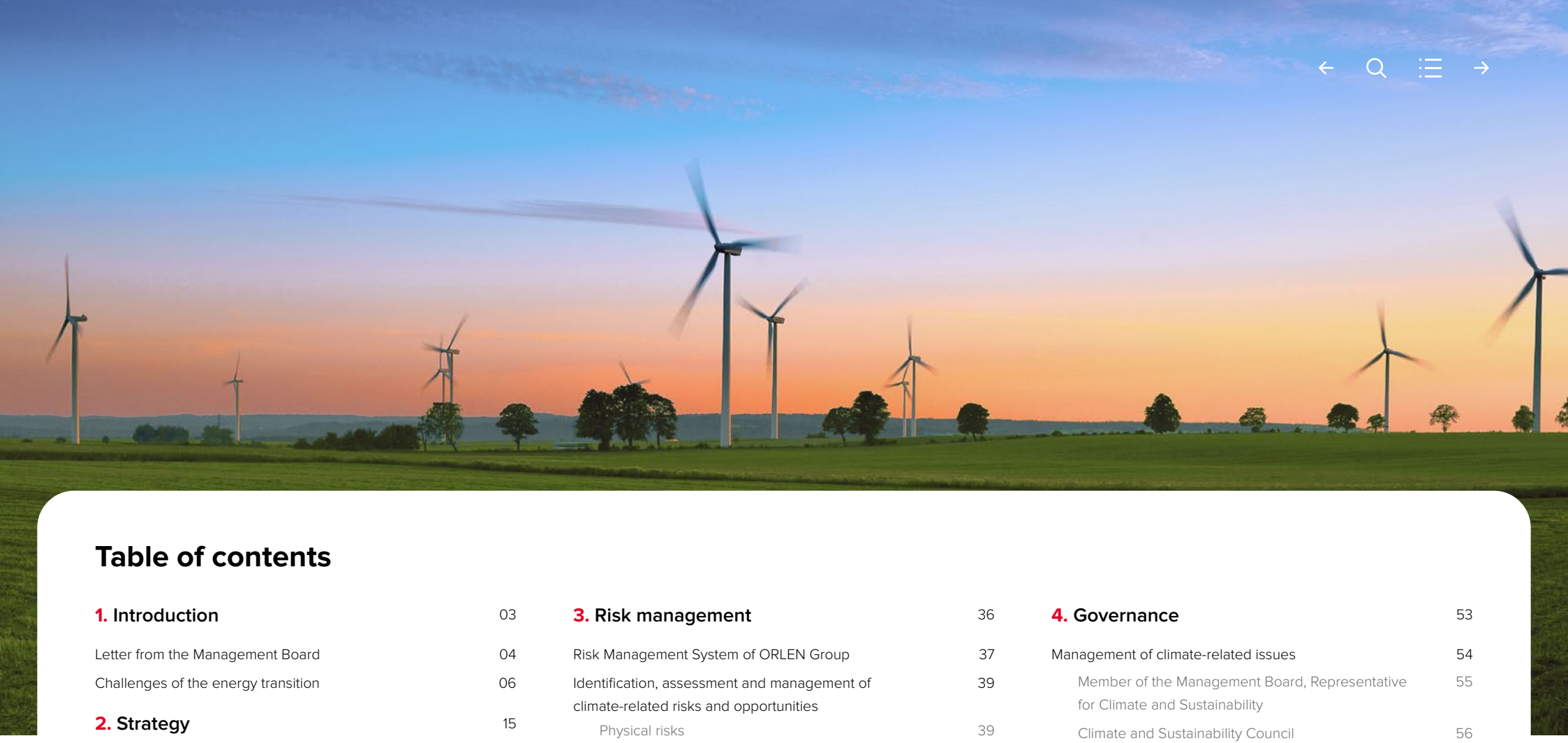
ORLEN Group Climate Policy

Warsaw, May 2023



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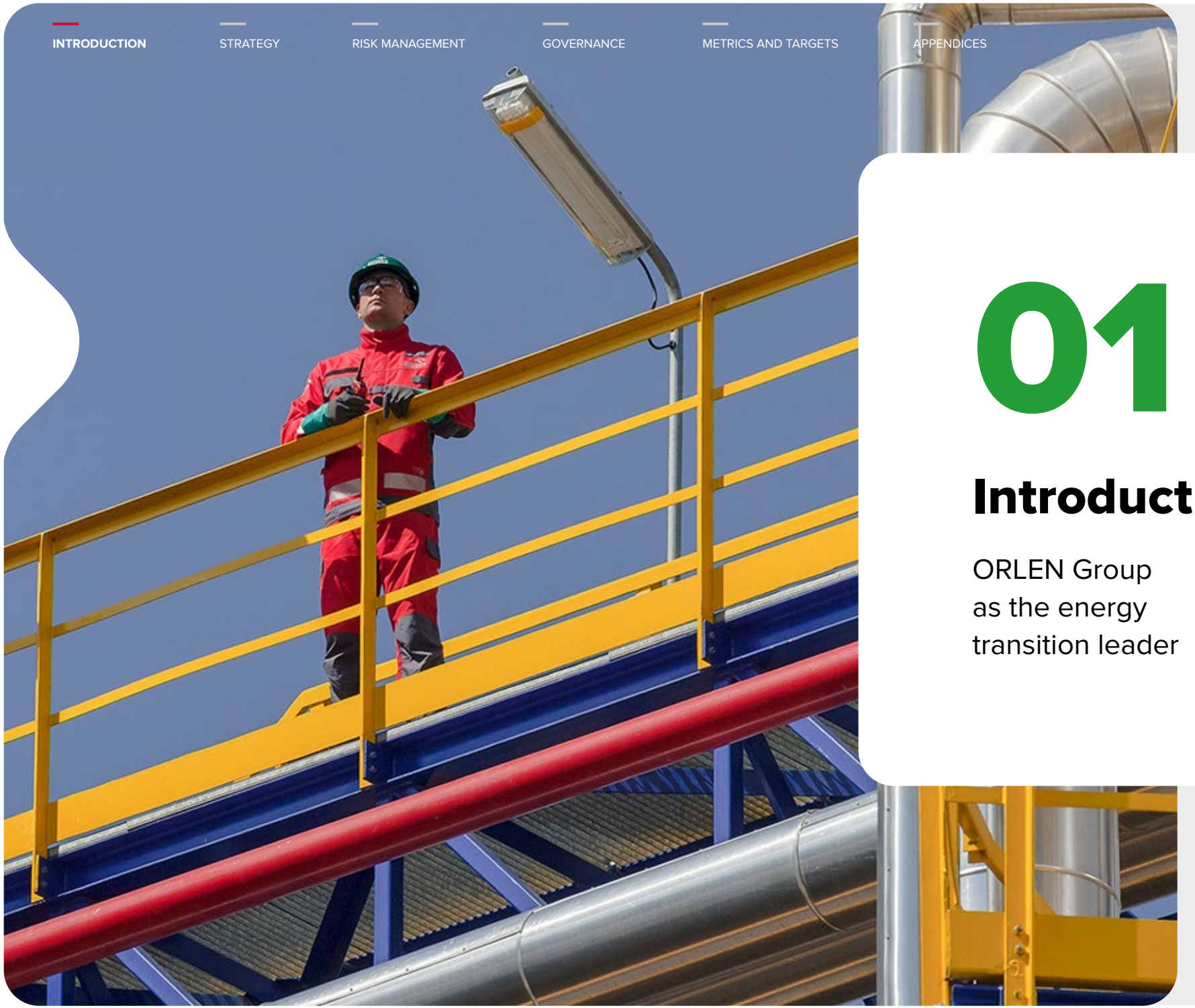


01

Introduction

ORLEN Group
as the energy
transition leader

Letter from the Management Board

Daniel Obajtek
President of the Management Board
Chief Executive Officer

Iwona Waksmundzka-Olejniczak
Member of the Management Board, Strategy and Sustainability
Representative for Climate and Sustainability

In 2020, ORLEN was the first Central European energy company to have declared the ambition to become Net Zero by 2050. Since then, we have been confronted with unprecedented developments. First, the COVID-19 pandemic, presenting a major challenge to companies around the world. Then, a war broke out beyond our eastern border. Both events could have had a serious adverse impact on our plans to achieve that target. However, this did not happen. On the contrary, both events reinforced our belief that ORLEN needs to assume the responsible role of the energy transition leader. They also left no doubt that the energy transition is the only way forward and – what is more – that decarbonisation efforts should be intensified.

The energy transition does present a challenge. A challenge we must address in order to take full advantage of the associated opportunities. A crucial one is to entrench the ORLEN Group's strong position in Europe. Following the merger of PKN ORLEN with the Energa Group, LOTOS Group and PGNiG, we have joined the world's 150 largest companies in terms of revenue and we have accumulated potential to complete multi-billion PLN projects, bolstering the energy security and independence of the whole Central Europe.

”

There is no turning back from the energy transition

The newly defined global energy mix will profoundly affect the energy industry. The new, diversified business of ORLEN Group, with a fast growing segment of low- and zero-carbon energy production, will help curb the global temperature growth by 2050, as targeted by the Paris Agreement.

At the end of 2022, we disclosed our total carbon footprint and implemented top-level management of climate-related issues. At the beginning of 2023, we announced an updated strategy covering all of the acquired assets and markedly raising our ambition to counteract climate change.

In the updated strategy until 2030, we have set targets demonstrating the weight we attach to mitigating the environmental and climate change impacts of our operations. Our strategy is underpinned by a sound business and financial rationale. We know that the future will be driven by technology investments made here and now to decarbonise our Group and Central Europe's economies.

This is why we have embarked on large-scale projects to harness low- and zero-carbon energy, produce low- and zero-carbon fuels, and deploy carbon capture and storage solutions. They will lay sustainable foundations for the ORLEN Group's strong long-term growth.

We are aware of the challenges faced and we believe that the delivery of these plans will benefit the climate, while strengthening our business and financials. ORLEN Group has the required knowledge, experience and resources to be the responsible leader of the change.

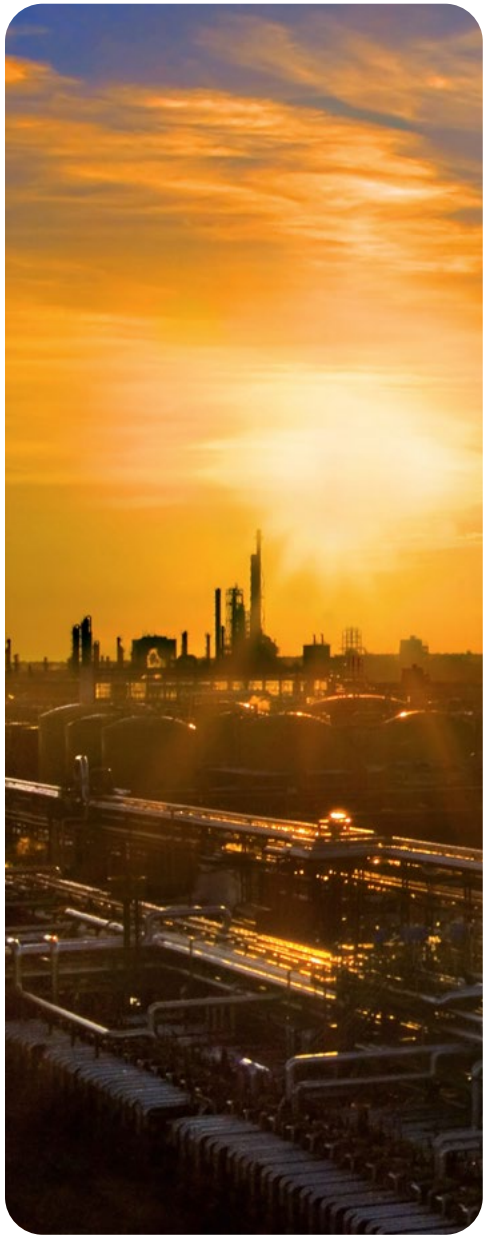
Challenges of the energy transition

Since the middle of the 20th century, we have witnessed a sustained period of strong economic growth. It was fuelled by disruptive technologies, which led to a rapid rise in energy consumption. The need to meet that incremental demand for energy drove a global requirement for fossil fuels: coal, oil and natural gas.

However, for some time now – prompted by a mix of environmental, technological and social factors – people have been increasingly inclined to produce energy from renewable sources, such as wind, the sun or moving water. The result is the ongoing energy transition, where instead of relying on fuel combustion, energy is derived directly from low- and zero-emission sources.

A fundamental shift in the global energy mix driven by the current energy transition, coupled with geopolitical factors, has obvious implications for the fuel and energy sector companies which must revise their existing, long-standing business models to align them with the changing market environment.

The energy transition is also having a huge impact on the energy sectors of individual countries, with massive changes required especially in countries whose energy sectors are still largely reliant on emission-intensive energy sources, such as Poland. Therefore, the necessary transformation of the Polish energy system presents a huge challenge but also an opportunity, with fuel and energy producers playing a crucial role in the process.



Certain events of recent years – the worldwide pandemic and the war in Ukraine – have forced a change in strategic and business thinking. The most important challenge for businesses is to switch the strategic thinking from preparation for an anticipated change to rapid response to unexpected developments.

The developments of the past three years have sparked a heated debate over the pace of the transition. Being one of the companies that have made a commitment to become Net Zero by 2050, we presented our own diagnosis of the situation. We believe the momentum of the energy transition and decarbonisation should be maintained, and we are seeking to adapt its pace to the physical capacities to shift demand to low- and zero-carbon energy sources.

Net Zero
by 2050

The energy transition is driven by environmental concerns, technological progress and evolving consumer preferences.

Environmental concerns

For the first time in history, the need for environmental protection and concern for our planet have become key drivers of the energy transition. How our world will be fuelled and which energy source will play a dominant role in the future mix will be determined not only by viable technologies and economics, as was previously the case, but also by environmental considerations. The technologies and energy sources leading the energy transition will fit in with the broad sustainable development trend and ensure that the population's energy demand is met, while mitigating the environmental impacts and remaining economically viable. In this way, we will be able to achieve the carbon neutrality target set by the European Union in compliance with the regulations designed to help achieve that target.

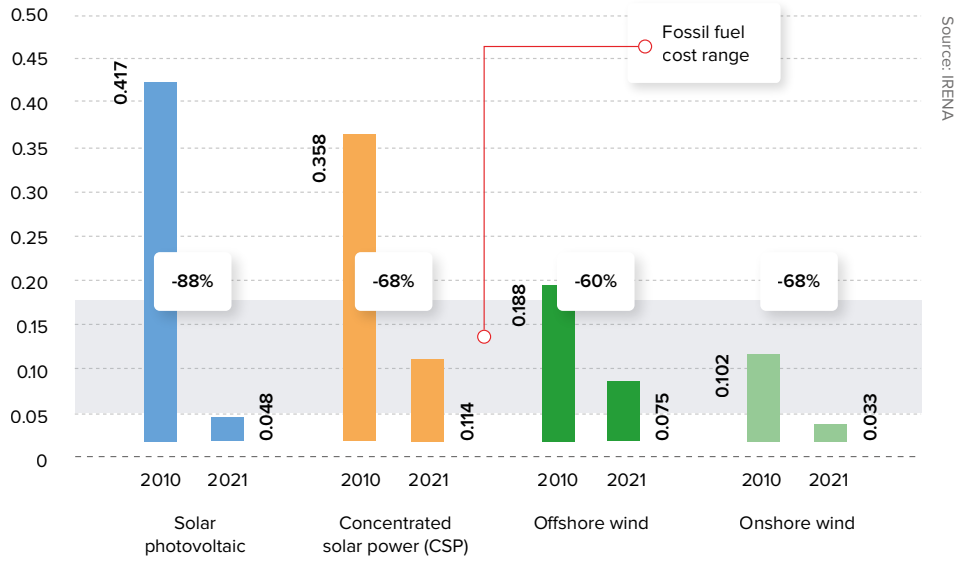
Technological progress

The energy transition is also driven by the emergence of disruptive technologies, bound to shape the future energy mix. We live in an era of progressive electrification taking place across many areas of our lives. Engines burning fossil fuels are being replaced by renewables and modern nuclear energy solutions.

Consumer preferences

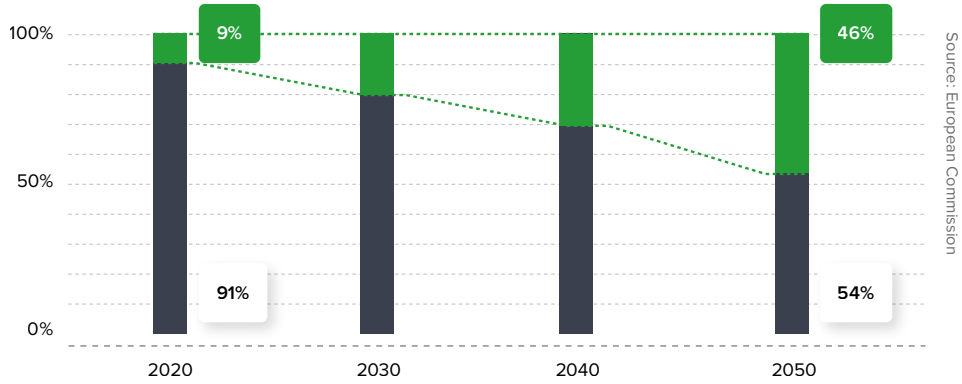
The third driver of the transition, related directly to the environmental aspect discussed above, is the change in preference patterns and increasing environmental awareness of consumers. In recent years, consumers have begun to pay closer attention to whether product manufacturers and service providers act in a socially responsible manner. And they do not stop at that, but also take proactive steps to make conscious buying decisions and choose more sustainable solutions and goods.

Global weighted average levelised cost of electricity by renewable power generation technology (USD/kWh)



Source: IRENA

Projected degree of electrification of a mature EU economy by 2050 (%)



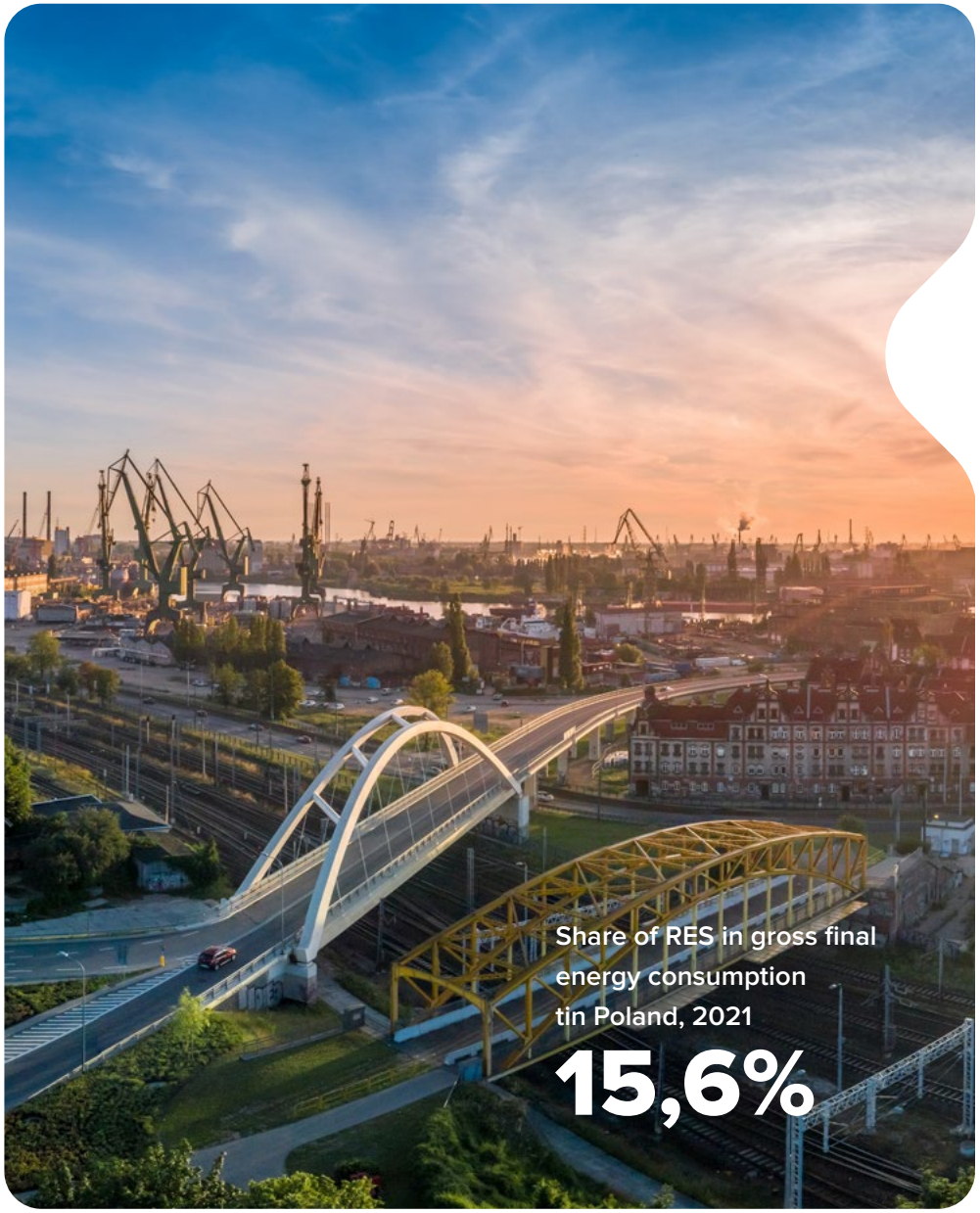
Source: European Commission

The energy transition is gaining momentum in line with the increasing electrification of the world and development of renewable energy technologies.

The world around us is increasingly powered by electricity, as combustion engines in industrial settings and transport are being replaced by simpler, cheaper and more efficient electric motors, or at least are increasingly often supported by such motors (as in hybrid vehicles). In addition, digitisation and robotisation are inseparable from electricity. The use of electricity in consumption is convenient since it provides instant access to a range of services and allows remote control, while also being environmentally friendly because of lower emissions.

Generating energy from renewable sources, although not without environmental impacts, is aligned with the key transition driver, which is the need to reduce emissions. Over the past decade, the progressing climate change caused by excessive greenhouse gas emissions has become one of the most pressing issues raised by political and business leaders at international summits and economic forums. Their discussions have led to a number of climate deals and commitments aimed to slow the pace of global warming, which have become a key driver of the energy transition.

