

Climate-related risks and opportunities

The methodology of identification and assessment of enterprise risks in the ENEA Group is not focused directly on assessing the company's impact on the climate or the impact of the climate on the company's business. Climate-related risks are selected from the pool of enterprise risks that are identified, prioritized and periodically assessed by their owners within the framework of the enterprise risk management process, in compliance with the assumptions of the ENEA Group Enterprise Risk Management Policy in the ENEA Group Enterprise Risk Management Methodology. These risks, like other types of enterprise risks, are subject to ongoing and cyclical monitoring and reporting for the benefit of both the respective company and the ENEA Group as a whole. Mitigating measures are taken for all risk categories.

As at the publication date of this Statement, the ENEA Group has not defined any official goals for the purpose of managing climate-related risks and opportunities. A comprehensive review of such opportunities and risks, along with a plan for their proper management, will be conducted as part of the ENEA Group's endeavors devoted to climate policy, which began in 2021. Within the framework of the non-financial reporting process carried out in respect of the said year, the Group updated its preliminary list of risks arising from climate change that have the potential of exerting a major impact on its business, revenues or expenses, which was originally prepared for the 2020 report, and, for the first time, the Group also identified climate-related opportunities. The reviews covered the short term (until the end of 2023), the medium term (until the end of 2026) and the long term (until the end of 2035).

For the purposes of this Statement, the ENEA Group's climate-related risks have been assigned to the categories consistent with the standards described in the ESG Reporting Guidelines, a guide published in May 2021 by the Warsaw Stock Exchange, which have identified the following types of risk:

- **transition risk** resulting from the transition towards a low-carbon economy, including: legal and regulatory risk (resulting from current or upcoming regulations), technological risk (the need to invest in innovative technologies), market risk (resulting from changing consumer behaviors, increasing prices of raw materials, etc.), reputational risk;
- **physical risk** resulting from the changing climate, including acute risk (from extreme weather phenomena such as droughts, floods and fires) and chronic risk (from long-term processes such as changes in temperature and rising ocean levels).

It should be pointed out that the risk management model described in this Report identifies risk categories other than those specified in the said guidelines.

