Decarbonisation adaptation progress reporting

Legal instrument: Regulation on the Governance of the Energy Union and Climate Action

Obligation: Progress towards objectives, targets and contributions (Decarbonisation: adaptation) pursuant to Article 17(2)(d) of the Governance Regulation 2018/1999

Table 1 - Adaptation goals in integrated national energy and climate plans

Are adaptation goals in accordance with Article 4 included in the integrated national energy and climate plan?

NECPGoals

Yes

Will the next submission of the integrated national energy and climate plan include adaptation goals?

NextNECPGoals

-

If adaptation goals are included in the integrated national energy and climate plan or the planned submission of the integrated national energy and climate plan, please provide an overview of these goals

NECPGoalsDetail

-

If available, please provide other documents containing adaptation goals relevant to meeting the objectives and targets of the Energy Union and the long-term Union greenhouse gas emissions commitments consistent with the Paris Agreement

Other documents containing adaptation goals

Table 2 - Information on adaptation, which may affect delivery of Energy Union objectives and targets and the long-term Union GHG emission reduction commitments under the Paris Agreement

NationalCircumstances

(1) Vulnerabilities, including adaptive capacities (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1), that are relevant to the Energy Union dimension selected

Vulnerabilities, including adaptive capacities

Dimension of the Energy Union

Dimension

Decarbonisation: GHG emissions and removals*

Reference

Source

adopted NECP

Other documents containing adaptation goals

AdaptationGoalSource

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Description of vulnerabilities, including adaptive capacities

Description

The vulnerability of the sector is primarily related to the impacts of climate change on electricity and heat supply, as well as the demand for securing their delivery (increased energy

consumption for air conditioning in summer and reduced energy consumption in winter due to milder weather).

Extreme weather conditions could raise the incidence of blackouts by 10 to 20% by 2050 compared to the reference period of 2000–2010. Slovakia relies significantly on nuclear energy, and drought and heat may affect energy generation. At the same time, prolonged dry periods could intensify the competition for water between agricultural irrigation and nuclear power plants.

Renewable energy sources are crucial for climate mitigation. In parallel, their use depends on natural systems like wind, sunlight and water, they are generally less affected by heatwaves and droughts.

The consequences of climate change highlight that climate change impacts lead to the necessity to adapt energy/electricity infrastructure in order to ensure reliable and resilient energy supply

The main adaptation strategies for the energy sector include:

i) Enhancing overall energy efficiency, for instance, through energy labelling for appliances and promoting smart energy consumption that accounts for seasonal variations.

ii) Strengthening safety measures at power facilities and preparing precautionary arrangements to ensure reliable system operation during extreme weather events.

Where relevant and available, please provide information on vulnerabilities, including adaptive capacities, disaggregated by vulnerable group.

Group

-

For each selected group, information on vulnerabilities, including adaptive capacities

DetailedDescription

-

(2) Risk of potential future impacts (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1), that are relevant to the Energy Union dimension selected

Risk of potential future impacts

Dimension of the Energy Union

Dimension

Decarbonisation: GHG emissions and removals*

Reference

Source

adopted NECP

Other documents containing adaptation goals

AdaptationGoalSource

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Description of risk of potential future impacts

Description

The participatory and expert-based climate risk assessment revealed a total number of two key risks for the energy sector:

1/ Risk of failure and impairment of energy generation, supply and disruption of infrastructure due to extreme events – This risk is associated with several climate impacts that are considered high priority, such as increase in the number of floods, impairment of energy supply, and increased in damage to high-voltage lines. Other climate impacts are also relevant (e.g., increase in risk of the electrical system failure, increase in extreme events). It is expected that the current risk increases and is rated as high (optimistic scenario) to very high (pessimistic scenario) for the far future.

2/ Risk of energy generation fluctuations – The generation of energy from renewable sources is subject to fluctuations and disruptions, e.g. due to extreme events (unreliability). Furthermore,

Slovakia is still depended on imports of coal, gas and oil and these imports might be subject to global market dynamics. At the same time, energy generation from nuclear power plants plays a major role in Slovakia's energy mix, potentially cushioning the effects of these fluctuations.