A particularly ambitious policy of reducing greenhouse gas emissions is being pursued by the European Union with its long track record of setting itself challenging targets, such as the 2020 target (already achieved) or the 2030 target tightened by the Fit for 55 and RePowerEU packages under the European Green Deal. Their intended outcome is to achieve climate neutrality by 2050. With the energy transition, emissions into the environment can be reduced. One technological area that could help bring down emissions without leaving any significant mark on the environment involves energy efficiency improvements, prompting many companies, including ORLEN Group, to strive for excellence in this specific area.



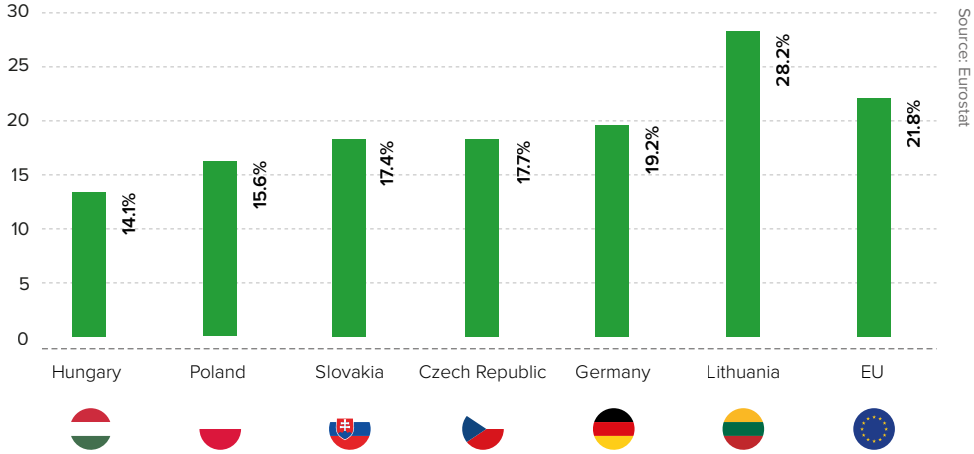
Situation of Poland and the Central European region

Poland is embarking on the energy transition journey that will see a clear increase in the share of low- and zero-carbon sources in the local energy mix.

The pace of the current energy transition will present a particular challenge to countries whose energy systems are still largely based on coal. One example is Poland, but also other countries of Central and Eastern Europe.

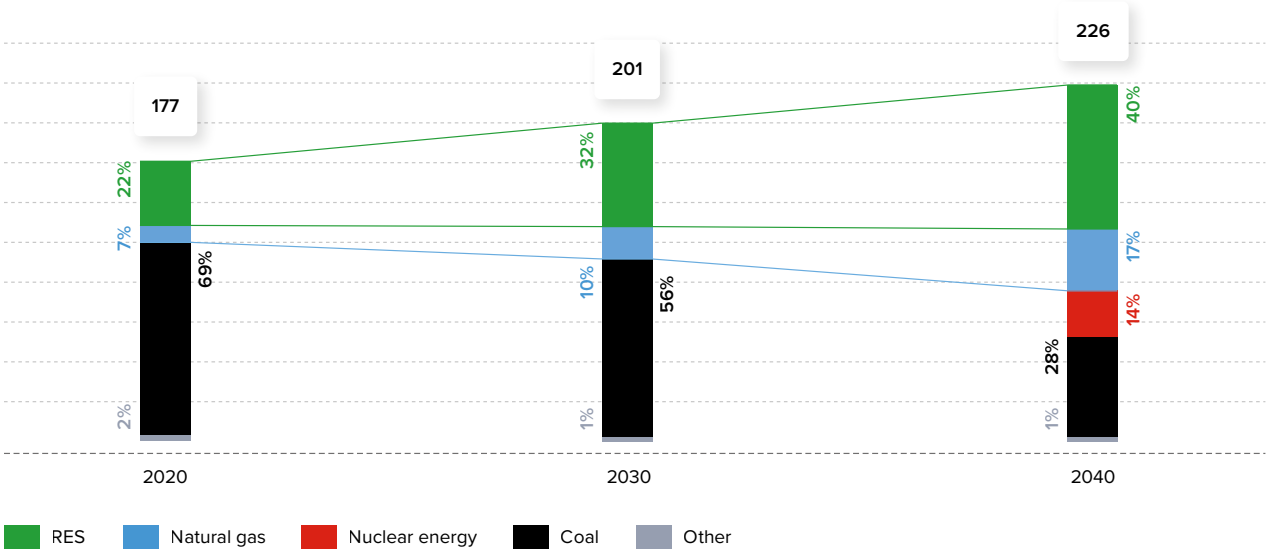
While Poland's sector of renewable energy has been gradually expanding over the past decade, bringing the share of renewables in gross final energy consumption from 9.3% in 2010 to 15.6% in 2021 (with parallel growth in demand), the shift towards low- and zero-carbon sources will need to be considerably fast-tracked over the coming years.

Share of RES in final energy consumption in selected EU countries, 2021



Source: Eurostat

Gross electricity production in Poland, 2020-2040 (TWh)



Source: PEP2040

The challenge facing the Polish energy industry is particularly ambitious. The transition of Poland's power system is further complicated by the age of conventional generation assets on which that system virtually relies, as they account for around 30 GWe of total installed capacity. A large part of them are run down and quite inefficient, often badly in need of upgrade.

Currently, more than 50% of the conventional capacity installed in Poland is represented by assets aged 35 years or more, which will need regular overhauls or replacements as they come up to retirement age. Over time, the age of Poland's generation fleet will call for increasing spending to restore the assets and replace obsolete units with new, more efficient renewable sources, as well as gas-fired and nuclear power plants. The key role in the process will be played by energy companies, which will drive the transition of the Polish power system and undertake strategic investment projects.

The key document setting the direction and pace of the national energy sector's evolution is Poland's Energy Policy 2040 (PEP2040).

As raising the share of RES in energy consumption is one of the three priority areas of the EU's climate and energy policy, Poland, as part of its contribution to delivering the EU's 2030 target, has pledged to achieve a 23% share of RES in gross final energy consumption (total for electricity, heating, cooling, and transport) by 2030. According to projections, by 2040 the share of RES should come to 28.5%. Electricity generation is expected to be the sector seeing the fastest rise in the share of renewables. In 2030, 32% of Poland's electricity output is projected to come from renewable sources, while by 2040 this share is likely to rise to 40%.

The share of natural gas in Poland's energy mix will also rise, as gas will play the role of a transition fuel, supporting the gradual coal-to-renewables switch. The demand for natural gas will increase driven by its use at power plants safeguarding the flexibility of the power system, and also because of its lower emission intensity compared with other fossil fuels. According to predictions, by 2040 around 17% of the electricity generated in Poland will be produced by gas.

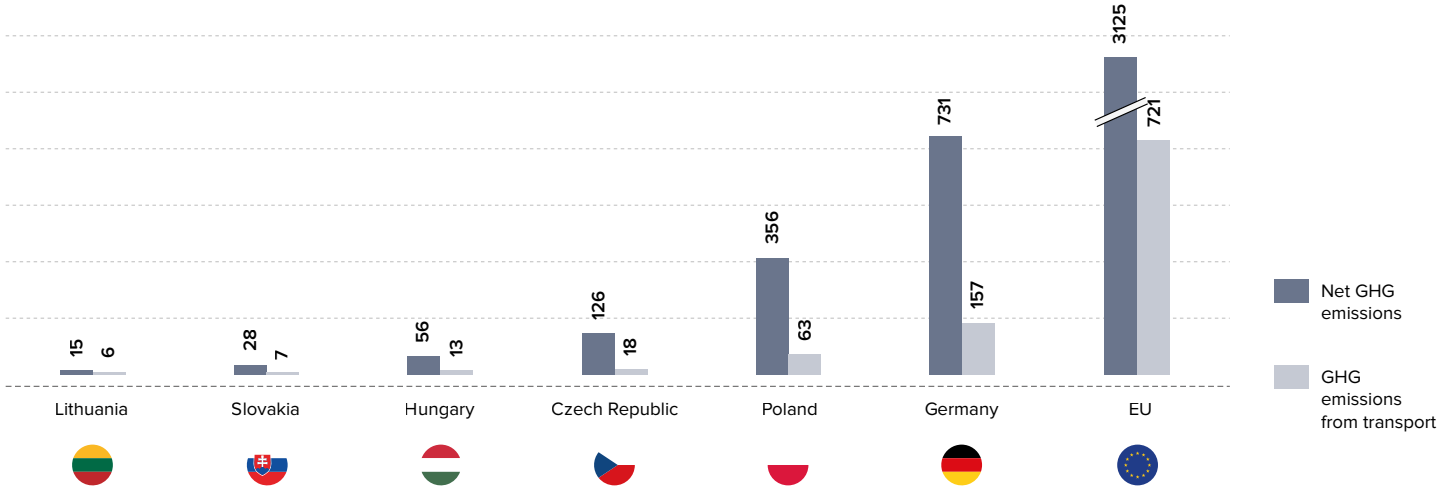
Additionally, in order to diversify the generation mix and to ensure the stability and security of the Polish power system with zero emissions of air pollutants, Poland has plans to develop its nuclear power sector.

The growing importance of renewable energy in transport should not be underestimated either, as EU regulations require us to achieve a 14% share by 2030, which will be possible if we use electricity, renewable hydrogen, biofuels and synthetic fuels.

The unfolding energy transition with the development of low- and zero-carbon energy sources will have a major impact on the transport sector, with which ORLEN Group is particularly involved. With its economy still growing vigorously, Poland, unlike many countries in Western Europe, has not yet reached the peak demand for traditional transport fuels.

Accordingly, Poland and the whole region of Central and Eastern Europe are now facing a dual challenge – to meet the ever-growing demand for traditional fuels, while effecting a shift towards less emission-intensive transport.

Greenhouse gas emissions in selected EU countries, 2020 (Mt CO_2e)



Source: European Environment Agency

Multi-utility group

In response to the energy transition, sector companies need to evolve into more sustainable and diversified multi-utility businesses.

In their progress towards that end goal, energy companies have a relatively clearly defined path to follow. Indeed, they should already be implementing processes designed to support their transformation into greener and more sustainable organisations through investment in renewable energy sources, network upgrades, energy efficiency improvements and rollouts of customer-friendly solutions.

The situation looks slightly different for companies operating in the oil and petrochemical industry. While medium-term market forecasts show potential for its further growth in the coming years, in the long run the sector will need to eventually tackle the challenge of the energy transition.

Oil and petrochemical companies have so far pursued business models hinging on various links of the oil value chain, which begins with exploration and production.

Produced or purchased crude oil is refined into petroleum products, including fuels, oils, lubricants, bitumens and petrochemical feedstocks used to produce plastics and other goods,

However, the energy transition is increasingly making the existing linear oil and petrochemical business models obsolete, forcing companies with decades worth of market experience to undergo a gradual transformation. The ever tighter emission regulations will be putting pressure on producers to reduce emissions associated with both manufacturing processes and final products.

Transport electrification and similar trends will reduce demand for fuels over time. The drive towards recycling and curtailment of plastic consumption will hit the production of basic petrochemicals and plastics.

Consequently, the model of an integrated multi-utility group addresses the challenges of the energy transition, providing for the achievement of operational excellence in the existing oil and petrochemical businesses and their alignment with the changing reality. And, on the other hand, it eases diversification towards the most promising areas that will gain prominence as the energy transition progresses: renewable energy, low-carbon conventional power generation, nuclear sources, new transport technologies, recycling, biofuels, hydrogen economy and integrated retail offerings.

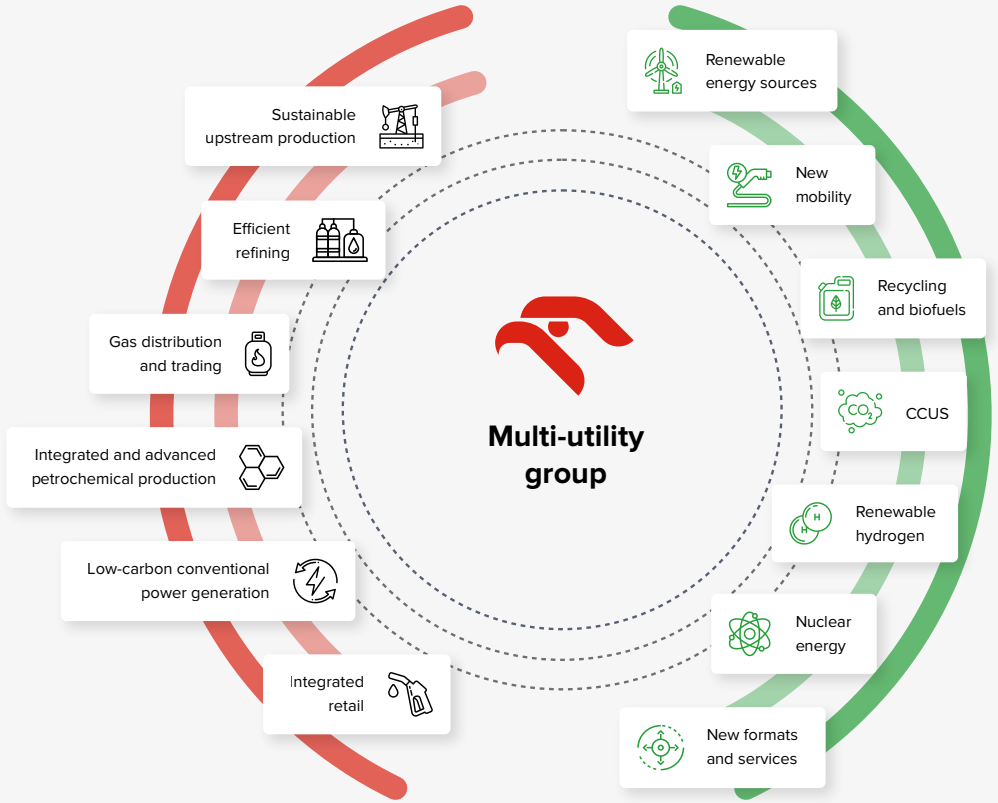
The existing business model of fuel companies

- UPSTREAM
- GAS
- REFINING
- PETROCHEMICALS
- ENERGY
- RETAIL

Diagram of the business model of a multi-utility company

Excellence in existing business

Entry into new promising business segments



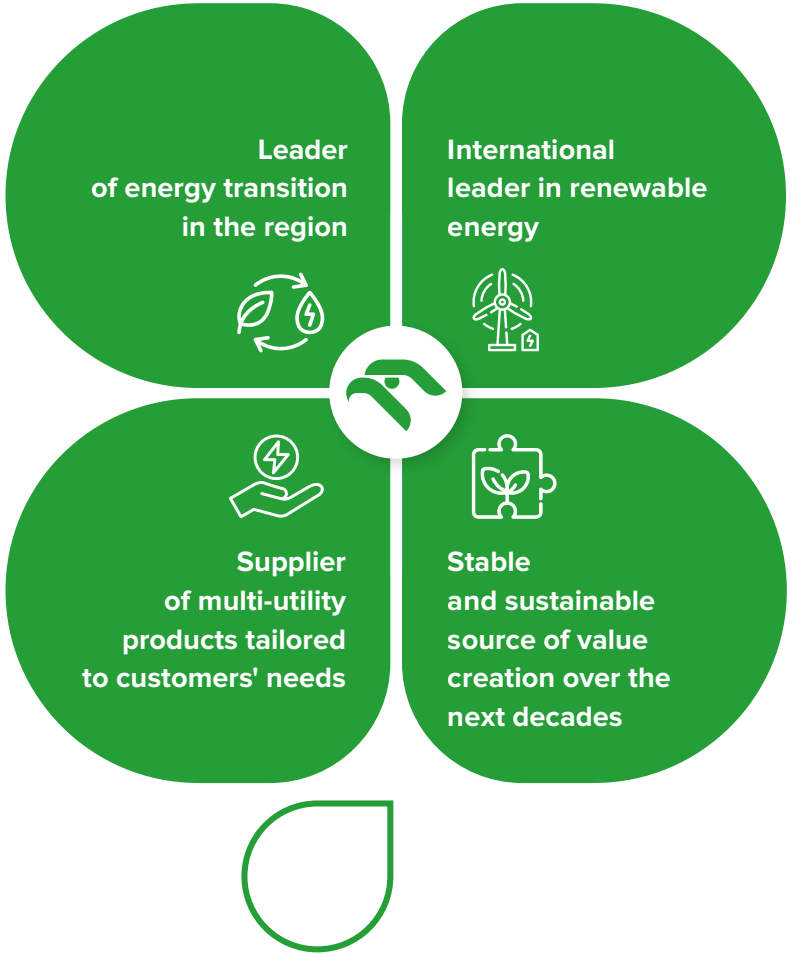
The energy transition is the key theme of the ORLEN Group Strategy until 2030.

25% absolute reduction in CO_2e emissions

from Refining, Petrochemicals and Upstream by 2030[1]

Diversified portfolio

Fuels, gas, electricity, petrochemicals, e-mobility and renewable hydrogen



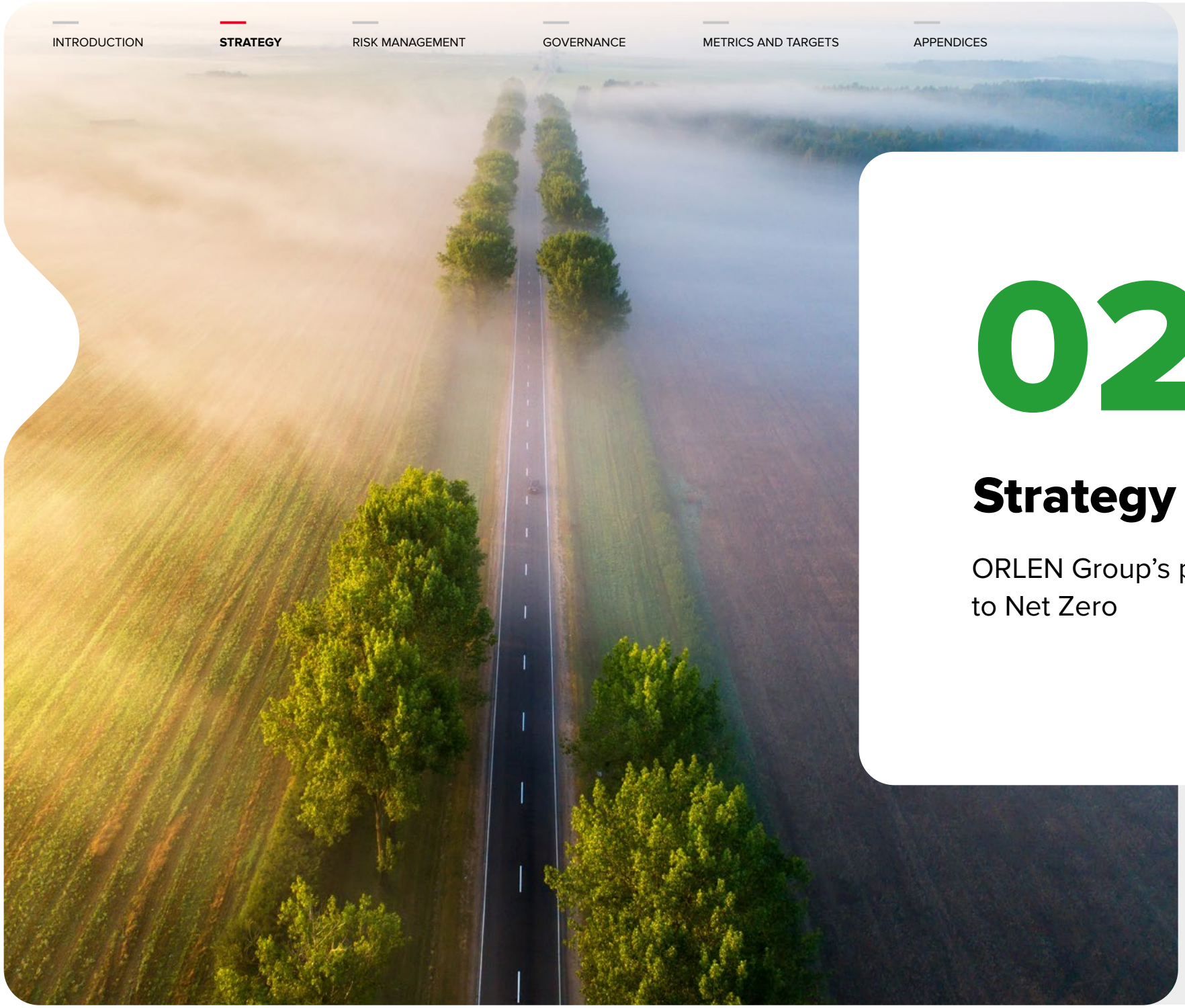
~40%

of capex in 2023–2030 to be spent on green projects

>PLN 400bn

Realization of full cumulated EBITDA potential in 2023–2030

1. For Scope 1 and Scope 2 emissions.



02

Strategy

ORLEN Group's path to Net Zero

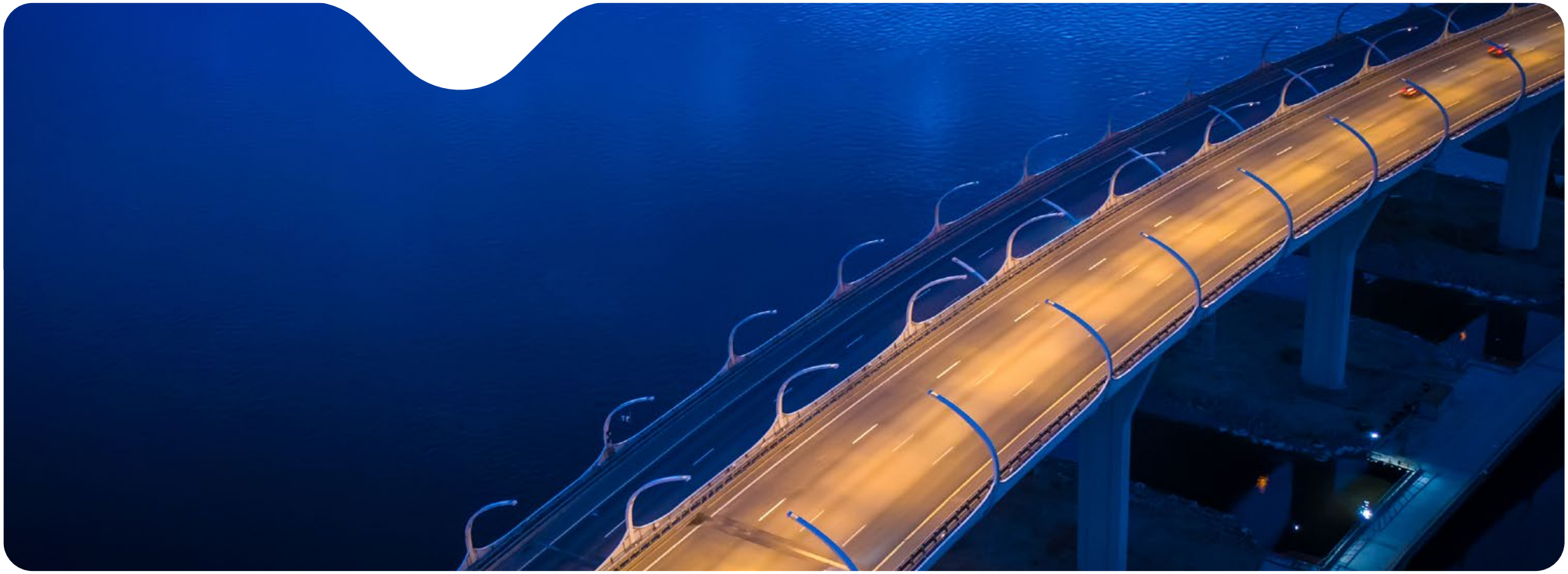
Environmental objectives of the EU Taxonomy

The ORLEN Group's growth is based on a diversified portfolio of existing and future business activities.

