

# ORLEN Group Climate Policy

Warsaw, April 2025







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# 01

## Introduction





## Introduction

We are pleased to introduce the ORLEN Group Climate Policy, which sets out our high-level approach to addressing climate-related issues as well as guiding our strategic response to the challenges and opportunities presented by climate change.

As a leading integrated energy provider in Central Europe, the ORLEN Group is committed to achieving Net Zero by 2050. Under this Policy, we proactively assess both physical and transition risks through climate change scenario analysis. We take adaptive measures to enhance resilience to evolving climate conditions and implement solutions aimed at mitigating the environmental footprint of our business activities.

The ORLEN Group Climate Policy defines priority actions that focus on reducing greenhouse gas emissions, enhancing energy efficiency, and integrating renewable and low-carbon energy sources throughout our operations. We rigorously track and report our emissions across Scopes 1, 2, and 3, which enables comprehensive management of our carbon footprint across the entire value chain. Moreover, we actively engage with suppliers and business partners to promote sustainability and responsible sourcing practices.

Climate considerations are deeply embedded into the ORLEN Group's governance structures and decision-making processes. Our Climate Policy is interlinked with the ORLEN 2035 Business Strategy, our Sustainability Strategy (which defines Group objectives for 2025–2035), and the ORLEN Transition Plan (which charts our pathway to a sustainable energy future). By incorporating Environmental, Social, and Governance (ESG) aspects into our operations, ORLEN actively drives the growth of sustainable industry and supports the transition of the broader energy sector, including through delivery of adopted strategies and initiatives.

## Challenges of the energy transition

Growing demand for energy, driven by rapid economic development, has historically increased reliance on fossil fuels. 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.

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.

Massive changes will be required especially in countries whose energy sectors are still largely reliant on emission-intensive fuels, such as Poland. Therefore, the necessary transformation of the Polish energy system presents a formidable challenge but also an opportunity, with fuel and energy producers playing a crucial role in the process.

Climate  
neutrality by

# 2050

## Central Europe in the context of energy transition

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.

As a transitional fuel, natural gas will play a significant role on the pathway to Net Zero, gradually replacing coal



### Natural gas

Natural gas demand in Poland could exceed 27 bcm annually within the next five years and is expected to remain high thereafter. Consequently, the share of natural gas in Poland's power generation mix will inevitably increase over the coming years.

The rapid phase-out of coal and accelerated deployment of renewables will require Poland to significantly expand its gas-fired generation capacity within the next decade. This means that, in the short-to-medium term, natural gas will become one of the pillars of the country's electricity system. Gas-fired power plants will also play a key role in balancing the operation of renewable energy assets. Thanks to their operational flexibility, these plants can rapidly increase output, for example during shortfalls in wind and solar energy generation, a factor particularly relevant at Poland's latitude.

As Poland strives to reduce GHG emissions, natural gas represents an essential bridge in the energy transition, enabling a gradual shift towards more sustainable and ultimately zero-emission energy sources.



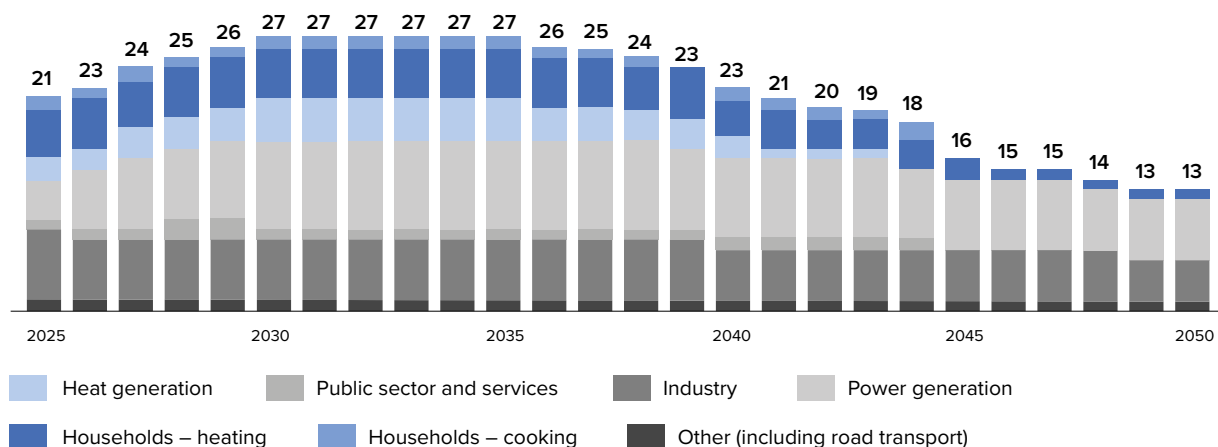
### Coal

Coal continues to play a significant role in Central Europe's energy sector, particularly in Poland, where over 60% of electricity generated in 2024 came from coal-fired sources. This high dependency on coal for domestic electricity generation results in some of the highest carbon intensity metrics in the region, creating major challenges for Poland's decarbonisation efforts and energy transition.

Furthermore, coal is extensively used for combined heat and power generation, and Poland has one of the most extensive district heating networks in Europe. In this sector, dependence on fossil fuels, including coal, is even greater, making the transition to renewable energy sources more complex compared to electricity generation alone.

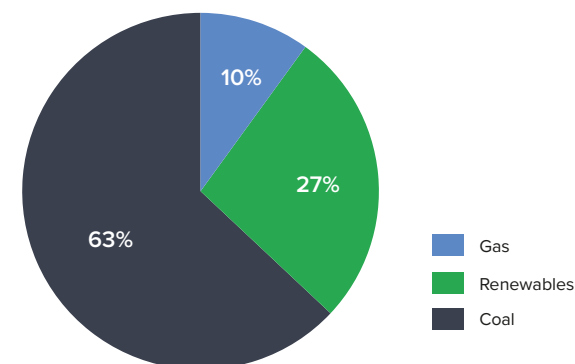
### Poland's demand for natural gas

2025-2050 [bcm]



### Poland's power generation mix

2024



Source: PSE S.A.





## Poland faces significant challenges on its path to Net Zero due to relatively low renewable energy penetration and the absence of nuclear energy assets.



### Renewables

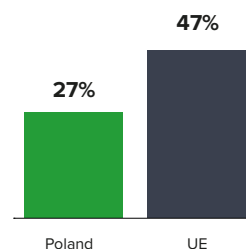
With the accelerating electrification of economies, installed renewable energy capacity in Central Europe is expected to grow rapidly – potentially at a faster rate than in other European regions. Despite renewables' increasing contribution to the country's energy mix, in 2024 Poland achieved only a 27% share of primary energy from renewable sources, ranking below most other EU member states.

The absence of nuclear power and continued heavy reliance on fossil fuels keep Poland among the region's most carbon-intensive economies, which adversely affects its competitiveness. In this context, the rapid expansion of onshore and offshore wind energy, solar PV power, biomass, and biogas assets is crucial for reducing GHG emissions and mitigating the economic costs of fossil fuel dependency.

The energy transition requires intensified renewable energy deployment to capitalise on electrification opportunities and support sustainable development. What is more, renewable energy is essential for the production of zero-emission energy carriers such as hydrogen and for achieving goals related to zero-emission mobility.

### Share of RES in power generation mix 2024

Source: Eurostat.



### Nuclear energy

Nuclear power plays a significant role in Central Europe's energy transition, contributing substantially towards achieving climate neutrality and ensuring the region's energy security. Many Central European countries view nuclear power development as essential to reducing reliance on energy imports. The region is witnessing a nuclear energy revival, characterised by growing investments in new projects and the upgrades of existing nuclear assets.

Examples include new reactor units under construction in Poland, Slovakia, the Czech Republic, and Romania, as well as plans to develop small modular reactors (SMRs), which can offer stable energy supplies. Nuclear power is increasingly viewed as central to achieving the European Union's ambitious climate objectives, which call for substantial GHG emission reductions by 2050.

Currently, the absence of nuclear power in Poland perpetuates dependence on carbon-intensive fossil fuels, complicating the energy transition and increasing the burden of meeting climate objectives on both the society and the economy.

We are committed to transport decarbonisation; however, its pace depends on changes in consumer behaviour and technological advancement.



### Conventional fuels

Petroleum-based fuels will remain critical for transport in Central Europe for the coming decades. As such, refineries will have to continue to operate to meet demand until alternative energy sources effectively replace conventional solutions.

End-user consumption of fuels accounts for the largest share of our overall carbon footprint. This consumer-driven demand dictates the need for fuel production and significantly influences the pace of decarbonisation of the fuel industry.



### Biofuels and biomethane

Biofuels will be instrumental in supporting transport decarbonisation in Central Europe. EU regulations require that the share of renewable energy in transport be steadily increased, and biofuels are positioned to play a crucial role in this process, either through higher bio-component blends or entirely biomass- and biogas-derived fuels. Their ability to seamlessly replace conventional fuels, particularly as substitutes for diesel, makes them a pragmatic solution – especially in heavy-duty transport, where electrification options remain limited, and in aviation through the adoption of sustainable aviation fuels (SAF).

