or imports of low-carbon fuels (LPG, LNG, CNG) to Poland, or by purchasing Upstream Emission Reduction (UER) certificates, and from 2021 onwards by paying an emissions charge calculated on the basis of the formula set out in the Act, subject to the achievement of the emissions reduction by at least 1.4% in 2021, 4.1% in 2022, 4.5% in 2023, 5% in 2024.

Emergency stocks

Emergency stocks – Producers and traders are required to keep a stock equal or graduated in volume in the amount of physical stocks they are obliged to hold. Fulfillment of the physical stocks target – from December 31st 2017. 53 days, the stocks charge maintained at its current level (PLN 43 of oil equivalent and PLN 9.1 of LPG). Supply security stocks are held partly by producers and traders (emergency stocks) and partly by the Governmental Strategic Reserves Agency (agency stocks). Czech Republic emergency stocks are maintained by a state agency at level of 90 days’ net import of crude oil and are financed from the state budget. Lithuania maintains stocks equivalent to the higher of 90 days’ average daily net import or 61 days’ average daily consumption. The amount equal to at least 30 days’ average daily domestic consumption is accumulated and maintained by the state agency as earmarked stocks, with the balance held by businesses.

Regulations on the liquid fuel market and on curbing grey economy in fuel trade

The Act Amending the Value Added Tax Act and Certain Other Acts (the so-called ‘fuel package’) of July 7th 2016 and the Act Amending the Energy Law and Certain Other Acts (the so-called ‘energy package’) of July 22nd 2016, which introduced a number of changes to the regulation of the liquid fuel market in Poland, including new rules regarding VAT settlements on liquid fuel imports to Poland, and linked tax requirements with licence requirements.

Monitoring of the carriage of goods by road and rail

The Act on the Monitoring System for the Carriage of Goods by Road and Rail on Fuel Oil Trade of March 9th 2017. The purpose of the Act is to further curtail the informal fuel trade in Poland, and the legislation supplements solutions introduced as part of the fuel package and the energy package. Introduces an obligation to register road and rail transport of goods considered sensitive and to establish a relevant supervision system. The Act is amended on an ongoing basis to include new mechanisms to further curtail grey economy in fuel trade and goods considered sensitive (e.g. fuel oils and LPG).

EU ETS


Energy efficiency

Amendments to the Energy Efficiency Act, adding fuel companies placing liquid fuels on the market to the list of entities required to achieve energy savings. Progressive growth of efficiency savings until 2030. Expansion of the catalogue of energy efficiency improvement projects for the transport sector. Greater availability of the option whereby the discharge of the energy efficiency requirement may take the form of a non-refundable funding programme.

Natural gas market

Regulation of the Council of Ministers of February 17th 2021 on the manner and procedure for imposing restrictions on gas withdrawal, published on March 26th 2021, imposing restrictions on all gas customers, except for protected customers specified in the Regulation. The Regulation includes rules governing as withdrawal restrictions imposed on customers using gas to produce electricity in their generating units.

On May 17th 2021, the draft Regulation of the Minister of Climate and Environment on the technical conditions to be met by gas networks and their locations was published. It contains proposed regulations to be applied in the design, construction and modification of gas networks used to transport gas and of gas pipelines at gas production facilities.

June 18th 2021 saw the publication of the Act Amending the Energy Law and Certain Other Acts of May 20th 2021, which introduces legal basis for the operation of closed distribution systems (CDS) and exempts CDS operators from the obligation to submit tariffs for approval by the President of the Energy Regulatory Office and to prepare development plans.

On October 7th 2021, a draft amendment to the Regulation on detailed operating conditions for the gas system was published, setting out gas fuel quality regulations designed to gradually increase the share of biomethane in the gas network while maintaining the highest possible network security.

December 9th 2021 was the publication date of the Act Amending the Act on Electromobility and Alternative Fuels and Certain Other Acts of December 2nd 2021, introducing new regulations governing the operation of natural gas stations and the use of natural gas in transport.

Taxation of upstream activities in Poland

Tax on production of certain minerals, payable from December 2020, calculated individually for each well at a rate of 15%-6% of revenue, depending on the type of deposits and hydrocarbons. Production royalty, depending on the volume and quality – for natural gas PLN 5.64–PLN 25.44/1,000 Nm³, for crude oil: PLN 40.74–PLN 55.58/tonne. Extraction charge – fixed component (determined on a case-by-case basis) and variable component of 50% of the mineral production royalty for the previous year. Property tax of up to 2% of the initial value of property, plant and equipment, corporate income tax – 19%.
Taxation of upstream activities in Canada: royalties

Payable on wells spudded on or after January 1st 2017. Royalty rate from 5% to 40%, depending on the type of hydrocarbons, market prices, and well output. Exemption on account of incurred costs of drilling and completion — relief in the form of reduced tax liabilities with respect to all new qualifying wells. Royalty of up to 5% on a well’s early production until the well’s total revenue from all hydrocarbon products equals the drilling and completion cost allowance, C$ at the rate of 23%.

Draft amendment to the Commercial Companies Code

The proposed amendments envisage, among other things, the introduction of holding law provisions into the commercial companies law to govern relations between parent companies and their subsidiaries, and to strengthen supervision exercised by owners and supervisory boards.

Anti-Crisis Shields

Anti-Crisis Shields and Regulations of the Council of Ministers on the establishment of certain restrictions, orders and prohibitions in connection with the COVID-19 epidemic — They aim primarily at limiting the spread of COVID-19 by introducing restrictions in various spheres of private and public life and in the economic sphere.

CO₂

Implementation of the rules of operation of the greenhouse gas emission allowance trading system in the Act Amending the Act on the Trading System for Greenhouse Gas Emission Allowances, including the establishment of a Modernisation Fund, amending the rules for harmonised free allocation of emission allowances and their adjustment due to changes in the scale of operation. Initiation of work to amend the Act as a result of publication of the European Commission’s new guidelines on the fourth trading period of the EU ETS.

Draft amendments to EU Directives and Regulations – Fit for 55

The Fit for 55 package is to serve as a basis for implementing the EU's revised target to reduce greenhouse gas emissions by 55% by 2030. The new target is a major challenge, but also an opportunity for a cleaner economic transformation in Poland and across the European Union. If the proposed solutions are adopted, they will have a significant impact on the Polish and EU economy, which will directly affect PKN Orlen’s operations in the coming years. Key assumptions: reduction of 54% emissions in the EU by 55% relative to the 1990 levels by 2030, inclusion of the transport and construction sectors into the EU emissions trading schemes (EU ETS), raising the target for the share of renewables in energy generation from the planned 32% to 38–40% by 2030, raising the energy efficiency target from 32.5% to approximately 38–39% by 2030, introduction of the carbon border adjustment mechanism (CBAM), increase in the transport emission reduction targets.

Draft Delegated Regulation of the European Commission supplementing the Regulation on the establishment of a framework to facilitate sustainable investment (Taxonomy)

The purpose of the Regulation to define the conditions under which an economic activity qualifies as making a substantial contribution to climate change mitigation or climate change adaptation, and to determine whether an economic activity does not have a significant negative impact on the environment or on the conservation of natural habitats. Towards the end of 2021, the European Commission proposed that provisions concerning production of electricity and heat in nuclear and natural gas energy plants should be added.

Act on the Promotion of Electricity Generation in Offshore Wind Farms of December 17th 2020

The Act lays down the rules and conditions for granting support in the form of bilateral contracts for electricity generated in offshore wind farms. The support system has two phases: in the first phase, support will be granted by way of an administrative decision issued by the President of the Energy Regulatory Office, while in subsequent phases it will take the form of competitive auctions. The Act also governs development and implementation of offshore wind farm projects, defines the rules governing management of an offshore wind farm and power evacuation system, and describes the requirements for construction, operation and decommissioning.

Act Amending the Energy Efficiency Act and Certain Other Acts of April 20th 2021

The amendments extend the list of entities required to perform the obligations provided for in the Act to include entities marketing certain types of liquid fuels specified in the Act and used in road or rail transport. The new regulations offer the option for obliged entities to perform their statutory obligations through non-refundable financing programmes whereby the financing is provided for connecting end users to the heating network or replacing end users’ heat sources. The Act alsoclarifies the procedure for issuing energy efficiency certificates and establishes the Central Register of Final Energy Savings.

Act Amending the Energy Law and Certain Other Acts of May 20th 2021

The amendments introduced by the Act are related to the implementation of the EU Directive on common rules for the internal market for electricity. The key changes introduced by the amendment are those concerning the development of the Central Energy Market Information System (CSiRE). They seek to promote active involvement of consumers in the market, including through the installation of remote reading meters and use of information obtained by them in the development of CSiRE. Other changes introduced by the amendments concern energy storage, licensing of liquid fuels, making entities in the register of importing entities, and granting licences by the President of the Energy Regulatory Office.

Act Amending the Capacity Market Act and Certain Other Acts of July 23rd 2021

In accordance with the amendments, after July 1st 2026 entities that do not meet the CO₂ emission limit of 550 g/kWh of generated electricity will not be entitled to benefit from capacity market support. The amendments keep in force the capacity agreements concluded before December 31st 2019. A possibility was also introduced to replace an already signed capacity agreement with one or more capacity agreements providing for standby services that amount to at least 110% of the specified in the original capacity agreement. The regulation came into force on September 1st 2021. The amendments also introduced a new capacity charge model, in which the charge amount depends on the individual consumption curve (top aggregation). A reduced capacity charge for customers with an appropriate energy consumption profile will enable energy-intensive customers, including PKN Orlen, to lower the amount of the capacity charge they pay. The regulation came into force on October 1st 2021.

Act Amending the Renewable Energy Sources Act and Certain Other Acts of October 29th 2021

The Act amends the rules of settlements for energy generated by prosumers. The amendments will take effect on April 1st 2022 in the new settlement system (so billing), prosumers will sell surplus energy fed into the grid for a certain price and will pay for their energy consumption as other customers. Prosumers will also have to pay distribution fees. Under the Act, settlements for customers who become prosumers before the effective date of the Act, i.e., April 1st 2022, will be made in accordance with the existing rules, i.e. discount system (net metering) for the next 15 years.