The ORLEN Group's long-term strategy is consistent with global trends as the growing role of renewable energy and the production of advanced petrochemicals, with simultaneous conversion of existing business models, where innovation and adoption of new technologies underpin the long-term objective of achieving carbon neutrality by 2050.

ORLEN Group seeks to achieve all of the six environmental objectives of the EU Taxonomy:

- Climate change mitigation
- Climate change adaptation
- Sustainable use and protection of water and marine resources
- Circular economy
- Pollution prevention and control
- Protecting biodiversity



Climate change mitigation

ORLEN Group seeks to grow its business with the environmental objective of climate change mitigation in mind, in particular by making a significant contribution to stabilisation of greenhouse gas emissions by avoiding them, reducing their volumes or enhancing greenhouse gas removals. These efforts advance the long-term objective of achieving carbon neutrality by 2050, in accordance with the Paris Agreement.

In particular, ORLEN Group is pursuing the following key measures:

- generating, transmitting, storing, distributing or using renewable energy, including through using innovative technology with a potential for significant future savings or through necessary reinforcement or extension of the grid;
- improving energy efficiency, except for power generation activities with the use of solid fossil fuels;
- supporting clean or climate-neutral mobility;
- switching to the use of sustainably sourced renewable materials;
- increasing the use of environmentally safe carbon capture and utilisation (CCU) and carbon capture and storage (CCS) technologies that deliver a net reduction in greenhouse gas emissions;

For more information on the ORLEN Group's decarbonisation strategy, see pages 26-30.

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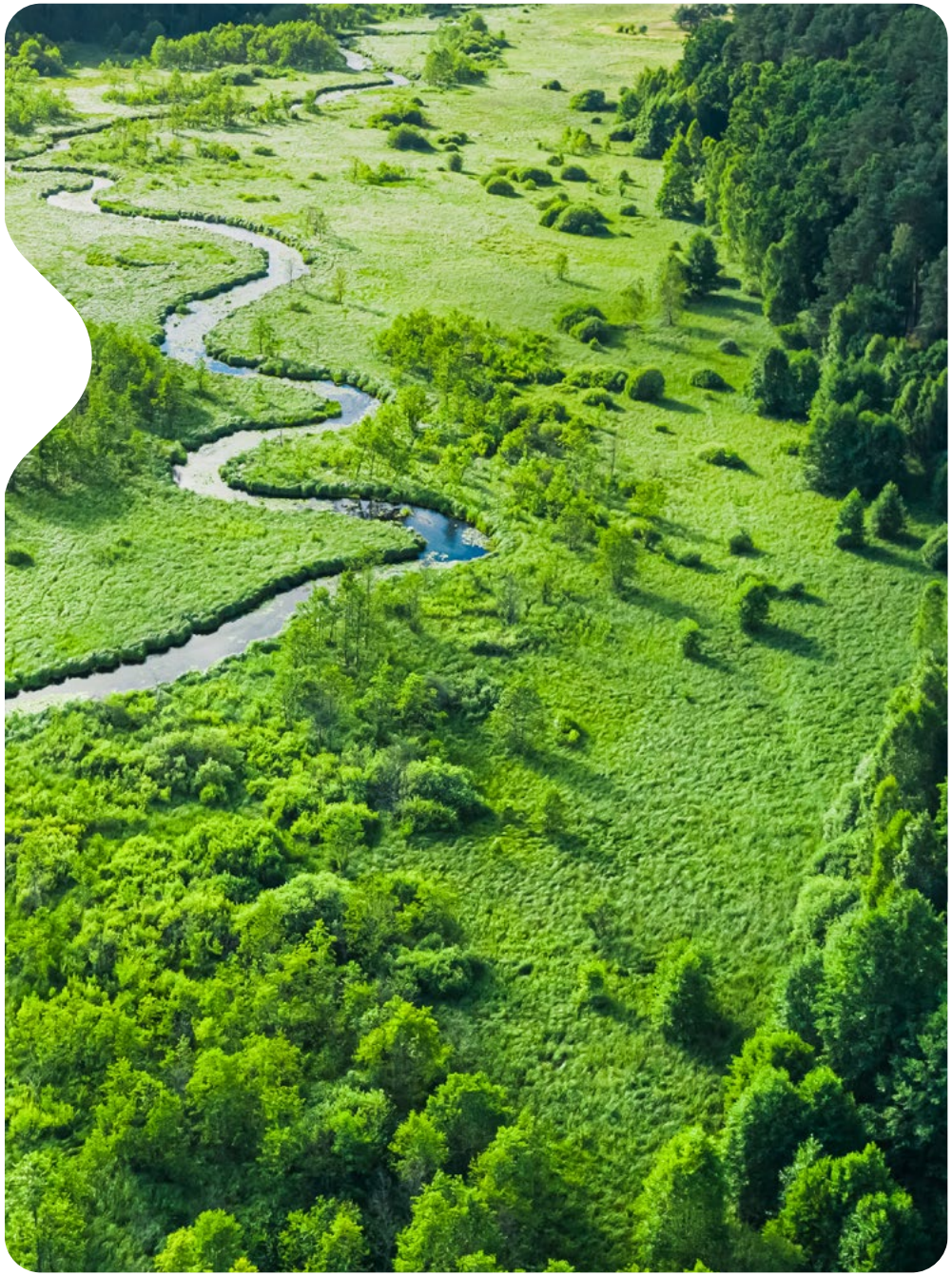
of 18 June 2020 on the establishment of a framework to facilitate sustainable investment



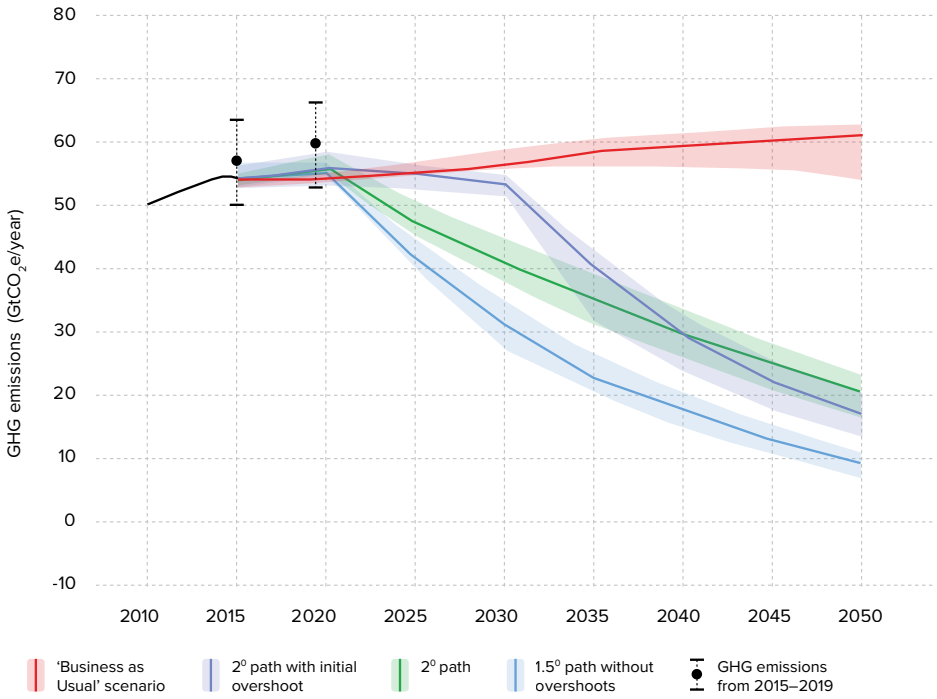
Climate change adaptation

ORLEN Group seeks to grow its business with the environmental objective of climate change adaptation in mind, and to significantly contribute to the implementation of the following measures:

- implementing solutions that either substantially reduce the risk of an adverse impact of the current climate and the expected future climate on that economic activity or substantially reduce that adverse impact, without increasing the risk of an adverse impact on people, nature or assets;
- an activity which provides adaptation solutions that contribute substantially to preventing or reducing the risk of an adverse impact of the current climate and the expected future climate on people, nature or assets, without increasing the risk of an adverse impact on other people, nature or assets;
- solutions that substantially reduce the risk of an adverse impact of the current climate and the expected future climate on this economic activity are to be assessed and ranked in order of priority using the best available climate projections and must, at a minimum, prevent or reduce the location-specific and context-specific adverse impact of climate change on the economic activity, or the potential adverse impact of climate change on the environment within which the economic activity takes place.

For analyses of the resilience of business model scenarios to climate change, see pages 23-25.

IPCC climate scenarios*



Source: IPCC

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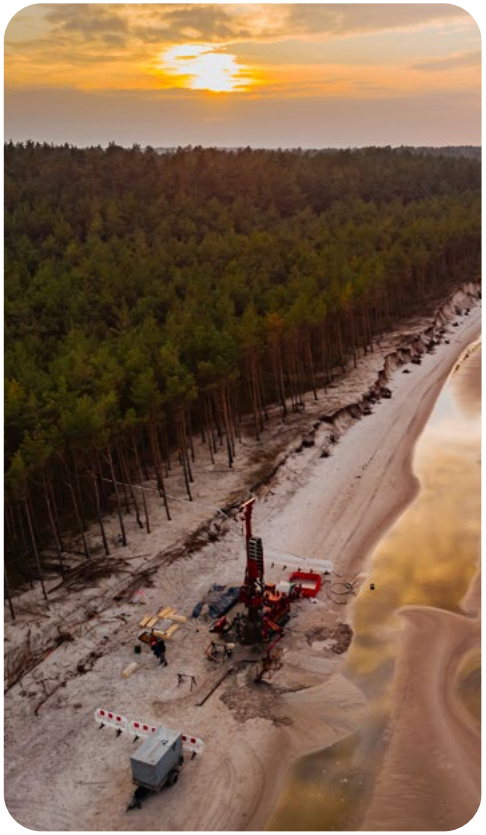
*IPCC – the Intergovernmental Panel on Climate Change.

Sustainable use and protection of water and marine resources

ORLEN Group seeks to achieve this environmental objective by making a significant contribution to sustainable use and protection of water and marine resources:

- contributing substantially to achieving the good status of bodies of water, including bodies of surface water and groundwater;
- preventing the deterioration of bodies of water that already have good status;
- contributing substantially to achieving the good environmental status of marine waters; preventing the deterioration of marine waters that are already in good environmental status;
- protecting the environment from the adverse effects of urban and industrial waste water discharges, including from contaminants of emerging concern such as pharmaceuticals and microplastics, for example by ensuring the adequate collection, treatment and discharge of urban and industrial waste waters;
- protecting human health from the adverse impact of any contamination of water intended for human consumption by ensuring that it is free from any micro-organisms, parasites and substances that constitute a potential danger to human health as well as increasing people's access to clean drinking water;
- improving water management and efficiency, including by protecting and enhancing the status of aquatic ecosystems, by
  - promoting the sustainable use of water through the long-term protection of available water resources, inter alia, through measures such as
  - water reuse,
  - ensuring the progressive reduction of pollutant emissions into surface water and groundwater,
  - contributing to mitigation of the effects of floods and droughts, or through any other activity that protects or improves the qualitative and quantitative status of water bodies;
  - ensuring the sustainable use of marine ecosystem services or contributing to the good environmental status of marine waters, including by protecting, preserving or restoring the marine environment and by preventing or reducing inputs in the marine environment.



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Circular economy

ORLEN Group seeks to achieve this environmental objective by making a significant contribution to the transition to a circular economy. In particular, it:

- uses natural resources, including sustainably sourced bio-based and other raw materials, in production more efficiently, including by:
  - reducing the use of primary raw materials or increasing the use of by-products and secondary raw materials; or
  - resource and energy efficiency measures;
- increases the recyclability of products, including the recyclability of individual materials contained in those products, inter alia, by substitution or reduced use of products and materials that are not recyclable, in particular in designing and manufacturing activities;
- substantially reduces the content of hazardous substances and substitutes substances of very high concern in materials and products throughout their life cycle, in line with the objectives set out in Union law, including by replacing such substances with safer alternatives and ensuring traceability;
- increases the use of secondary raw materials and their quality, including by high-quality recycling of waste;
- prevents or reduces waste generation, including the generation of waste from the extraction of minerals and waste from the construction and demolition of buildings;
- increases preparing for the re-use and recycling of waste;
- increases the development of the waste management infrastructure needed for prevention, for preparing for re-use and for recycling, while ensuring that the recovered materials are recycled as high-quality secondary raw material input in production, thereby avoiding downcycling;
- avoids and reduces litter.

Recycling

We have already put in place numerous recycling solutions to reduce waste, particularly hazardous waste, and non-recyclable products, opting for biological, recycled and by-product raw materials. By 2030, ORLEN Group targets an annual recycling capacity of more than 300,000 tonnes on a number of units. These projects will enable the Group to recycle solid municipal waste in order to generate new petrochemical products and intermediates.

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Pollution prevention and control

ORLEN Group seeks to prevent and control pollution by taking measures to protect the environment against pollution, in particular:

- preventing or, where that is not practicable, reducing pollutant emissions into air, water or land, other than greenhouse gasses;
- improving levels of air, water or soil quality in the areas in which the economic activity takes place whilst minimising any adverse impact on human health and the environment or the risk of such impact;
- preventing or minimising any adverse impact on human health and the environment of the production, use or disposal of chemicals;
- cleaning up litter and other pollution.

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Biodiversity protection

ORLEN Group seeks to contribute substantially to the environmental objective of the protection and restoration of biodiversity and ecosystems in several ways, including by protecting, conserving or restoring biodiversity and ecosystems, and thereby enhancing ecosystem services, in particular by taking the following measures:

- nature and biodiversity conservation, including achieving favourable conservation status of natural and semi-natural habitats and species, or preventing their deterioration where they already have favourable conservation status, and protecting and restoring terrestrial, marine and other aquatic ecosystems in order to improve their condition and enhance their capacity to provide ecosystem services;
- sustainable land use and management, including adequate protection of soil biodiversity, land degradation neutrality and remediation of contaminated sites;
- sustainable agricultural practices, including those that contribute to enhancing biodiversity or to halting or preventing the degradation of soils and other ecosystems, deforestation and habitat loss;
- sustainable forest management, including practices and uses of forests and forest land that contribute to enhancing biodiversity or to halting or preventing degradation of ecosystems, deforestation and habitat loss.

ORLEN Group takes a number of measures to preserve biodiversity, mainly in our business locations and the immediate neighbourhood. We also see the latest trends in the EU's policy and obligations arising under this policy, as well as the growing interest among Stakeholders in the environmental impacts of fuel and energy producers, including their impact on biodiversity.

For more information on the ORLEN Group's Biodiversity Policy, see pages 33-35.

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Scenario analyses of business model resilience to climate change – overview of risks and opportunities

	2°C scenario	4°C scenario
Assumptions	Global warming limited to 2°C (SSP1-2.6 scenario), while pursuing efforts to limit the increase even further to degrees1.5°C by 2100 in relation to the pre-industrial era in line with the Paris Agreement. **Assumptions:** • collaboration and coordinated effort of the public sector, businesses and consumers • effective measures are defined and implemented to reduce greenhouse gas emissions	Global temperature increase up to 4°C by 2100 (SSP5-8.5 scenario). **Assumptions:** • no coordinated effort; activities focus on maintaining existing business models • emissions remain high, leading to global warming and other physical climate changes
Time horizon	The 2030 time horizon was adopted for the analysis, corresponding to the operational horizon of the ORLEN2030 business strategy, while the 2050 time horizon was adopted as the target year for achieving carbon neutrality.	The 2030 time horizon was adopted for the analysis, corresponding to the operational horizon of the ORLEN2030 business strategy, while the 2050 time horizon was adopted as the target year for achieving carbon neutrality.

Type of risk	2°C scenario	4°C scenario
Physical	probability of adverse consequences for ORLEN's diversified business model is minimal.	Increased incidence of extreme weather events and changes in weather systems may cause disruptions across our value chain. Extreme weather conditions could also potentially affect ORLEN's business and assets. Read more on pages 39-40

Type of risk	2°C scenario	4°C scenario
Policy and legal	• faster than expected increase in EU ETS CO_2 allowance prices and potential sanctions for non-compliance with regulatory requirements create additional decarbonisation pressure • acceleration of ORLEN's transition and green investment projects – higher CO_2 allowance prices improve the economics of such projects in line with the decarbonisation strategy in place • it pays off to eliminate or significantly reduce environmental costs or emission charges relating to the EU ETS • the pace of development of new green technologies may not be as fast as assumed by the EU legislator, creating investment uncertainty.	• regulations become unpredictable. The cost of maintaining existing business operations rises, but there is no effective regulatory support for the development of new business models • progressive climate change increases financial burdens and restrictions on fuel and energy companies.
Market and technology	In response to challenges of the energy transition, ORLEN develops low- and zero-emission business models: **Transport** Electromobility as well as low- and zero-carbon fuels (renewable hydrogen, biofuels, synthetic fuels) are all new important business streams for ORLEN Group. **Renewable power** The Group's renewable generation capacities are expected to reach more than 9 GW in 2030, mainly as a result of rapid development of offshore and onshore wind and solar photovoltaic assets. Low and zero-carbon power generation and renewable hydrogen emerge as core business elements for ORLEN Group. **Nuclear energy** ORLEN will develop the SMR technology, in particular BWRX-300 reactors by GE Hitachi Nuclear Energy, which will enable the Group to phase out coal.	By failing to respond to climate change seriously enough, ORLEN becomes less competitive: **Transport** Slow pace of investment in electromobility and in low- and zero-emission fuels harms the ORLEN Group's competitive position. **Renewable power** Development of low- and zero-carbon power generation is hindered by lack of coordinated action. Maintaining carbon-intensive generation assets becomes necessary to ensure continuous energy supply, but is not justified from a business perspective. **Nuclear energy** Uncoordinated action will hinder the development of SMR technologies
Reputation	Technological progress, consumer preferences and environmental concerns drive the transition. In response to these challenges, ORLEN will become a business leader of sustainable change in Central Europe. By pursuing its strategy, in 2030 ORLEN will become: • a leading player in Europe • an energy transition leader in the region • a provider of integrated customer services • a socially responsible company • a stable source of value creation.	• lack of or insufficient action to control and mitigate climate change harms the ORLEN Group's reputation • ORLEN Group is perceived as responsible for adverse climate impacts and becomes less attractive to stakeholders.

Scenario analyses of business model resilience to climate change – overview of impacts

The potential impacts of climate change in strategic and financial terms have been assessed in each of the scenarios. Key exposures have been identified.

Category	2°C scenario	4°C scenario
Earnings	Renewable energy units and new business streams identified in the ORLEN2030 strategy as a source of stable returns for ORLEN Group. Profits from existing traditional business models drive investment in the energy transition.	EU ETS and sanctions for non-compliance with regulatory requirements as a cost factor for ORLEN Group until 2030. ORLEN is increasingly exposed to EU ETS costs in its core business models.
Operating costs (OpEx)	• development of new business models offers an opportunity to offset increasingly high costs of maintaining carbon-intensive businesses while gradually phasing out such operations • pace of change expected by banks and EU regulators may exceed the capacity for technological change in Poland's economy, e.g. in the transport sector, as fuel consumption in Poland will continue to grow over the next decade.	• warming temperatures and extreme weather events increase the cost of energy needed to cool facilities and buildings. • increased OpEx spending on repairs of distribution network assets due to damage caused by extreme weather. • cost of asset insurance rises significantly due to ongoing climate change.
Capital investments (CapEx)	ORLEN has developed an emission reduction curve that presents the emission reduction technologies required to achieve net zero emissions.	Investment in low- and zero-carbon technologies is hampered by insufficient technological progress, high costs and weak support from stakeholders.
Business model	A strong multi-utility company with carbon-intensive operations balanced by operations in increasingly important 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 reduction of CO_2 emissions. Higher CO_2 emissions translate into higher carbon allowance prices, encouraging investment in renewables and discouraging investment in power generation based on fossil fuels, currently the only reliable safeguard against supply disruptions.
Portfolio mix	By 2035, ORLEN Group completely phase out coal-fired power generation. As a result, the Group's emissions drop considerably and EU ETS costs are reduced. This is accompanied by a surge in renewable generation capacities.	The move away from carbon-intensive assets is hindered by energy security considerations.

Data used: Both internal and external data was used in the scenario analysis. 2019, 2020 and 2021 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. Internal data – internal historical greenhouse gas (GHG) emissions data for 2019, 2020 and 2021 and internal financial information (as base year data).