| Business area of the ENEA Group | Climate-related risks | Description of the risk factor | How the risk affects the ENEA Group | Methods applied in risk management |
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| DISTRIBUTION | <p>Risk of catastrophic damage to elements of infrastructure as a result of extreme weather phenomena</p> <p>Risk category: physical</p> <p>Perspective: long term.</p> | <p>An increased frequency of extreme weather phenomena (gusty storms, hurricane winds, icing) may result in catastrophic damage to elements of network infrastructure</p> | <p>Physical damage translating into increased operating expenses</p> | <ol style="list-style-type: none"> 1. Visual inspections, check-ups and operational procedures in compliance with the due dates specified in the annual Maintenance Procedure Plans. 2. Ongoing removal of the effects of failures and damage to power lines and devices. 3. Capital expenditure endeavors related to the restoration of grid assets in compliance with the Capital Expenditure Plan. |
| | <p>Risk of the consolidation of a strong upward trend on the EUA market, with simultaneous disproportionate increases in electricity prices</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>High prices of CO₂ emission allowances may result in a low or negative value of the clean dark spread (CDS)</p> | <p>Decline in or loss of profitability in electricity generation</p> | <ol style="list-style-type: none"> 1. Substitution of coal with low-carbon fuels, including a greater share of biomass co-firing. |
| GENERATION | <p>Risks related to extreme weather phenomena</p> <p>Risk category: physical</p> <p>Perspective: short, medium and long term</p> | <p>An increased frequency of extreme weather phenomena (droughts, floods affecting the water level on the Vistula River, heavy snowfalls, frosts, icing, hurricanes) may disrupt energy generation</p> | <p>Interruption of business continuity, loss of revenue and significant additional costs</p> | <ol style="list-style-type: none"> 1. Vistula River water level monitoring system. 2. Annual assessment of the technical condition of power plant facilities. 3. Continuous supervision of staff over the operation of the power plant. 4. Flood protection system in the event of an increase in the water level on the Vistula River (stoplogs). 5. Ongoing supervision of devices and optimal overhaul management. |
| | <p>Risk of construction disasters in hydro power plants</p> <p>Risk category: physical</p> <p>Perspective: medium to long term</p> | <p>Factors such as torrential rains may increase the adverse impact of water on hydrotechnical facilities</p> | <p>Partial or complete damage to hydrotechnical equipment</p> | <ol style="list-style-type: none"> 1. Inspections of the technical condition and safety of buildings in accordance with legal requirements. 2. Execution of the required renovation and capital expenditure tasks to ensure that hydrotechnical equipment is kept in at least good technical condition. |
| | <p>Risk of construction disasters on wind farms</p> <p>Risk category: physical</p> <p>Perspective: medium to long term</p> | <p>Extreme weather phenomena, such as strong winds, hurricanes and tornadoes, may pose a threat to selected elements of farm infrastructure</p> | <p>Partial or complete damage to generation facilities</p> | <ol style="list-style-type: none"> 1. Inspections of the technical condition and safety of buildings in accordance with legal requirements. |
| | <p>Risk of construction disasters in cogeneration plants</p> <p>Risk category: physical</p> <p>Perspective: medium to long term</p> | <p>Changing weather conditions throughout the year necessitate the transport of fuel on belt conveyors in cogeneration plants in 'covered' technological facilities (tunnels, galleries, etc.), thereby increasing the risk of an explosion of coal dust or biomass</p> | <p>Partial or complete damage to generation facilities</p> | <ol style="list-style-type: none"> 1. Inspections of the technical condition and safety of buildings in accordance with legal requirements. 2. Execution of required maintenance, repairs and capital expenditure tasks to ensure that facilities are kept in at least good technical condition. |
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| <p>Risk related to the uncertainty of the legislative environment</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>Amendments to EU or national regulations may result in the non-recognition of biomass as a zero-emission energy source</p> | <p>Loss of revenue or increased costs related to changing the company's business context</p> | <p>1. Monitoring of and participation in legislative work.</p> |
| <p>Risk of a decline in sales of heat</p> <p>Risk category: physical</p> <p>Perspective: short, medium and long term</p> | <p>The trend of an increase in average temperatures during the heating season may lead to a significant decline in demand for heat</p> | <p>Decline in revenue from sales of heat</p> | <p>1. Diversification of revenue sources through the development of cogeneration.</p> |
| <p>Risk of an increase in environmental fees, in particular, in the cost of CO₂ emission allowances</p> <p>Risk category: transition</p> <p>Perspective: short term</p> | <p>Due to ongoing climate change, environmental regulations are tightened, resulting in increased fees and penalties</p> | <p>Increase in environmental fees resulting in higher costs of generation processes</p> | <p>1. Ongoing monitoring of regulations.</p> <p>2. Ongoing monitoring of the validity of decisions held, thereby enabling an early preparation of requests for changes.</p> <p>3. Ongoing supervision over the manner of implementation and compliance with the conditions specified in the decisions held.</p> |
| <p>Risk of suspending electricity/heat generation as a result of technological misalignment with the requirements of environmental protection regulations</p> <p>Risk category: transition</p> <p>Perspective: short term</p> | <p>Need to adapt generation units to the applicable legal requirements, including the IED</p> | <p>Suspension of electricity/heat generation as a result of technological misalignment</p> | <p>1. Regular upgrades of and investments in:</p> <ul style="list-style-type: none"> – units for generation of energy from renewable sources, – heat accumulation systems, – flue gas heat recovery units, – flue gas desulphurization units, – boilers. <p>2. Upgrade of transmission infrastructure and heating nodes, gradual extension of the extent of application of telemetric systems.</p> <p>3. Use of proper cooling systems in electricity and heat generation.</p> <p>4. Taking care of the proper technical condition of equipment using fluorinated gases.</p> |
| <p>Risk of non-continuity of fuel supplies</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>1. Natural disasters such as hurricanes, floods, droughts or freezing conditions may result in a limited availability or lack of biomass</p> <p>2. Natural disasters in the mining sector or in the supply process may cause a limited availability or lack of coal</p> | <p>Interruption or curtailment of the continuity of fuel supplies and the related loss of revenue</p> | <p>1. Optimization of fuel supplies.</p> <p>2. Diversification of the fuel portfolio.</p> <p>3. Emergency fuel purchases.</p> <p>4. Gradual shift of all or part of the fuel shipment process to the supplier.</p> <p>5. Performance monitoring with deviation analysis and update of plans for the performance of contracts for the supply of generation fuels and logistics services.</p> |
| <p>Risk of an increase in biogas production expenses</p> <p>Risk category: physical</p> <p>Perspective: medium term</p> | <p>A hydrological drought may potentially affect the availability and prices of corn silage, which is the key input substrate in biogas production</p> | <p>Deterioration of the economic profitability of biogas production from plant-based substrates</p> | <p>1. Adoption of and early preparation for a comprehensive substrate procurement action.</p> <p>2. Ongoing monitoring of the substrate market.</p> |