Biofuels such as biodiesel and bioethanol can substantially contribute to GHG reductions. Increasing their market share will require aligning national policies with EU regulations and investing in new technologies, which presents both challenges and opportunities for the sector.



### Synthetic fuels and hydrogen

Synthetic fuels produced from renewable energy sources and carbon dioxide can be used in existing internal combustion engines, which facilitates their integration into current infrastructure. Hydrogen, widely recognised as a fuel of the future, has the potential to meet a substantial portion of transport energy needs, especially in heavy-duty applications, where it can be utilised in fuel-cell vehicles.

EU regulations actively encourage the use of low- and zero-emission hydrogen and synthetic fuels. As production technologies and related infrastructure continue to evolve, the importance of these fuels in reducing GHG emissions will steadily increase. Nevertheless, achieving decarbonisation targets will require sustained investment in renewables and substantial development of production and distribution infrastructure.



### Electromobility

Electric mobility in Central Europe is progressing more slowly than in other parts of Europe, primarily due to a lower penetration of electric vehicles (EVs) and higher carbon intensity of electricity generation. Demand for electricity in transport will mainly be driven by the passenger vehicle segment, while heavy-duty transport, predominantly diesel-based, faces limited opportunities for electrification.

Consequently, diesel will remain the dominant fuel for heavy-duty transport in the coming years, whereas electrification will become increasingly prominent in passenger transport. Expanding the infrastructure to facilitate rapid and convenient charging of electric vehicles will be critical to the growth of electric mobility in the region.





## 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 more sustainable organisations through investment in renewable energy sources, network upgrades, energy efficiency improvements, and rollouts of solutions responsive to rapidly changing customer preferences.

Companies within the oil and petrochemical sectors face a different set of challenges. Medium-term market forecasts show potential for its further growth in the coming years. However, in the long run the sector will need to address the inevitable demands 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 conventional fuels over time. Developments in the circular economy and resulting constraints will hit the production of basic petrochemicals.

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, for 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 and biogas, hydrogen economy, and integrated retail offerings.

## ORLEN approach to energy transition

Value maximization of our core business capabilities is essential to financing the ORLEN Group's energy transition

LOGIC BEHIND  
GROWTH  
PROJECTS

### Maximising value from the existing asset base

Investment in high-return assets to finance energy transition



**12 bcm**  
annual natural gas production



**4,3 GW**  
installed capacity



**15 bcm**  
contracted gas supplies  
annually



**10 million**  
VITAY loyalty scheme  
subscribers



**97 [%]**  
refining capacity utilisation



**>120 TWh**  
retail electricity  
and gas sales

### Investing in new, sustainable business lines

Development of new competitive products and businesses  
driving the energy transition



**4 million tonnes**  
annual CO<sub>2</sub> storage capacity



**0,9 GW**  
electrolyser capacity  
for hydrogen production



**26.1 [%]**  
share of renewables



**12,8 GW**  
installed capacity



**250 thousand tonnes**  
recycling capacity



**1 TWh**  
electricity supplied to EVs

FOUNDATIONS  
FOR GROWTH

#### ASSET OPTIMISATION

Operational efficiency | Portfolio optimisation | Transition and integration of business lines

#### PRAGMATIC CAPITAL MANAGEMENT

Low-carbon projects | Ensuring required returns on investment | Partnerships for the development of new business lines



# Decarbonisation strategy



## 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 manifest in the growing role of renewable energy in the economy and 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.

As part of its efforts to minimise adverse climate impacts, the ORLEN Group seeks to support two environmental objectives of the EU Taxonomy, namely:

- Climate change mitigation
- Climate change adaptation





## Climate change mitigation

At the ORLEN Group, we seek to grow our 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 developing greenhouse gas removals. These efforts advance the long-term objective of achieving climate neutrality by 2050, in accordance with the Paris Agreement.

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

- generating, transmitting, storing, distributing or using renewable energy, including through the deployment of innovative technologies that can potentially generate significant future savings or through necessary reinforcement or extension of the grid;
- improving energy efficiency and gradual phase-out of electricity and heat production based on 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 11-20.



### **Regulation (EU) 2020/852 of the European Parliament and of the Council**

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





## Climate change adaptation

We are committed to developing business activities that directly contribute to achieving the environmental objective of climate change adaptation.

In accordance with the ORLEN 2035 Strategy, we implement measures designed to mitigate both current and anticipated climate change risks. We carry out these initiatives in a manner that avoids increasing risks to people, nature, or company assets.

These adaptation measures are subject to regular evaluation and prioritised based on the best available climate projections and scientific data. To qualify as effective adaptation measures, they must meet at least one of the following criteria:

- prevent or reduce adverse impacts of climate change on our business operations, taking into account their specific locations and broader context;
- prevent or reduce adverse environmental impacts from climate change in the areas where we conduct our operations.

➔ For more information on the resilience of business model scenarios to climate change, see pages 27-28.



### Regulation (EU) 2020/852 of the European Parliament and of the Council









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





## Decarbonisation strategy

As our pathway to achieving Net-Zero 2050 must reflect the social and economic conditions prevailing in Central Europe, our new strategy includes revised emission reduction targets for 2035

|  | Business segments  | 2030        | 2035        | Ambicja 2050   |
|--|--|-------------|-------------|--|
| <b>Absolute emissions<sup>1</sup></b><br>Scopes 1 and 2 [million tCO <sub>2</sub> e]                 |    | <b>-13%</b> | <b>-25%</b> |  <b>Net Zero</b><br>for Scope 1, Scope 2 and Scope 3 emissions, in accordance with the Paris Agreement <sup>5</sup> |
| <b>Emissions intensity<sup>2</sup></b><br>Scope 1 [kg CO <sub>2</sub> e/MWh]                         |   | <b>-40%</b> | <b>-55%</b> |  |
| <b>Net carbon intensity (NCI)<sup>3</sup></b><br>Scopes 1+2+3 (Category 11) [g CO <sub>2</sub> e/MJ] |     | <b>-10%</b> | <b>-15%</b> |  |



Upstream &amp; Supply



Downstream



Energy



Consumers &amp; Products

Base year: 2019.

1. Emission volumes in the Upstream & Supply and Downstream segments measured as million tCO<sub>2</sub>e for Scope 1 and Scope 2 GHG emissions.

2. Emission intensity in the Energy segment measured as kg CO<sub>2</sub>e/MWh for Scope 1 GHG emissions.

3. Emission intensity from our energy products measured as g CO<sub>2</sub>e/MJ for Scopes 1 and 2, and Category 11 of Scope 3 GHG emissions.

4. Emissions from Petrochemicals production (non-energy products) are not included in the NCI.

5. Our ambition to reduce emissions is aligned with the goal of limiting climate warming to 1.5°C by 2050. Achievement of our long-term targets will depend on the technological progress and the regulatory and legal landscape. These factors may create more or less favourable conditions for the energy transition, potentially accelerating, or slowing down, the pace of our strategy's implementation.



## GHG emissions reduction in Oil & Gas

By 2035, we aim to reduce Scope 1 and 2 GHG emissions from our Oil & Gas operations by 25%.

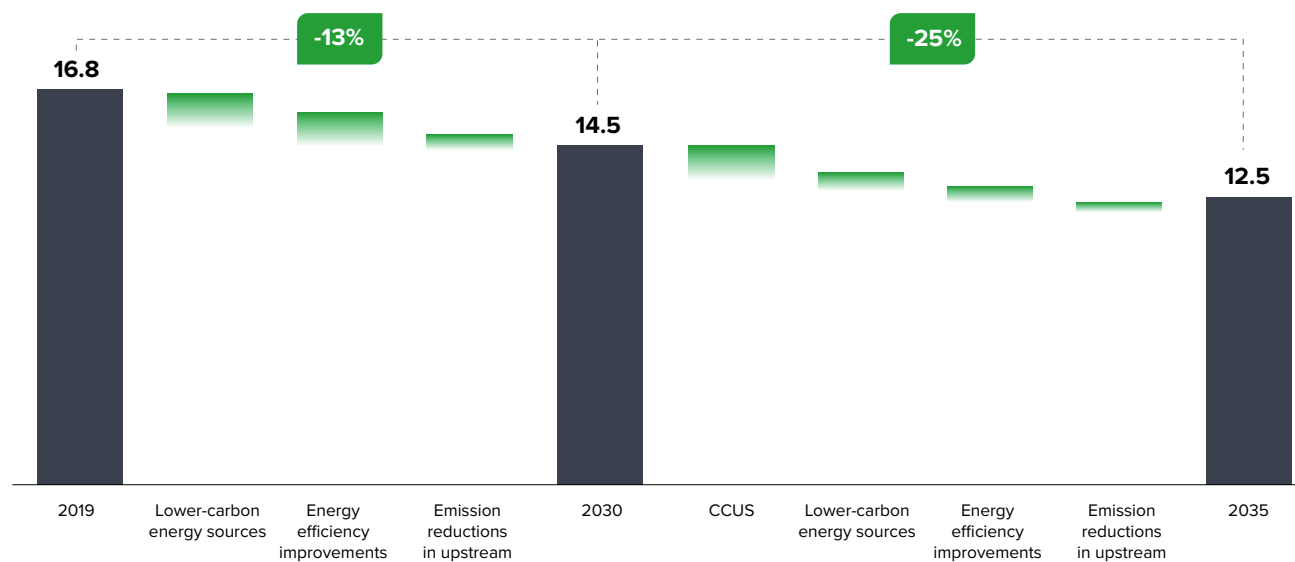
We will achieve this through:

- **Lower-carbon energy sources:** increasing the use of low- and zero-carbon energy sources in our Upstream and Downstream assets
- **Energy efficiency improvements:** implementing initiatives to enhance energy efficiency of refining and petrochemical assets
- **Emission reductions in upstream production:** reducing methane emissions from hydrocarbon extraction, with targets of achieving Zero Routine Flaring and Near Zero Methane Emissions across operated assets by 2030.
- **CCUS:** deploying carbon capture, utilisation, and storage (CCUS) technologies or, in specific cases, potentially substituting this lever with RFNBO<sup>2</sup>.



### GHG emissions reduction in Oil & Gas<sup>1</sup>

million t CO<sub>2</sub>e



Base year: 2019.

1. The target refers to absolute Scope 1 and 2 CO<sub>2</sub>e emissions within the Upstream & Supply and Downstream segments.

2. Ultimate contributions from these levers may vary depending on the selection of the most economically viable solutions.

RFNBO – Renewable Fuels of Non-Biological Origin





## Reduction of emissions intensity in Power & Heat

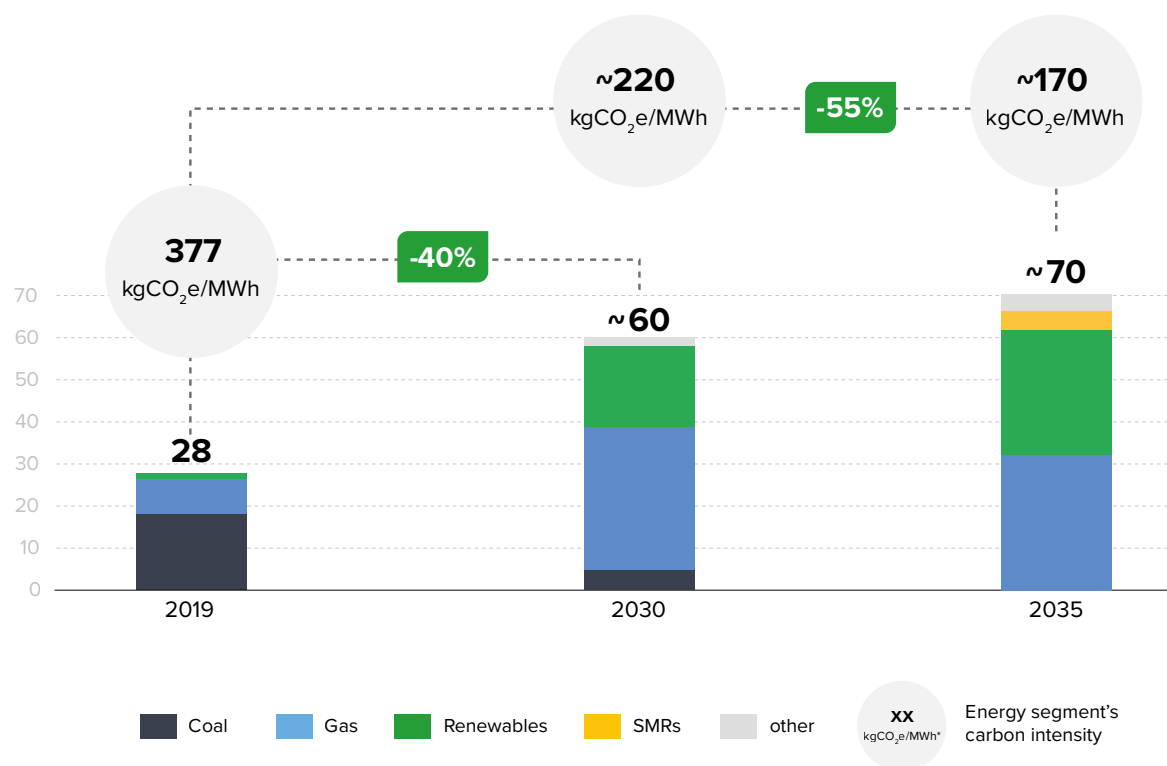
We intend to reduce carbon intensity (kg CO<sub>2</sub>e/MWh) in the Energy segment by 55% until 2035.

### We will achieve this through:

- **Investment in renewable energy:** expanding our installed offshore and onshore wind power and solar PV capacity
- **Development of low-carbon energy sources:** ensuring reliable electricity supply by developing low-emission Combined Cycle Gas Turbine (CCGT) units, thereby significantly reducing the share of coal in the region's energy mix
- **Decarbonisation of district heating systems:** phasing out coal through strategic investments in gas-fired heating assets, supported by renewable energy sources
- **Development of Small Modular Reactors (SMRs):** securing zero-carbon electricity supplies through the deployment of SMR technology.

### Reduction of emissions intensity in Power & Heat<sup>1</sup> (kg CO<sub>2</sub>e/MWh)

Power and heat generation at the ORLEN Group (TWh)



Base year: 2019.

1. The target refers specifically to Scope 1 CO<sub>2</sub>e emissions in the Energy segment.



## Coal phase-out

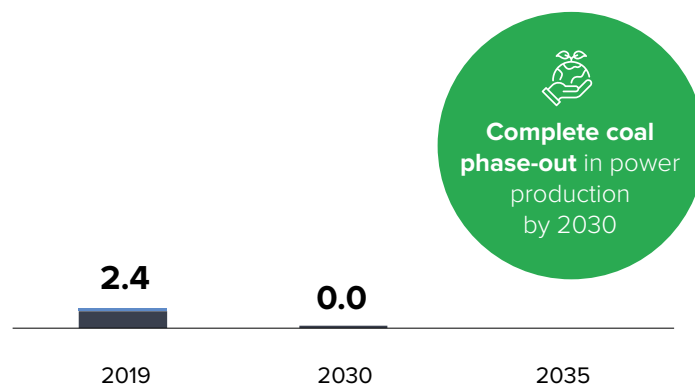
By the end of 2030, we plan to cease coal-based power generation, and by 2035 we intend to fully phase out coal from our heat generation assets.

### We will achieve this through:

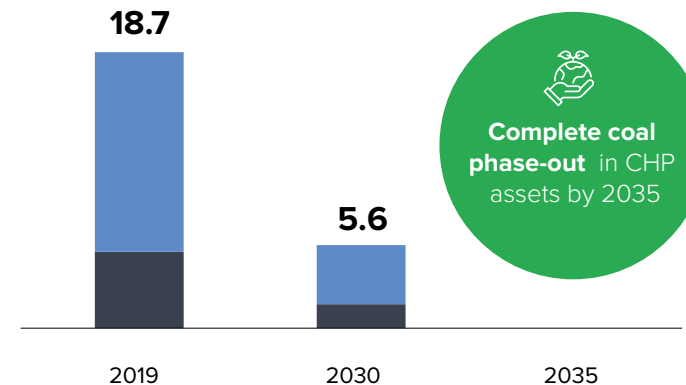
- Coal phase-out at Ostrołęka B power plant:** Ostrołęka B is the ORLEN Group's sole utility-scale power plant operating by burning hard coal. Until the end of 2030, a single coal-fired unit will continue to operate, co-firing 50% biomass.
- Coal phase-out in combined heat and power (CHP) generation:** The majority of the ORLEN Group's coal primarily supply heat to district heating systems. These district heating systems play a critical social role, which we carefully consider in our energy transition planning for these assets.