Decarbonisation strategy

In our updated strategy until 2030, we have set more ambitious goals on our journey to zero net emissions in 2050

Goals until 2030

-25%
in absolute emissions from all Refining, Petrochemicals and Upstream[1]

-40%
in emissions intensity in Energy[2]

-15%
in net carbon intensity (NCI)[3]

Goal for 2050

Net Zero

for Scope 1, 2 and 3 emissions, in accordance with the Paris Agreement[4]

1. Emissions volume in the Refining, Petrochemicals and Upstream segments, measured as $MtCO_2e$, for Scope 1 and 2 GHG emissions.
2. Carbon intensity in the Energy (Power and Heat), measured as $kgCO_2e/MWh$, for Scope 1 GHG emissions.
3. Carbon intensity of sold energy products, measured as gCO_2e/MJ, for Scope 1, 2 and 3 GHG emissions.
4. Our ambition to reduce emissions is consistent with the goal of limiting climate warming to 1.5 °C by 2050. The achievement of our long-term targets will depend on the technological progress and the regulatory and legal context. Those factors may create more or less favourable conditions for the energy transition and accelerate or reduce the pace of our strategy implementation.

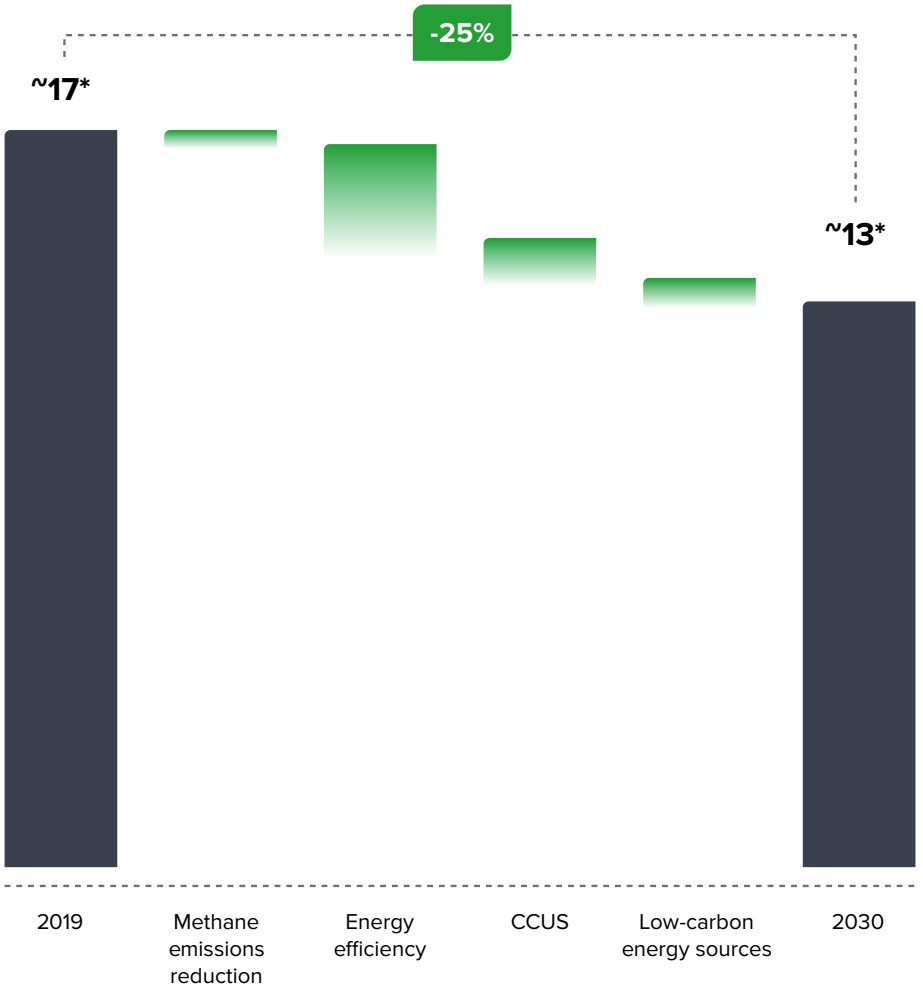
-25% of CO_2e in Refining, Petrochemicals and Upstream

By 2030, we intend to reduce absolute emissions ($MtCO_2e$) by 25% in the integrated oil & gas segment, i.e. in Refining, Petrochemicals and Upstream for Scopes 1 and 2 by equity share.

We will achieve this by:

- reduction of methane emissions and of flaring in upstream operations – zero routine flaring and zero venting target
- implementation of energy efficiency solutions at our refining, petrochemical and upstream locations
- deployment of carbon capture, utilisation and storage technologies (CCUS)
- use of energy from low- and zero-carbon sources in the refining and petrochemical plants and upstream facilities

GHG emissions volumes in Refining, Petrochemicals and Upstream, $MtCO_2e$



* Emissions volume in the base year will be subject to final review after the merged ORLEN Group companies are fully consolidated.

-40% of CO_2e/MWh in Energy

We intend to reduce carbon intensity (kg CO_2e/MWh) in the Energy segment by 40% until 2030.

We will achieve this by:

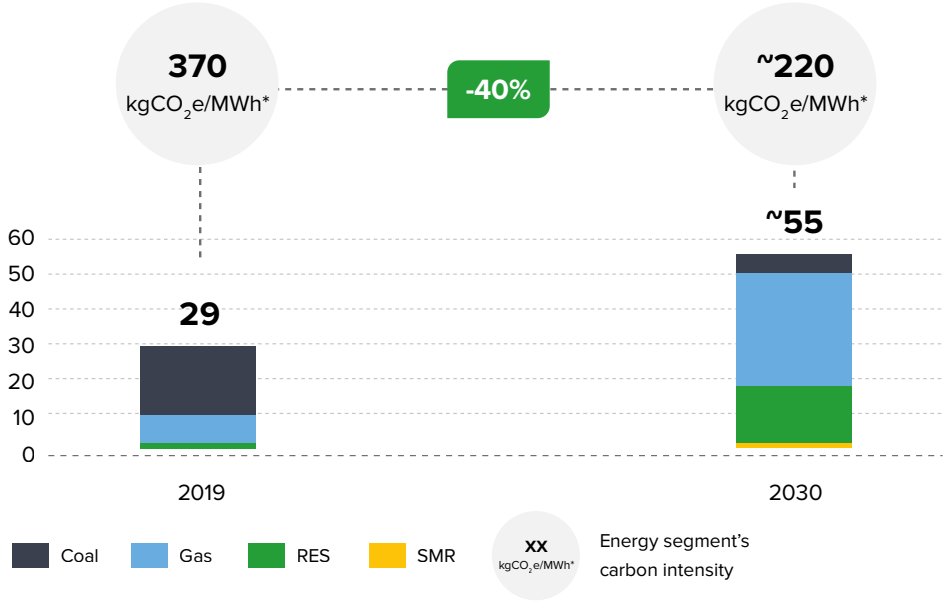
- 9 GW of zero-emission renewable energy sources (up from the current 0.7 GW). The development of renewable energy resources will be based on the construction of offshore wind farms, especially in the Baltic Sea, onshore wind farms, photovoltaics, and hydropower.
- 4 GW of low-emission gas-fired power generation (up from the current 1.7 GW). High-efficiency CCGTs are intended to serve as transitional capacities, to enable a move away from carbon-intensive coal-fired power and CHP plants, and to operate as a guarantee of uninterrupted energy supply with the parallel development of RES.
- 300 MW of zero-emission nuclear power in the form of small modular reactors. We intend to launch the first SMR by 2030 and then more SMRs in partnerships with a view to replacing carbon-intensive conventional power generating units and decarbonising industrial and district heat generation.

We also intend to significantly reduce the share of coal-based generation capacities (currently 1.9 GW) and to fully abandon coal-fired generation by 2035.

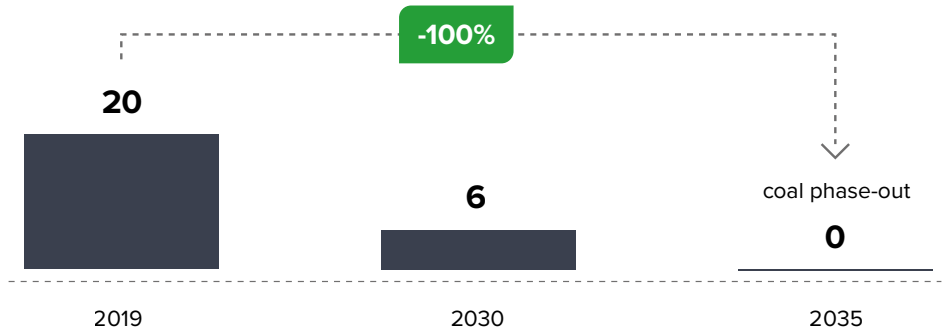
BalticPower

The Baltic Power offshore wind farm is a key project of ORLEN Group and Northland Power supporting transition towards a clean, low-carbon economy. Renewable energy sources, including offshore wind farms, will be a springboard for our sustainable development in the years to come. Located 23 km to the north of the Polish coastline, at the latitude of Choczewo and Łeba, Baltic Power is one of the most advanced projects planned in the Polish Exclusive Economic Zone of the Baltic Sea. We hold a licence to construct an up to 1.2 GW wind farm, but its final capacity will depend on a number of factors, such as the geological conditions of the Baltic Sea bed, environmental conditions and technological advances.

Power and Heat generation in the ORLEN Group, TWh



Coal-fired Power and Heat generation at the ORLEN Group, TWh



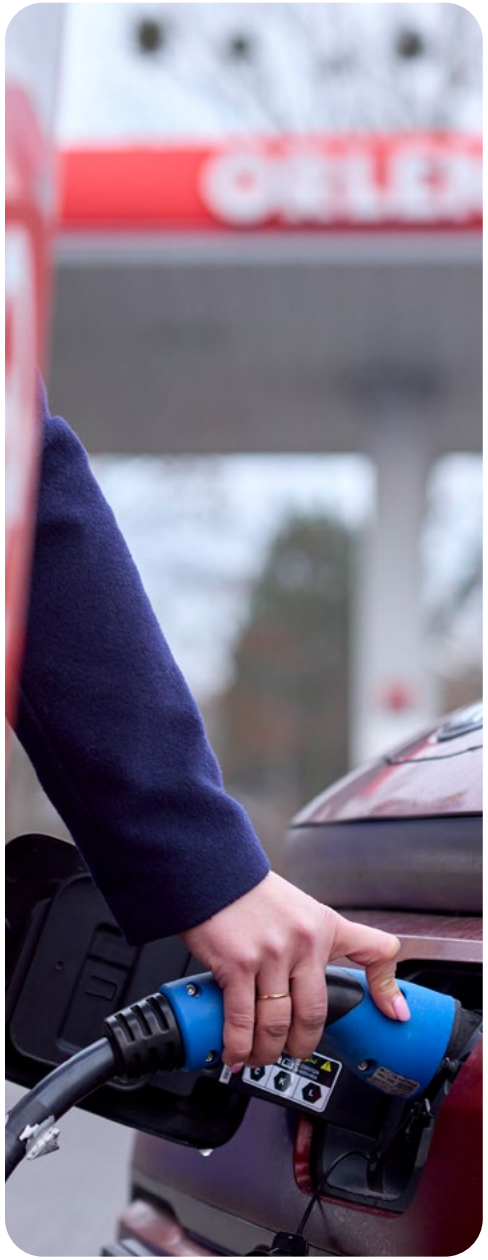
1. The target applies to Scope 1 GHG emissions in Energy (Power and Heat), calculated on an equity share basis.
* Emissions volume in the base year will be subject to final review after the merged ORLEN Group companies are fully consolidated.

-15% of net carbon intensity (NCI) (gCO_2e/MJ)

The challenge we are facing is ambitious: to ensure secure, accessible and sustainable energy supply and to combat climate change. This objective is both an enormous challenge as well as an opportunity to strengthen our role as an energy supplier.

To advance in this area, ORLEN has developed the Net Carbon Intensity (NCI) index, which is used by the Group to measure its GHG emissions throughout the life cycle per each energy unit supplied to the society. We use this indicator to set reduction targets, support strategic and investment decision-making, and track progress. Our ambition is to reduce our GHG intensity in line with climate change mitigation needs, while keeping in mind that we must supply the society with energy they need to develop and prosper.

In order to achieve both our long-term ambitions and short-term objectives, we assess which levers will need to be usedand with what intensity to deliver on our long-term commitments. While to achieve the Net Zero target by 2050 we will need technologies and solutions that have not yet been developed, the current 15% reduction target for 2030 has been set with the use of levers which are available today and will be used in the near future.



E-mobility

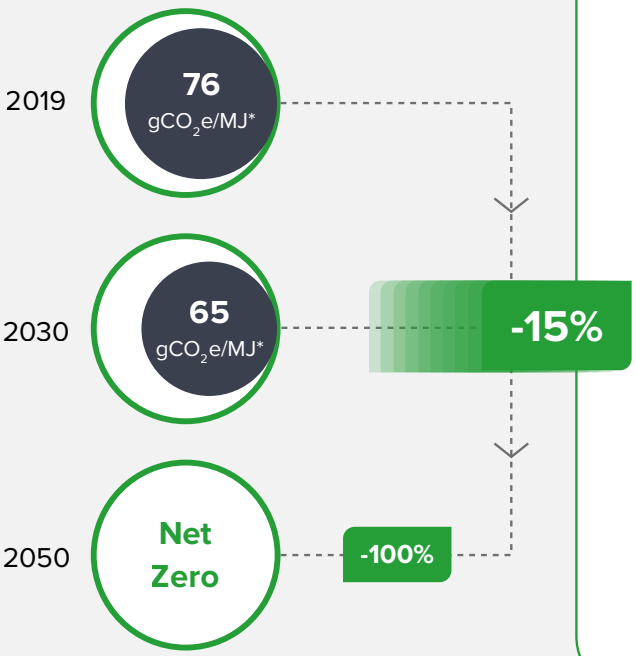
We seek to implement an ambitious international strategy for electromobility to become its leader in Poland and the Czech Republic by 2030 and establish a strong position in Germany, while engaging in selective operations in other countries.

Our strategy will be achieved by building 10,000 EV charging points by 2030. Our charging points will contribute to building an international network of multiple-point EV charging hubs along TEN-T routes in Poland and the neighbouring countries. As a multi-utility group, we seek to harness renewable and low-carbon electricity for electromobility projects as well, and we are poised to reinforce our product mix and consumer support through dedicated apps and services.

$$NCI = \frac{\text{Scope 1 and Scope 2} + \text{Scope 3, Category 11} - \text{CCUS as a service}}{\text{Energy content of sold products (fuels, electricity and heat)}}$$

- Net carbon intensity (NCI) measures emissions per unit of energy sold (gCO_2e/MJ).
- Its calculation accounts for all direct emissions (Scope 1), emissions related to the purchase of energy and heat for own use (Scope 2), and indirect emissions resulting from the use of products sold (Scope 3, Category 11). The numerator excludes volumes of carbon dioxide captured using CCUS technologies as part of services provided to third parties.
- Energy content of products sold comprises sales of traditional fuels (diesel oil, gasoline, gas, etc.), low- and zero-carbon fuels (biofuels, hydrogen, biogas, etc.), electricity and heat.
- Emissions from the production of petrochemicals (non-energy products) are not included in the calculation of NCI.

Reduction of NCI



Business growth

Metrics	2030
RES	over 9 GW
Gas-fired power and heat	4 GW
Biofuels	over 3m tonnes
Biogas	1 bcm
Renewable hydrogen	over 130 kt
Synthetic fuels	over 70 kt
E-mobility: charging points	over 10,000
CCUS (including CCUS as a service)	3 million tCO_2/year

* Emissions volume in the base year will be subject to final review after the merged ORLEN Group companies are fully consolidated.

Strategic Research Agenda for climate

The Strategic Research Agenda is a document based on the ORLEN Group's strategic objectives that encompasses both ongoing projects and the project pipeline, the Group's long-term development plans, as well as recommended new directions in research, technology development and innovation.

Investments in advanced tools and development of the R&D&I project portfolio are crucial drivers of innovation at a sustainable multi-utility group and achievement of its decarbonisation objectives. Therefore, ORLEN Group intends to allocate ca. PLN 3bn for this purpose by 2030.

Delivery of SRA objectives is aimed at improving access to innovative technologies supporting the development of advanced biofuels, biopolymers, biomass processing, decarbonisation of production assets and efficient recycling.

SRA innovation areas supporting climate objectives decarbonisation targets

- Development of advanced biofuels
- Biopolymers
- Biomass processing
- Decarbonisation of production assets
- Efficient recycling

Key benefits of R&D&I projects:

- pursuing a sustainability policy through the development of environmentally-friendly technologies
- supporting the decarbonisation element of the ORLEN Group's Strategy
- generating new high-margin products with a pro-environmental focus.

Green finance

Sustainability plays a fundamental role in ORLEN's path to building a multi-utility group and the ORLEN2030 business strategy. Our sustainable development strategy gives priority to the achievement of the ambitious goals outlined in the Paris Agreement, the 2030 UN Agenda and the European Green Deal.

We consider climate-related challenges as new business opportunities. We have made a clear declaration that ORLEN Group is and will remain a leader of energy transition in Central Europe. The actions we have planned to take will enable us to grow sustainably as a modern, low-carbon and resource-efficient business organisation.

ORLEN aims to regularly issue green bonds, harnessing its corporate mechanisms to promote and deliver ESG objectives.

Green Finance Framework

To ensure the possibility to issue Green Eurobonds, PKN ORLEN has developed and published the Green Finance Framework, laying down the principles for green and sustainable financing. The document defines the objectives of green financing and the types of investments to be financed from the Eurobond issue proceeds, i.e. the development of renewable energy sources, clean transport and countering environmental pollution, also by means of recycling. The pursuit of these goals, both in terms of deployment of issue proceeds and their environmental impact, is subject to periodic (at least annual) review by an independent auditor and reported by PKN ORLEN, until the Green Bonds redemption.

Climate Bonds Certification

PKN ORLEN has been awarded the Climate Bonds Standard certification for its future clean transport infrastructure projects. Climate Bonds Certification demonstrates compliance with best practice standards in climate integrity, management of proceeds and transparency. The assets awarded the certificate are aligned with the Paris Agreement goal of limiting global warming to well below 2°C and achieving net zero emissions by 2050.

EUR 500m worth of green Eurobonds were issued by PKN ORLEN in May 2021 under a Euro Medium-Term Note (EMTN) programme with a total value of up to EUR 5bn. The issue proceeds have been used to finance green projects implemented by ORLEN Group in 2018–2023, including building and acquisition of new RES capacities, further development of a network of fast EV chargers, hydrogen production, hydrogen logistics, storage and refuelling infrastructure, as well as the development of waste recycling facilities.

This benchmark issue of seven-year green Eurobonds, blazing a trail not only for PKN ORLEN but the entire Polish market, attracted huge investor interest. As many as 234 subscriptions for a total amount of nearly EUR 3bn were made during the book-building process. This means that PKN ORLEN's Green Bonds were six times oversubscribed relative to the issue size. 5,000 Eurobonds were allotted to 182 investors from 26 countries, As much as 62% of the bonds were subscribed by funds investing mainly in green assets.

First sustainability-linked (ESG) bond issue in Poland

In December 2020, PKN ORLEN issued 10,000 ESG-linked bonds with a total value of PLN 1bn and a margin of 90 basis points per annum in the first interest period as the first issuer in Poland. The margin in subsequent interest periods depends on the company's ESG rating from MSCI ESG Research Limited. The bond issue attracted strong interest from investors – in the bookbuilding process they placed subscription orders for PLN 2.2bn worth of bonds, more than twice their total nominal value. PKN ORLEN has secured very good terms of financing – the interest rate is the lowest in its operating history and the margin is the lowest since the 2008 financial crisis.

The ORLEN Group's Biodiversity Policy

ORLEN Group is aware that biodiversity conservation is both a necessity and a challenge as well as, most importantly, a prerequisite for sustainable development on the global scale.

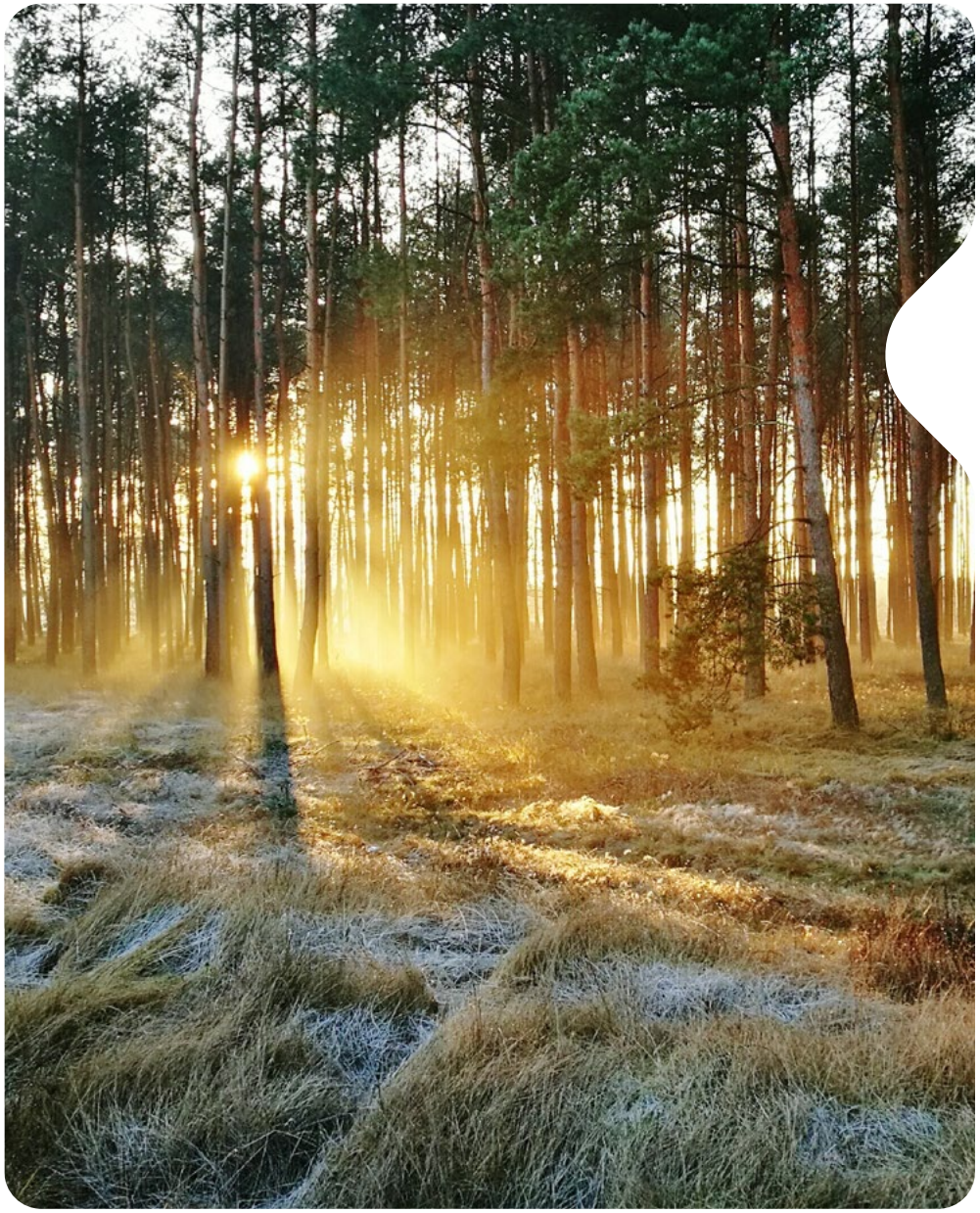
Economic and social development is linked closely to the use of natural resources, affecting not only their availability, but also the coherence of ecosystems and the species richness. It is therefore crucial that it takes place with respect for the richness and value of nature. As regards the current trends: a steep decline in biodiversity, progressive degradation of ecosystems, and growing number of species at risk of extinction1, the scientific community speaks with one voice. This loss of biodiversity, which is a direct effect of human activity, is accelerating2 and poses serious environmental, economic, and social risks.