Act Amending the Act on Electromobility and Alternative Fuels and Certain Other Acts of December 2nd 2021

The Act, among other things, defines the rules for executing electricity sale agreements for publicly available charging stations and rules for access to publicly available charging infrastructure, the obligation for distribution system operators (DSOs) to sell publicly available charging stations, the obligation to obtain EPA individual identification codes by market participants, and a price list for assigning and maintaining such code (PLN 25 per month per one operator’s station and PLN 50 per charging service provided). The Act also contains more detailed provisions on connection of publicly available charging stations and the rules governing the establishment of disconnection zones.

Act Amending the Act on Excise Duty and Certain Other Acts of December 9th 2021

The Act exempts households from excise duty on electricity and introduces a reduction in excise duty for other customers to PLN 4.60/MWh from the current PLN 5.59/MWh in the period January 1st–May 31st 2022. It also provides for the obligation for sellers to inform households of the reduced tax rates on electricity.
Regulation of the Council of Ministers of February 17th 2021 on the manner and procedure for imposing restrictions on natural gas withdrawal may be imposed on a larger group of buyers. The supply levels and the rules for setting supply levels were redefined and the manner of announcing existing supply levels was specified in detail, in particular by introducing an obligation to make them public.


The draft Act seeks to liberalise the 10H principle, which bans the construction of wind power plants within a distance of less than 10 times the turbine height from residential buildings. The objective is to facilitate the construction of onshore wind farms closer to residential buildings and to re-launch certain projects that were suspended as a result of the entry into force of the 2016 regulations.

Draft Act Amending the Energy Law and the Renewable Energy Sources Act (UJ162)

The draft Act provides for the abolition of the exchange sale requirement, i.e., the requirement that power utilities involved in electricity generation should sell their electricity output on power exchanges, and for increasing the administrative and criminal liability for manipulation on the electricity market and use of inside information.

Draft Act Amending the Act on Wind Farm Projects and Certain Other Acts (UJ201)

The draft Act amends the Act on Wind Farm Projects, reducing the VAT rate on electricity generated in offshore wind farms and fed into the grid in PLN per 1 MWh, which is the basis for settlement of the right to pay the negative balance.

The draft Act provides for amendments whereby revenue from the sale of emission allowances may be used to support investment projects in offshore wind power plants, aligned with exchange on the European platforms.

The draft Act lays down detailed criteria to be applied in the assessment of applications in award proceedings for new offshore wind farms (Phase 2 auctions). It defines the qualification minimum and the manner of determining the most important assessment criteria. It sets out 17 criteria concerning, among other things, the capacity to finance the project with the applicant’s own funds, the positive impact of the planned project on the energy transition and GHG emission reduction rates, and the experience of the applicant in the construction or operation of a conventional power plant. Licences are granted based on the points scored for each criterion.

The draft Act amends the Act on Offshore Wind Farms, including provisions on the technical process of switching electricity suppliers taking into account the changes made in the electricity market. The draft Act amends the Act on the Energy Market Information System (CSRE), the Act on the Energy Market Information System (CSRE) enacted on May 20th, 2021, including provisions on the technical process of switching electricity suppliers taking no longer than 24 hours as of 2026, with a conclusion of dynamic electricity price contracts, and on aggregators on the electricity market. As regards PKN ORLEN, the draft act introduces changes with respect to producers supplying their own premises through a direct line.

The draft Act seeks to liberalise the 10H principle, which bans the construction of wind power plants within a distance of less than 10 times the turbine height from residential buildings. The objective is to facilitate the construction of onshore wind farms closer to residential buildings and to re-launch certain projects that were suspended as a result of the entry into force of the 2016 regulations.

The proposed amendments introduce provisions supplementing the regulations on the Central Energy Market Information System (CSRE) enacted on May 20th, 2021, including provisions on the technical process of switching electricity suppliers taking no longer than 24 hours as of 2026, with a conclusion of dynamic electricity price contracts, and on aggregators on the electricity market. As regards PKN ORLEN, the draft act introduces changes with respect to producers supplying their own premises through a direct line.

The ambitious agenda of the ORLEN2030 strategy is a strategy designed to capture the opportunities created by Europe’s economic transformation which aims to meet the obligations under the Paris Agreement and implement the UN Agenda 2030.

The ORLEN Group analyses new regulations resulting from the European Green Deal on an ongoing basis and adjusts its business models accordingly. The ambitious agenda of the ORLEN2030 strategy is a strategy designed to capture the opportunities created by Europe’s economic transformation which aims to meet the obligations under the Paris Agreement and implement the UN Agenda 2030.

Regulatory risks till 2030, split by four business segments of PKN Orlen

<table>
<thead>
<tr>
<th>Regulation</th>
<th>Impact on the segment</th>
<th>Regulatory risk level</th>
<th>A01</th>
<th>New legislation</th>
<th>Filing</th>
<th>Required changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>EU ETS</td>
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<td>Effort Share Regulation (ESR)</td>
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<tr>
<td>CO2 targets</td>
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<td>APER</td>
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<td>FuelLic Money</td>
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<td>SDR</td>
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</tr>
</tbody>
</table>
### Non-financial risks

Risks related to social and employee issues, respect for human rights, environmental, health and safety at work, anti-corruption and bribery may occur in 3 main risk categories (strategy, project, process / operational) for the Orlen Group.

The list of risks, methods of their mitigation and trends in the development of risks for the above-mentioned issues is presented in the tables below.

#### Social risks

<table>
<thead>
<tr>
<th>Risks / processes</th>
<th>Risk description</th>
<th>Risk mitigation methods</th>
<th>Risk development trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Corporate social responsibility</td>
<td>Lack of public awareness of the Orlen Group's CSR activities</td>
<td>Implementation of a CSR strategy defining the ways of communicating CSR initiatives</td>
<td>← ↔ →</td>
</tr>
<tr>
<td>B. Reputation, brand and marketing management</td>
<td>Use of the brand in connection with adverse, controversial activities</td>
<td>Supervision over the process of defining the methodology for conducting promotional campaigns</td>
<td>← ↔ →</td>
</tr>
<tr>
<td>C. Outsourcing and subcontractor risk</td>
<td>Limited control over the Orlen Group's processes which are subcontracted or outsourced</td>
<td>Ensuring correctness, completeness and quality of documentation, including completion reports and checklists, in IT systems and regular assessments of service providers</td>
<td>← ↔ →</td>
</tr>
</tbody>
</table>

**Employee risks**

<table>
<thead>
<tr>
<th>Risks / processes</th>
<th>Risk description</th>
<th>Risk mitigation methods</th>
<th>Risk development trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Availability of employees and subcontractors</td>
<td>Loss of key personnel</td>
<td>Monitoring and recycling of employees for training needs, oversight of the recruitment process to ensure employment of candidates with relevant qualifications. Supporting vocational education to develop practical skills</td>
<td>← ↔ →</td>
</tr>
<tr>
<td>B. Allocation and development of human resources</td>
<td>Constraints in recruitment/employees turnover, lack of transparency of the recruitment/termination process</td>
<td>Identification of the key skills for a given position at the recruitment stage, supervision of the process of contract termination, control of the position change processes within the Company</td>
<td>← ↔ →</td>
</tr>
<tr>
<td>C. Workplace accidents and other hazards</td>
<td>Failure to identify material risks for particular jobs</td>
<td>Introduction of a health and safety hazard reporting system, including division of responsibilities, supervision of the hazard identification process in the occupational risk assessment, introduction of procedures to follow in the event of an accident at work</td>
<td>← ↔ →</td>
</tr>
<tr>
<td>D. Employees and subcontractors' activities</td>
<td>Activities of employees and subcontractors resulting in violation of OH&amp;S regulations</td>
<td>Reviewing and issuing opinions on contracts with subcontractors in terms of security certificates and security classes, implementation of the Comprehensive Prevention System</td>
<td>← ↔ →</td>
</tr>
</tbody>
</table>
Effects of application of control mechanisms in risk management

- positioning of risks on the risk map

Employee risks
- Risk materiality: A, B, C, D
- Risk level after taking into account the control mechanisms: A', B', C', D'

Human rights risks

Environmental risks

Risk description
- New stricter requirements, standards, financial and technical guidelines
- Failure to identify material environmental aspects in the operations
- Lack of valid environmental permits required by law
- Unavailability of measurement methods and data to prepare the legally required reports and/or failure to submit the reports to governmental authorities
- Actively participating and providing opinions, for example through industry associations and technical working groups, on environmental legislation issued at the EU and national levels. Effectively delegating duties and responsibilities related to identification of the environmental aspects of regulations
- Monitoring the validity of provisions and effective state of decisions issued by public administrative bodies. A clear procedure to be followed in case new permits need to be assessed or existing permits need to be updated in connection with a project
- Monitoring changes in emissions measurements, packaging records, waste records and calculation of environmental charges
- Verification of reporting templates and deadlines
B. Effectiveness of internal corporate environmental regulations

- Unexpected introduction of national regulations resulting in the need to update internal corporate regulations
- Direct transposition and entry into force of the date of publication of new EU legal requirements (with continuous operation maintained)
- Non-compliance of internal procedures with the law or failure to include clauses required by law in procedures
- Protracted internal regulation implementation process due to complexity of the organisational structure

Identification of enacted or proposed legal requirements, and periodic assessments of internal regulations

Implementation of the OREL Group Compliance Policy: Defining rules for the preparation and issuance of internal regulations

E. Perception of companies in terms of their environmental impact

- Negative perception of companies/nobody by external stakeholders
- Growing market/public expectations regarding environmental protection
- Lack of public awareness of the companies’ involvement in environmental initiatives

- Delegating responsibilities in information flow and communication processes in the event of deviations in operating parameters of production and logistics facilities, including for planed maintenance and emergencies affecting the natural environment
- Providing environmental information and data for reporting purposes (including integrated reporting)
- Partnering with non-governmental organisations on environmental protection, environmental education, environmental compensation, and organisation of environmental volunteering campaigns

C. Monitoring and reporting of companies’ environmental impacts

- Failure to meet the requirements and specific guidelines for monitoring CO2 and greenhouse gas emissions
- Lack of an annual CO2 emissions report or negative result of verification of an annual CO2 emissions report
- Lack of periodic emission measurement results and automatic emission measurements required by law
- Uncontrolled packaging and waste management
- Improper collective waste record keeping
- Lack of water and wastewater quality testing required by law
- Lack of records or measurement results and, consequently, lack of input data for legally required reporting to public authorities

Approval of CO2 monitoring methodology plans for all processes units

- Clear rules for limiting CO2 emissions, operating hours of emitters, and reporting of air emissions to government authorities ensuring that the necessary accredited emission measurements are performed and that the results are made available

