



“Electricity as a Driver for Achieving Deep Transformation of the Energy System”

Roundtable Discussion for the Committee on Sustainable Energy

23 September 2021, 15h00 – 16h30 Geneva time

United Nations Economic Commission for Europe

Background

Electricity continues to be a pacing factor for energy systems’ transformation. Power plants are becoming more flexible and low- and zero- carbon technologies are decarbonising electricity generation. Expansion of renewable energy generation, life extensions of the existing nuclear fleet and deployment of advanced nuclear technologies such as small modular reactors, hydroelectric systems, and development/ deployment of carbon capture, use, and storage technologies to enable continued use of coal and natural gas fossil fuels and emerging storage technologies for balancing resource variability can be integrated into an electric system that is reliable and produces minimal carbon emissions. The traditional electricity supply and demand characteristics will need to change to allow such a future electricity system to emerge. The power system will need to deliver greater demand flexibility and responsiveness and, from a supply side perspective, may result in a generation fleet with less flexibility, less predictability and less controllability.

Objective

This panel will explore the opportunities for and issues in leveraging such a system in deep transformation of the end to end energy system from power generation through to end use including wide spread expansion into non-traditional end uses for electricity such as transportation, industrial process, and heating.

Issues to be explored

- How realistic is deep transformation of the energy system vision and over what time frame?
- What key enabling technologies are required and how close are they to commercial viability?
- What impact will such a transformation have on utilities, utility operations and the power grid?
- What key policy enablers will be required to make such a transformation occur?
- What near term steps should be taken to make such a vision a reality?

Panelists

- Moderator: Jim Robb, Chair Group of Experts on Cleaner Electricity Systems
- Pedro Pizarro, President & Chief Executive Officer, Edison International, United States
- Arshad Mansoor, President, Electric Power Research Institute, United States
- Cédric Lewandowski EDF Group Senior Executive Vice-President Nuclear and Thermal, France
- Daniyar Yerenchinov, Chairman, International Center for Green Technologies and Investment Projects, Kazakhstan