Table 2 - Information on adaptation, which may affect delivery of Energy Union objectives and targets and the long-term Union GHG emission reduction commitments under the Paris Agreement

Strategies and plans

(3) Adaptation goals (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1) that are relevant to the Energy Union dimension selected

Adaptation goals

Dimension of the Energy Union

Dimension

Decarbonisation: GHG emissions and removals*

Reference

Source

adopted NECP

Other documents containing adaptation goals

AdaptationGoalSource

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Description of adaptation goals

Description

The NAP was approved by the Government of the Slovak Republic in 2021.It is intended to contribute to a better translation of adaptation measures into the sectoral policies of the ministries concerned. It also contains a proposal for a vulnerability monitoring system, a proposal for a system of mid-term evaluation of the adaptation process in Slovakia, including

tracking the links between costs and benefits. It identifies approaches that help adaptation to ongoing or expected changes, increasing the resilience of systems. At its core are 7 specific areas such as water conservation, management and use, sustainable agriculture, adapted forestry, natural environment and biodiversity, health and healthy populations, adapted human settlements, and technical, economic and social measures. It identifies 45 specific measures and 169 tasks within them for the period of validity of the document until 2027. It also contains a matrix of measures and their financing options, including the amount of planned financial resources (where it has been possible to quantify this amount).
For example in the field of water protection, management and use, it has the task of finding synergies between strategic water planning documents, spatial planning documents, the national investment plan, Agenda 2030 strategy, Envirostrategy 2030, NECP, etc.
Reference: Other document containig adaptation goals - National Action Plan for the implementation of the Adaptation Strategy of Slovakia

(4) Challenges, gaps and barriers (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1) that are relevant to the Energy Union dimension selected

Challenges, gaps and barriers

(5) Foreseen actions, budget and timeline related to the adaptation goals identified under 'Adaptation Goals' (above)

Foreseen actions, budget and timeline

(6) Overview of the content of sub-national strategies, policies, plans and efforts related to the adaptation goals identified under 'Adaptation Goals' (above)

Overview of the content of sub-national strategies, policies, plans and efforts

Table 2 - Information on adaptation, which may affect delivery of Energy Union objectives and targets and the long-term Union GHG emission reduction commitments under the Paris Agreement

Monitoring and evaluation

(7) Progress towards reducing climate impacts, vulnerabilities and risks (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1), relevant to the Energy Union dimension selected

Progress towards reducing climate impacts, vulnerabilities and risks

(8) Progress towards increasing adaptive capacity (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1), relevant to the Energy Union dimension selected

Progress towards increasing adaptive capacity

(9) Progress of implementation towards meeting the adaptation goals identified in tab Strategies and plans - Adaptation goals

Progress of implementation towards meeting the adaptation goals

Dimension of the Energy Union

Dimension

Decarbonisation: GHG emissions and removals*

Description of the progress of implementation towards meeting the adaptation goals

Description

10 methodological guidelines were prepared in the framework of the project Methodology for the assessment of investment risks associated with the adverse effects of climate change, which were completed in 2023 including adaptation guidelines in the energy, industry and some other areas of business:
- Methodological guidelines for business climate resilience assessments based on climate vulnerability assessments of economic sectors
- Methodological guidance for assessing climate vulnerability and climate resilience of new investments and projects and integration into the EIA/SEA process
- Assessment of the risk and vulnerability of industrial sites and environmental burdens in terms of their preparedness and security against risks related to the adverse effects of climate change
- Methodological guide "Risk and vulnerability assessments of linear structures and pipelines in terms of their preparedness and security against risks related to the adverse effects of climate change

A sector-specific methodology for reducing climate change impacts, vulnerability and risks to major infrastructure plans and projects has been adopted by the Ministry of Transport of the Slovak Republic (Climate Change Assessment – Developing a Methodology and Embedding Climate Change Impact Assessment of Infrastructure Plans/Projects into Existing National Level Processes (2018).

(10) Progress towards addressing barriers (identified in the integrated national energy and climate plan and/or in other documents identified in Table 1) that are relevant to the Energy Union dimension selected

Progress towards addressing barriers