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| <p>Risk of an increase in the cost of raising capital and/or property insurance</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>Global climate crisis making it increasingly difficult for fossil fuel-based businesses to access finance, insurance undertakings treating coal-based power generation as a high-risk industry</p> | <p>Increase in operating costs associated with higher cost of raising capital and/or property insurance</p> | <ol style="list-style-type: none"> 1. Use of the Group's transformation strategy in consultations with the reinsurance market. 2. Search for new methods of securing assets. 3. Spin-off of coal-fired generation assets from the ENEA Group's structures |
| <p>Risk related to activities pursued by environmental organizations</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>Activities of environmental organizations conducting aggressive campaigns against power plants by:</p> <ul style="list-style-type: none"> – appealing against and demanding the cancellation of integrated permits or environmental decisions held by power plants, – referring to the public interest and joining proceedings aimed at amending integrated permits, thereby delaying or preventing the issue of favorable decisions | <p>Operational slowdown or shutdown of power plants due to difficulties in obtaining or maintaining decisions or permits related to environmental protection</p> | <ol style="list-style-type: none"> 1. Cooperation with leading law firms. 2. Cooperation with environmental organizations. |
| <p>Risk of losses in capacity caused by hydrologic conditions</p> <p>Risk category: physical</p> <p>Perspective: short, medium to long term</p> | <p>The country's unfavorable hydrological or meteorological translates into a deterioration in the hydrological conditions for the operation of power plants</p> | <p>Low surface levels and high water temperatures of the Vistula River may cause power losses due to problems with the provision of the necessary amount of cooling water (resulting from the need to maintain its uninterrupted flow) or abiding by the permissible temperature of the discharged cooling water</p> | <ol style="list-style-type: none"> 1. Execution of a project aimed at modernization of the cooling water system in a power plant. |

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| <p>Risk of adopting outdated assumptions for long-term financial projections</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>The progressing climate change affecting the climate policy of various countries and organizations may potentially shape the operating principles of the system and the price of CO₂ emission allowances</p> | <p>Unexpected costs caused by outdated assumptions for long-term financial projections</p> | <ol style="list-style-type: none"> 1. Periodic updates of price paths. |
| <p>Risk of commodity price volatility on the forward market</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>If the actual temperatures in the summer and winter seasons are different from the forecasts, this may cause deviations in electricity and gas prices on the Polish Power Exchange compared to the prices contracted in the previous months</p> | <p>Additional costs and/or lower revenue as a result of the volatility in commodity prices on the forward market</p> | <ol style="list-style-type: none"> 1. Maintaining and developing risk management competences within the ENEA Group applicable to this area 2. Internal risk optimization procedures. 3. Monitoring and analysis of factors affecting prices on the Polish Power Exchange. 4. Adjustment of orders placed, both in terms of price and volumes, to the current market situation. |
| <p>Risk of commodity price volatility on the spot market</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>Meteorological conditions:</p> <ul style="list-style-type: none"> – in the winter season (December-February), monthly average temperatures above the long-term norm, – in the summer season (June-August), monthly average temperatures above the long-term norm, <p>may generate financial losses on open positions</p> | <p>Additional costs and/or lower revenue as a result of the volatility in commodity prices on the spot market</p> | <ol style="list-style-type: none"> 1. Maintaining and developing competences in managing this risk within the company. 2. Internal procedures governing optimization on the spot market. 3. Ongoing analysis of factors affecting prices. 4. Monitoring and forecasting of factors affecting prices. 5. Adjustment of orders placed, both in terms of price and volumes, to the current market situation. |