- Delegating responsibilities in the packaging and waste management process in accordance with applicable procedures and the Standard Monitoring valores and types of wastes to ensure compliance with relevant decisions of public administration bodies increasing the share of recovered and recycled wastes in waste management processes (circular economy)

- Training staff in maintaining waste databases

- Controlling the process of quantitative and qualitative wastewater discharge and water withdrawal

- Monitoring production processes in terms of raw materials, materials, fuel, water, and energy consumption

- Environmental noise monitoring and protection against noise

- Other rules for submitting measurement results, reporting, and calculating and payment of charges for gas and dust emissions and fees for water services (implementing instructions regarding the performance of obligations imposed under integrated permits)

D. Soil and water pollution and remediation costs

- Failure to properly respond in case of groundwater contamination events/accidents
- Issuance of a decision with stricter protected area requirements
- Non-issuance of general regulatory requirements for industrialisation
- Excessive remediation costs
- Inadequate provision for land remediation at fuel production and distribution facilities

Identification of the extent and degree of soil and water contamination for each event, and determination of geological and hydrogeological conditions of the site

Agreement of the rules for the remediation process across various business segments, and oversight of the scope and progress of remediation work

Monitoring (including meteorological monitoring) and implementing in accordance with applicable procedures: Monitoring and accounting for a land remediation provider and ensuring the provision is efficiently used

Environmental risks

- Very high probability
  - A, B, C, D, E
  - Risk level after taking into account the context
  - A', B', C', D', E'
### OHS risks

<table>
<thead>
<tr>
<th>Risks/processes</th>
<th>Risk description</th>
<th>Risk mitigation methods</th>
<th>Risk development trend</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>A. Workplace accidents and other hazards</strong></td>
<td>Failure to identify material risks for particular site</td>
<td>Introduction of a health and safety hazard reporting system, including division of responsibilities, supervision of the hazard identification process in the Occupational Risk Assessment, introduction of procedures to follow in the event of an accident at work, introduction of a system for reporting near-miss accidents and a procedure for handling such reports</td>
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<tr>
<td></td>
<td>Injury/death at a production plant</td>
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<tr>
<td><strong>B. Process safety</strong></td>
<td>Fire</td>
<td>Introduction of and compliance with relevant procedures and manuals, acceptance/approval of process risks by Process Safety Committee, identification of risk at each stage of a unit’s lifecycle (Hazard &amp; Operability Studies, use of active and passive safety systems, application of organizational and technological solutions to ensure business continuity in emergencies, compliance with and regular implementation of elements of the Process Safety Management System</td>
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<tr>
<td></td>
<td>Injury/death as a result of an incident</td>
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<tr>
<td><strong>C. Chemicals management</strong></td>
<td>Accidents/fatalities during transport or handling of chemicals</td>
<td>Implementation of the provisions of the Comprehensive Prevention System, including delegation of responsibilities, introduction of the Process Safety Management System at PKN OIL</td>
<td></td>
</tr>
<tr>
<td><strong>D. Employees and subcontractors’ accidents</strong></td>
<td>Activities of employees and subcontractors resulting in violation of OHS regulations</td>
<td>Reviewing and issuing opinions on contracts with subcontractors in terms of security certificates and security classes, implementation of the Comprehensive Prevention System (OHS), organizational/technical training system, including the launch of the Training Centre at PKN OIL</td>
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</tr>
</tbody>
</table>

### Effects of application of control mechanisms in risk management – positioning of risks on the risk map

#### Colour highlighting the risk name
- **Low**
- **Medium**
- **High**
- **Very high**

#### Colour of the arrows
- **Low**
- **Medium**
- **High**
- **Very low**

#### Risk development trend
- **Decrease**
- **Increase**
- **Stable**

### Counteracting corruption and bribery

#### A. Fraud and other misconduct
- Accepting financial gains from potential suppliers
- Conflict of interest with respect to transactions
- Disclosure of confidential information
- Falsifying management information or other documents
- Restricting access to supplier offers and the information they contain, monitoring suppliers' importations towards potential suppliers, oversight of the supplier selection acceptance path access to business secrets and any confidential data regulated by internal policies, restricted to authorized personnel, and monitored on an ongoing basis; procedures have been introduced for the verification of records and management information by the various company departments

#### B. Employee conduct resulting in violation of law
- Involvement in illegal transactions or concealing information about illegal transactions by employees
- Execution of contracts in circumstances where the law does not permit continuation of the process
- Review of the correctness of contracted obligations against payment of attorney/consultant fees, supervision by authorized employees of supplier contracts and protection of the OIL Group’s interests; providing opinions on and approval of contracts by business functions in a dedicated system

#### C. Misconduct on the part of customers or employees
- Theft of fuel by employees or customers
- Inadequate measures to control transactions of goods and services provided to unauthorized persons and/or for unauthorized vehicles
- Regular inspections of service stations and terminals, verification of compliance with the requirements; automatic process of levying and verifying online orders for customers defaulting on payments and exceeding the trade credit limit, based on the applicable PKN OIL policy
Effects of application of control mechanisms in risk management

- positioning of risks on the risk map

Corruption and bribery risks
Risk materiality
A, B, C
Risk level after taking into account the control mechanisms
A', B', C'
Opportunities

The fuel and energy sector has never faced such a challenging time as it does now. However, we consider these challenges a growth opportunity for the ORLEN Group. The vision of the ORLEN Group’s growth is aligned with the global trends in developing technologies, changing consumer preferences and growing pressure on environmental protection.

GRI Disclosures

SDGs:

- Goal 7
- Goal 9
- Goal 11
- Goal 12
- Goal 13

Capitals

One fundamental trend driving the energy transition is the rapid development of new technologies, which significantly improve the cost effectiveness of renewable energy projects, as well as the electrification of transport and industry. The energy transition is also supported by changing customer expectations, which require us to deliver increasingly more efficient and environmentally friendly solutions. The rising public awareness has translated into greater concern for the environment, as manifested by ambitious goals to reduce greenhouse gas emissions, as well as social and regulatory pressure on reducing environmental impacts in general.

In recent years, the ever-farther-reaching changes in the energy sector have been gathering momentum. The impact of the ongoing energy transition on the world around us has been growing.

GRI 102-15

One fundamental trend driving the energy transition is the rapid development of new technologies, which significantly improve the cost effectiveness of renewable energy projects, as well as the electrification of transport and industry. The energy transition is also supported by changing customer expectations, which require us to deliver increasingly more efficient and environmentally friendly solutions. The rising public awareness has translated into greater concern for the environment, as manifested by ambitious goals to reduce greenhouse gas emissions, as well as social and regulatory pressure on reducing environmental impacts in general.

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In recent years, the ever-farther-reaching changes in the energy sector have been gathering momentum. The impact of the ongoing energy transition on the world around us has been growing.

GRI 102-15

The ORLEN Group has a sound and sustainable foundation for further growth until 2030.

Integrated Refining

With integrated refining assets in three Central European countries, ca. 33 million tonnes of various crude oil grades processed every year, and annual biobutanol output of approximately 0.3 million tonnes, the ORLEN Group is perfectly placed to further develop its refining business. Key initiatives to be undertaken over the period covered by the 2030 Strategy include continuous efforts to improve refining efficiency and leverage synergies through further, deeper integration of the refining assets (also after the potential acquisition of Grupa LOTOS), as well as a substantial increase in investment spending on the production of biobutanol, including 2nd generation biobutanol.
Capacity increase and extended production chain in Petrochemicals

What underlies the position of the ORLEN Group’s Petrochemical business is its production integrated with the Refining segment, 40 petrochemical products sold to over 60 countries and a 16% share of specialty products in the mix. The next decade will see capacity expansion in olefins and other base products to foster further development in advanced products (such as phenol and aromatic derivatives). The ORLEN Group will also strengthen its position in polymers and extend the chain through compounding and masterbatches. The Group will be building its position in mechanical and chemical recycling as well as biomaterials.

Significant investment in zero- and low-carbon capacity in Energy

Already today, after taking control of the Energa Group, the ORLEN Group has over 3.2 GW of installed capacity and approximately 200,000 kilometres of power lines. Energy is one of the principal growth directions for the next decade. In the period covered by the strategy, until 2030, the ORLEN Group will focus on significant investments in zero- and low-carbon generation capacities. Within a decade, the ORLEN Group will become a leader in renewable energy with a strong capacity portfolio comprising offshore and onshore wind and solar PV assets. It will also further expand its CCGT generating capacity. New investments in network asset expansion and upgrades will be an important component of the strategy for Energy.

Expansion of the retail chain with a significantly extended offering

The Retail segment comprises more than 2,800 service stations, making up the largest retail chain in Central Europe. Over the next decade, the sales network will be significantly bolstered (both organically and non-organically) through entry into new markets across the region. New growth platforms will be developed and operations in alternative fuels will be expanded. Growth will also be driven by building a wide offering beyond service stations, with store and food service formats and our own network of parcel pick-up points and e-commerce services. Finally, an essential part of the strategy for the Retail segment is to continuously improve the service quality and develop an integrated offering for retail customers with a comprehensive range of products of the growing ORLEN Group.

Sustainable upstream production growth with a focus on natural gas assets

The Upstream segment currently has 174.0 million boe of 2P reserves in Canada and Poland, with average production at approximately 18 thousand boe/d. The next decade is set to see sustainable growth of the Upstream portfolio, with a particular focus on gas fields and potential reconstitution of the existing portfolio of upstream assets after the merger with Grupa LOTOS. Increased competitiveness achieved through advances in operational excellence and digital solutions will be a driver of the segment’s growth.

R&D that create value

Pursuit of our strategic objectives will also require changes within the organisation. Over the next decade, the Group will spend approximately PLN 3bn (ca 3% of its overall capex budget) on research, development and innovation, as a key area of its necessary transformation. The funds will be used to develop the Corporate Venture Capital fund and finance the activities of the ORLEN Research & Development Centre, among other projects. Another essential element will be the digital transformation, driving efficiency gains in production and distribution, helping mitigate the environmental footprint and fostering customer relations. We will put in place a new management model, tailored to the scale of the Group’s operations and taking into account the ongoing acquisition processes. The ORLEN Group will be an organisation relying on knowledge and versatile competences, investing in talent and human capital.
FINANCIAL RESULTS
Management’s discussion and analysis of 2021 financial results

GRI Disclosures:
GRI 103-1  GRI 103-2  GRI 103-3

The ORLEN Group’s robust financial performance delivered in an extremely harsh market environment confirms that our strategic directions are well chosen. Also, our safe financial management allows us to thrive and successfully pursue ambitious growth projects. All our segments performed very well in 2021. But we are particularly happy with the solid earnings posted by the power generation segment, with a strong contribution from the Energa Group, and by the Retail Segment. As a result, we can effectively diversify our revenue sources, consolidate our position on global markets and create value for shareholders. The ORLEN Group is strong, increasingly resilient to macroeconomic shocks and well prepared for the strategic challenge of expanding into a multi-utility business.

