

## **Eighteenth Meeting of the IRENA Council – Thematic meeting**

**5 November 2019, 13.15 - 14.15**  
**Sheraton Hotel, Corniche, Abu Dhabi**  
**Oasis Room**

### **Enhancing Dialogue among Countries with High Shares of Renewables in their Energy Systems**

Renewable energy experienced a remarkable growth over the last decade, driven by innovation, increased competition, policy support, and even corporate and consumer choice in a growing number of countries. Many of them have set ambitious targets to achieve high shares of renewables as part of their energy systems, with the goal of achieving the objectives of the Paris Agreement and the 2030 Agenda for Sustainable Development. Whilst this ambition was among the main drivers for high shares of renewables having already materialised in energy systems of several countries, the historical development of competitive hydro and geothermal resources strongly contributed to this outcome in a number of jurisdictions.

The countries that have already reached high shares of renewables in their energy-systems, particularly in the electricity sector, have been facing different sorts of challenges in assuring affordable and secure energy supply, and in retaining positive cross-sectoral impacts of renewable energy deployment - for instance over the water and food sectors. The solutions they have already designed and deployed, or that they are currently researching, span through all links of the energy sector management chain and also touch upon cross-cutting issues.

Examples include:

- Energy system planning shall become more frequent and cover longer time periods as uncertainties become more critical in a system with high shares of renewables. A more holistic approach to planning shall consider synergies with all end-use sectors to address variability, uncertainty, and instantaneous surpluses.
- Regional integration of power systems would help not only deal with variability of renewable generation output but also support an optimised development of renewable power generation infrastructure.
- Energy markets and regulation shall be restructured, to ensure that the system is fit to technologies and interactions that are very different from the ones with fossil fuels. They shall be designed to foster the development of products to hedge against volatility and accommodate cross-border exchanges. New players should be allowed to participate, allowing contributions of flexible resources as energy storage, prosumers, demand response, and sector coupling.
- System operation shall be equipped with adequate tools for resource forecasting and for monitoring and controlling energy systems in real time. Digitalisation aids in bestowing the system with versatility to operate under growing amounts of decentralised renewable energy sources.
- Holistic strategies need to be adopted to ensure that renewable energy development contributes to other sectors such as food security and water resources, avoiding negative impact on the nexus areas and contributing to public acceptance of renewable energy.

Adjusting energy sector governance, with more opportunities for societal participation, can also aid in this and other topics.

- Since innovation means that energy solutions are constantly evolving, countries need to develop the optimal mix of solutions in the long-term and have the proper environment to ensure continuous technology innovation. Regulatory frameworks need to guarantee that innovative solutions are financially attractive.

Upon request from several Members, IRENA intends to establish a platform for eliciting dialogue among countries facing similar challenges due to high shares of renewable energy already achieved in their energy systems, and for the discussion of key measures and solutions to address such challenges. Efforts will focus on engaging public and private players in countries with successful solutions for deploying high shares of renewables and connecting them with each other and with players of countries that may soon reach such high shares of renewables in their energy systems.

Through this platform, IRENA will provide value for the engaged countries by (i) facilitating the identification of common problems and the exchange of best practices related to retain affordability and security of energy supply, as well as positive cross-sectoral outcomes; and (ii) aiding in systematising this knowledge, with the preparation of meeting reports and facilities for developing a repository of solutions. To facilitate the dialogue, IRENA can inform Members with aid of past and on-going projects relevant to this topic.

The side event will host preliminary discussions on the proposed initiative with respect to objectives and structure, identify countries of interest for the initiative, and determine subsequent steps for its launch and implementation.

**For more information, please contact:**

Rafael Ferreira, Programme Officer, Country Support and Partnerships, [RFerreira@irena.org](mailto:RFerreira@irena.org)

Fabian Barrera, Associate Programme Officer, Country Support and Partnerships, [FBarrera@irena.org](mailto:FBarrera@irena.org)