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| <p>Risk of disturbances/failures in energy generation</p> <p>Risk category: physical</p> <p>Perspective: short, medium and long term</p> | <p>Climate change may cause:</p> <p>a) in the winter season:</p> <ul style="list-style-type: none"> – lower wind generation due to lower wind speeds, – very low photovoltaic generation due to heavy clouds, – lower generation in hydro power plants due to low water levels; <p>b) in the summer season:</p> <ul style="list-style-type: none"> – lower wind generation due to lower wind speeds, – low levels of surface/ground waters resulting in the inability to use them for technological purposes in power plants, – extreme weather phenomena (violent storms, gusty winds, flash floods), resulting in limited access to energy over a large area | <p>Additional costs associated with disturbance/failure management</p> | <ol style="list-style-type: none"> 1. Maintaining and developing competence within the company to manage this risk. 2. Internal procedures governing optimization on the spot market. 3. Ongoing analysis of factors affecting prices. 4. Monitoring and forecasting of factors affecting prices. 5. Adjustment of orders placed, both in terms of price and volumes, to the current market situation. |
| <p>Risks related to the need to change the way the company's operations are run</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>Climate change causing an increasingly restrictive EU climate policy, directly and indirectly translating into a number of more stringent environmental standards imposed on mines</p> | <p>Additional costs associated with increasing environmental standards</p> | <ol style="list-style-type: none"> 1. Ongoing supervision over compliance with environmental standards. 2. Continuous monitoring of changes in the EU's climate policy and the resulting amendments to national regulations. 3. Active participation in consultations on new regulations. 4. Continuous search for technical and organizational solutions minimizing the company's impact on the climate, e.g. by energy efficiency improvements. |
| <p>Risk of a decline in demand for steam coal in Poland and globally</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>Changes in the country's energy mix, including the ENEA Group's energy mix, and from a decrease in demand for electricity generated from coal (e.g. as a result of measures favoring energy efficiency, elimination of retail customers from the portfolio, more frequent switching to own sources of energy and heat generation, higher average atmospheric temperatures in winter) is likely to cause a gradual decrease in demand for the products offered to date</p> | <p>Restricting the possibility to sell mined coal</p> | <ol style="list-style-type: none"> 1. Implementation of a new business strategy, including through diversification of revenues towards the extraction of coking coal, which is a strategic commodity in the EU. 2. Taking into account the forecasts of climate models in determining the scope of contracts with customers. |
| <p>Risk of an increase in operating costs due to the need to pay greater compensations for losses in grasslands and agricultural land caused by the need to repair of mining damage to the environment</p> <p>Risk category: physical</p> <p>Perspective: short, medium and long term</p> | <p>The conduct of mining activities is associated with the occurrence of mining damage and may lead to the formation of subsidence basins and disruption of local water relations, thus causing occasional local flooding</p> | <p>Increase in operating costs due to the need to pay greater compensations for losses in grasslands and land caused by the need to repair of mining damage to the environment</p> | <ol style="list-style-type: none"> 1. Effective mining damage management policy. Ongoing dialog with local communities. 2. Continuous monitoring of rock mass movements using of modern measurement methods. 3. Monitoring of environmental aspects through the Integrated Quality, Environment and Safety Management System. 4. Ongoing reclamation of areas adversely affected by mining activities. |

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| <p>Risk of an increase in the cost of raising capital and/or property insurance</p> <p>Risk category: transition</p> <p>Perspective: short, medium and long term</p> | <p>Global climate crisis making it increasingly difficult for fossil fuel-based businesses to access finance, insurance undertakings treating the mining sector as a high-risk industry</p> | <p>Increase in operating costs associated with higher cost of raising capital and/or property insurance</p> | <ol style="list-style-type: none"> 1. Use of the Group's transformation strategy in consultations with the reinsurance market. 2. Search for new methods of securing assets - the attitude of banks to providing financing to the company is monitored on an ongoing basis. |
| <p>Risks associated with the activities of non-governmental environmental organizations</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>The activities of environmental organizations, including potential protests related to investment and development activities, may affect the social acceptance of the company</p> | <p>Obstruction in the progress of various administrative procedures conducted with the participation of environmental organizations</p> | <ol style="list-style-type: none"> 1. Execution of projects in partnership with environmental organizations. 2. Ongoing communication of activities aimed at improving environmental safety. 3. Increasing the company's environmental efficiency, e.g. through investments. 4. Respecting state-imposed forms of nature protection (e.g. no mining and no future mining plans under the Polesie National Park). |
| <p>Reputation risk related to the conduct of business in the fossil fuel industry</p> <p>Risk category: transition</p> <p>Perspective: medium to long term</p> | <p>Due to the climate crisis, the EU's policy and the activities of environmental organizations, the mining industry may be perceived as the perpetrator of climate change</p> | <p>Damage to the image</p> | <ol style="list-style-type: none"> 1. Participation in business initiatives. 2. Involvement in local socio-economic development initiatives. 3. Intensive communication activities, focusing chiefly on demonstrating the role played by the company in the Lublin region along with its environmental efficiency and openness to change. |