Jan Szewczak
Chief Financial Officer, PKN ORLEN

The ORLEN Group’s sales revenues for 2021 were PLN 131,341m, having increased by PLN 45,161m year on year. The year-on-year increase was driven by a 21% growth of sales volume in the refining and retail segments, partly offset by lower sales volumes in the Petrochemicals and Upstream segments, and reflected a 6% increase in crude oil prices and, consequently, prices of main products. Year-on-year, in the 12 months ended December 31, 2021, gasoline prices increased by 75%, diesel oil prices by 58%, jet fuel prices by 69%, heavy fuel oil prices by 69%, ethylene prices by 38% and propylene prices by 50%.

In 2021, earnings before depreciation and amortisation, net of the effect of crude price movements on the value of inventories (LIFO-based EBITDA) and net reversals of impairment losses on non-current assets, reached PLN 14,154m.

Drivers of LIFO-based EBITDA evolution (y/y) (PLN million)

<table>
<thead>
<tr>
<th>EBITDA LIFO 2020</th>
<th>Macro</th>
<th>Volumes</th>
<th>Other</th>
<th>LIFO-based EBITDA 2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>12,430</td>
<td>3,693</td>
<td>(610)</td>
<td>(1,359)</td>
<td>14,154</td>
</tr>
</tbody>
</table>

Not impairment losses on property, plant and equipment and intangible assets included mainly impairment losses on the ORLEN Upstream Group’s exploration assets:

- 2021: PLN 41m;
- 2020: PLN 699m.

The realised profit was PLN 1,724m higher year on year:

- PLN 3,693m (y/y) – positive effect of macroeconomic factors, mainly on the back of an increase of USD (1.3) per EUR in the Urals/Brent differential and higher margins on light distillates, ethane, polymerisation, PTA, PVC and fertilizers. The ORLEN Group’s results were also supported by a year-on-year PLN 2,807m change in the valuation and settlement of CO₂ futures within a separate trading portfolio. The positive effects were partly offset by lower margins on middle distillates and higher cost of captive consumption due to a USD 2.380/bbl increase in crude oil prices. In 2020, there was a steep decline in prices of crude oil and petroleum products, which yielded a positive result on hedges recognized in other operating activities, mostly in the first quarter of the year. An increase in crude oil and petroleum product prices in 2021 resulted in a negative effect of the hedges, and their total year-on-year impact, excluding the result on CO₂ futures, was PLN (1,504)m.

- PLN (610)m (y/y) – the impact of higher year-on-year sales volumes at the ORLEN Group in the second, third and fourth quarters of 2021 was positive, but it did not offset the negative effect of lower volumes seen in the first quarter of 2021 as compared with sales in the first quarter of 2020, not yet affected by the market constraints resulting from the COVID-19 pandemic. A maintenance shutdown of the Olefins II unit additionally pushed down sales volumes in the Petrochemicals segment.

- PLN (1,359)m (y/y) – negative effect of other factors, including:
  - PLN (6,042)m – absence of gain on bargain purchase of 80% of shares in Energa in 2020;
  - PLN 2,204m (y/y) – positive impact of utilisation of historical inventory layers;
  - PLN 1,523m (y/y) – improved performance of the Energa Group, mainly as a result of non-comparable periods of Energa’s consolidation within the ORLEN Group;

Revenue
After the net effect of impairment reversals of PLN 811m (mainly in respect of ORLEN Upstream’s assets, of PLN 918m), the ORLEN Group posted a net profit of PLN 11,211m, after income tax of PLN -363m.

In 2021, ORLEN Group’s capital expenditure reached PLN 9,965m, 24% of the capital expenditure was spent in the Petrochemicals segment, 26% in the Refining segment, 12% in the Retail segment, and 4% in the Upstream segment. Over 30% of the capital expenditure was spent in the Petrochemicals segment, 24% in the Refining segment, 26% in the Power Generation segment, 12% in the Retail segment, and 4% in the Upstream segment.

Increase in non-current assets in 2021 [PLNm]

Delivery of investment plans

In 2021, ORLEN Group’s hiring policy was focused on recruiting top quality specialists for both day-to-day tasks and strategic projects. Acquisition of the Polska Press Group (1,827 people) and ORLEN Transport (180 people) in 2021 and expansion of the ORLEN Group’s power generation, IT and retail areas led to a year-on-year increase in total workforce by 2,047 people, to 35,424 employees.

Segment results of the ORLEN Group

LIFO-based EBITDA by segment [PLNm]
Change in non-current assets by segment in 2021 [PLNm]

Capital expenditure by market [%]

Major investment projects carried out in 2021 included:

- construction of a visbreaker unit in Płock;
- construction of a polypropylene glycol unit at ORLEN Południe;
- expansion of refineries production capacities at Płock;
- construction of a DCPD plant at ORLEN Unipetrol;
- expansion of fertilizer production capacities at Anwil;
- upgrades of existing assets and connection of new customers at the ENERGA Group;
- upgrade of QCS for the power system in Płock;
- upgrade of the TG1 turbine generator set at the CHP plant in Płock;
- construction of offshore wind farms in the Baltic Sea;
- opening of a total of 59 service stations;
- upgrade of 13 service stations;
- opening of 37 Stop Cafe/Star Connect outlets (including convenience stores);
- deployment of 263 EV charging stations, including 62 fast chargers;
- continued hydrocarbon production from the Edge, Miocen and Płotki projects in Poland and from the Kakwa and Ferrier projects in Canada.
Outlook 2022+

The impact of the war in Ukraine will give momentum to energy transition.

It is difficult to predict the future now, but faced with the choice between rebuilding the past (lost fossil fuel supply) in other locations and investing in redirecting demand to sustainable sources, we go for strengthening the energy transition as it creates energy security in the new dimension of zero-carbon economy, moving away from energy commodity markets and cyclical fluctuations in commodity prices.

GRI Disclosures

GRI 103-3

SDGs:

Goal 7  Goal 11  Goal 12  Goal 13

Capabilities


We began last year’s Outlook with the statement that the COVID-19 pandemic had not altered the development challenges facing the oil and gas and petrochemical industries, but it forced a change in strategic and business thinking. We said that the all-important challenge for businesses would be to switch the strategic thinking from preparation for an anticipated change to rapid response to unexpected developments.

It did not take long for this statement to be verified. In the fourth quarter of 2021, international energy commodity markets saw a price surge of a previously unthought-of scale. Along with the price hikes came questions about how an oversupply in those markets swiftly turned into an undersupply, how long it will take to return to equilibrium, and how this process will unfold. These developments caused a fierce debate on the pace of the transition and on whether we should not slow down for a while and shift investment to conventional sources. An argument has been raised that high prices, limiting the affordability of energy for low-income groups, are posing a threat to energy security here and now, so restoring the security now is more important than the energy transition, i.e., security tomorrow.

Being one of the companies that have made a commitment to achieve climate neutrality by 2050, we presented our own diagnosis of the situation, pointing to underinvestment in the natural gas market relative to the growing needs for renewable energy support as the reason for the imbalance. Based on this, we proposed that the energy transition process needs to be reinforced by aligning its pace with the physical capacity for redirecting demand to renewables. We will explain this in more detail further in this report.

The outbreak of war in Ukraine on February 24th 2022 and the political and economic sanctions imposed on Russian energy exports have brought energy security to the forefront of attention. Indeed, the continuity of energy supplies (oil, liquid fuels and natural gas) came under threat in many locations. Meanwhile, everyone has been affected by the rising prices in global energy markets driven by the loss of Russian supplies, limiting the availability of energy to businesses and households, which is particularly difficult for developing countries and many emerging economies. Yet again, the reality has verified the thesis we put forward a year ago about the need for businesses to prepare for unexpected changes. In practice, the ability to respond quickly requires the availability of diversified supply sources and of appropriate reserves in many areas, i.e. it is the outcome of carefully considered investments that enhance the security of an organisation in a dynamically changing environment.

At PKO ORLEN, we did our job and ensured the possibility of supplying our refineries from various directions and of processing various types of crude, which is of crucial importance to maintaining continuity of fuel and petrochemical production. In line with the ORLEN 2030 strategy, through the acquisitions we have completed and are now finalising we are effectively building a multi-energy group, thus improving our position in many segments of the energy sector. Both in terms of primary energy sources and usable energy. Having diversified our supply sources and with a well thought out long-term strategy addressing key industry challenges (which have been accelerated rather than changed by the outbreak of war), in place, we believe that we are well prepared in terms of energy security and that we continue on the right path towards energy transition. Understanding the need for engaging simultaneously in initiatives with different time horizons, we believe that the conflict between security and energy transition is only apparent.

Loss of energy security can be measured by the scale of destruction to demand, that is the size of decrease in energy consumption forced by supply disruptions and high prices. Restoring energy security, impaired by the effects of war and sanctions imposed against Russia, requires substantial investment. As we consider where the investment should be made, let us look at energy security in terms of time. There is no doubt that the current state of each country’s energy security is the outcome of a process of strategic decisions and investments made in a distant past, from one to a few decades ago, because this is the time span corresponding to the cycle of construction and useful life of fuel and energy assets. Restoring the security after it has been lost will also take time, as this generally involves investment. Because of the ongoing energy transition, decisions to invest in restoring energy security are not easy, since there may be a business rationale for fixing an energy system from a distant past. In addition, one needs to consider the opportunity cost as investing in the energy sector will have an impact on the safety of our children and grandchildren. The war, which is being fought here and now, makes us focus on current threats and on the search for quick solutions. However, it does not affect in any way the relevance of the long-term challenges brought by climate change, which considering the maturity cycle of innovative technologies, need to be addressed today in order to secure the availability of affordable energy in a few decades.
Supply shock

Russia's invasion of Ukraine is a momentous event, ending Russia's role as an energy superpower and undermining, albeit to varying degrees, energy security of all countries around the globe. It brings to mind the 1973 oil crisis, which changed the world.