Ostrołęka B coal-fired power plant<sup>1</sup>, (TWh)



Coal-fired CHP plants<sup>2</sup> (TWh)



1. Ostrołęka B – in 2030, electricity will be produced by a single unit co-firing 50% biomass.

2. Includes total production from units with coal co-fired alongside other fuels.





## Reduction of Net Carbon Intensity

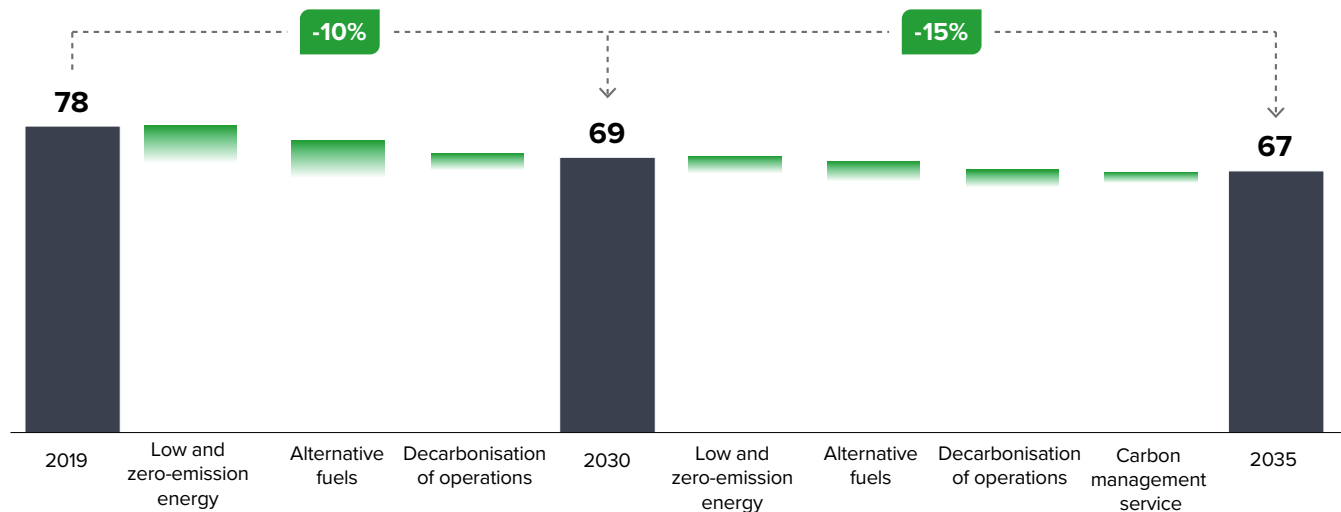
Our ambition is to leverage our growing supply of low- and zero-carbon energy to achieve a 15% reduction in Net Carbon Intensity (NCI) by 2035. This objective is both an enormous challenge and an opportunity to strengthen our role as an energy supplier.

### We will achieve this through:

- **Low and zero-carbon energy:** investment in low- and zero-carbon energy generation technologies, such as CCGT and RES
- **Alternative fuels:** By expanding our production capacity for biogas/biomethane, renewable hydrogen, biofuels, and synthetic fuels, as well as building an extensive EV charging network, we aim to supply increasing quantities of low-carbon energy.
- **Decarbonisation of operations:** By improving energy efficiency, reducing methane emissions, capturing and storing emissions from our own facilities, using lower-carbon energy sources, and phasing out coal from power generation, we reduce Scope 1 and 2 emissions.
- **Carbon Management service:** developing infrastructure to handle and store emissions captured from third-party sources.



### Reduction of Net Carbon Intensity<sup>1</sup> (g CO<sub>2</sub>e/MJ)



Base year: 2019.

1. The target refers specifically to Scope 1 CO<sub>2</sub>e emissions in the Energy segment.

## Calculation of Net Carbon Intensity

We have developed a methodology to calculate our Net Carbon Intensity (NCI), enabling the monitoring of GHG emission reductions across the ORLEN Group's value chain

The largest source of emissions across our value chain is the end-use of ORLEN products by customers, which is accounted for under Scope 3, Category 11.

Our Net Carbon Intensity (NCI) calculation methodology is a key tool for monitoring decarbonisation progress, as it takes into account both direct emissions and those resulting from the use of ORLEN products.

A production-based approach was adopted to mitigate the risk of double-counting, while still capturing all relevant areas and material emissions where future development is expected to most significantly contribute to reducing carbon intensity.

$$\text{NCI} = \frac{
 \begin{array}{l}
 \text{① Scope 1 and 2} \\
 + \\
 \text{② Scope 3, Category 11} \\
 - \\
 \text{③ Carbon management services}
 \end{array}
 \text{ gCO}_2\text{e}
 }{
 \begin{array}{l}
 \text{④ Energy content of ORLEN products} \\
 \text{(natural gas, transport fuels, electricity, and heat)}
 \end{array}
 \text{ MJ}
 }$$

Net Carbon Intensity (NCI) measures emissions per unit of energy sold (gCO<sub>2</sub>e/MJ).

- ① Its calculation accounts for all direct emissions (Scope 1) and emissions related to the purchase of energy and heat for own use (Scope 2). Emissions from Petrochemicals production (non-energy products) are not included in the NCI.
- ② Indirect emissions resulting from the use of sold products (Scope 3, Category 11) are included.
- ③ The metric excludes volumes of carbon dioxide captured using CCS technologies as part of services provided to third parties.
- ④ Energy content of products includes the produced conventional fuels (diesel oil, gasoline, gas, etc.), low- and zero-carbon fuels (biofuels, hydrogen, biogas, etc.), electricity, and heat.







# Risk management

## Risk management

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

As required by aforementioned regulations, the Risk Management and Compliance Area has been established at ORLEN S.A. to coordinate the enterprise risk management process 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.

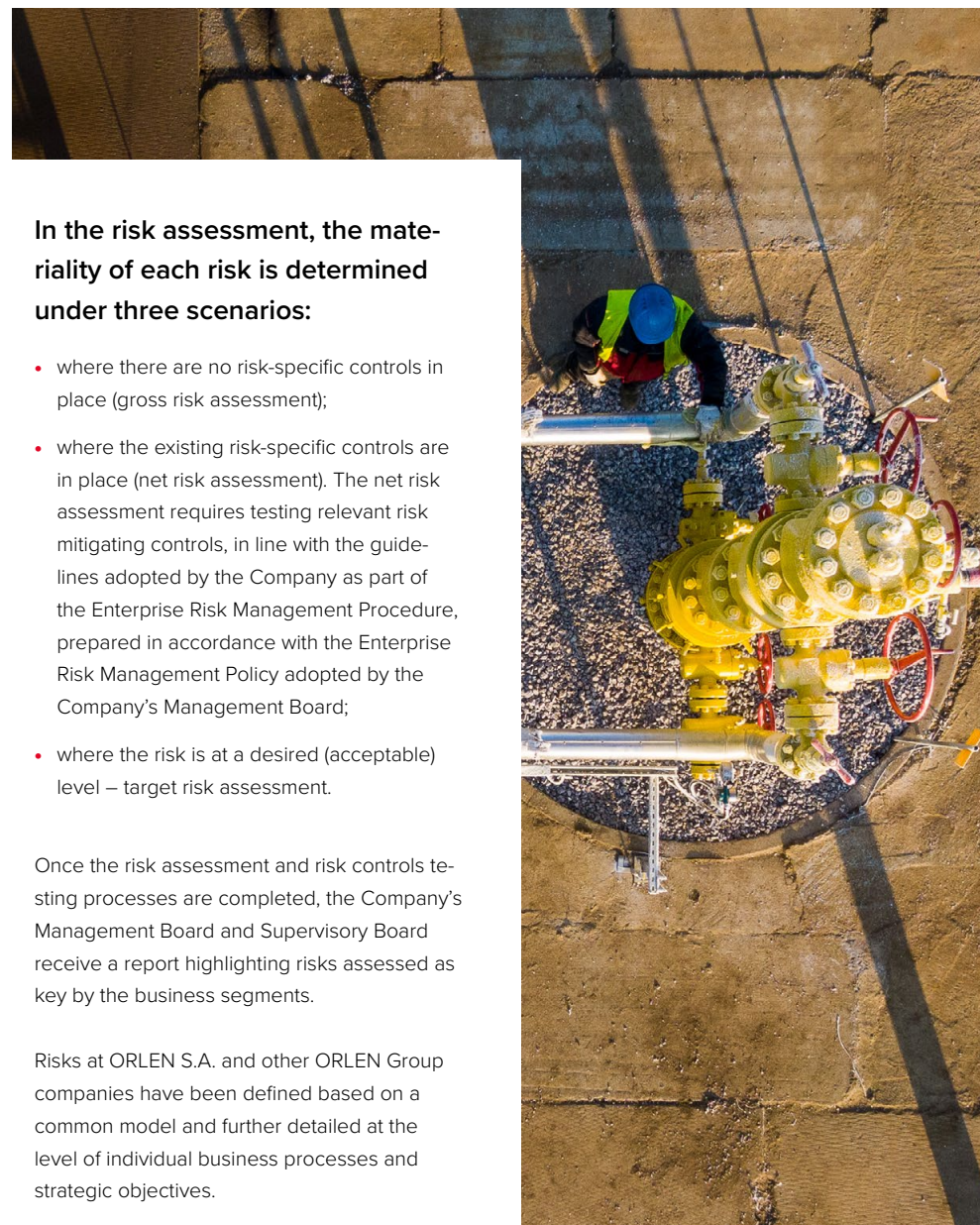
Risks are assessed regularly by individual business segments of ORLEN S.A. and the ORLEN Group as part of their self-assessment and risk controls testing. The key objective is to ensure that risk estimation is up to date, and that the risk controls are validated for adequacy and effectiveness. Process 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.