As a leading multi-utility business in Central Europe, ORLEN Group is fully aware of these risks and its environmental responsibility. The Company is taking effective steps to adopt and implement measures enabling the identification and elimination of these risks. At the same time, it takes a proactive approach which promotes biodiversity, going beyond strategies that focus merely on damage mitigation or reduction. In line with the EU Biodiversity Strategy for 2030, the new EU Taxonomy and Sustainable Development Goals (SDGs), ORLEN Group seeks to achieve a significant contribution to the environmental objective of protecting and restoring biodiversity and ecosystems.

Fostering economic and social development, respect for the environment, and protection of biodiversity are the overriding corporate values of ORLEN Group underpinning all its activities. This Policy reaffirms the commitment of ORLEN Group companies to sustainable and efficient development, recognising the preservation and promotion of biodiversity as a strategic value.

The ORLEN Group's Biodiversity Policy establishes a framework for integrating the protection and promotion of biodiversity into the Group's strategy and defining rules of conduct which support the development of a sustainable business model that protects and fosters the preservation of natural heritage.

1. According to the International Union for the Conservation of Nature (IUCN), at least 1,677 of the 15,060 European species they have evaluated are at risk of extinction. https://www.europarl.europa.eu/news/pl/headlines/society/20200519STO79424/zagrozone-gatunki-w-europie-fakty-i-liczby-infografika
2. The population of wild animals under monitoring decreased by 69% on average over 48 years from 1970 to 2018, Living Planet Report 2022 https://www.wwf.pl/living-planet-report-2022



Our commitments

In their daily operations, ORLEN Group companies interact with the various environmental components: ecosystems, habitats, fauna, and flora. Mindful of that interaction, ORLEN Group undertakes to:

- preserve and promote biodiversity by establishing new projects to enable sustainable coexistence with, preservation and conservation of, and support for natural heritage,
- take measures to foster biodiversity in and adjacent to the existing operation sites,
- promote a social culture of biodiversity protection focused on raising stakeholder awareness.

In view of the scale of these challenges and the benefits from their implementation, ORLEN Group takes measures contributing to the conservation and enhancement of biodiversity and to the sustainable use of natural resources.

Our commitments are incorporated in the Biodiversity Policy, which requires the ORLEN Group companies across all operating levels to analyse the existing biodiversity conservation measures and to plan and subsequently implement new improvement efforts in this respect. Furthermore, all business areas of ORLEN Group will contribute in their daily work to advancing these objectives.

Our principles

In pursuing its biodiversity commitments, ORLEN Group applies the following guiding principles, which are being successively adopted across all business areas:

1.

integrate biodiversity protection into the ORLEN Group's internal strategic decision-making processes

2.

include biodiversity on the list of environmental aspects reviewed within the ORLEN Group's environmental management systems

3.

observe the hierarchy of conservation measures: avoidance, minimisation, remediation, and offsetting at all stages of strategic infrastructure projects to minimise the impact of new infrastructure on biodiversity

4.

avoid situating new infrastructure projects in protected areas, thereby preserving their natural value

5.

offset the effects of the ORLEN Group's operations through remediation and restoration of ecosystems, as well as take additional measures to promote biodiversity

6.

protect species and natural habitats by positive conservation management, take action for their benefit, study their sites, and evaluate ecosystem services in collaboration with external experts

7.

adopt Nature Based Solutions and implement relevant projects, including the use of digital tools

8.

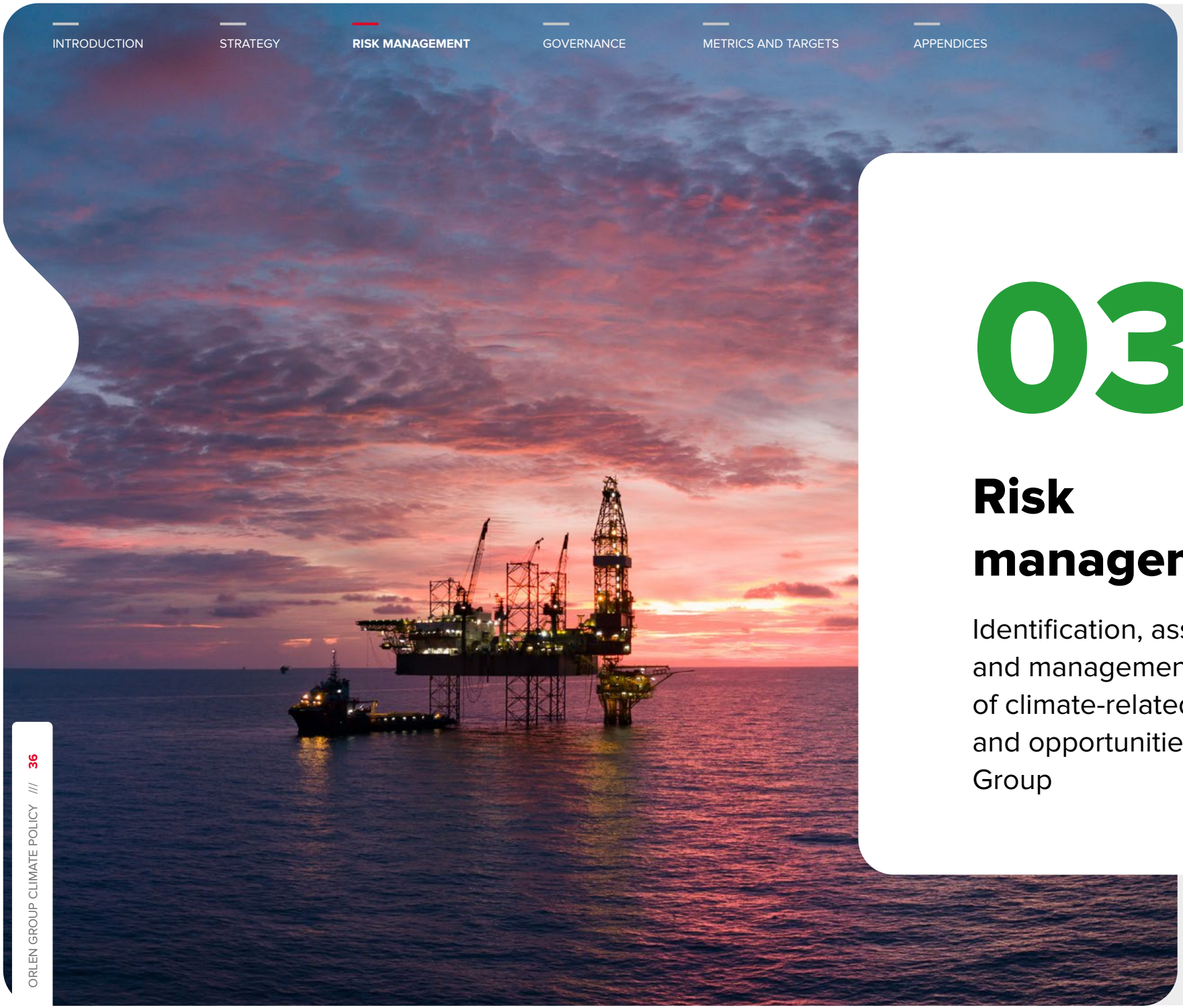
raise awareness, promote training, and engage the ORLEN Group employees and associates in biodiversity initiatives

9.

participate in research, education and awareness-raising projects, cooperating with government agencies, NGOs, local communities, and other stakeholders on biodiversity issues

10.

communicate the ORLEN Group's biodiversity measures on a regular basis, including the presence of facilities within protected areas, research, conservation, and environmental education activities, periodic publication of biodiversity reports



03

Risk management

Identification, assessment and management of climate-related risks and opportunities at ORLEN Group

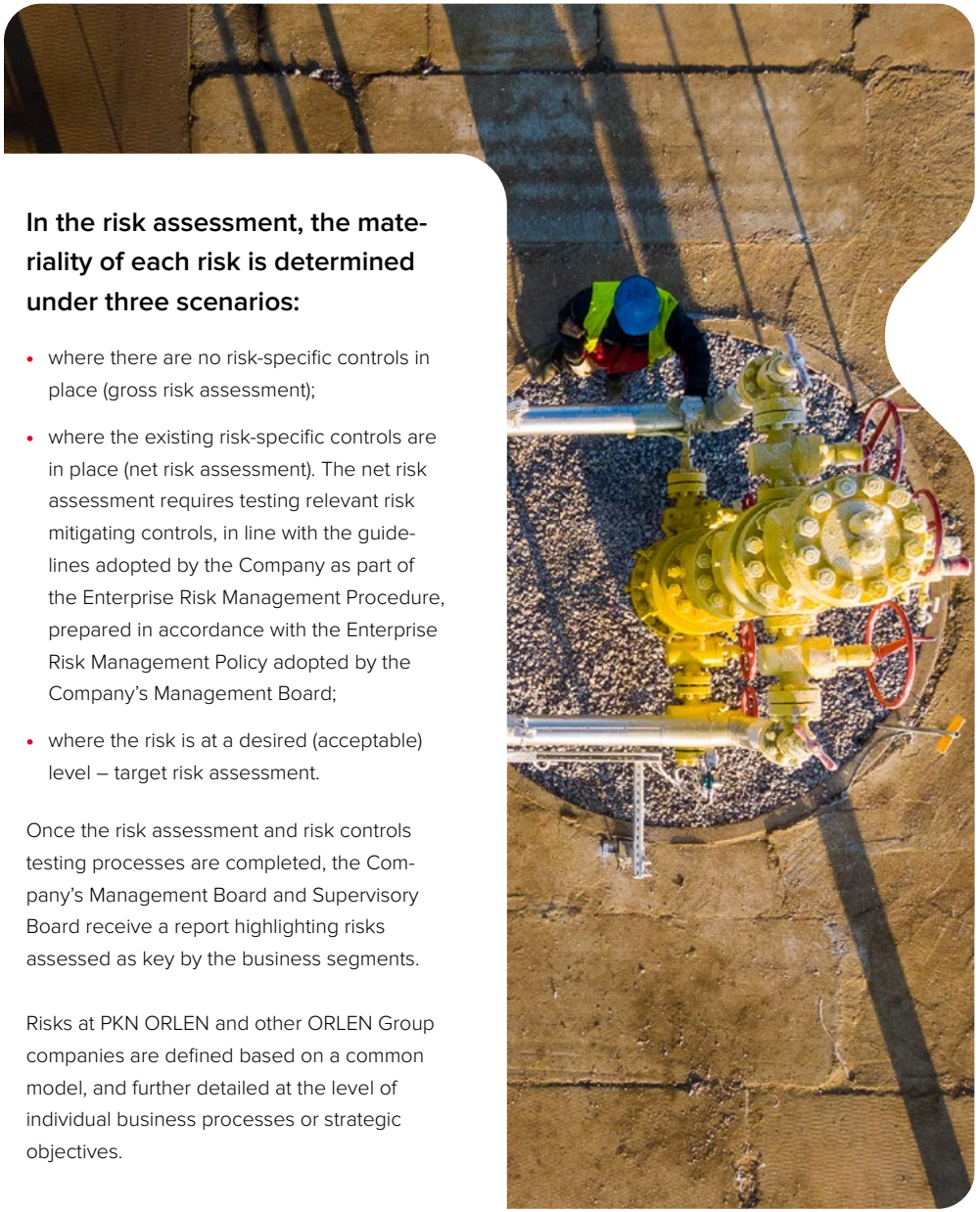
Risk Management System of ORLEN Group

The Enterprise Risk Management System is organised and operated based on the Risk Management Policy and Procedure. ORLEN Group monitors and assesses its risk exposures on an ongoing basis, taking steps to minimise their probability and impacts.

As required by these regulations, the Financial Control, Risk Management and Compliance Office has been established at PKN ORLEN to coordinate the enterprise risk management (ERM) processes across all levels of the organisation. 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 strategic and operational objectives. It provides information on any identified risks and supports effective risk management.

Risks are assessed regularly by individual business segments of PKN ORLEN and ORLEN Group as part of their self-assessment and risk controls testing. The key objective is to ensure that risk estimation is up to date, and that the risk controls are validated for adequacy and effectiveness. Process and risk owners are in charge of the assessment based on their positions and remits.



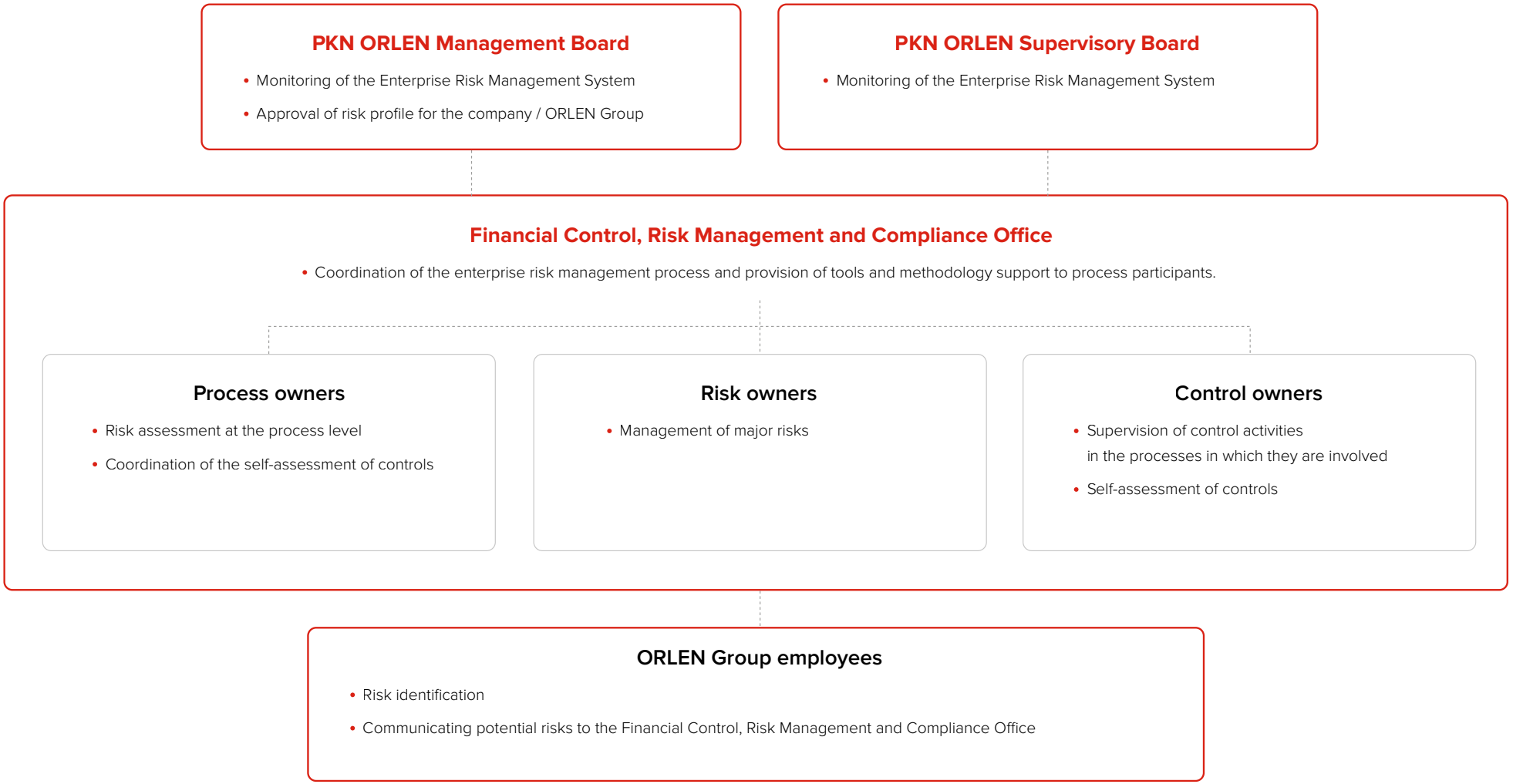
In the risk assessment, the materiality of each risk is determined under three scenarios:

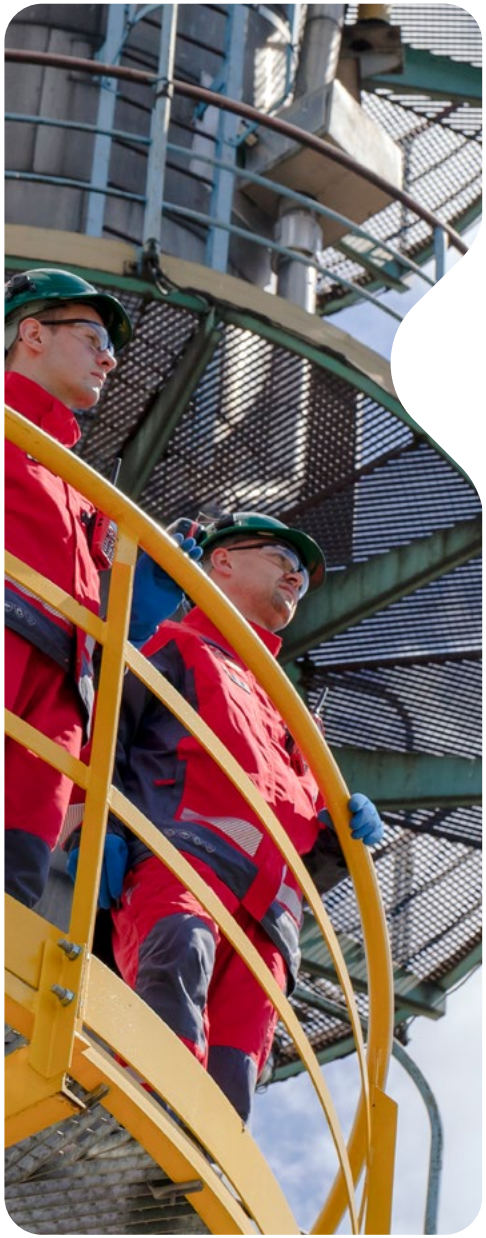
- where there are no risk-specific controls in place (gross risk assessment);
- where the existing risk-specific controls are in place (net risk assessment). The net risk assessment requires testing relevant risk mitigating controls, in line with the guidelines adopted by the Company as part of the Enterprise 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 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.