The war in Ukraine is by far a more powerful shock to global energy markets, as it affects not only oil, but also natural gas, coal, and liquid fuels. There is no doubt that what we are seeing is another world-changing event. Since the end of the Cold War and the collapse of the Soviet Union, Russia has become strongly integrated into the global economy. Those ties are breaking down now and Russia is tying up with China and becoming more dependent on it. Russia was an energy superpower; the largest exporter of energy resources. Now, it will still be a major supplier; a major producer; but its days as a superpower are numbered.

Russia is going to lose its most valuable market: Europe. It will also be cut off for some time from Western investment and, more importantly, from Western technologies. It will lose markets and its share of those markets.

Europe is taking steps to cut off its energy supply from Russia as soon as possible. This applies to three energy carriers: crude oil, natural gas, and liquid fuels. Sanctions on their exports to Europe will reduce the size of supply globally as redirecting Russian resources to markets outside Europe: China, India and Asian countries, is not fully practicable and requires investment and time.

Among energy carriers, oil will be the least severe problem, because the loss of its global supply as a result of sanctions is the smallest and crude can be delivered to Europe from other directions. The balance in the oil market is supported by reduced demand from China due to COVID-19, increased production in the US, and the announcement of the release of oil from strategic reserves held by the International Energy Agency and the US government. Oil supplies from Iran may also begin once an agreement on the nuclear treaty is reached.

A much bigger problem is fuels, especially diesel oil, which is imported to Europe in large quantities from Russia.

The imbalance in the diesel oil market in the fourth quarter of last year was caused by additional demand from the power industry. Now, with the summer holiday season beginning in the Northern Hemisphere, supply shortages are also seen in the case of gasoline. The strong growth in diesel oil and gasoline prices in international markets relative to the price of crude should prompt refiners to increase throughput and the supply of these fuels, but what stands in the way is insufficient refining capacities. Since 2020, more than 3.5 mln of refining capacity has been shut down in response to insufficient demand and low profitability, mainly in the US but also in Europe. The tension in fuel markets and high fuel prices relative to oil may persist for some time, depending on the "resilience" of global demand to high prices. In developed countries, this resilience improved as a result of growth in disposable incomes and fuel price declines after 2014, reducing considerably the share of fuel cost in households' budgets. The share of transport costs in companies' spending has also gone down worldwide.

The persistently high prices of liquid fuels are felt most strongly by developing and emerging economies with low per capita incomes. Coupled with high food prices, fuel and energy prices pose significant risks to their economic growth.

The most serious challenge in Europe is the supply of natural gas, which used to flow abundantly from Russia by pipelines. The last gas supply cannot be made up for without investments by sourcing it from other directions, and some time will pass before the effects of investments will be seen. The Netherlands could increase gas supplies from the Groningen field, which was closed due to earthquakes. The Dutch government stated that the field could be brought on stream again only in the event of a threat to energy security, which appears to be the case now. The list of priorities includes LNG and investments in expanding suppliers' liquefaction capacities, which are currently an obstacle to increasing LNG exports from the US. In this context, Poland is generally in a better position to diversify its gas supply than most EU countries, and has LNG infrastructure and interconnectors to support its neighbours (especially the Czech Republic and Slovakia) in discontinuing gas purchases from Russia.

RePowerEU – Europe's response

Russia’s invasion of Ukraine and its evident readiness to use gas supplies as a political weapon have made Europe rethink its energy strategy. The RePower Plan, published on May 18th 2022, affirms the EU’s commitment to end gas imports from Russia by
2027 and focuses on fast forwarding energy transition as a key mechanism to achieving this goal. RePowerEU, being a continuation of a much less detailed document published in early March, sets out specifically how Europe can reduce its demand for natural gas and includes a series of ambitious proposals that build on the “Fit for 55” package of legislation. Successful implementation - leading to accelerated roll out of renewables, reduced demand for energy and diversification of gas supplies - will depend not only on further actions at the EU level but, more importantly, on specific steps taken by individual Member States.

The real objective of REPowerEU is to slash the share of imported gas in the EU’s energy mix by doubling decarbonisation efforts.

In addition to reducing gas demand by the currently estimated 156 bcm per annum by 2030 following the implementation of the “Fit for 55” plan from 2021, REPowerEU envisages taking additional measures to bring down annual gas demand by an extra 118 bcm over the same period.

RePowerEU gives prominence also to hydrogen. Based on the new 45% target for renewables, RePowerEU provides for a massive scaling up of renewable hydrogen use by 2030: the 2030 targets for renewable hydrogen would rise from 50% of industrial demand planned under the “Fit for 55” package to 78% and from 2.6% to 5.7% in the case of transport fuels. Demand for renewable hydrogen would increase from 5.6 million metric tonnes per year (MMt) to 20 MMt, of which 10 MMt would be imported.

The main amount of EUR 300bn in public funding includes only EUR 20bn of new funds; most of the funding will depend on the EU Member States’ willingness to contract additional debt by using the EUR 225bn of the previously agreed funds for the period after the end of the CO2D programme. EU’s support will play a certain role, but the main burden of implementation will rest on the Member States and their respective budgetary situations.

One should remember that Russia will not just stand by and do nothing about the EU gradually phasing out its dependency on Russian gas - gas from Russia will most likely stop flowing long before 2030. Such a decision by Russia would force the EU to take contingency measures, such as reducing gas supplies to industry and state interventions in the EU gas market. The success of RePowerEU in achieving diversification of supplies, the pronounced acceptance of increased coalified generation for a certain period of time, and proposals of public communication campaigns to encourage lower gas consumption by households will put the EU on track to cushion the impact of a gas supply cut from Russia, although it will be economically painful anyway.

Undermined energy security

Following the outbreak of war in Ukraine, energy security has not only been brought back to the list of challenges, joining the energy transition, but has become a primary challenge for many countries.

A crucial element of physical security is the actual diversification, that is securing a viable alternative to existing sources of supply and quick substitution of supply sources and fuels when and as needed.

The war in Ukraine and sanctions levied against Russia have revealed the level of European countries’ physical energy security. In Poland, the diversification is based on a defined security strategy and completed projects expanding the country’s ability to source oil and gas from various directions, together with the strategic reserves system, raised the level of physical energy security to the highest possible level. PENOKEN plays a leading role in diversifying sources of oil supplies, ensuring that there are no disruptions in the production of fuels in Poland.

Another dimension of energy security is the availability of affordable energy. This includes the ability to develop domestic energy resources at economically viable costs by launching specific projects across the country, and the ability to acquire reasonably priced energy resources under contracts and through trading activity in open market economies, where goods move freely between countries, the prices of all liquid fuels, natural gas or coal depend on the supply-demand relationship in international markets.

Prices on international energy commodity markets are driven by the availability of products. When the market starts to be undersupplied, prices go up and limit the availability of a given commodity for those who cannot afford it, so those who can are able to buy it.

The war in Ukraine once again shook the market foundations of energy security. NATO members and countries that condemn Russia’s military aggression have severed diplomatic relations with and imposed political and economic sanctions on Russia. Authoritarian countries that continue to cooperate with and object to applying economic and political sanctions against Russia are on the other side of the fence. Because Russia was the largest exporter of fossil fuels in the world, the impact of the war hit international fuel markets and the wave of price spikes was also seen in countries far away from the hostilities, including those with lower capita incomes. Therefore, sharp rises in energy and food prices carry the risk of social tensions and conflict. It should be remembered that the increase in energy and food prices after the great financial crisis of 2008/2009 sparked off social unrest and conflicts in more than 40 countries across the globe, including in countries exporting energy commodities.

Searing prices are already pumping up pressure on governments to intervene on all markets, compounding uncertainty and increasing price volatility. Oil markets have always been susceptible to political influence and government decisions. These days, the range of actual and potential measures that governments can take to influence the market is very extensive. The release of International Energy Agency (IEA) reserves is an example, here, showing an unprecedented level of market intervention. In addition, the market has to contend with Beijing’s unpredictable decisions on further lockdowns due to COVID-19, the possibility of Europe slopping new energy sanctions on Russia, the tense and opaque negotiations on the Iran nuclear deal, and with the unintended consequences of governments’ attempts to protect consumers from rising transport fuel prices.

The problem with natural gas

The roots of the gas market crisis which lasted until the end of September 2021 can certainly be traced back to underinvestment in that market relative to actual needs, without probing into any deeper reasons. This was the standpoint presented by Fatih Birol, Executive Director of the International Energy Agency. He argued that the gas market is going through a classic supply crisis associated with the unprecedented surge in demand recovering after the pandemic, which the supply is unable to keep up with. A remedy that could help avoid such crises in the future would be to invest in the gas market and its infrastructure, while building up adequate stocks.
When we try to pinpoint reasons behind the underinvestment, i.e. to understand why there is not enough gas available on the market, there are strong arguments that such reasons may lie in internationally uncoordinated efforts involving alternative energy sources.

The regulatory and financial incentives for EU operators to accelerate investment in renewable energy are not matched by any requirements to secure the continuity of energy supply. The default role was played by the gas capacity along with the liquid until the price crisis [LNG market] which supplies the entire world. But the market regulates resulting in step up the energy transition not only refused to afford support, but actually discouraged investment in that market. As a result, investment in oil and gas production globally has fallen by more than a third over the past decade.


This is why Professor Dieter Helm of Oxford University argues that “The current crisis was very predictable, and its causes run deep. A series of simple myths have been spun out to the wider population, which simply are not true. It is not yet true that renewables are cheaper than the main fossil fuels once intermittency is taken into account. Simply ignoring the need for back-up in claims about renewables costs will not make them go away. On the contrary, two inconvenient facts remain. The first is that whilst intermittency was not much of a problem when there was very little wind capacity in the system, it now very much is. Now that wind and solar make up a much bigger share of total capacity, this really matters – and it needs a much bigger investment in back-up capacity. The economics of that back-up capacity is seriously impaired by renewables at times producing wholesale prices of zero – when the wind is blowing well and the sun is shining – and very high prices when they are not. In the UK, in the old fossil and nuclear system, total capacity requirements were of the order of 70–80 GW. For a system where wind and solar sometimes can produce all the energy demanded and sometimes very little, that firm power capacity needs to remain in place, plus the wind turbines and solar panels too. We need a great deal more capacity to meet any given demand.” And he puts it bluntly: “That has to be paid for by someone. Pretending that the costs do not exist, or that they will all go away in a blitz of new technologies anytime soon, is a dangerous climate change narrative. Worse still is to just assume that it can all be paid for by borrowing. That just means that not only are we not prepared to pay the costs of decarbonisation, but we want to dump both the costs and the climate change onto the next generation.”