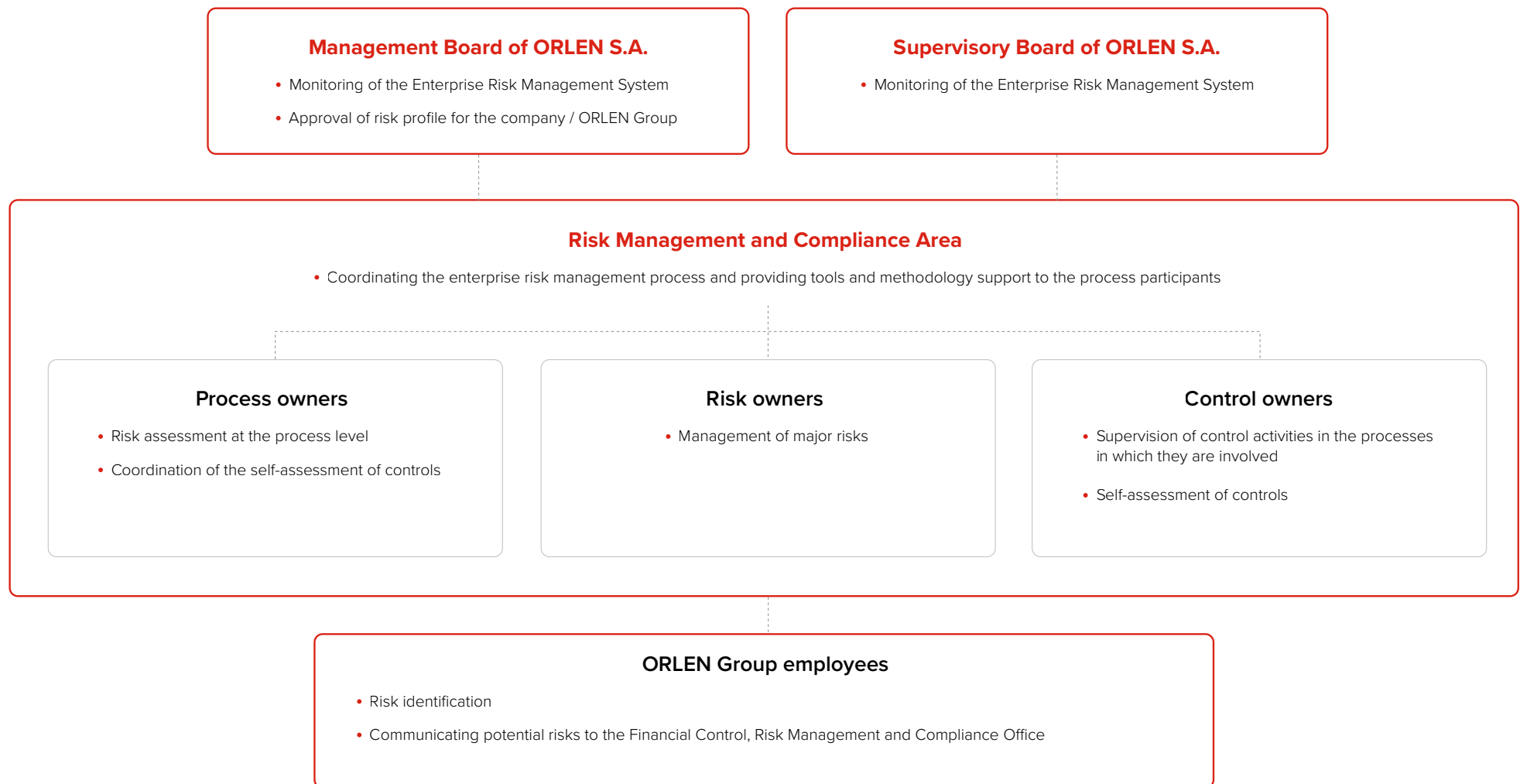
Once the risk assessment and risk controls testing processes are completed, the Company's Management Board and Supervisory Board receive a report highlighting risks assessed as key by the business segments.

Risks at ORLEN S.A. and other ORLEN Group companies have been defined based on a common model and further detailed at the level of individual business processes and strategic objectives.





## Risk Management System



## Identification of key climate change risks – analysis of physical risks

In assessing climate-related risks and forecasting their potential impact on the ORLEN Group's operations, we rely on climate scenarios developed by the Intergovernmental Panel on Climate Change (IPCC).

To determine the materiality and likelihood of physical risks materialising, we use the IPCC's high-emission scenario, Representative Concentration Pathway (RCP) 8.5, combined with the Shared Socio-economic Pathway SSP5, projecting an average global temperature increase of approximately 4.4°C.

Analyses conducted thus far have not identified significant physical risks that would materially affect the Group's operations. Several climate-related risks have been deemed immaterial to our assets, either due to:

- their absence at the geographical latitude where the Group operates,
- or declining relevance resulting from reduced intensity or lower likelihood of occurrence even under the high-emission scenario conditions.

As part of our operations, the ORLEN Group implements adaptive measures to prevent and mitigate potential adverse impacts from extreme weather events, including prolonged droughts, heat waves, severe rainfall and storms, or flooding. To this end, we are upgrading our water supply, wastewater discharge and fire protection systems, while modernising our infrastructure, most notably the electricity transmission and distribution networks, to enhance their resilience to extreme weather events.

Looking ahead, we plan to broaden the scope of our climate risk assessment to cover the Group's entire asset base, while also integrating key value chain components. This extended assessment will evaluate the materialisation of physical risks under extreme climate scenarios involving unconstrained global temperature rise, using the latest available scientific data.



| Type of risk          | Risk description   |  |  |
|-----------------------|--|--|--|
|                       | temperature-related  | wind-related   | water-related  |
| acute climate risks   | <ul style="list-style-type: none"> <li>• heat waves</li> </ul>   | <ul style="list-style-type: none"> <li>• storms, strong wind gusts</li> <li>• tornadoes</li> </ul> | <ul style="list-style-type: none"> <li>• droughts</li> <li>• heavy precipitation (rain, hail, snow/ice)</li> <li>• flood (coastal, fluvial, pluvial, ground water)</li> </ul>                                |
| chronic climate risks | <ul style="list-style-type: none"> <li>• changing temperature patterns</li> <li>• heat stress</li> </ul> | <ul style="list-style-type: none"> <li>• changing wind patterns</li> </ul>                         | <ul style="list-style-type: none"> <li>• changing precipitation patterns and types (rain, hail, snow/ice)</li> <li>• hydrological variability</li> <li>• saline intrusion</li> <li>• water stress</li> </ul> |

Table. Physical risks analysed for the ORLEN Group (in-house analysis based on the EU Taxonomy Appendix A).



## Identification of key climate change risks and opportunities – analysis of transition risks and opportunities

We assess the materiality and likelihood of transition risks based on a low-emission scenario, which assumes an accelerated global transition limiting temperature rise to 1.5°C.

In analysing key risks associated with the energy transition, we have identified a number of challenges related to regulatory and legal risks, technological risks, market risks, and reputational risks.

In parallel, the ORLEN Group identifies a range of energy transition-related opportunities, including opportunities that may arise from enhanced energy efficiency, expanded use of lower-carbon energy sources, newly developed product and service offerings, entry into new markets, and organisational resilience built through business diversification.

| Type of risk           | Risk description  | Type of opportunity             | Opportunity description   |
|------------------------|---|---------------------------------|---|
| Policy and legal risks | <ul style="list-style-type: none"> <li>Reduction in free allocation of allowances and volatility of EU ETS carbon allowance prices, leading to increased operating costs or diminished profitability of transition-supporting projects.</li> <li>Implementation of EU ETS 2, potentially resulting in higher end-user prices and declining demand for conventional fuels and natural gas.</li> <li>Rising compliance costs, as well as declining revenues and profitability due to new regulatory frameworks affecting transport, upstream production of hydrocarbons, manufacturing, construction, and agriculture.</li> </ul> | Energy efficiency               | <ul style="list-style-type: none"> <li>Reduction of GHG emissions and related costs.</li> <li>Reduced consumption of energy and other commodities.</li> <li>More efficient and economically viable production processes.</li> </ul>   |
|                        | <p>→ For more information, see page 26.</p>   | Energy sources                  | <ul style="list-style-type: none"> <li>Diversification of energy sources to enhance resilience.</li> <li>Use of renewable energy sources to reduce dependence on fossil fuel suppliers.</li> <li>Development of new energy technologies based on low- and zero-carbon sources.</li> </ul>   |
| Technological risks    | <ul style="list-style-type: none"> <li>Delays in the development, deployment, and integration of transformation and decarbonisation infrastructure and technologies.</li> <li>Stranded investments in transitional technologies that contribute to emission reductions but fail to meet zero-carbon criteria.</li> <li>Challenges in securing critical raw materials and technologies due to availability constraints.</li> </ul>   | Products, services, and markets | <ul style="list-style-type: none"> <li>Diversification of product and service portfolios towards low- and zero-carbon offerings</li> <li>Diversified operations enabling expansion into new markets.</li> <li>Establishing collaborations and strategic partnerships with a view to jointly developing and commercialising innovative low- and zero-carbon technologies.</li> </ul> |
| Market risks           | <ul style="list-style-type: none"> <li>Unpredictability of demand for both conventional and low-/zero-carbon products.</li> <li>Limited access to financing owing to substantial business exposure to fossil fuel-based operations.</li> <li>Rising raw material costs and intensifying competition for components critical to low-carbon production.</li> </ul>  | Resilience                      | <ul style="list-style-type: none"> <li>Diversification of financing sources.</li> <li>Diversification of revenue streams.</li> <li>Enhancement of the Group's reputation through successful implementation of the transition plan.</li> </ul>   |
| Reputational risks     | <ul style="list-style-type: none"> <li>Stigmatisation of the energy sector and deteriorating public perception of companies seen as contributing to climate change.</li> <li>Accusations of greenwashing and failure to meet stated strategic objectives and decarbonisation commitments.</li> <li>Difficulty in attracting skilled labour due to the sector's reputational challenges.</li> </ul>  |                                 |   |