Risk Management System of ORLEN Group



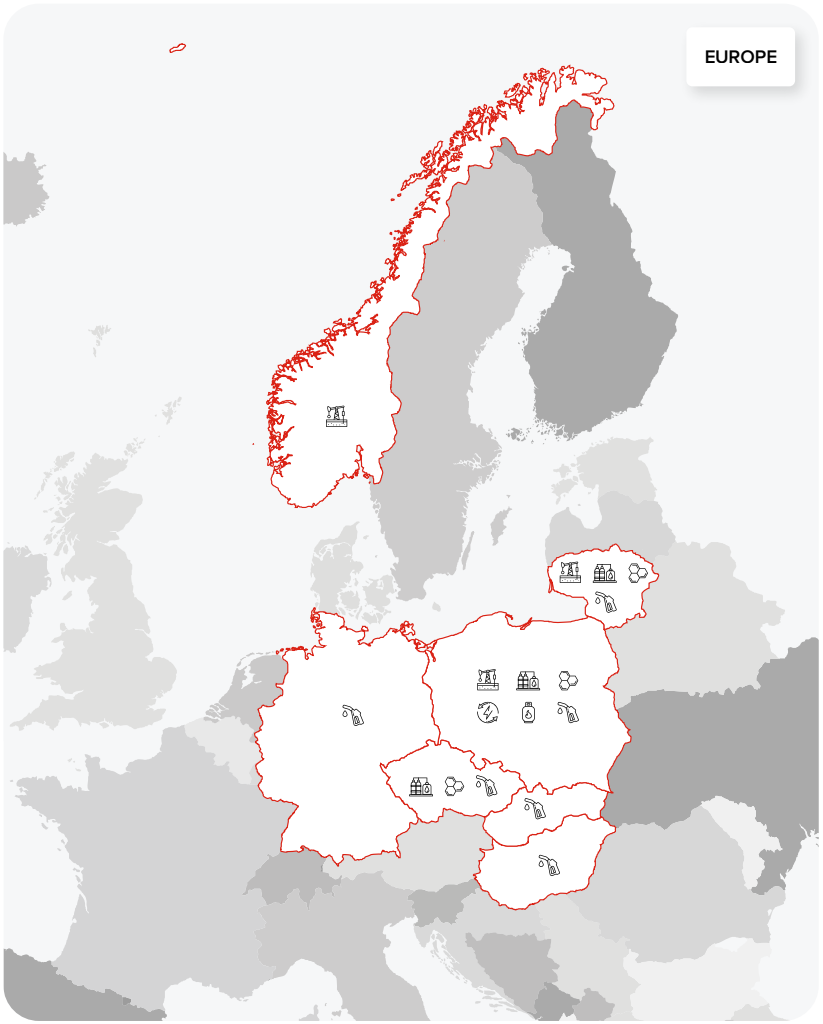


Identification, assessment and management of climate-related risks and opportunities – physical risks

Type of risk	Risk description	Financial impact	Mitigation measures
Acute	• increased probability of local floods caused by rainfall irregularities • coastal floods • heat waves (at least three consecutive days with temperatures above 30 degrees) • fires • storms, winds, tornadoes • significant changes of temperature • sudden changes of atmospheric pressure • sudden freezing and thawing of water and ground • landslides	• water shortages hamper the operation of equipment and affect productivity, which has an impact on income as additional investments are required to ensure water supply • increased costs caused by the need for frequent repair of equipment damaged by extreme weather conditions and rising temperature • the frequency of fires and heat waves increases the cost of maintaining fire-fighting units at production facilities • increased cost of operations due to reduced employee productivity • increased costs of insurance due to higher climate risks	**Floods and access to water:** • PLN 25m investment in new water and sewage system technologies • implementation of flood protection standards • reduction of water abstraction in 2020 by 55% relative to 1980 • implementation of best practice and instruments in water management at industrial plants **Fires and extreme temperatures:** • implementation of alert systems and improvement of fire protection technologies • incorporation of climate risks into fire protection management • introduction of summer protective clothing
Chronic	• rising water level • sustained high temperatures • droughts • reduction of water available for withdrawal from rivers and groundwater		

ORLEN2030 / ORLEN Net-Zero 2050:
Reduction of emissions to improve air quality and limit global warming

After 2030, the impact of climate change on the ORLEN Group markets may be more significant



Upstream Refining Petrochemicals Energy Gas Retail

Poland and Central and Eastern Europe:

- limited access to water
- rising temperatures
- intensive precipitation in winter

Norwegian Continental Shelf and the Baltic Sea:

- rising water level
- coastal floods
- storms, winds, tornadoes

Canada:

- fires
- rising temperatures
- intensive precipitation in winter

Pakistan:

- rising temperatures
- droughts
- heat waves

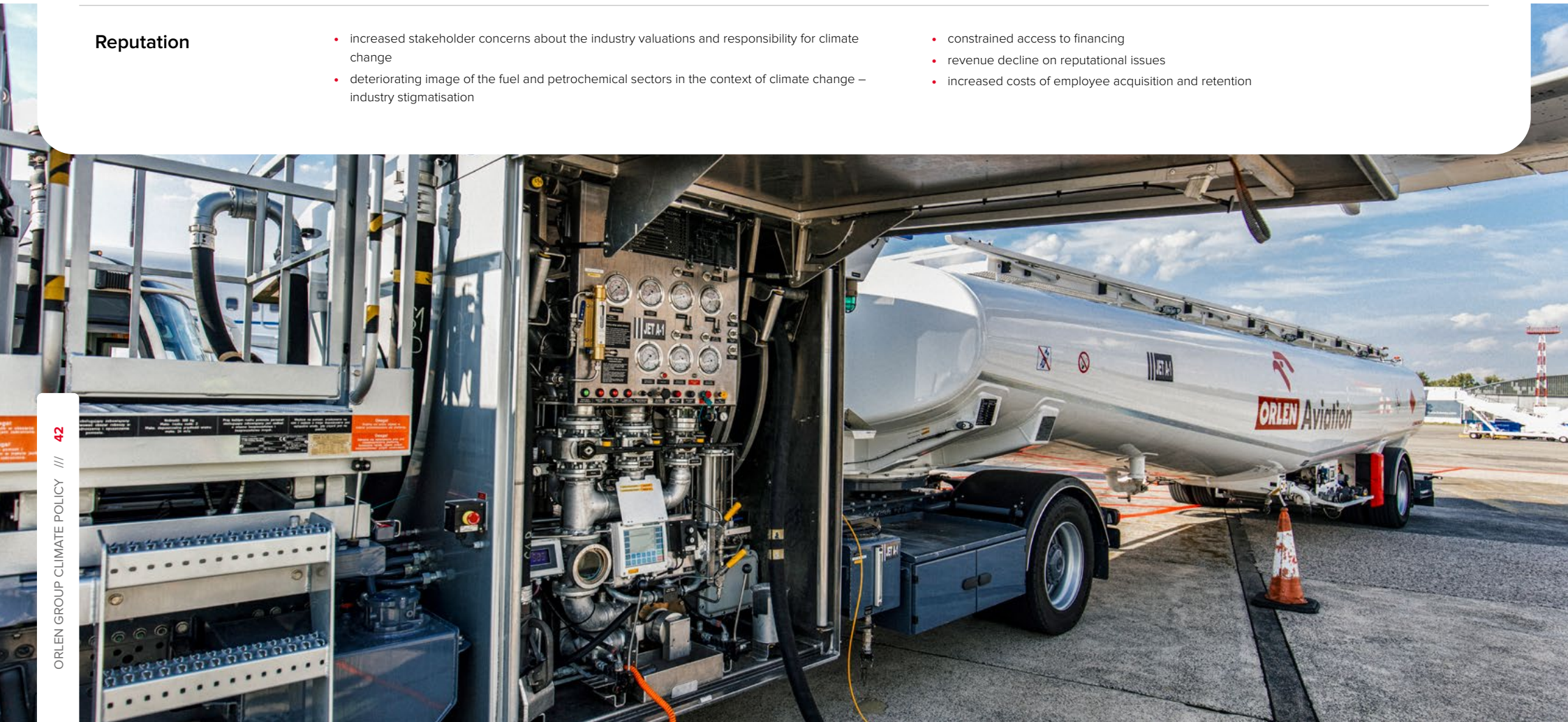
Identification, assessment and management of climate-related risks and opportunities – energy transition risks

Type of risk	Risk description	Financial impact

Policy and legal	• revision of the EU ETS (European Emissions Trading System)
	  ◦ ETS for the building and transport sectors
	  ◦ phase-out of free greenhouse gas emission allowances
	  ◦ faster than expected increase in EU ETS CO_2 prices
	• revision of the EED (Energy Efficiency Directive), which increases the energy efficiency target from 32.5% to 36-39% and sets out a number of measures and tools to reach it
	• proposal for REDIII Directive (Renewable Energy Directive), providing for a 40% or 45% share of renewables in the EU energy mix
	• revision of the ETD Directive (Energy Taxation Directive)
	• much more stringent environmental standards for new combustion-engine vehicles: fewer cars and lower fuel consumption, ban on the sale of new combustion-engine cars in the EU starting from 2035
	• EU Taxonomy Regulation
	• increased reporting requirements
		• lower revenue from fuel sales due to smaller number of permitted vehicles
		• higher costs of GHG emission allowances increase the cost of operations
		• possible financial penalties for failure to meet the revised objectives of EED and REDIII
		• lower revenue from fuel sales due to increased taxation
		• difficulties in financing projects that do not qualify as sustainable under the EU Taxonomy
		• higher cost of operations due to the need to meet increased reporting requirements

Market	• increased costs of traditional raw materials due to greater pressure on decarbonisation • changing consumer preferences and mobility habits • increased competition in the mobility market due to the electrification of transport (EVs and chargers) • rapid growth of private competition (prosumers) in solar photovoltaics • international players as competitors in offshore power generation	• increased and less predictable costs of energy supplies • lower revenue in Refining and Petrochemicals due to a radical shift towards electric mobility and recycling • lower revenue in the Energy segment and gas distribution business due to a significant decline in demand for electricity and heat, for instance as a result of the uptake of distributed generation • lower revenue in the Energy segment due to increased activity of international competitors in low- and zero-emission power generation • decline in asset value due to lower attractiveness of companies engaging in high-emission business

Type of risk	Risk description	Financial impact
Technology	• underdeveloped power infrastructure in Poland that does not align with the ambition to develop renewable-based power generation • greater demand for hydrogen, biomethane and alternative fuels in energy, transport and industry • insufficient battery production and electricity storage capabilities • faster-than-expected technological change in e-mobility and power generation • uncertainty as to the reliability and scalability of new technological solutions	• inability to achieve the financial objectives because of inadequate power grid infrastructure • too rapid development of alternative drives may reduce profits • larger investments required in R&D&I and in adaptation to new technologies • failure to achieve the expected return on investment in innovative technologies
Reputation	• increased stakeholder concerns about the industry valuations and responsibility for climate change • deteriorating image of the fuel and petrochemical sectors in the context of climate change – industry stigmatisation	• constrained access to financing • revenue decline on reputational issues • increased costs of employee acquisition and retention



Effect of external regulations

ORLEN Group analyses new regulations resulting from the European Green Deal on an ongoing basis and adjusts its business models accordingly. The ORLEN2030 strategy is designed to capture the opportunities created by Europe's economic transformation which aims to meet the obligations under of the Paris Agreement and implement the UN Agenda 2030.

Regulations	Impact on the segment	Regulatory risk level
EU ETS	Upstream, Refining, Petrochemicals, Energy, Retail	
EU Taxonomy	Upstream, Refining, Petrochemicals, Energy, Retail	
Effort Sharing Regulation (ESR)	Upstream, Refining, Petrochemicals, Retail	
CBAM	Refining, Energy	
RED (Renewable Energy Directive)	Upstream, Refining, Petrochemicals, Energy, Gas, Retail	
EED (Energy Efficiency Directive)	Upstream, Refining, Petrochemicals, Energy, Gas, Retail	
ETD (Energy Taxation Directive)	Upstream, Petrochemicals, Retail	
Methane Regulation	Upstream, Gas	
Gas Package	Upstream, Energy, Gas	
EPBD (Energy Performance of Buildings Directive)	Upstream, Energy, Gas	
CO_2 emission standards for cars and vans	Retail	
AFIR (Alternative Fuel Infrastructure Regulation)	Retail	
ReFuel UE (Biojet)	Retail	
Fuel EU (Maritime)	Energy, Retail	
SCF (Social Climate Fund)	Upstream, Refining, Petrochemicals, Gas	
LULUCF	Energy	
EU Electricity Market Reform	Refining, Petrochemicals, Energy, Retail	
Green Deal Industrial Plan	Energy	
CSDD	Upstream, Refining, Petrochemicals, Energy, Retail	
Hydrogen Bank	Energy	

Upstream
Refining
Petrochemicals
Energy
Gas
Retail

Key external regulations affecting the ORLEN Group's business

European Green Deal

Regulation establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law). The Regulation sets out a binding objective of climate neutrality, including the achievement of net-zero greenhouse gas emissions (relative to 1990 levels) by 2050 at the European Union level, and requires the European Parliament, the Council, the European Commission (EC) and Member States to take measures both at Union and national level to enable the achievement of this objective.

Under the provisions of the Regulation, the EC increased the greenhouse gas emission reduction target for 2030 at 55% compared with 1990 levels and will consider adopting appropriate legislative proposals in this respect.

EU ETS

Implementation of secondary legislation for the fourth phase of the GHG emissions trading scheme, including the decision approving free allocations for 2021–2025. Issuance of the European Commission's guidelines amending the system of compensation for indirect emission costs for 2021–2030, which started a process to amend the Act on the Compensation Scheme for Energy-Intensive Sectors and Subsectors. Establishment of a dedicated state fund – the Energy Sector Transformation Fund following an amendment to the Act on the GHG Emission Allowance Trading System.

EU Taxonomy

Regulation of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment (the EU Taxonomy). The Regulation establishes a framework for determining whether an economic activity qualifies as environmentally sustainable. It introduces, among other measures, harmonised and transparent funding rules and support criteria for green investment projects, as well as provisions to prevent investing EU funds in carbon-intensive technologies.

Fit for 55

The Fit for 55 package of draft amendments to EU directives and regulations 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 fair 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 objectives: reduction of GHG emissions in the EU by 55% relative to 1990 levels by 2030, inclusion of the transport and construction sectors into the EU emissions trading scheme (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.

REPowerEU

European Commission's REPowerEU Plan – a response to difficulties and disturbance across the global energy market caused by Russia's invasion of Ukraine. Transformation of the European energy system is urgent for two reasons. One is to put an end to the EU's dependence on Russian fossil fuels, which are used as economic and political weapons and which cost European taxpayers close to EUR 100bn per year, and the other is to overcome the energy crisis. Europe, acting as the Union, may fast-forward the process of becoming independent of Russian fossil fuels. 85% of Europeans believe that the EU should reduce its dependency on Russian gas and oil as soon as possible to support Ukraine. The measures in the REPowerEU Plan can respond to this ambition, through energy savings, diversification of energy supplies, and accelerated roll-out of renewable alternatives to replace fossil fuels in homes, industry and power generation.

Identification, assessment and management of climate-related risks and opportunities – energy transition opportunities

Type of opportunity	Opportunity description	Financial impact
Energy efficiency	• reduction of GHG emissions • lower energy consumption at refining and petrochemical production facilities • more efficient and less carbon-intensive power and heat generation • more efficient and less carbon-intensive extraction of hydrocarbons • reduction of water consumption • recycling as an important business stream	• less spending on EU ETS greenhouse gas emission allowances • less spending on imported energy supplies • productivity gains generating higher revenue and profits • enhancing the value of production plants through energy efficiency investments
Energy sources	• diversified energy sources • increased energy production from own sources, including RES • improved energy independence through lower imports of traditional energy supplies • development and scaling up of new technologies (e.g. SMR and CCUS)	• more stable and predictable revenue thanks to power and heat generation activities • lower operating costs thanks to RES and nuclear energy activities • less financial dependence on imports of fossil fuels and on prices of greenhouse gas emission allowances • greater access to financing thanks to low- and zero-carbon energy activities
Products and services	• delivery of zero- and low-carbon energy (clean electricity, low-emission heat, renewable hydrogen, biomethane, biofuels, synthetic fuels) • development of non-energy-intensive products and services, including petrochemicals • business diversification driven by new technologies (e-mobility) • shift in consumer preferences following business model change	• zero-carbon products do not carry the cost of greenhouse gas emissions (lower carbon footprint) • low- and zero-carbon products, preferred by consumers, generating higher profits than high-emission counterparts
Markets	• activities in new sectors (energy, e-mobility, ORLEN Paczka) • opening up to new markets in other countries • ability to raise funding for projects supporting the energy transition (green finance)	• ability to attract new customers through more diversified business • development of new technologies (RES, renewable hydrogen, recycling) as an opportunity for ORLEN Group to enter new markets in other countries
Resilience	• multi-utility group operating across multiple business segments • diversification of profit sources • diversification of costs	• improved financial resilience thanks to more diversified revenue sources

Integration of climate risks into PKN ORLEN's enterprise risk management system – physical risks

Risks / processes	Risk description	Risk mitigation methods	Risk development trend
A. Reliability of raw water supply to the production plant ●●●●○	• faulty performance of flood protections • the anti-flood committee may not cover all required locations • faulty monitoring of flow pressure in manifolds • faulty performance of anti-shock valves • equipment replacement schedules may not be aligned with failure statistics and results of technical condition surveys	Lack of raw water supply could 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.	‹ › ●●○○○
B. Risk of failure to supply circulating water with the required thermal, quantitative and qualitative parameters to the production plant units ●●●●○	• limited ability to supply circulating water in the required quantity and with the required pressure to the production plant units • limited ability to supply circulating water with the required temperature to the production plant units • insufficient protection of water against corrosion and living organisms	The availability of cooling water of appropriate quality and required pressure enables proper operation of the production units: 24-hour supervision over the process of water treatment and supply, 24-hour monitoring of the quantity and pressure of circulating water supplied to the production plant units, 24-hour monitoring of the water cooling process.	‹ › ●●○○○

Risk materiality for the organisation: ●●●●● critical ●●●●○ high ●●●○○ medium ●●○○○ low ●○○○○ very low **Risk development trend year on year:** ‹ › stable

Risks / processes	Risk description	Risk mitigation methods	Risk development trend
C. Reliability of water supply to the fire-fighting system ●●●●●	• insufficient hydraulic tests/analyses • the Company Fire Brigade may fail to conduct drills / manoeuvres using existing fire-fighting infrastructure • emergency pumping station – pumping station tests, flushing, etc., may not be performed as scheduled • fire hydrants are not sufficiently inspected with participation of the fire service • preventive replacements of worn-out parts of the system are not performed • insufficient protection of water against corrosion and living organisms	Measures taken, such as hydraulic tests, the Company Fire Brigade's drills, pumping station tests, fire hydrant inspections, quality tests of water for fire-fighting purposes, and replacement projects, eliminate the risk of disruptions in water supply to the Company's fire-fighting system.	< > ●○○○○
D. Maintenance of the logistics infrastructure (fuel terminals, transmission pipelines) ●●●●●	• failure of storage infrastructure • failure of loading and unloading infrastructure • product pipeline leakage	Concluded contracts 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 users ●●●○○	• external constraints on the availability of fuel, electricity, and natural gas in the long term • machinery, equipment or network/grid failures resulting in supply interruptions • electricity or heat supply interruptions due to equipment malfunctions	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 useful heat.	< > ●●○○○

Risk materiality for the organisation: ●●●●● critical ●●●●○ high ●●●○○ medium ●●○○○ low ●○○○○ very low **Risk development trend year on year:** < > stable

Risks / processes	Risk description	Risk mitigation methods	Risk development trend
F. Implementation of technical solutions failing to deliver the expected outcomes ●●●●○	• poor availability of quality products • high production losses • high energy intensity of processes	Analysis of licence provider documentation; review of the adopted solutions and proposing steps to be taken to increase energy efficiency of a project and/or improve product quality. Deployment of proven solutions at ORLEN Group; project and process prediction. These measures help mitigate the risks, including risks associated with high energy intensity of processes or with products of insufficient or poor quality. The plant's energy intensity must be optimised for the existing infrastructure.	●●○○○
G. No low-temperature heat utilisation programme is implemented ●●●○○	• no low-temperature heat utilisation programme is implemented	Monitoring the effects of implemented initiatives and managing the effects taking into account the current macroeconomic conditions. Implementation of the project as planned – project monitoring based on reports from the area of implementation and reporting. The solutions implemented at the units operate properly and deliver the expected results. Given the risk of delay in the implementation of the planned solutions, additional weekly monitoring with the participation of the contractor has been introduced.	●○○○○
H. Lack of thermal integration of the key refinery units ●●●○○	• Lack of thermal integration of the key refinery units	Monitoring the effects of implemented initiatives and 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 of the key petrochemical units at ORLEN Group ●●●○○	• insufficient improvement of energy intensity at the Olefins units in Płock and Litvínov • insufficient improvement of energy intensity at the PX/PTA units • excessive losses and own consumption in petrochemicals • ineffective utilisation of the Olefins production capacity	All key energy efficiency improvement projects planned in the strategy for 2013–2017 have been completed. Further optimisation projects are being implemented under the current ORLEN 2030 strategy.	●●○○○

Risk materiality for the organisation: ●●●●● critical ●●●●○ high ●●●○○ medium ●●○○○ low ●○○○○ very low **Risk development trend year on year:** stable

Effects of the application of controls in risk management

Integration of climate risks in the enterprise risk management system – energy transition risks

Risks / processes	Risk description	Risk mitigation methods	Risk development trend
A. Development of onshore renewable energy sources (RES) ●●●●○	Delays in implementation of RES initiatives and projects contemplated in the Group's strategy: • development of a RES portfolio based on wind and solar projects, • construction of the Wisła hydroelectric power plant.	Coordination of the Group's activities concerning legal and regulatory issues; monitoring changes in the legal environment; participation in the legislative process, including monitoring and providing opinions on legislative initiatives. Formation of a dedicated company – Energa Green Development, responsible for the development of RES,	Risk identified in the ORLEN2030 Strategy ●●●○○
B. Development of offshore wind farms ●●●●○	• failure to obtain location permits (to construct and use artificial islands, structures and facilities (PSZW)), • failure to win offshore auctions	• monitoring and analysis of the regulatory environment of the offshore wind industry. • taking active steps to obtain new location permits in award procedures	●●○○○
C. Development of gas-based power generation ●●●●○	• delays in the commissioning of investment projects; unplanned budget overruns; failure to meet performance targets for individual units, • difficulty in obtaining financing from the capacity market; problems with securing the required administrative decisions in a timely manner or with concluding connection contracts with fuel suppliers and energy consumers.	Oversight of ongoing investment processes with the necessary external consultants. Ongoing monitoring of project progress against schedules. Mitigation of the regulatory risks by ongoing analysis of the capacity market regulatory environment and proposing amendments to the relevant legal acts where necessary.	Risk identified in the ORLEN2030 Strategy ●●○○○
D. Hydrogen programme at PKN ORLEN ●●●○○	• frequent regulatory changes (building law, Office of Technical Inspection) • frequent changes in development forecasts for the hydrogen fuel market. • emergence of other major players in the market. • difficulties in obtaining adequate funding	ORLEN Group has adopted the Hydrogen Strategy, which defines measures for building the hydrogen economy. As part of the operationalisation of the ORLEN2030 strategy, schedules and budgets for the hydrogen programme are being defined. The ORLEN Group employees are involved in regulatory processes related to the hydrogen industry and participate in organisations that support development of the hydrogen economy.	Risk identified in the ORLEN2030 Strategy ●○○○○

Risk materiality for the organisation: ●●●●● critical ●●●●○ high ●●●○○ medium ●●○○○ low ●○○○○ very low **Risk development trend year on year:** < > stable

Risks / processes	Risk description	Risk mitigation methods	Risk development trend
E. Investment in decarbonisation ●●●●●	• delays in the implementation of decarbonisation projects. • frequent amendments to the regulations applicable to decarbonisation (FitFor55, EU ETS, Methane Regulation).	Operationalisation of the ORLEN2030 decarbonisation strategy with a list of actions, schedules and budgets, ongoing monitoring of the regulatory framework, and participation in legislative processes.	Risk identified in the ORLEN2030 Strategy ● ● ● ● ●
F. Implementation of initiatives related to sustainable development ●●●●○	• 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.	Risk identified in the ORLEN2030 Strategy ● ● ● ○ ○

Risk materiality for the organisation: ●●●●● critical ●●●●○ high ●●●○○ medium ●●○○○ low ●○○○○ very low **Risk development trend year on year:** stable

Effects of the application of controls in risk management

	Risk materiality before applying controls	Risk level after applying controls
A.	●●●●○	●●●○○
B.	●●●●○	●●●○○
C.	●●●●○	●●○○○
D.	●●●○○	●○○○○
E.	●●●●●	●●●●●
F.	●●●●○	●●●○○

