Introductory Meeting between MNRE and TCPs Working on Renewable Technologies, Fuels, and their System Integration

Date: 7th November 2023

13:30-16:00 IST/ 09:00-11:30 CET

Venue: Room no. 612, MNRE Office, New Delhi *(Hybrid Mode)*

1. Introduction to IEA's Technology Collaboration Programme (TCP)

The Technology Collaboration Programme (TCP) supports the work of independent, international groups of experts that enable governments and industries from around the world to lead programmes and projects on a wide range of energy technologies and related issues for global transition to a cleaner energy future.. The experts in these collaborations work to advance the research, development and commercialization of energy technologies. These collaborations involve thousands of experts worldwide who represent nearly 300 public and private organisations located in 55 countries, including India.

2. Workshop Objective

The IEA Secretariat invited several TCPs for a half-day meeting held at the MNRE in hybrid mode with an objective for TCPs to present their work and learn about MNRE's research and policy priorities. The MNRE invited relevant Indian technical and research institutions to the Workshop to engage and explore potential collaboration with **relevant TCPs** in the following areas: *Ocean Energy Systems, Solar photovoltaics, SolarPACES, Hydropower, Hydrogen, Bioenergy, Energy Storage, Geothermal, Heat Pumps, Wind.*

The meeting was organised in connection to the Renewable Energy Working Party (REWP), from 13:30 hours IST on 7 November at the MNRE, Atal Akshay Urja Bhavan.

For further details on the meeting, please contact Dr. Anil Kumar, Sc. E, MNRE [anil.kumar.mnre@nic.in]; Ms. Poulami Choudhury, RISE Fellow [cons.rise-mnre@govcontractor.in]

Participation

The TCP Workshop was attended by 25 participants virtually and around 20 officials from R&D institutes, PSUs, MNRE, IEA TCPs, attended in person.

Key Takeaways

- The ministry emphasized that India is open to collaborating with TCPs to advance towards achieving net zero.
- Dr Anil Kumar, Scientist – E, MNRE, enumerated the key achievements of the ministry's R&D scheme (Renewable Energy -Research and Technology Development Scheme) in terms of the development of indigenous technologies/solutions – e.g., solar water pumps, milk chillers, high-efficiency perovskite cells of 25% efficiency, PERC cells with 22% efficiency, production lines of PEM fuel cells, and deployment of Fuel Cell Bus in Leh.
- The Ministry's policy and research priorities for renewable energy technology were also highlighted in areas of solar PV, solar thermal, waste to energy, onshore and offshore wind, Hydrogen, next-generation energy storage, and blue-sky technologies.
- New Technologies in focus for the ministry include geothermal, high-efficiency wave energy converters, OTEC, and tidal energy.
- India is actively participating in the solar, wind, bio, and ocean energy TCPs and there is further interest in exploring engagement with TCPs on green hydrogen, energy storage, bioenergy, solar thermal, and small hydropower.

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Gallery

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AGENDA

1330 hrs **1335 hrs**	**Introductory remarks** Mr Dinesh Jagdale, Joint Secretary, MNRE **Policy and research priorities for renewable energy technology** Dr Anil Kumar, Scientist E, R&D, MNRE
1345 hrs	**Introduction of the Technology Collaboration Programme** Mr Per Anders Widell, Program Manager, IEA
1400 hrs	**Presentation of TCPs (in-person)** ***Chair**: Dr A K Tripathi, MNRE* ***Moderator**: Kavita Jadhav/Astha Gupta, IEA* *Each TCP gets 7-8 minutes to present their activities, followed by Q&A* - Purnima Jalihal, Ocean Energy Systems (OES) - Christopher Richter, SolarPACES - Dr. Klaus-Dieter JORDE, Hydropower *(Focus on Small Hydropower)* - Olmar Rubio García, Hydrogen TCP - Daniel Mugnier, Photovoltaics Power Systems (PVPS)
1500 hrs	**Presentation of TCPs (remote)** ***Chair:** Dr A K Tripathi, MNRE* ***Moderator:** Per-Anders Widell, IEA* *Each TCP gets 7-8 minutes to present their activities, followed by Q&A* - Dina Bacovsky, Chair, Bioenergy TCP - Bert Gysen, Chair, Energy Storage - Kasumi Yasukawa, Chair, Geothermal TCP - Caroline Hanglund Stignor, Heat Pumps Technologies - Stephan Barth, Chair, Wind TCP
1600 hrs **1700 hrs**	**Concluding Session** - Mr. Per Anders Widell, IEA - Dr A K Tripathi, MNRE **High Tea and Snacks**

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