2 http://www.dieterhelm.co.uk/diaries/this-is-why-a-series-of-simple-myths-have-been-spun-out-to-the-wider-population-which-simply-are-not-true/

3 https://www.carbonbrief.org/global-carbon-emissions-have-been-flat-for-a-decade-new-data-reveals accessed on November 9th 2021


5 https://www.carbonbrief.org/global-investment-in-energy-transition-is-growing-very-fast-but-still-needs-support/


7 https://www.goszpokat.euroradio.hu/articles/2022/05/31/energy-systems-krisztina-durka-ukraine-europe/

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Also Rice University researchers in their report published last year looked at what is needed for the global energy transition to succeed. They warn that too rapid a phaseout of fossil fuels could have the opposite effect – stripping climate progress in the so-called ‘valley of death’. “Pushing to defund fossil fuels – before lower-carbon resources can credibly ‘fill the gap’ – risks destabilising a global energy-food-water-human well-being nexus that, sufficiently perturbed, would likely delay energy transition efforts for decades.”

The pace of the transition, certainly a strategically important issue, has preoccupied us for long. According to scientific consensus, the world can keep global warming below 1.5 degrees Celsius on condition that it achieves carbon neutrality by 2050. This in turn requires a reduction in global carbon emissions of at least 45% relative to 2010 by 2030. Given that the trend in global carbon emissions has remained flat over the past decade, the energy transition should be sped up considerably. This argument has grown stronger since the outbreak of war in Ukraine.
How to accelerate progress of the transition without creating market tensions?

Development is a long-term process, ideally free from recessions. How to avoid a recession? Economic theory recommends the same approach as coaches do when preparing athletes for a marathon. Grow at a rate dictated by the growth in economic potential rather than by consumer and investment demand. If you want to complete the race, you had better run at a pace suited to your capability and physical fitness. Want to run faster? Become fitter. Otherwise, when you accelerate, you will need to stop running to recover strength. As a consequence, you will cross the finish line later, covering the entire distance more slowly.

It is very much the same with the energy transition, being a long-term development process. It should unfold at an optimum pace: any acceleration throwing the important markets into imbalance should not be seen as a welcome part of it. Rapid renewable capacity expansion without securing continuity of supply leads to overheating and transition recession, i.e. growth rather than a reduction of CO₂ emissions. As demonstrated by the market today, higher CO₂ emissions translate into higher emission allowance prices, thus encouraging investment in renewables and discouraging investment in traditional power generation, which is currently the only reliable security against supply disruptions. This becomes more and more of a vicious circle, of which energy security is the victim. It may thus be worthwhile to consider whether the seeming prices of emission allowances are not a warning signal.

We already know that green transition looks different for the financial sector than it does for the real economy.

The consequences of their varying elasticity have sent ripples through the energy and fossil fuel markets, triggering a global spike in inflation. The lesson we are just learning from the energy markets is that the pace of transition should be determined by what is the bottleneck area, being much slower and resistant to change.

Such bottleneck area is global consumption, of both energy and raw materials, and so action needs to be focused there, especially if lower emissions from any consumption always have the effect of reducing global emissions.

The difficulty in steering global consumption through a green transition is that the transition costs must be addressed. Pretending they do not exist is a road to nowhere. Having institutionalised environment and climate protection costs, green consumer products and services will be more expensive than their currently available counterparts. However, they will be cheaper than their brown counterparts, bearing the additional cost burden of CO₂ emissions. Such costs must be fully passed on to consumers to persuade them to choose green products instead of more expensive brown ones. Failing that, the consumption structure will not shift. In the desired direction, causing a supply-demand imbalance across product markets, as manufacturers, burdened by the cost of emissions, will phase out brown products faster than consumers are willing to part with them.

Zero-carbon consumption does not have to be more expensive if the inevitable price increase is accompanied by a change in lifestyles and consumption patterns.

Consumer spending is important, not prices. Applying higher future prices to the current consumption structure is a mistake, because higher prices will force a shift in the mix of consumed products and services.

To avoid being left out of pocket, consumers must be able to buy sustainable products in small portions, exactly when they need them and as much as they can consume (on-demand economy). A task facing the industry is to create new business models underpinned by new technologies, mostly digital, to help consumers meet their needs at a lower cost. Possible solutions include adapting the product as a service model and managing consumer demand.

The rising costs and transforming business models will primarily force a reduction in the per capita consumption of raw materials, which can be achieved in a circular economy. This is a formidable challenge for the industry, involving a change in the enterprise valuation model in the transitional period (as a decline in sales profits will not be fully offset by an increase in profits from rendering old services).

One vehicle of the green transition, which takes long to become ripe for the picking, is innovative technologies. Technologies of the future have first to be invented, tested, and scaled up. As they mature and develop, new technologies may involve some unwelcome effects of scale. How many wind turbines can the Baltic Sea accommodate? How to dispose of old non-recyclable wind turbines? Technologies are about supply, whereas preparing a green product offering is the role of the industry. Entering the world of new technologies brings with it a new kind of uncertainty, formerly unknown to companies using ready solutions.

Companies do a good job picking out government incentives to invest in new technologies. However, it would be better if such incentives were technology neutral, supporting every solution equally, without preference or prejudice. This would bring a wider range of solutions to the market and mitigate regulatory risk (failure of the solution the government chose to support). At the other end of the market are consumers, who make the choice. They decide whether to switch to a green product right away or to hold off for a while. Will they benefit financially? New solutions must be attractive and affordable to consumers around the world. They must take account of the purchasing power gap between the global north and the global south. Intergenerational transfers will be necessary.

We must also remember that consumption cannot be fully decarbonised due to technological reasons, but also because of economic and social factors. This is why the global goal is not decarbonisation but rather climate neutrality, i.e., reducing the carbon footprint to zero on a net basis. Emissions that cannot be reduced must be captured by natural means or using the CCS/UF technology, and then stored or returned to production.

In the economic and social context, due regard must be paid to a just transition, that is one affordable to consumers in the world’s poorest regions.

A transition that creates jobs in developing countries with the largest population growth, generating sufficient income to fund consumption. From this perspective, it is pretty obvious that energy transition pathways in the global north will differ from those in the global south. In the richer global north, a reduction in consumption-driven emissions (including the amount of materials consumed) should be deep enough to enable an increase in consumption in the global south. This will require massive financial transfers between the regions, as well as dedicated products, services and business models.

Besides, we are talking about processes that take place on the global scale. Countries around the world make their own decisions about how to achieve an energy transition, thus affecting the global gas, coal, and oil markets in an uncoordinated manner. The consequences of their sovereign actions are felt around the globe. This is why energy transition needs to be a synchronised and coordinated effort.

Strengthening of energy transition in PKN ORLEN’s strategy
The impact of the war in Ukraine is set to give momentum to energy transition. Accelerated phase-out of fossil fuels will help reduce emissions and improve energy security.

The attractiveness of upstream production and refining segments is temporary (high margins). Therefore, it should be made the most of by investing in the promising areas identified in the ORLEN2030 strategy.

High prices of fuels will accelerate the phase-out of oil-based fuels in transport. Demand for alternative fuels (electricity, biofuels, hydrogen) will grow.

We are witnessing a shift in the role of natural gas in the European Union. REPowerEU requires a deeper cut in gas consumption to eliminate its imports from Russia.

Renewables which can replace natural gas (hydrogen, biomethane) will gain in prominence.

The importance of municipal and rural waste recycling (generation of hydrogen and biomethane to supplement domestic gas production) is on the rise.

Nuclear power generation, especially SMRs and large energy storage facilities (hydrogen) will be increasingly important.

Investor appetites are shifting towards utilities and low-carbon power generation associated with RES (on-roof solar PV systems).

The development of digital technologies will enable active management of energy demand.

Petrochemicals are still viewed as an attractive investment opportunity – improved competitiveness.

Recycling of petrochemical products is becoming more and more important.

Retail – the test bed of digitisation – offers extensive opportunities for growth.

Innovation, Research & Development will play an increasingly crucial role – long-term competitive advantages are developed in house, by experimenting with new technologies and business models in reliance on one’s own resources and at one’s own risk.

Dr Adam B. Czyżewski
Chief Economist, PKN ORLEN

May 2022
**Glossary**

**A**

**Acetone**
an organic compound, the simplest aliphatic ketone; a popular solvent widely used for industrial and household applications, including the production of pharmaceuticals, dyes, paints, varnishes, and cleaning products; it is also often used as an ingredient in nail polish remover.

**Act on Special Rights Vested in the Minister Competent for the State Treasury**
the Act on Special Rights Vested in the Minister Competent for the State Treasury and How Those Rights Should Be Exercised at Certain Companies or Groups of Companies Operating in the Power, Crude Oil and Gas Fuels Sectors, dated March 18th 2010 (Dz.U. No. 65, item 404).

**ADR**
American Depositary Receipt = certificate issued by an American bank representing a share of a foreign stock that the bank holds in trust but that is traded on an American stock exchange.

**AGM**
the Annual General Meeting.

**Alkylation**
refinery process in PKN Orlen, namely that asphalt and paraffin fractions are merged in order to produce high-octane gasoline component (alkylate). The process is run on an alkylation installation in the presence of hydrofluoric acid.

**Ambient concentration**
the amount of windborne dust or gaseous substances, often transported over large distances, in a given volume of air. Such pollutants are mostly products of fuel combustion or industrial processes.

**Ammonium nitrate**
an inorganic chemical compound and universal nitrogen fertilizer.

**Assets turnover**
net revenues/average balance of assets.

**B**

**Barrel**
unit of liquid volume used mainly in the oil industry; 1 barrel of crude oil (bbl) = 42 American gallons = 158.96832 l.

**Benzo**
an organic chemical compound and the simplest aromatic hydrocarbon, used in the chemical and pharmaceutical industries to produce plastics, synthetic fibres, dyes, pharmaceuticals, detergents, and pesticides, and in the synthesis of such important chemical compounds as aniline, phenol and acetone.

**Big data**
this tool provides advanced analytics of available data to enable us to tailor our offerings, prepare effective promotional campaigns, and segment service stations more practically (in terms of price and offering).

