

European Scientific Advisory Board on Climate Change
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Christian Zinglensen
Director, Agency for the Cooperation of Energy Regulators (ACER)
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Potsdam, 11 November 2022

Subject: Input to framework guidelines on scenarios for network development planning

Dear Mr Zinglensen,

As per the regulation (EU) 2022/869 of the European Parliament and of the Council of 30 May 2022 on guidelines for trans-European energy infrastructure (Article 12), the European Scientific Advisory Board on Climate Change (the 'Advisory Board') would hereby like to provide input to your agency for the framework guidelines on scenarios for the ten-year network development plans. Please find attached our recommendations.

The role of the Advisory Board is to provide independent scientific advice on how to ensure the compliance of network planning scenarios with the climate targets of the European Union (EU). As energy supply and use are responsible for 77% of the EU's total greenhouse gas emissions, it is of the utmost importance that the network planning process drives the transition towards renewable-based and efficient energy systems, and avoids creating further lock-ins into fossil infrastructure. Moreover, it is critical for network planning to ensure the resilience of the EU's energy infrastructure to the impacts of climate change, such as extreme temperatures, water shortages and flooding risks.

In order to prepare its recommendations, the Advisory Board has analysed ACER's draft guidelines and previous assessments. The Advisory Board also met with, and analysed publications from, ENTSOs, the European Commission, and the scientific community.

Our key recommendations, which you will find explained in detail in the attached advice document, can be summarised as follows:

- **Comply with climate targets at all times:** Scenarios should be adjusted as soon as intermediary climate targets are adopted, be modelled until at least 2050, and capture a range of different pathways to climate neutrality.
- **Adapt to a complex and constantly changing world:** Scenarios should incorporate projected climate impacts on the energy infrastructure, use a building-blocks approach (including flexibility, electrification, hydrogen, offshore grids and carbon dioxide removals), and be based on up-to-date, scientifically sound and forward-looking information.

- **Conduct a transparent and inclusive process:** The assumptions, methods and results from scenarios should be published in detail, and independent experts should be consulted early in the process.

The Advisory Board urges ACER to emphasise the long-term perspective of infrastructure planning and climate impacts, in order to avoid stranded assets, as well as the need to bridge the gap between current plans and the goal of climate neutrality. To do so in a robust manner, energy system scenarios need to cover a wide range of the uncertainties impacting infrastructure needs, such as market trends, geopolitical developments, technology maturity, consumers' demand and risks of climate disasters. The thoroughness of the analysis should not be compromised by resources constraints.

We prompt you to integrate these attached recommendations into your scenario guidelines. We look forward to meeting with your team to present our recommendations and remain at your disposal to answer any question that might arise.

Best regards,



Professor Dr. Ottmar Edenhofer

Chair of the European Scientific Advisory Board on Climate Change