04

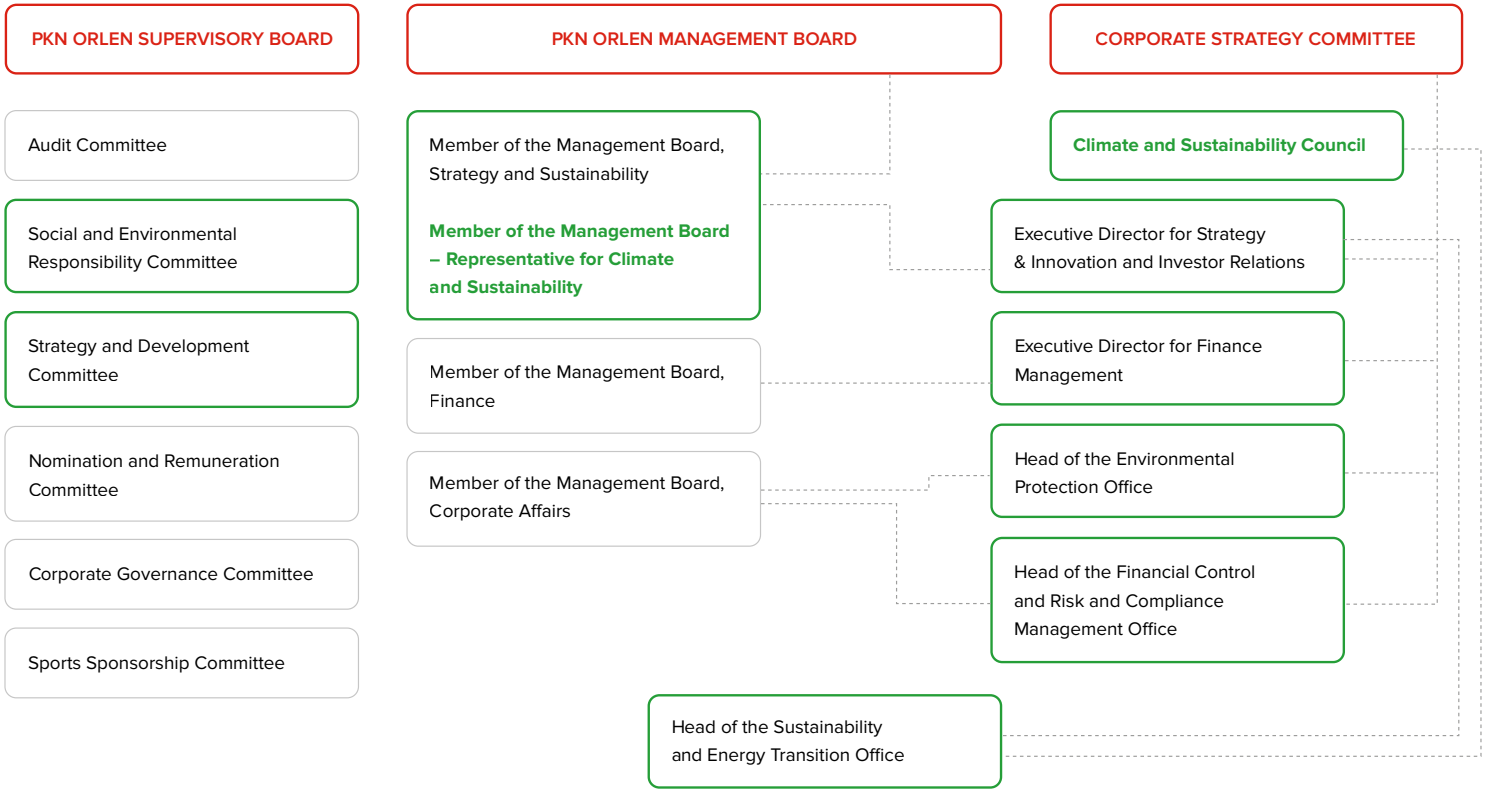
Governance

Management of responsibility for climate-related risks and opportunities at ORLEN Group

Management of climate-related issues

Management of risks and opportunities arising from climate change is the responsibility of the President of the Management Board and Member of the Management Board for Strategy and Sustainability, who acts as the Representative for Climate and Sustainability and chairs the Climate and Sustainability Council.

The Climate and Sustainability Council reports directly to the Management Board through meetings of the Corporate Strategy Committee.



Member of the Management Board – Representative for Climate and Sustainability

Responsibilities:

- supervises sustainability and climate-related issues – identifies and mitigates risks related to climate and sustainability;
- takes measures in response to sustainability and climate-related issues, ensuring the measures are commensurate with the severity of a particular issue to the company.

Annual reporting:

- on relevant processes and on how frequently the management board and/or management board committees (audit, risk or other committees) are updated on and address at their meetings sustainability and climate-related issues;
- on whether the management board and/or management committees consider sustainability and climate-related issues, problems identified during strategy reviews and management, key action plans, management policies, and annual budgets;
- on how the management board monitors and oversees progress in achieving sustainability and climate-related objectives and tasks.

Composition of the Climate and Sustainability Council

Body supporting the Corporate Strategy Committee

Title	Function in the Council	Company
Member of the PKN ORLEN Management Board for Strategy and Sustainability – Representative for Climate and Sustainability	Chair	PKN ORLEN
Executive Director for Strategy & Innovation and Investor Relations	Deputy Chair	PKN ORLEN
Executive Director for Finance Management	Deputy Chair	PKN ORLEN
Head of the Sustainability and Energy Transition Office	Secretary	PKN ORLEN
Head of the Environmental Protection Office	Member	PKN ORLEN
Head of the Financial Control and Risk and Compliance Management Office	Member	PKN ORLEN
Chief Economist	Member	PKN ORLEN

Representatives of other areas (Refinery, Petrochemicals, Energy, Business Development, etc.) will be invited to Council meetings on an as-needed basis, depending on the topics discussed.

Responsibilities of the Climate and Sustainability Council

Body supporting the Corporate Strategy Committee

Identification and monitoring of climate-related risks and opportunities

Climate-related risks and opportunities in the short, medium and long term

- physical risks
- energy transition risks
- opportunities

Analysis of climate-related risks and their impact on the ORLEN Group's financials

Climate-related risks and opportunities and their impact on:

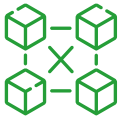
- financial position – assets, liabilities
- financial performance – revenue, expenses
- financial planning for capex or M&A projects

Publication of scenarios analysing resilience of the ORLEN Group's strategy to climate change

Strategy resilience scenarios

- 2°C scenario (Paris Agreement)
- 4°C scenario (Business as Usual)

Approval of sustainability metrics for ORLEN Group



Indicators and recommendations

- financial and non-financial KPIs for decarbonisation, water consumption and biodiversity
- recommendations for business areas

Management of climate-related issues

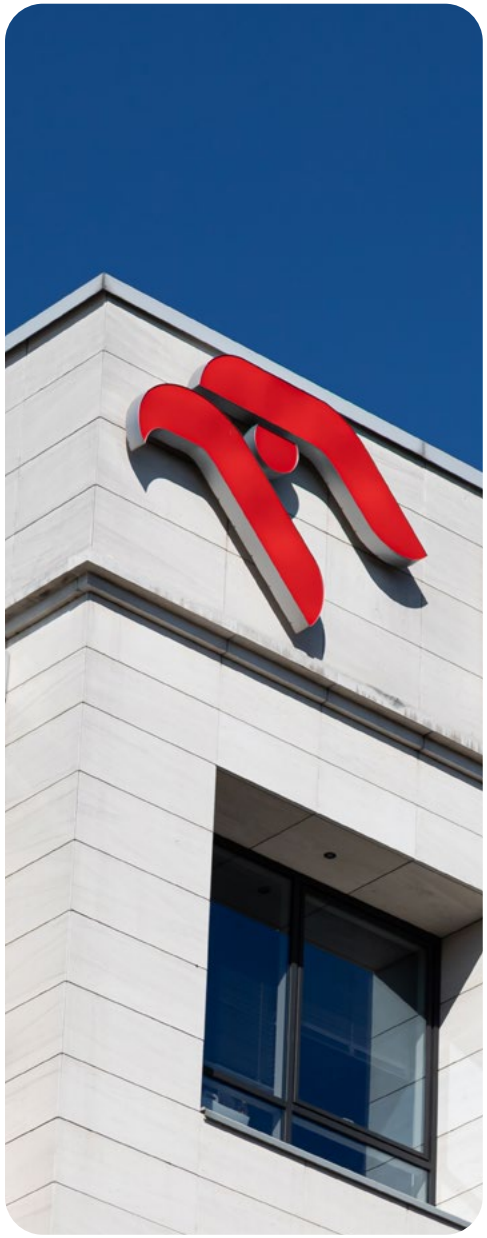
Supervisory Board

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 so stipulate – resolutions of the General Meeting and the Supervisory Board as well as other internal policy documents in place at the Company.

The Supervisory Board of PKN ORLEN may appoint standing or ad hoc committees, which act as its collective advisory and opinion making bodies. The following six standing committees operate within the Supervisory Board of PKN ORLEN:

- The Audit Committee,
- The Strategy and Development Committee,
- The Nomination and Remuneration Committee,
- The Corporate Governance Committee,
- The Social and Environmental Responsibility Committee,
- The Sports Sponsorship Committee.

Two committees, namely the Strategy and Development Committee and the Social and Environmental Responsibility Committee, deal with sustainability and climate-related issues as part of their remit.



Strategy and Development Committee

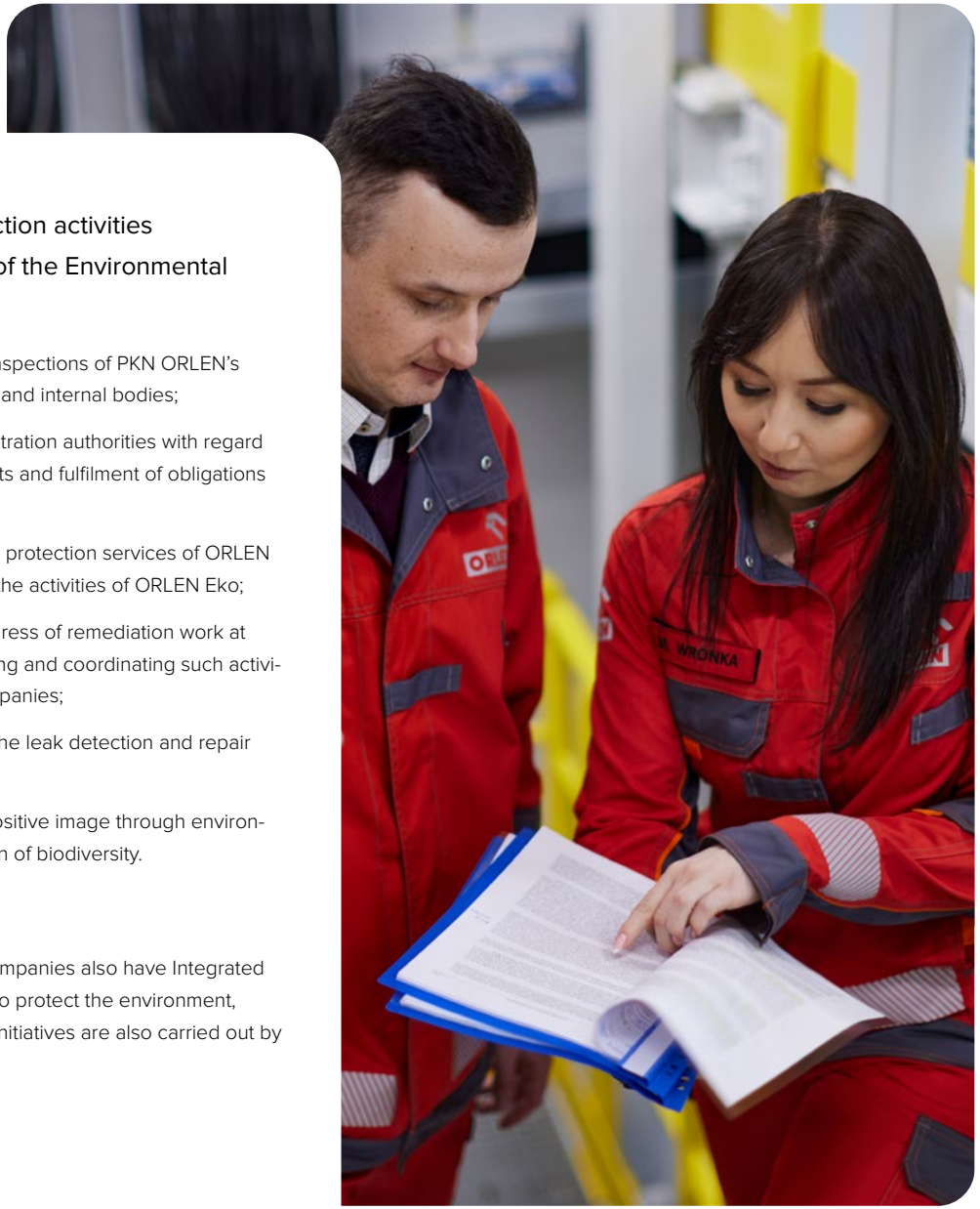
Tasks of the Strategy and Development Committee are to provide opinions and submit recommendations to the Supervisory Board on proposed investments and divestments which may have a material impact on the Company's assets.

Social and Environmental Responsibility Committee

The Social and Environmental Responsibility Committee is responsible for supporting the Company in the pursuit of its strategic goals by incorporating social, ethical and environmental objectives in its activities and relations with stakeholders.

The Committee's tasks include supervision of the implementation of the Sustainable Development Strategy and monitoring of the Company management with regard to climate risks and opportunities.

Management of climate-related issues

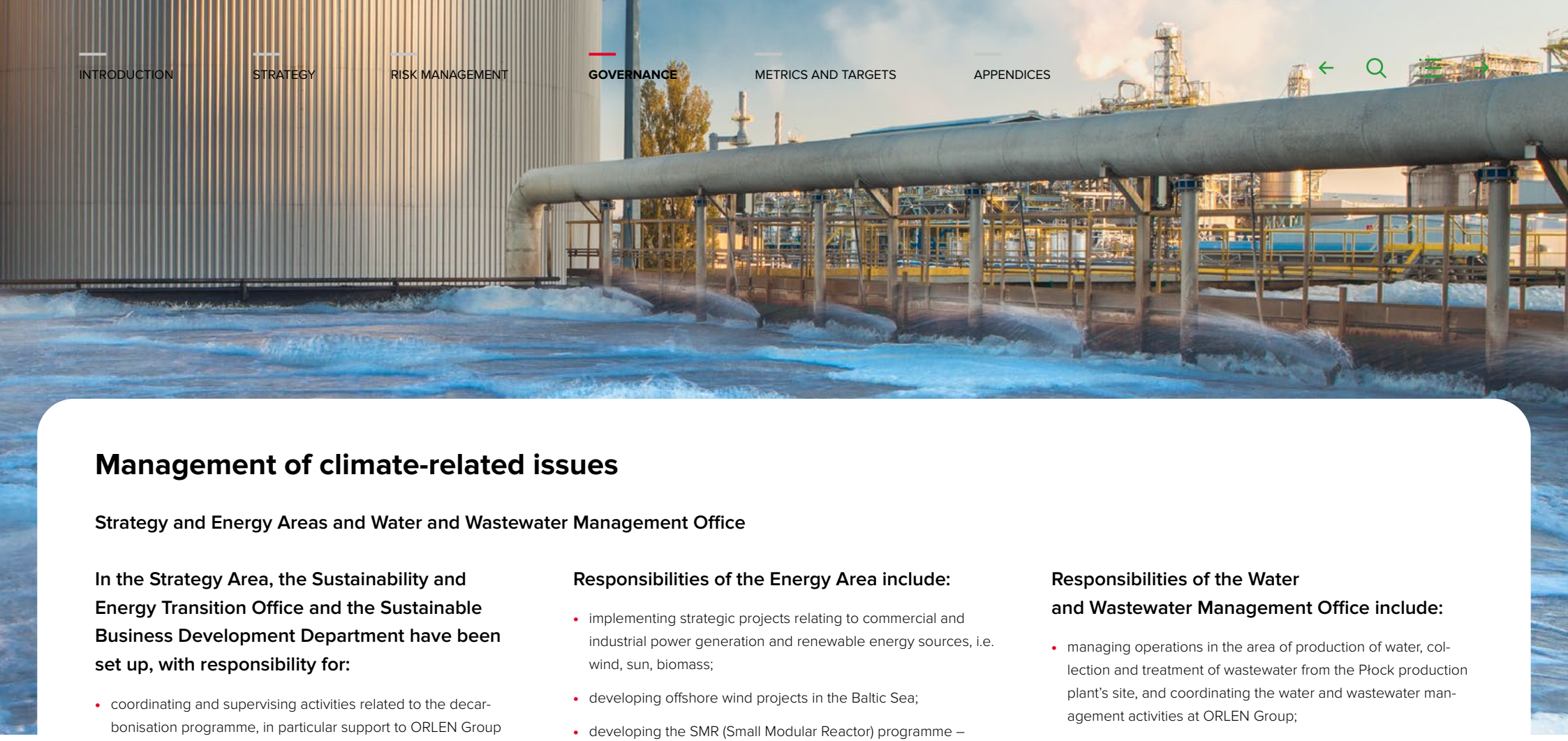


Environmental Protection Office

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 CO_2 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 ORLEN Group;
- participating in environmental inspections of PKN ORLEN's facilities carried out by external and internal bodies;
- cooperating with public administration authorities with regard to formal and legal arrangements and fulfilment of obligations imposed 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 PKN ORLEN's facilities; consulting and coordinating such activities at other ORLEN Group companies;
- implementing and maintaining the leak detection and repair system through LDAR;
- 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, the Energy Area and the Strategy Area.



Management of climate-related issues

Strategy and Energy Areas and Water and Wastewater Management Office

In the Strategy Area, the Sustainability and Energy Transition Office and the Sustainable Business Development Department have been set up, 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 ORLEN Group;
- working with investors on sustainable development;
- conducting analyses related to long-term conditions for sustainable development of ORLEN Group.

Responsibilities of the Energy 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;
- developing the SMR (Small Modular Reactor) programme – together with ORLEN Synthos Green Energy;
- 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;
- supervising over standardisation of hydrogen systems at ORLEN Group with respect to process, technological and technical parameters;

Responsibilities of the Water and Wastewater Management Office 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 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.

Climate-related MBO

In 2021, the Management Board of PKN ORLEN adopted the ORLEN Group Sustainable Development Strategy for 2021–2023. The most significant and complex ESG initiatives were reflected in the remuneration policy.

The strategy focuses around three ESG areas:

- 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 point of reference inspiring the Group's CSR initiatives. In cooperating with our suppliers, we are going to leverage ORLEN's influence to promote sustainability principles in value chains. The goal is to extend our responsibility for the entire product life cycle – from raw materials used, to product development, manufacture and use, to end-of-life recycling. ORLEN seeks to engage its customers and promote responsible consumption patterns;
- the governance area focuses on developing solutions to facilitate implementation of ESG principles into PKN ORLEN's management systems, appropriate and transparent reporting, ethics and organisational values.

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.

Objectives resulting from the sustainability agenda and ESG principles, set down in the ORLEN Group Sustainable Development Strategy and decarbonisation strategy, are incorporated into the MBO system for managers reporting directly to the management boards of ORLEN Group companies. Performance against the objectives affects their salary levels.

Internal regulations

Environmental objectives constitute a key component of internal policies and management systems.

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.

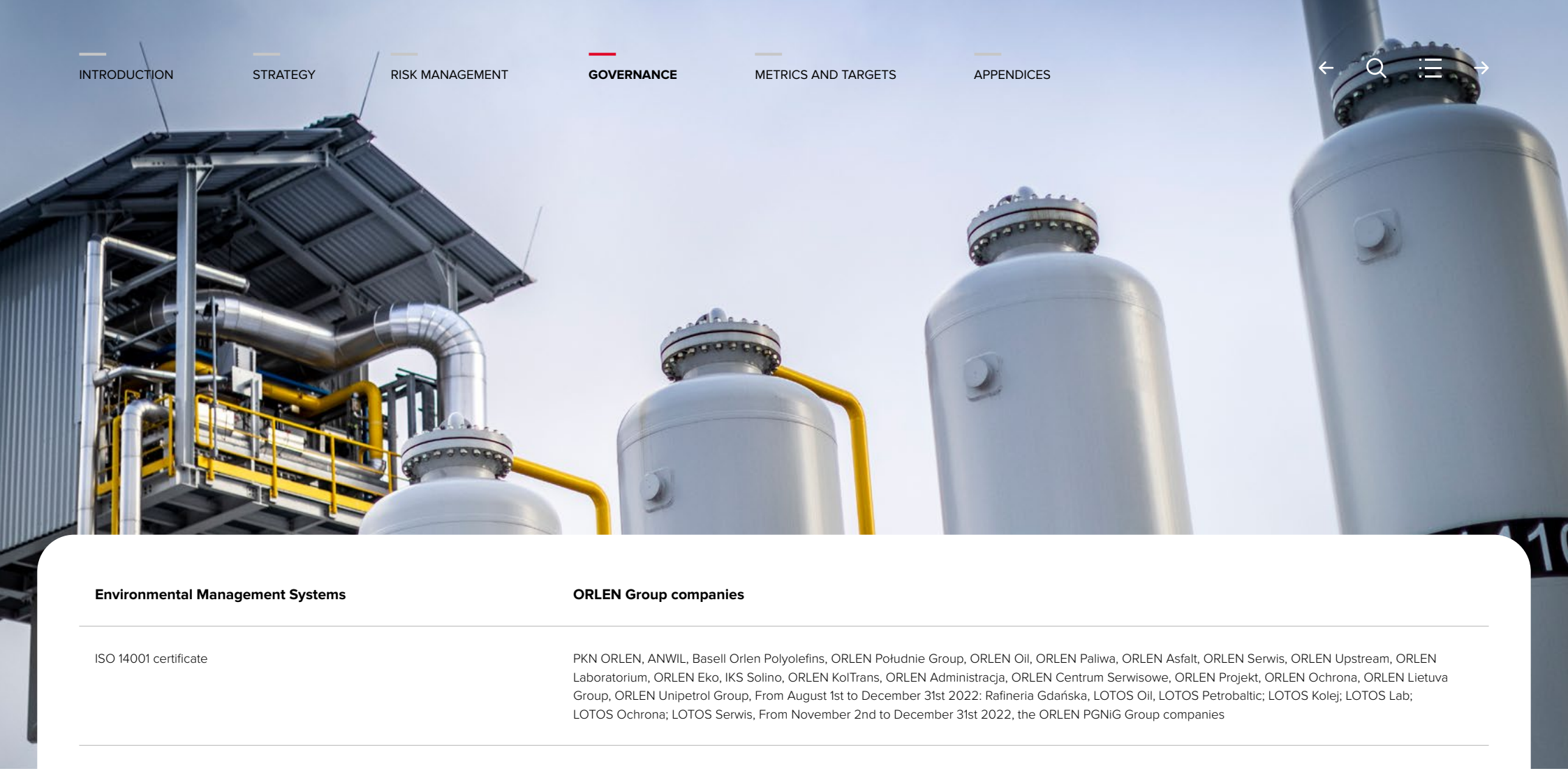
The key ORLEN Group companies have Integrated Management Systems in place, which include an Environmental Management System implemented and maintained in accordance with the ISO 14001 standard as their integral part. The Group companies also follow Integrated Management System / Environmental Management 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 stakeholders.