**Biochemical Oxygen Demand (BOD)**
a conventional measure indicating the quantity of oxygen needed during the oxidation of organic and/or inorganic compounds by microorganisms (aerobic bacteria). Water and effluent samples are tested for five days in the temperature of 20°C to measure how much oxygen is consumed in the process. The test indirectly indicates the content of biodegradable organic matter in the sample. BOD is used to measure the quality of water and treated wastewater.

**Bioesters**
methyl esters of higher fatty acids produced from vegetable oils or animal fats. Used as a biocomponent for diesel fuel or as a fuel for cars with diesel engines. Meets the quality standards set for the biofuel in the PN EN 14214, applicable both in Poland and other European Union markets.

**Bioethanol**
ethanol derived from biomass or biodegradable waste.

**Biofuel and biocomponents NT**
(National Indicative Targets) — a minimum share of biofuels and biocomponents in fuels in a given year to be ensured by relevant entities, chiefly oil companies supplying fuels on the market.

**BOE**
barrel of oil equivalent.

**Brent-Ural differential**
the difference between the price of the two crudes calculated according to the following formula: Med Strip — Ural Rdam (Ural CIF Rotterdam).

**Butadiene**
a gaseous organic compound, used in the production of synthetic rubber. Butadiene is used in the production of various kinds of synthetic rubber and latex, polybutadiene rubber, liquid polybutadiene, and ABS thermoplastics.

**C**

**C1** and **C3** heavy fuel oils
C1 heavy fuel oil is a mixture of heavy and light components obtained by way of secondary and straight run processing of crude oil. C1 heavy fuel oil is burned in central heating boilers, steam generators, industrial furnaces and used in industrial processes. C3 heavy fuel oil is a mixture of hydrocarbons obtained through straight-run and secondary refining of crude oil. It is burned in central heating boilers, steam generators, industrial furnaces and used in industrial processes.

**CAPEX**
Increase of property, plant and equipment, intangible assets, investment property and perpetual usufruct of land together with the capitalisation of borrowing costs.

**Catalyst**
substance, which accelerates (initiates) the expected chemical reaction.

**Catalyst market**
the bond market of the Warsaw Stock Exchange operated on the WSE and BondSpot trading platforms.

**CCGT plant in Płock**
a 660 MW Combined Cycle Gas Turbine plant to be constructed in Płock. A key part of the project will be deployment of an advanced gas turbine technology with one of the highest efficiency ratings available on the market (4- Class).

**CEE**
Central and Eastern Europe.

**Chemical Oxygen Demand (COD)**
a conventional measure indicating the quantity of oxygen (expressed in mg/l) consumed from the oxidizing agent (potassium dichromate, K2Cr2O7) during the oxidation of organic and some inorganic (e.g. sulfides, sulfides, iron (II), ammonia) compounds found in wastewater to the highest level of oxidation possible under given conditions. COD is used as a measure of water and wastewater pollution.
CO2 emission allowances
property rights recognised as intangible assets, which are not subject to amortisation (due to high residual value) but are tested for impairment.

CODE/OCDO
fuel station owned by the Company, operated by agent (Company Owned Dealer Operated) / fuel station owned and operated by the Company (Company Owned Company Operated).

CONCAWE
an association established by a group of leading oil companies to carry out research on environmental issues relevant to the oil industry. CONCAWE’s activities cover fuels quality and emissions, air quality, water quality, soil contamination, waste, occupational health and safety, and petroleum product stewardship (www.concave.eu).

Cracking
thermal or catalytic conversion of heavy or more complex hydrocarbons into light products and coke, which increases the yields of light products from crude oil.

Crediting
an evaluation of an entity’s relative ability to meet its financial obligations, including the payment of interest and preferred dividends, repayment of principal, satisfaction of insurance claims, and performance of obligations towards trading partners. Credit ratings enable investors to assess the likelihood of receiving returns due on their investments.

CSR
corporate social responsibility is understood as a management strategy and approach to business which aims to build positive long-term relations rooted in mutual understanding of expectations and respect towards the broad business environment.

Current liquidity
current assets/short-term liabilities.

D
DeNOx flue gas denitrification unit/technology
the selective catalytic reduction technology used at the CHP plant to reduce nitrogen oxides in flue gas to molecular nitrogen in order to meet the required emission standards.

Differential Brent/Usal
the difference between the quotations of two kinds of crude oil, calculated as: Mec Strip – Unalnd (Mec CIF Rotterdam).

Distillation
method of physical separation of liquid mixtures, which uses the phenomenon of differences in boiling temperatures of particular components in the mixture undergoing distribution.

Dividend
the portion of a company’s net profit paid to its shareholders per each share.

Dividend payment date
the date on which dividend is paid to a company’s shareholders.

Dividend record date
the date as at which the list of shareholders entitled to receive dividend for a given financial year is determined. Only those holding shares on that date are entitled to receive dividend for a given financial year.

DOF/ODDO
fuel station owned by agent and operated as franchise business (Dealer Owned Franchisee Operated) / fuel station owned and operated by agent (Dealer Owned Dealer Operated).

E
E&P
exploration and production.

EBT System
the Electronic Information Base administered by the Warsaw Stock Exchange.

EBIT
earnings before interest, tax, depreciation and amortisation.

EI (Energy Intensity Index) according to Solomon’s methodology
a benchmark for comparing the energy efficiency of ethylenes.

Enterprise Risk management System
a key tool providing information on risks and effectiveness of their management to implement strategic and operational objectives.

EPCA
(European Petrochemical Association) – an international non-commercial organisation based in Brussels which caters to the global community of petrochemical producers, including their suppliers, customers and service providers. In the oil industry, EPCA provides a platform to meet, exchange ideas, transfer learning, and serves as a think tank challenging the status quo. EPCA operates for more than 700 member companies from 53 different countries.

ERT
(European Round Table of Industrialists) – an organisation consisting of over 50 CEOs of European industrial companies, founded in 1983.

ESG criteria
(Environmental, Social, Governance) – factors used to evaluate the non-financial performance of companies, states and other organisations. The criteria are composed of three elements: E – Environmental, S – Social responsibility and G – Governance. Their main function is to enable investors to compare alternative investment opportunities through analysis of the three parameters.

Ethylene
(IUPAC name, ethene) is a hydrocarbon with the formula C2H4 or H2C=CH2. It is a colourless flammable gas with a faint “sweet and musky” odour when pure. It is the simplest alkene (a hydrocarbon with carbon-carbon double bonds). Ethylene is widely used in the chemical industry, and its worldwide production (over 190 million tonnes in 2016) exceeds that of any other organic compound. Much of this production goes toward polyethylene, a widely used plastic containing polymer chains of ethylene units in various chain lengths. Ethylene is also an important natural plant hormone, and is used in agriculture to force the ripening of fruits. Ethylene’s hydrate is ethanol.

ETS system
Enterprise Risk Management System a key tool providing information on risks and effectiveness of their management to implement strategic and operational objectives.

EU ETS
the EU emissions trading system, a community market for trading in CO2 emission allowances.

EURIBOR
(Euro Interbank Offered Rate) – an interest rate for interbank loans offered on the interbank market in the Eurozone.

F
Fertilizers Europe
an association of Europe’s largest fertiliser manufacturers.
G7 turbine generator set
a 70 MW pass-out and condensing turbine generator set installed in the CHP plant’s existing structure to increase its generation potential.

GDR
Global Depositary Receipt = security issued outside of Poland by the Depositary Bank in relation to shares.

General Directorate for Environmental Protection
(Główna Dyrekcja Ochrony Środowiska, GDOŚ) – an institution responsible for the implementation of the environmental protection policy within the scope of the management of environmental protection activities (including Natura 2000 sites) and control of investment projects. It also carries out tasks designed to prevent and repair damage to the natural environment.

Glycols
the simplest hydroxy aliphatic alcohols (ethylene glycol) is used in the production of polyesters (plastics, fibres and resins) and antifreezing formulations (as a 40-62% aqueous solution). Glycols are also used as solvents, plasticisers and ingredients of explosive materials.

Gross margin in sales
profit before tax / sales revenues x 100%.

Gross profit margin
profit before tax / revenue x 100%.

Gudrun Hydrodesulphurisation Unit (GHO)
a refining unit where the vacuum residue from the fractional distillation unit is processed into lighter fractions and where the vacuum residue is prepared, through hydrodesulfurization, for combustion at the CHP plant.

High-performance cogeneration
the production of electricity or mechanical energy and heat in cogeneration what allows savings of primary energy used in cogeneration unit in amount not lower than 10% in comparison to production of electricity and heat in separated systems or in cogeneration unit of installed electric capacity below 1 MW in comparison to production of electricity and heat in separated systems.

Hydrocarbons
organic compounds made of carbon and hydrogen. Crude oil and natural gas are mixtures of hydrocarbons.

Hydrocracking
cracking of hydrocarbon raw materials in the presence of hydrogen. This process raises the efficiency of light products from crude oil.

Hydrodesulphurization
the process of removing sulfur compounds in the raw material by contact with hydrogen at the catalyst bed under high temperature and pressure.

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I
Inactive employees
employees inactive due to long-term absence, i.e. on unpaid leaves, maternity leaves, childcare leaves, and parental leaves, or receiving rehabilitation benefits or absent due to military service.

Industrial Emission Directive (IED)

Inventory turnover
average amount of inventoried net revenues x 365 days.

Inventory valuation
LIFO adjustment.

K
KPI (Key Performance Indicators) – financial and non-financial (e.g. downstream) indicators used to measure the progress of objectives in an organisation.

L
Liabilities turnover
average amount of trade liabilities, gross / cost of goods sold x 365 days.

LIBOR
(London Interbank Offered Rate) – an interest rate for interbank loans offered on the interbank market in London.

LIFO-based EBITDA
reported 2014 EBITDA + inventory valuation.

Light fuel oils
mixtures of petroleum-based hydrocarbons containing 9-25 coal atoms per molecule. Light fuel oil can be used to power vehicles and for heating purposes.

LOTO
the lockout-tagout safety procedure, based on locks and tags that are used to isolate hazardous energy sources, which includes securing machines, equipment and systems in the place where work is performed to prevent their accidental startup.

LPG
(Liquefied Petroleum Gas) – a mixture of liquefied hydrocarbons, consisting primarily of propane and butane, and containing a small amount of propene, butene and C5 hydrocarbons. LPG is used as cooking, heating and engine fuel.

