

SUSTAINABLE ENERGY WEEK 2024

BUILDING RESILIENT & JUST ENERGY SYSTEMS

16-20 SEPTEMBER 2024 | PALAIS DES NATIONS | GENEVA



Agenda Item 6 – 20th Session of the Group of Experts on Cleaner Electricity Systems

Maintaining future electricity supply reliability in the period of transition of five to ten years



16 September 2024

16h30 - 18h00 CEST (Geneva time)

Palais des Nations (Room VII)

About the Session

Objective:

To discuss how various energy assets contribute to maintaining and improving grid reliability, featuring examples from different countries to highlight effective strategies and solutions.

Context:

Utilities, regulators, and policymakers must prioritize reliability and resilience in the electricity system. By analyzing various approaches, stakeholders can implement suitable strategies to maintain future power supply reliability. Different energy resources impact supply reliability differently: renewable sources like solar, wind, hydro, and geothermal are sustainable and reduce emissions but pose challenges due to their variability. In contrast, fossil fuels and nuclear power provide stable, dispatchable electricity, crucial for baseload demand but have environmental and risk concerns.

Energy storage technologies and smart grid solutions are vital in managing renewable energy variability, with batteries and pumped hydro storage balancing supply and demand. These technologies need continued advancement and supportive policies. Additionally, demand-side management promotes efficient energy use, reduces peak demand, and integrates distributed resources.

Enhancing energy connectivity by enabling efficient energy exchange, integrating renewables, and enhancing grid flexibility is essential for future supply reliability and emergency response efforts.

Documentation:

ECE/ENERGY/GE.5/2024/4 – [Outline for a Roadmap for a Regionally Interconnected Energy System in Central Asia](#)

Tentative timeline:**16h30 - 16h40: Introduction: what is meant by and expected for electricity supply reliability**

Jim Robb, North American Electric Reliability Corporation, Chair, Group of Experts on Cleaner Electricity Systems

16h40 - 17h40: Moderated discussion**Moderator:**

Jim Robb, North American Electric Reliability Corporation, Chair, Group of Experts on Cleaner Electricity Systems

Panellists:*Role of renewable energy:*

- **Tatiana Vedeneva**, Center for Renewable Energy and Energy Efficiency Development

Role of nuclear power:

- **King Lee**, World Nuclear Association, Vice-Chair, Group of Experts on Cleaner Electricity Systems and Head of Policy and Industry Engagement

Role of fossil fuels:

- **Vladimir Budinsky** - Vice-Chair, Group of Experts on Cleaner Electricity Systems

Role of energy storage:

- **Antoine Herzog** - Électricité de France, Vice-Chair, Group of Experts on Cleaner Electricity Systems

Role of demand side management:

- **Jim Robb** - North American Electric Reliability Corporation, Chair, Group of Experts on Cleaner Electricity Systems

17h40 - 18h00: Open discussion**Proposed questions for discussion:**

- How can different energy resources be optimally integrated to ensure grid reliability and stability?
- What specific strategies can grid operators employ to manage the intermittency of renewable energy sources?
- How can fossil fuels and nuclear power continue to support baseload demand while integrating more renewables into the energy mix?
- What role do energy storage technologies and smart grid solutions play in enhancing electricity supply reliability?
- How can demand-side management contribute to enhanced grid stability and reliability?
- What are the best practices and strategies from different countries in maintaining and improving grid reliability?