All systemic activities, in particular those which are material to the safety of people and the natural environment, are aligned with the ORLEN Group's 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.

Our activities are carried out based on the Integrated Management System, which includes:

- Quality Management System (ISO 9001, AQAP 2110);
- Environmental Management System (ISO 14001);
- Occupational Health and Safety Management System (ISO 45001);
- Information Security Management System (ISO/IEC 27001);
- Energy Management System based (ISO 50001);
- Biomass and Biofuel Certification System (ISCC);
- KZR INiG certification system for the co-hydrogenation process;
- Factory Production Control System (ZKP) – for bitumen production;
- Food Safety Management System (HACCP) based on Codex Alimentarius.

The Company holds valid certificates of compliance with ISO 9001:2015, AQAP 2110, ISO 14001:2015, ISO 45001:2018, ISO/IEC 27001:2017-06, ISO 50001:2018-09, ISCC, KZRINiG and ZKP.



Environmental Management Systems	**ORLEN Group companies**
ISO 14001 certificate	PKN ORLEN, ANWIL, Basell Orlen Polyolefins, ORLEN Południe Group, ORLEN Oil, ORLEN Paliwa, ORLEN Asfalt, ORLEN Serwis, ORLEN Upstream, ORLEN Laboratorium, ORLEN Eko, IKS Solino, ORLEN KolTrans, ORLEN Administracja, ORLEN Centrum Serwisowe, ORLEN Projekt, ORLEN Ochrona, ORLEN Lietuva Group, ORLEN Unipetrol Group, From August 1st to December 31st 2022: Rafineria Gdańska, LOTOS Oil, LOTOS Petrobaltic; LOTOS Kolej; LOTOS Lab; LOTOS Ochrona; LOTOS Serwis, From November 2nd to December 31st 2022, the ORLEN PGNiG Group companies
Elements of the environmental management system implemented in accordance with the JIG industry standards and HSSE Policy	ORLEN Aviation
Implemented environmental protection principles, including on waste management control	ORLEN Centrum Usług Korporacyjnych
ISCC, KZRINiG	PKN ORLEN, ORLEN Południe Group
EMAS	ENERGA Group

Environmental issues are managed by implementing the following policies and procedures:

Integrated Management System Policy

the document describes the working standards for quality assurance, reduction of environmental impacts, health and safety at work and information security.

PKN ORLEN Energy Policy

the document describes the approach to improving the Company's energy performance, containing declarations on energy optimisation and energy security.

Environmental Monitoring Procedure

the document ensures correct monitoring of air (emissions), wastewater, rainwater and snowmelt produced at fuel terminals, and groundwater on and in the vicinity of the Płock 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.

CO_2 Instruction on the Operation of the PKN ORLEN System for Carbon Dioxide Emissions and Activity Level Monitoring and Reporting

the document defines the rules for timely and reliable entering of data in the IT system for CO_2 emissions monitoring, including data on activity levels from each installation covered by free allowance allocations.

Instruction on Calculating and Paying Charges for Air Emissions of Gas and Particulate Matter and Charges for Water Services at PKN ORLEN

the procedure put in place to introduce a uniform calculation methodology, improve the quality of data acquisition, and ensure timely and reliable provision of data serving as the basis for calculation of the charges.

Waste Management Procedure

the document defines activities related to recording, storage, collection and disposal of waste generated in refining, power generation, storage, auxiliary and security processes.

Instruction Specifying the Rules for Packaging Management at PKN ORLEN

the procedure put in place to ensure compliance with the requirements under the Act on Packaging and Packaging Waste Management and the requirement to report on actual packaging volumes.

Instruction on the Operation of the LDAR System at PKN ORLEN

the document describes implementation and maintenance of the leak detection and repair system in order to identify, monitor and reduce diffuse emissions of volatile organic compounds, and thus mitigate the environmental impact of the production plant in Płock and the PTA plant in Włocławek, reduce losses of raw materials and products, and improve process safety.

Procedure for Identifying Environmental Aspects and Determining Material Aspects

the document defines the process of identification, determination of materiality and periodic reviews of environmental aspects as well as allocation of responsibility for these activities.

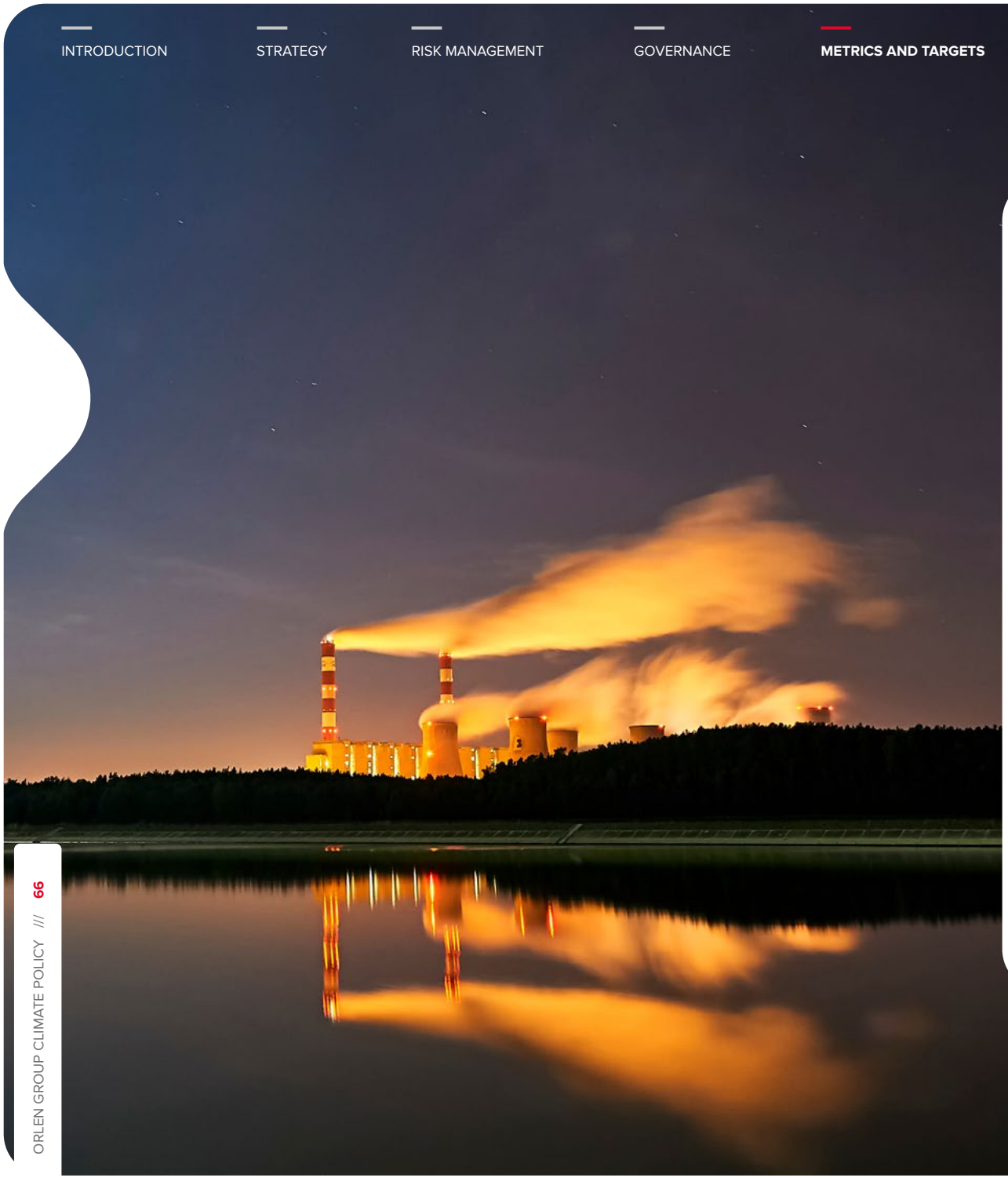
Tools to facilitate and mechanisms to control the implementation of the ORLEN Group Climate Policy

Tools facilitating the implementation of the Climate Policy:

- internal and intragroup regulations: the ORLEN Group 2030 Business Strategy, the ORLEN Group Decarbonisation Strategy, the ORLEN Group 2021-2023 Sustainable Development Strategy, the ORLEN Group's Strategic Research Agenda,
- operation of the Integrated Management System (IMS), built on the basis of 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; Information Security Management Systems compliant with ISO/IEC 27001:2017-06; Energy Management System compliant with PN-EN ISO 50001:2018-09,
- ensuring the exchange of internal and external communications of ORLEN Group concerning climate change issues (including training, meetings, conferences),
- maintaining ongoing and direct cooperation with public administration bodies, local governments and non-governmental organisations, in particular with regard to climate change prevention measures and solutions,
- building sound long-term relations with the external stakeholders, including local communities and retail customers. Fostering ORLEN Group's positive image in relations with its social environment,
- seeking to achieve the target values adopted in this Policy and to maximise the use of renewables by 2030 in order to reduce energy production from non-renewable resources.

Control mechanisms for the implementation of the Climate Policy:

- The PKN ORLEN Climate and Sustainability Council is responsible for managing the Climate Policy and monitoring its application across ORLEN Group through ongoing supervision of the Policy implementation. In the performance of its supervision duties, the Council uses the Integrated Management System controls.
- The Climate and Sustainability Council is required to update as well as to minimise and rectify inconsistencies in the application of the Climate Policy.
- To control the implementation of the Climate Policy, the Climate and Sustainability Council may require the Group companies to provide it with all information about the implementation and delivery of the Policy.
- ORLEN Group companies must report on the delivery of the Climate Policy to the Climate and Sustainability Council.



05

Metrics and targets

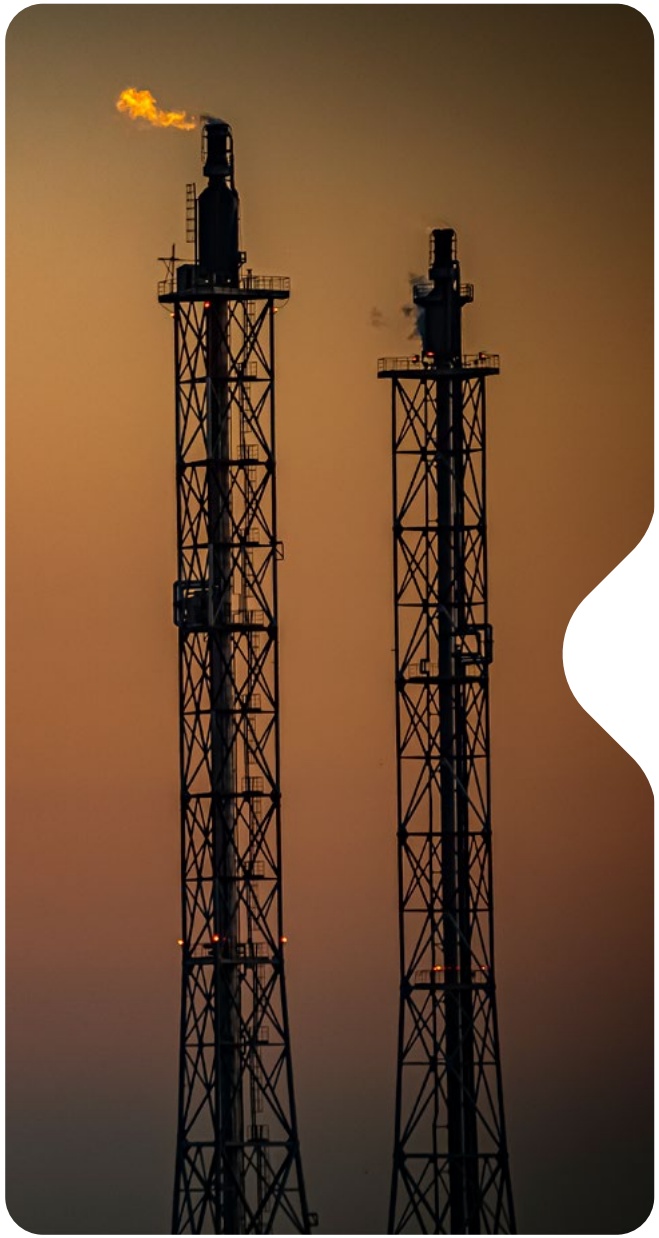
Disclosures of the ORLEN Group's carbon footprint and decarbonisation targets

Carbon footprint

In 2021, ORLEN Group took steps to develop a methodology for calculating its carbon footprint, which is currently used to determine the Group's carbon footprint for 2019-2022.

The calculations were made in accordance with the GHG Protocol

The GHG Protocol establishes a framework to measure and manage greenhouse gas emissions from private and public sector operations along the entire value chain. It was issued as part of partnership between The World Resources Institute (WRI) and World Business Council for Sustainable Development (WBCSD).



Base year

Period used for comparison of carbon footprint values over the time horizon. 2019 was the year adopted for the purpose.

Organisational boundaries

Reporting greenhouse gas emissions within the organisation began with the setting of the organisational boundaries, which in turn required determining the responsibility for emissions across the organisation, including at subsidiaries. The adopted operational control criterion with respect to emissions reported for 2019-2021 excluded the LOTOS Group's and the PGNiG Group's assets. Scope 1, 2 and 3 emissions from 110 companies, including PKN ORLEN were analysed. These emissions represent the entire Group's carbon footprint.

Note:

The LOTOS Group's and the PGNiG Group's emissions are not included in the disclosed results for 2019-2021. They will be presented after 2022, taking into account the base year recalculations. The 2019-2020 emissions were measured by an independent adviser, while the 2021 emissions were measured by ORLEN and verified by an independent entity, in accordance with the PN-EN ISO 14064-3 standard.

Emission sources	**2019 emissions** [t CO_2e]	**2020 emissions** [t CO_2e]	**2021 emissions** [t CO_2e]
Scope 1	**18,623,537**	**17,715,216**	**18,102,614**
Direct emissions	17,215,094	16,301,845	16,738,959
Direct fugitive emissions	892,060	942,339	860,844
Process emissions	375,307	347,885	360,692
Fuels	128,891	120,435	135,601
Industrial gas	11,925	2,393	6,518
Cooling agents	260	319	0
Scope 2			
Market-based	1,666,685	1,259,736	1,134,975
Location-based	1,485,970	1,146,660	1,019,200
Scope 3	**86,860,532**	**81,123,571**	**82,347,592**
Category 11. Use of sold products	67,272,950	63,013,377	65,958,028
Category 1. Purchased goods and services	10,504,490	12,555,505	12,448,292
Category 3. Fuel- and energy-related emissions not included in Scope 1 or Scope 2	3,643,416	3,312,008	1,905,907
Category 10. Processing of sold products	1,586,136	1,588,208	1,259,508
Category 4. Upstream transport and distribution	562,448	414,513	531,447
Category 9. Downstream transport and distribution	277,079	229,090	239,567
Category 5. Waste generated in operations	13,382	10,555	4,265
Category 6. Business travel	631	316	577

* Emission data does not include the acquired assets of the LOTOS Group and the PGNiG Group.

Scope 1

Scope 1, in accordance with the GHG Protocol, includes the following direct emissions from ORLEN Group:

- emissions reportable under the TIER or EU-ETS emission trading systems, from the combustion of fuels or process emissions generated from the operation of installations in the segments specified by the systems or, in the case of TIER (which is one of the emissions trading systems that operate in Canada and covers direct emissions from our assets in Canada) – those exceeding the annual emission threshold of 100,000 tonnes of tCO_2e,
- emissions not-reportable under TIER or EU-ETS (referred to as Non-TIER or Non-ETS in the report and calculation), i.e.:
  - emissions from combustion of fuels in owned and leased fleet vehicles,
  - emissions from the incineration of waste in dedicated facilities,
  - fugitive emissions, covering:
    - process emissions,
    - emissions resulting from leaks, attributable both to the nature of the facility (permanent leaks) as well as to intentional maintenance leaks, and to the use of flare stacks,
    - direct emissions from wastewater treatment (at owned treatment plants).

Scope 2

Indirect emissions from electricity consumption were calculated using the Location-Based and Market-Based methods in accordance with the GHG Protocol. This means that in the calculation, for each item relating to electricity purchased and consumed, the same consumption volume is multiplied by the national grid-average factor for the Location-Based method, and the energy seller factor for the Market-Based method.

In the case of the Location-Based method, electricity consumption was multiplied by the average emission factor for the country in which ORLEN Group company operates.

Scope 3

Item	Category	Description
1.	Purchased goods and services	Emissions related to the production and initial processing of raw materials, as well as emissions related to the production of purchased products serving as inputs for the ORLEN Group's processes. These emissions are indirectly allocated to the ORLEN Group's value chain, such as crude oil purchased from outside the Group.
3.	Fuel- and energy-related emissions not included in Scope 1 or Scope 2	Category 3 of Scope 3 includes WTT (Well to Tank) emissions, i.e., emissions generated during fuel production and combustion to generate electricity, heat, steam and cooling, as well as emissions associated with the generation of energy lost in transmission and distribution. Theses emissions are part of WTW (Well to Wheel) emissions, i.e., emissions from fuel/energy production to consumption. The remaining WTW emissions are TTW emissions that are generated from the combustion of fuels in facilities used by the organisation (Scope 1) or from the production of electricity purchased by the organisation (Scope 2).
4.	Upstream transport and distribution	Emissions from road, rail, marine and air transport (if any). Includes emissions from the supply of raw materials and dispatch of finished products, whose cost is borne by ORLEN Group.
5.	Waste generated in operations	Emissions from disposal of waste generated in operations.
6.	Business travel	Emissions from the travel of employees for business-related activities in vehicles owned or operated by third parties, such as taxis, urban transport, buses, trains, aircraft. Category 6 does not include travel using owned fleet vehicles – such emissions (fuel combustion) are already included in Scope 1 direct emissions.
9.	Downstream transport and distribution	Emissions from road, rail, marine and air transport (if any). Includes emissions from shipments of finished products arranged at the customer's expense.
10.	Processing of sold products	Emissions from the processing of the ORLEN Group's output intermediate products at organisations outside ORLEN Group, such as PVC granulate or PE resin.
11.	Use of sold products	Emissions from the use of products sold by ORLEN Group, for instance, emissions from the combustion of fuel sold at service stations. Category 11 includes direct emissions and, optionally, indirect emissions generated during the expected useful life of the ORLEN Group's value chain products sold outside ORLEN Group.

Decarbonisation targets

Operational boundaries	Metrics and scopes	2030	2035	2050
Equity share	Oil & Gas Scope 1+2 ($MtCO_2e$) vs 2019	-25%		Net Zero
	Energy segment's carbon intensity Scope 1 ($kgCO_2e/MWh$) vs 2019	-40%		
	Net Carbon Intensity Scope 1+2+3 (gCO_2e/MJ) vs 2019	-15%		
Operational Control	Coal-fired power and heat (TWh)		0 coal phase-out	
	Routine Flaring (sm^3)	0 zero routine flaring		
	Methane Venting (sm^3)	0 zero methane venting		

06

Appendices

TCFD table

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Management's role in assessing and managing climate-related risks	Management of climate-related issues: **pages 54 - 60**
Strategy	
Climate-related risks and opportunities identified by the organisation over the short, medium, and long term	Identification, assessment and management of climate-related risks: **pages 39 - 46**
Description of the impacts of climate-related risks and opportunities on the organisation's businesses, strategy, and finance	Identification, assessment and management of climate-related risks: **pages 39 - 46**
Analysis of business model resilience, taking into consideration different climate-related scenarios	Scenario analyses of business model resilience to climate change: **pages 23 - 25**
Risk management	
Processes for identifying and assessing climate risks	Risk management system: **pages 37 - 38**
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Description of how climate-related risks are integrated into the organisation's management system	Integration of climate risks in the enterprise system: **pages 47 - 52**
Metrics and targets	
Metrics used by the organisation to assess climate-related risks and opportunities in line with its strategy and risk management process	Decarbonisation strategy: **pages 26 - 30**
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Targets used by the organisation to manage climate-related risks and opportunities and performance against targets	Decarbonisation targets: **page 71**

List of abbreviations, acronyms and units used in the Climate Policy

Term	Explanation
CO_2e	Greenhouse gases converted to CO_2 equivalent
RES	Renewable energy sources
CCUS	Carbon capture and utilisation or storage
SMR	Small modular reactor
Renewable hydrogen	Hydrogen including the following categories: renewable liquid and gaseous fuels of non-biological origin (RFNBO), recycled carbon fuels (RCF); gaseous fuels produced from biomass
GW	Gigawatt-hour of installed electricity or heat capacity
TWh	Terawatt-hour of electricity or heat capacity
NCI	Net carbon intensity
gCO_2e/MJ	Indicator of GHG emissions reduction per MJ
EU ETS	EU Emissions Trading System
REPowerEU	The European Commission's plan seeking to end Europe's dependence on Russian fossil fuels in the wake of Russia's invasion against Ukraine
FitFor55	An EU legislation package aiming to reduce greenhouse gas emissions by 55% compared with 1990 levels
CBAM	Carbon Border Adjustment Mechanism (CBAM)
RED	Renewable Energy Directive
ESR	Effort Sharing Regulation
EED	Energy Efficiency Directive
EPBD	Energy Performance of Buildings Directive
AFIR	Alternative Fuels Infrastructure Regulation
SCF	Social Climate Fund
LULUCF	Land Use, Land-use Change and Forestry Regulation
CSDD	Corporate Sustainability Due Diligence
CSR	Corporate Social Responsibility
ESG	Environment, Social and Governance (factors relevant to a non-financial assessment of the corporation's or organisation's ESG performance)

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