M
Mandatory stocks
legal regulations on mandatory stocks of crude oil or fuels (excluding LPG) that have to be observed by companies and traders operating on the Polish market.

Med Step
brent crude oil quotation.

Metathesis unit
a unit designed to increase annual propylene production at the Płock plant to 550,000 tonnes.
Model Downstream Margin

calculated according to the following formula: revenue (90.7% Products = 22.8% Gasoline + 44.2% Propylene + 1.2% Benzene + 1.2% PX) minus costs (100% of feedstock = 100% kerosene); product prices based on market prices.

Model olefin margin

It is calculated by the following formula: revenue (100% of products = 0.85%Ethylene5% + 0.2% Propylene28% + 0.8%Glycol9% + 0.8%Butadiene6% + 0.8%Ethylene Oxide3%) less costs (100% of feedstock = 100% kerosene); product prices based on market prices.

Modal Petrochemical Margin

calculated according to the following formula: revenue from sales of products (98% Products = 44% HDPE + 7% LDP + 35% PP Hama +12% PP Coral) minus costs (100% of feed = 75% crude oil + 25% LS VGO) based on market prices, contract prices.

Modal Refining Margin

calculated according to the following formula: revenue from sales of products (93.3% Products = 36% Gasoline + 43% Diesel oil + 14.5% Heavy fuel oil) minus costs (100% of feed: crude oil and other feedstock); total feed calculated based on Brent crude prices on the spot market.

Menamers

molecules of the same type or number of different kind of compounds characterise not very high molecular weight, which can form polymers during polymerization reaction;

MWIG40

a stock index comprising 40 medium-sized companies listed on the WSE Main Market.

Natural Gas Liquids

hydrocarbons in the liquid state, derived from natural gas and produced during processing (in the separation process).

Net debt

non-current loans, borrowings and bonds + short-term loans and borrowings – cash and cash equivalents.

Net drillings

the number of drillings corrected with the share of other partners.

Net margin on sales

net profit / sales revenues x 100%

Net margin on sales

net profit / revenue x 100%

Net wells

the number of wells adjusted for other partners’ interests.

Networking capital

trade receivables – inventories – trade liabilities net profit / equity x 100%

OPEC

the Organization of the Petroleum Exporting Countries headquartered in Vienna, which aims to coordinate and unify the petroleum policies of its members. OPEC comprises the following members: Algeria, Angola, Saudi Arabia, Ecuador, Iraq, Iran, Qatar, Kuwait, Libya, Nigeria, Venezuela, and United Arab Emirates.

Orthoxylene

an organic chemical compound and aromatic hydrocarbon, a derivative of benzene. It is used as an intermediate product in the production of phthalic anhydride and motor gasolines, and as a paint and varnish solvent and thinner.

OSHA 1910

Occupational Safety and Administration Standard No. 1910, setting out rules and methods that should be applied and respected to protect employees from hazards. The standard refers to process safety.

Phenol

an organic chemical compound used in the production of polyamide fibres, phenoplasts, colourings, pharmaceuticals, and plant protection products. It also has antiseptic and preservative properties.

Polish Power Exchange

(Towarowa Giełda Energii, TGE) – an exchange where electricity, liquid and gas fuels, and emission allowances are traded. The Polish Power Exchange began operations on June 30th 2000, which is when the first electricity supply contracts were executed on its Day Ahead Market. It currently operates the Day Ahead Market, Commodity Forward Instruments Market with Physical Delivery, and the RES and CoGeneration Property Rights Market. The Polish Power Exchange also maintains a register of certificates of origin for electricity produced from RES and high-efficiency co-generation, and operates a CO2 emission allowance market.

Polyethylene

a polymer obtained through the polymerisation of ethylene (ethene). Polyethylene is used in the production of prostheses, electrical insulation, films, pipes, tubing, containers, hockey sticks, skis, sausages, bulletproof vests, toys, and packaging.

Polymers

chemicals of very high molecular weight, which consist of many repeated units called mers polyethylene and polypropylene.

Polypropylene

a polymer obtained through the stereospecific polymerization of propene, used to produce fibres, films, and technical-grade products.

PAP

Prague Interbank Offered Rate.

Propylene

an organic compound, unsaturated hydrocarbon. Propylene is used to produce various organic compounds, such as polypropylene, isopropyl alcohol, glycerin, and isopropylbenzene.

PTA
terephthalic acid (a component of the terephthalic acid/polyethylene terephthalate, or PET, a thermoplastic polyester and fibrous polymer used in the production of bottle, packaging, and fibres). PTA is the organic compound with formula C6H4(OCOH)2.

PVC

glycol chloride, a plastic polymer typically used in the production of flooring, window and door frames, accessories (various types of edge banding), piping and fittings for indoor installations, sidings, films, and electrical insulation for wires and cables.

Quick liquidity

(current assets— inventories – prepayments) / short-term liabilities.
Receiveables turnover
average amount of trade receivables. net/ net revenues x 365 days.

RESPECT Index
an index comprising socially responsible companies listed on the Main Market of the Warsaw Stock Exchange. Corporate social responsibility is understood as a management strategy and approach to business which aims to build positive long-term relations rooted in mutual understanding of expectations and respect towards the broad business environment.

Responsible Care
the Responsible Care® programme has operated in Poland for 22 years under the auspices of the Polish Chamber of Chemical Industry. It is a global pro-environmental initiative of the chemical industry, implemented in Poland by 31 companies from the chemical and related sectors, which engage on a voluntary basis in environmental protection, health protection, and process safety enhancement projects.

Responsible Care Framework Management System Certificate
da document certifying that PKN ORLEN operates in compliance with the highest management standards in the areas of health, safety and environmental protection and in accordance with the principle of sustainable development and corporate social responsibility, as well as legally prescribed environmental standards. All work is carried out in a professional manner, with due consideration to current and future environmental impacts.

ROA
net profit/total assets x 100%.

ROACE
operating profit after tax and before write-down the value of assets / average capital employed (shareholders’ equity + net debt).

ROACE LIFO
LIFO operating profit after tax and before write-down the value of assets / average capital employed (shareholders’ equity + net debt).

ROE
net profit / equity x 100%.

SCR
(Selective Catalytic Reduction) unit – a flue gas denitrification unit which uses selective catalytic reduction to treat the flue gas from steam generators. The SCR unit installed on boilers is part of the PKN ORLEN ‘Green Energy’ Investment Programme launched in 2010, which aims to bring the CHP plant in Plock in compliance with the requirements effective as of 2016.

Soda lye
an aqueous solution of sodium hydroxide (NaOH). It is used in many industries as a chemical base in the production of organic and inorganic chemicals, pulp, aluminium and other metals, textiles, as well as in the production of food and treatment of water.

Sodium hydroxide, lye, caustic soda, NaOH
an inorganic chemical compound from the group of hydroxides, one of the strongest alkalis. It is used for the production of soaps, detergents, cellulose, viscose rayon, dyestuffs, paper and waterglass. It is also used in oil refining, and can be used as absorbent and reagent.

T

T1 PSER
the number of events with greater consequences in relation to the release substance into the environment x 1,000,000 / number of hours worked.

T2 PSER
the number of events with smaller consequences in relation to the release substance into the environment x 1,000,000 / number of hours worked.

Terephthalic acid
an organic chemical compound and aromatic acid. Purified terephthalic acid (PTA) is used primarily in the production of polyethylene terephthalate (PET), polyester fibres and polyamide fibres with a high tensile strength.

The AEO
Authorised Economic Operator (AEO) certificate found in the Community Customs Code, the concept of the Authorised Economic Operator was introduced into the European Union’s legal framework on January 1st 2008 to create a secure supply chain and combat terrorism. Entities awarded the Authorised Economic Operator status enjoy multiple benefits in conducting their trade activities. AEO status awarded in one EU member state is recognised across the entire Community. The Minister of the Environment’s Regulation of August 26th 2012 concerning the concentration of certain substances in the air (Dz.U. of 2012, No. 177, item 1031).

The Employee Support System
is a behavioural programme aimed at encouraging safe and eliminating unsafe behaviours. Its implementation is one of the multi-directional measures to improve the Company’s safety culture.

The Lockout – Tagout (LOTO) system
is a scheduled activity which consists in cutting off power supply to industrial equipment and machinery whenever maintenance or repair work is performed. Lockout prevents employees from switching on the machine until it is disabled. Tagout refers to a tag which informs and warns that a given machine is locked out while maintenance work is being performed, and may not be switched on until the tag is taken off. The system has been implemented to eliminate accidental and uncontrolled switching on of machines or hazardous energy releases during operation, development, repair and maintenance works, and thus prevent accidents and incidents resulting from inadvertent start-ups or re-energising of machines, devices or installations.

Tonne Oil Equivalent
(TOE) – energy equivalent of one metric ton of crude oil with a calorific value equal to 10,000 kcal/kg.

Toluene
an organic chemical compound and aromatic hydrocarbon. High-purity toluene is typically used as an intermediate product in the production of organic intermediate products, couplings, detergents, severs, adhesives, exploative materials, and motor fuels.

TRR
Total Recordable Rate – an internationally recognised metric of a company’s rate of workplace accidents, determined as follows: (number of workplace accidents in a period of time / number of hours worked in the same period) x 1,000,000.

TSR
(Total Shareholder Return) an economic measure indicating returns to investors holding shares in a company in a given period.

U

Upstream
exploration for and production of hydrocarbons.

URAL RDAM
(URAL CIF ROTTERDAM) the crude oil quotation in Rotterdam.

V

VILISOR
(Minus Inter Bank Offered Rate) – an interest rate for interbank loans offered on the Lithuanian interbank market.

W

Waste Management Procedure
an internal document of the Company regulating its waste management procedures, prepared in accordance with applicable laws.
White product yield
the yield of gasoline, diesel and heating fuel, fuel fractions, dry and liquefied petroleum gas compared to the amount of
processed crude oil.

WIBOR
(Warsaw Interbank Offered Rate) – an interest rate for interbank loans offered on the Polish interbank market.

WIG-Paliwa
an industry index comprising WIG index companies operating in the fuel sector.

WIG-Poland
a stock index comprising only the shares of Polish companies traded on the WSE Main Market which satisfy the basic eligibility
criteria.

WIG20
a stock index calculated based on the value of the 20 largest and most liquid stocks traded on the WSE Main Market.

WIG30
a stock index calculated based on the value of the 30 largest and most liquid stocks traded on the WSE Main Market.

WORKING CAPITAL
trade receivables + inventories – trade payables.