Table. Transition risks analysed for the ORLEN Group (in-house analysis based on Recommendations of the Task Force on Climate-related Financial Disclosure: Final Report – TCFD, 2017).

## Detailed analysis of the impact of external regulations on the ORLEN Group's operations

We continuously monitor and analyse emerging regulations under the European Green Deal and adapt our business models accordingly. The ORLEN2035 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   | Business segments | Relevance to the ORLEN Group's business segments |
|---|-------------------|--|
| EU ETS / EU ETS 2   |                   | <div><div></div></div>                           |
| RED (share of RES, including: RED II, RED III, RFNBO regulations) |                   | <div><div></div></div>                           |
| ReFuelEU Aviation (aviation fuels)                                |                   | <div><div></div></div>                           |
| ReFuelEU Maritime (maritime transport fuels)                      |                   | <div><div></div></div>                           |
| Gas and Hydrogen Package  |                   | <div><div></div></div>                           |
| Methane Regulation  |                   | <div><div></div></div>                           |
| NZIA (carbon neutral industry)                                    |                   | <div><div></div></div>                           |
| EPBD (energy performance of buildings)                            |                   | <div><div></div></div>                           |
| EMD (electricity market reform)                                   |                   | <div><div></div></div>                           |
| IED (industrial emissions)  |                   | <div><div></div></div>                           |
| AFIR (development of alternative fuels infrastructure)            |                   | <div><div></div></div>                           |
| CO <sub>2</sub> emission standards for cars and vans              |                   | <div><div></div></div>                           |
| ETD (energy taxation)   |                   | <div><div></div></div>                           |
| EED (energy efficiency)   |                   | <div><div></div></div>                           |
| EU Taxonomy   |                   | <div><div></div></div>                           |
| CSDDD   |                   | <div><div></div></div>                           |
| CSRD  |                   | <div><div></div></div>                           |
| CBAM  |                   | <div><div></div></div>                           |
| EUDR  |                   | <div><div></div></div>                           |
| LULUCF  |                   | <div><div></div></div>                           |
| SCF (Social Climate Fund)   |                   | <div><div></div></div>                           |



Upstream &amp; Supply



Downstream



Energy



Consumers &amp; Products



## Resilience of business strategy to climate change

Strategic planning at ORLEN – including both the 2035 Strategy and the Group's 2050 Net Zero ambition – is grounded in the continuous assessment of transition-related risks. These include evolving macroeconomic conditions, regulatory developments, technological capabilities, and consumer preferences, assessed across short-, medium-, and long-term time horizons. These developments are closely aligned with the European Union's climate neutrality agenda, influencing key dimensions of ORLEN's business, such as carbon pricing under the EU ETS, support mechanisms for renewable energy, and shifting demand for fossil fuels.

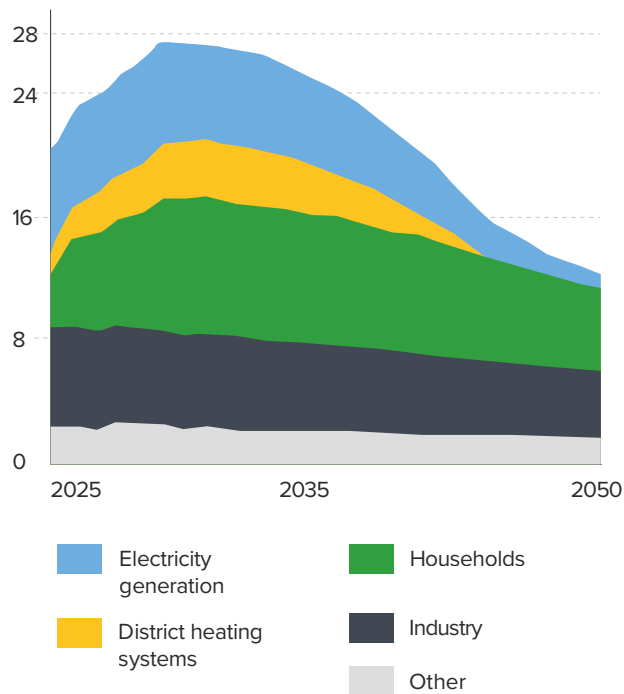
To assess changes in the macroeconomic environment, we employ various climate scenarios. These scenarios range from those based on current policies and regulatory mechanisms to accelerated energy transition scenarios that anticipate faster reductions in GHG emissions due to proposed but not yet implemented regulatory initiatives. Within the ORLEN 2035 Strategy, we primarily reference scenarios similar to the IEA's Stated Policies Scenario (STEPS). However, recognising that more ambitious climate scenarios – such as the IEA's Announced Pledges Scenario (APS) or the Net Zero Emissions (NZE) scenario – may materialise, we retain capital expenditure flexibility. This will enable us to rapidly adjust financing priorities if conditions shift towards achieving a global temperature increase well below 2°C.

Additionally, as part of our ongoing and planned climate neutrality efforts, ORLEN identifies and develops decarbonisation strategies for key assets to minimise emissions and achieve Net Zero by 2050. Work to develop the climate neutrality plans is informed by a range of climate scenarios, including those consistent with limiting global temperature rise to 1.5°C, which assume an accelerated energy transition, a rapid decline in fossil fuel use, and significantly heightened regulatory and market pressure on activities related to the production, processing, and sale of fossil fuels.



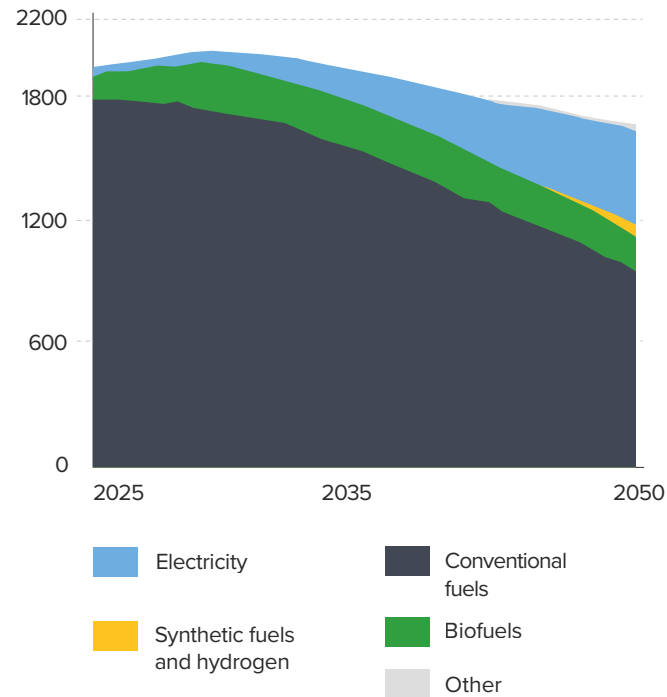
### Natural gas as a transition fuel on the pathway to complete coal phase-out

Poland's demand for natural gas [bcm]



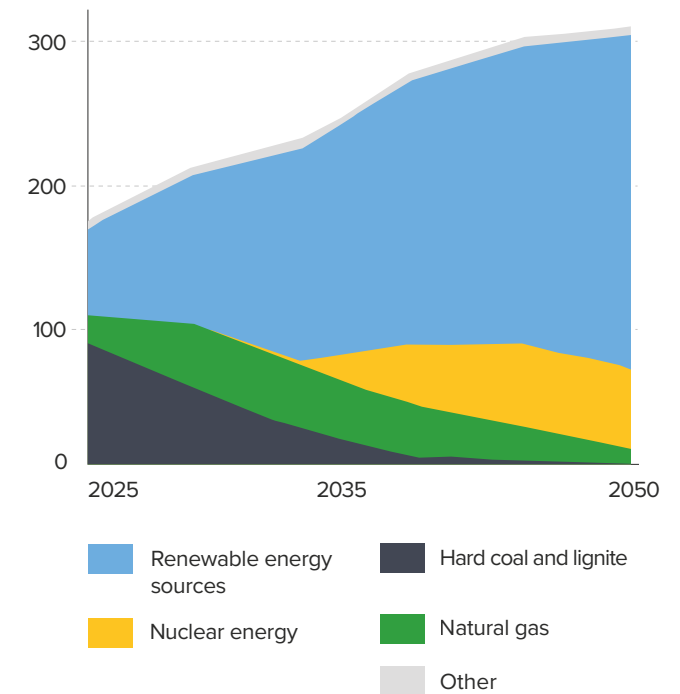
### Decarbonising the transport sector

Final energy consumption in transport in Central Europe [PJ]



### Demand for zero-carbon energy sources

Poland's power generation mix [TWh]



Anticipated average EU ETS  
allowance prices\*

2025-2030:

**EUR 107.94 /tonne CO<sub>2</sub>**

2031-2035

**EUR 171.98 /tonne CO<sub>2</sub>**

\* nominal values

Source: ORLEN's internal model based the current policies scenarios (analogous to Poland's National Energy and Climate Plan scenario 'With Existing Measures' [WEM] / IEA's Stated Policies Scenario [STEPS]), excluding additional support measures, regulations, or penalties currently under discussion.





# 04

## Management of climate-related issues



## ORLEN Group's Ten Climate Governance Principles

We have established a set of guiding principles to steer the ORLEN Group's response to climate change. These principles define our approach to emissions reduction, supporting energy transition efforts, and building a sustainable and competitive business. They consider both the risks and opportunities arising from climate change and emphasise a just transition that leaves no one behind.

- **Paris Agreement Commitment** – We commit to achieving the objectives of the Paris Agreement, aiming for Net Zero emissions by 2050 and contributing to limiting global temperature rise to below 1.5°C.
- **Carbon pricing** – We support carbon pricing mechanisms that protect business competitiveness while reducing the risk of carbon leakage.
- **Methane emissions** – We advocate for cost-effective measures to reduce methane emissions, which do not jeopardise supply.
- **Carbon removals** – We endorse clear regulations for CO<sub>2</sub> removal technologies, which ensure the transparency and effectiveness of related initiatives.
- **Technological neutrality** – We promote the development of all decarbonisation technologies as well as avoiding prescriptive preferences towards specific solutions.
- **Natural gas** – We recognise natural gas as a critical transition fuel, enhancing energy security and supporting renewable energy development.
- **Sustainable transport** – We prioritise alternative fuels and electric mobility as integral components of our sustainable transport strategy.
- **Energy efficiency** – We view energy efficiency as a key driver of emissions reductions and sustainable development.
- **Just transition** – We support fair and inclusive decarbonisation and energy transition processes, which include assisting industries and communities in adapting to the new realities.
- **Transparency** – We strictly comply with all applicable disclosure requirements and actively engage in dialogue with governments and regulatory bodies.





## Management of climate-related issues

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

### Climate and Sustainability Council

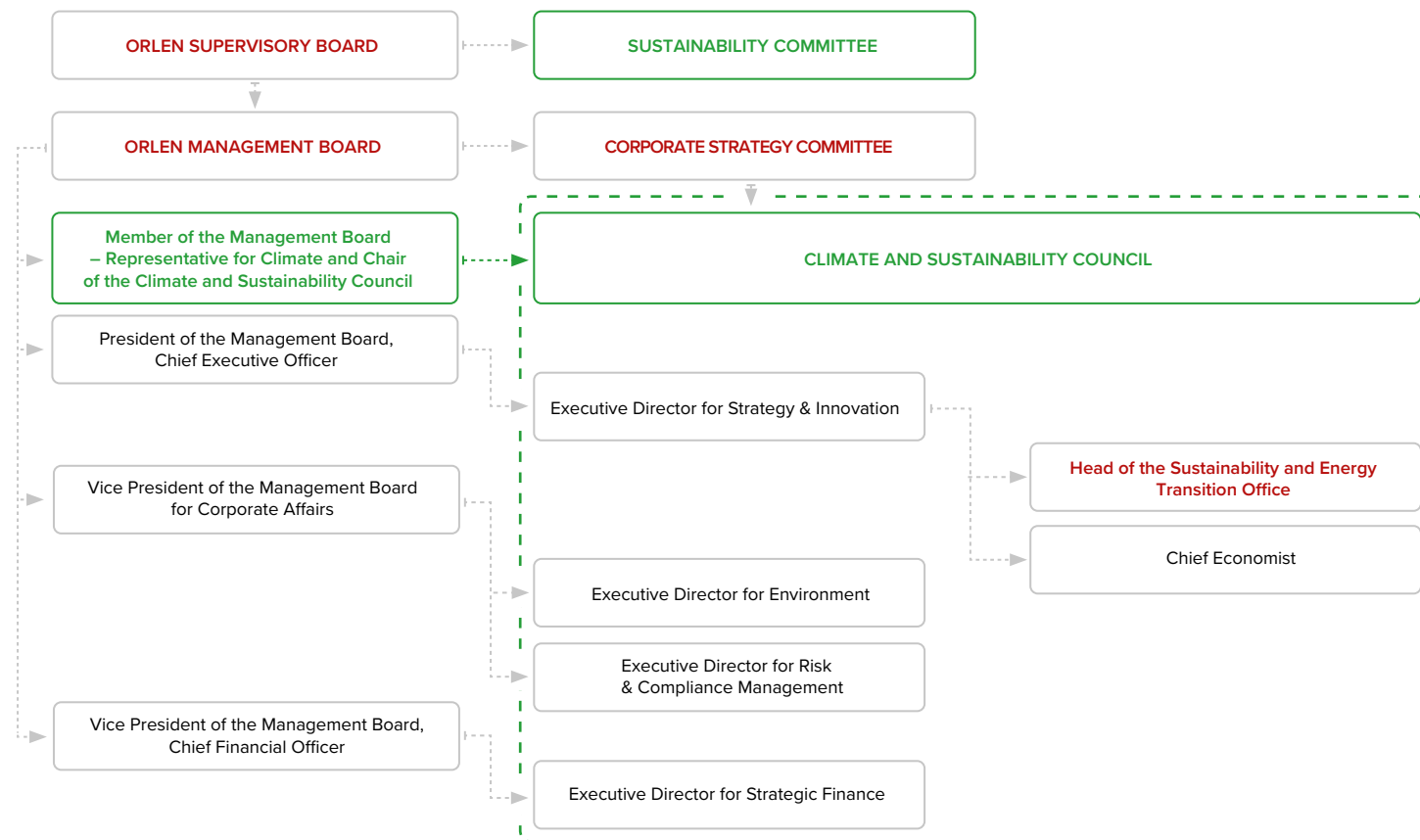
#### Responsibilities:

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

### Member of the Management Board – Climate Officer

#### Responsibilities:

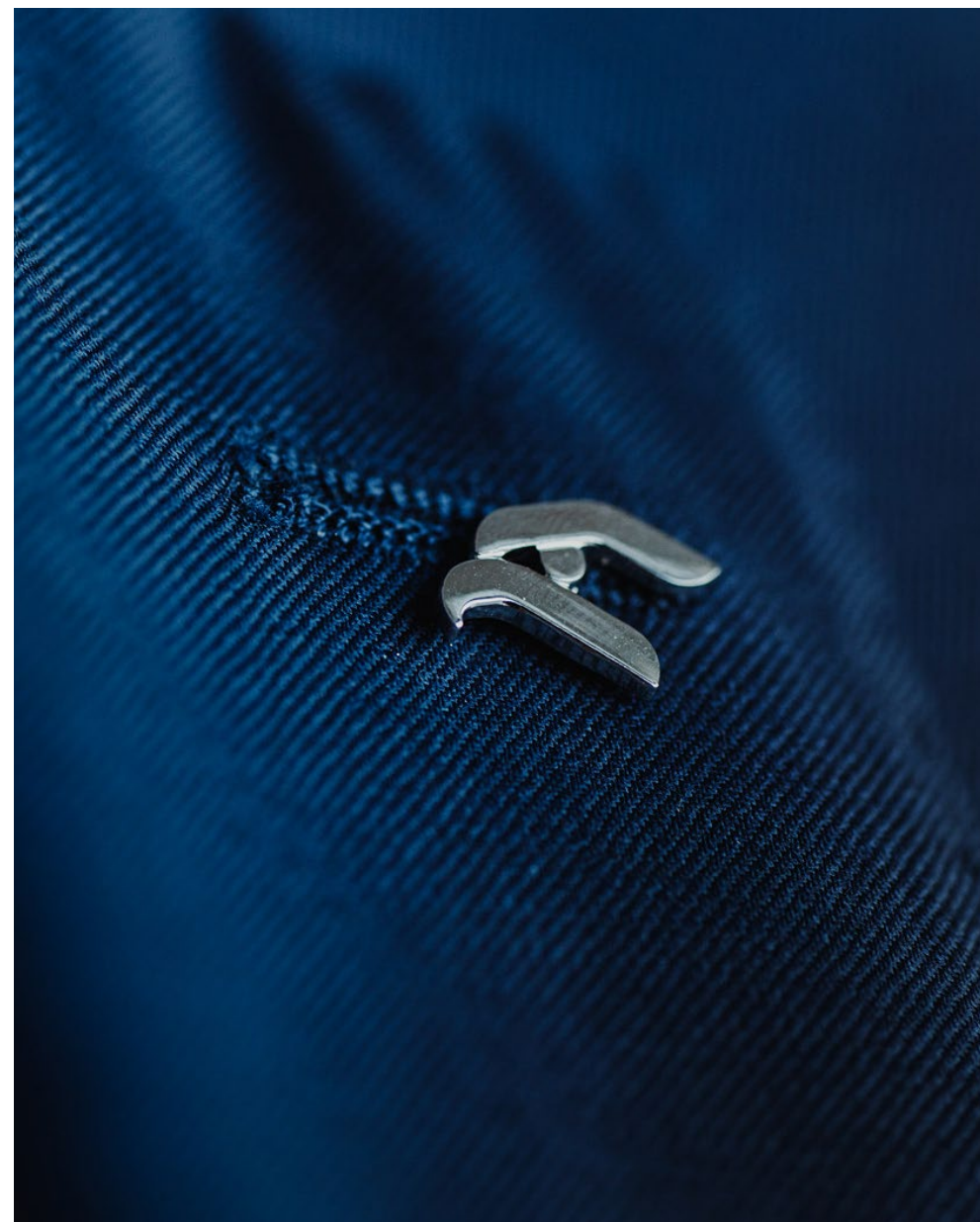
- Managing climate-related risks and opportunities, including identification and mitigation of climate-related risks and capitalisation on opportunities arising from emerging climate regulations.
- Overseeing the Company's climate-related initiatives to ensure these are proportionate to the relevance of corresponding climate issues for the delivery of the Company's Strategy.



## Composition of the Climate and Sustainability Council

Body supporting the Group Strategy Committee

| Title   | Function in the Council | Company    |
|---|-------------------------|------------|
| Member of the ORLEN S.A. Management Board – Climate Officer | Chair                   | ORLEN S.A. |
| Executive Director for Strategy & Innovation                | Deputy Chair            | ORLEN S.A. |
| Executive Director for Strategic Finance                    | Deputy Chair            | ORLEN S.A. |
| Executive Director for the Environment                      | Member                  | ORLEN S.A. |
| Executive Director for Risk & Compliance Management         | Member                  | ORLEN S.A. |
| Chief Economist   | Member                  | ORLEN S.A. |
| Head of the Sustainability and Energy Transition Office     | Secretary               | ORLEN S.A. |



Representatives of other areas will be invited to Council meetings on an as-needed basis, depending on their agenda.

## Responsibilities of the Climate and Sustainability Council

Body supporting the Group Strategy Committee

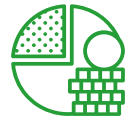
Identification and monitoring  
of climate-related risks  
and opportunities



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

- Physical risks
- Energy transition risks
- Energy transition and climate change 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

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



### Strategy resilience scenarios

- IEA's Net Zero Emissions by 2050 (NZE) Scenario (in accordance with the Paris Agreement)
- IPCC's RCP 8.5 scenario (no emissions reduction and continued rise in global temperature)

Approval of sustainability metrics  
for the ORLEN Group



### Indicators and recommendations

- Indicators used to assess and manage material climate- and sustainability-related risks and opportunities
- Recommendations for business areas in the context of guidelines, regulatory developments, and emerging trends in climate change and sustainability management
- Monitoring of progress in decarbonising the Group's business and recommendation of new decarbonisation initiatives
- Monitoring of progress towards sustainable development goals



## Management of climate-related issues

### Supervisory Board

The ORLEN S.A. Supervisory Board 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 may appoint standing or ad-hoc committees, which act as its collective advisory and opinion making bodies.

The following five standing committees operate within the Supervisory Board:

- the Audit Committee,
- the Strategy and Development Committee,
- the Nomination and Remuneration Committee,
- the Corporate Governance Committee,
- the Sustainability Committee,
- the Sports Sponsorship Committee,
- the Security Committee.

### Sustainability Committee

The Sustainability Committee advises the Supervisory Board on matters including, but not limited to:

- overseeing the sustainability strategy;
- supervising sustainability reporting;
- monitoring the management of climate-related risks and opportunities within the Company;
- liaising with the audit firm responsible for the assurance of sustainability disclosures.

These activities support the achievement by the Company of its strategic goals by integrating social, ethical, environmental, and governance aspects into its operations and stakeholder interactions, including engagement with employees, customers, suppliers, shareholders, and local communities.



## Climate-related targets in the remuneration systems

The ORLEN Group's GHG reduction initiatives have been operationalised and incorporated into our Management by Objectives (MBO) scheme. As a result, progress against targets covered by the decarbonisation initiatives has a direct effect on annual bonuses awarded to our Management Board and other senior executives, ensuring the Group's alignment with sustainable development goals.

The incentive scheme for the Management Board comprises both qualitative and quantitative objectives. The qualitative objectives comprise the successful implementation of the ORLEN 2035 Strategy, as well as specific decarbonisation and sustainability targets. The incentive bonus is in particular contingent upon:

- execution of decarbonisation measures contributing to achieving GHG emission reductions in line with our operational targets for 2030 and 2035, and the overarching Net Zero 2050 goal
- delivery on tasks across the five pillars of the Group's Sustainability Strategy, i.e. Climate, Environment, Employees, Communities, and Governance, including ensuring gender diversity at top governance bodies.

Quantitative targets include, among others, reducing accident rates (TRR), improvements in operational efficiency metrics, cost efficiency, and Total Shareholder Return (TSR) relative to the market.

Furthermore, detailed targets related to the implementation of specific decarbonisation and sustainability projects are linked directly to performance bonuses payable to senior executives reporting directly to the Management Board and responsible for the delivery of specific GHG reduction initiatives across ORLEN S.A. and other Group companies as well as for the attainment of other Sustainability Strategy objectives.





## Implementation tools and control mechanisms

### Tools facilitating the implementation of the Climate Policy:

- internal and intragroup regulations: the ORLEN Group 2035 Business Strategy, the ORLEN Group Decarbonisation Strategy, the ORLEN Group 2025-2035 Sustainable Development Strategy,
- 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 the 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 the 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 2035 in order to reduce energy production from non-renewable resources.

### Control mechanisms for the implementation of the Climate Policy:

- The ORLEN Climate and Sustainability Council is responsible for managing the Climate Policy and monitoring its application across the 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

## Appendices



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

| Term                  | Explanation  |
|-----------------------|--|
| AFIR                  | Alternative Fuels Infrastructure Regulation  |
| CBAM                  | Carbon Border Adjustment Mechanism (CBAM)  |
| CCUS                  | Carbon capture and utilisation or storage  |
| CO <sub>2</sub> e     | Greenhouse gases converted to CO <sub>2</sub> equivalent   |
| CSDD                  | Corporate Sustainability Due Diligence   |
| CSR                   | Corporate Social Responsibility  |
| EED                   | Energy Efficiency Directive  |
| EMD                   | Electricity Market Design  |
| ENZIA                 | Net-Zero Industry Act  |
| EPBD                  | Energy Performance of Buildings Directive  |
| ESG                   | Environment, Social and Governance   |
| ETD                   | Energy Taxation Directive  |
| EU ETS                | EU Emissions Trading Scheme  |
| EUDR                  | European Union Deforestation Regulation  |
| gCO <sub>2</sub> e/MJ | Indicator of GHG emissions reduction per MJ  |
| GW                    | Gigawatt-hour of installed electricity or heat capacity  |
| IED                   | Industrial Emissions Directive   |
| LULUCF                | Land Use, Land-use Change and Forestry Regulation  |
| NCI                   | Net Carbon Intensity   |
| OZE                   | Renewable energy sources   |
| Odnawialny wodór      | Renewable hydrogen   |
| RED                   | Renewable Energy Directive   |
| 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 |
| ReFuelEU Aviation     | Regulation on ensuring a level playing field for sustainable aviation transport  |
| ReFuelEU Maritime     | Regulation on the use of renewable and low-carbon fuels in maritime transport  |
| SCF                   | Social Climate Fund  |
| SMR                   | Small Modular Reactor  |
| TWh                   | Terawatt-hour of electricity or heat capacity  |



Energy of tomorrow starts today