

# Agenda

# Karnataka Power System

# Transformation Workshop

19 January 2021

14:00-17:00 IST/ 9:30-12:30 CET

Virtual webinar

Partners:



British Deputy  
High Commission  
Bengaluru

International  
Energy Agency

iea



British Deputy  
High Commission  
Bengaluru

## IEA Program for Karnataka Power System Transformation Workshop

India is the third-largest energy-consuming country in the world. According to the IEA's World Energy Outlook 2020, India has become one of the largest sources of energy demand growth globally and is making remarkable progress towards its universal electrification target, with 100 million people gaining access in 2018 alone. Per-capita electricity consumption is still around a third of the world average, but total Indian electricity demand is expected to start expanding again in the coming years following the significant demand drop in 2020 due to Covid19. India faces a triad of challenges: how to expand energy access and integrate renewable energy, all while transitioning to a low-carbon electricity system to achieve ambitious economic, social and climate objectives.

The International Energy Agency (IEA) with the sponsorship of the British High Commission, in partnership with NITI Aayog and The Center for Study of Science, Technology and Policy (CSTEP) will be organising a **Karnataka Power System Transformation Workshop** to inform the government of Karnataka's actions for integrating solar and wind into its electricity system.

IEA observes that the increasing share of solar and wind (at over 30% of annual generation and sometimes over 70% of hourly demand) is already redefining how Karnataka's power system is operated. Challenges such as solar and wind curtailment started to emerge in the last few years and intensified in 2020. IEA's global work on power system transformations categorizes six phases of renewable integration. Karnataka is currently in Phase 3 and is close to entering Phase 4. Other international countries and regions in Phase 3 and 4 such as Denmark, UK, Australia, Germany, various Chinese provinces and US states have already adopted specific measures in light of similar challenges.

The proposed workshop can highlight what Karnataka can learn from these international experiences, and what other regions around the world can learn from Karnataka. The workshop will provide a platform for local and international experts to share ideas and identify key recommendations for power system planning, operation and flexibility in order to integrate increasing shares of variable renewable energy successfully. This workshop is the third of the series of three workshops supported through the IEA's Clean Energy Transitions Programme (CETP), with particular thanks to the contribution of the United Kingdom Foreign, Commonwealth and Development Office (FCDO).

## Karnataka Power System Transformation Workshop

19 January 2021

<p>14:00 IST/ 09:30 CET</p>	<p><b>Session 1: Opening and High-level Context</b></p> <ul style="list-style-type: none"> <li>• <b>International Context and Introduction:</b> Mr. Keisuke Sadamori, Director, Energy Markets and Security Directorate, IEA (5 mins)</li> <li>• <b>National Context Setting and Welcome:</b> Mr. Rajnath Ram, Energy Adviser, NITI Aayog (5 mins)</li> <li>• <b>UK Govt. collaboration with the Govt. of Karnataka:</b> Mr. Jeremy Pilmore-Bedford, Deputy High Commissioner, British High Commission Bangalore (5 mins)</li> <li>• <b>Keynote address on “Role of Renewable Energy in Karnataka’s Energy Transition”:</b> Mr. Kapil Mohan, IAS, Additional Chief Secretary to Energy Department, Government of Karnataka (5 mins)</li> <li>• <b>Special Address:</b> Mr. Vivek Kumar Dewangan, Additional Secretary, Ministry of Power (5 mins)</li> <li>• <b>Closing with launch of CSTEP report “Grid Impact for High RE Scenarios in Southern India”</b></li> </ul> <p><i>Moderated by: Mr. Keisuke Sadamori, Director, Energy Markets and Security Directorate, IEA</i></p>
<p>14:30 IST/ 10:00 CET</p>	<p><b>Session 2: Karnataka’s power system in light of increasing solar and wind generation</b></p> <ul style="list-style-type: none"> <li>• <b>Transmission network analysis for High RE scenarios in Southern India:</b> Mr. Milind Ravindranath, Senior Research Engineer, CSTEP (7 mins)</li> <li>• <b>Karnataka power system model with high RE share in 2030:</b> Mr. Harikrishna K V, Research Scientist, CSTEP (7 mins)</li> <li>• <b>Challenges and solutions for increasing solar and wind in Karnataka:</b> Ms N Manjula, Managing Director, KPTCL &amp; SLDC (14 mins)</li> <li>• <b>Integration of renewables in Karnataka’s DISCOM:</b> Ms G Sheela, General Manager (Demand Side Management) &amp; Mr. P Krishnamurthy, General Manager (Power Purchase), BESCOM (7 mins)</li> <li>• <b>Power Trade to support RE integration:</b> Mr. Rajesh K Mediratta, Director of Strategy, India Energy Exchange (7 mins)</li> </ul> <p><b>Panel discussion (15 mins)</b></p> <p><i>Moderated by: Mr. Arun Kumar Mishra, Director, Project Management Unit, National Smart Grid Mission, under Ministry of Power</i></p> <p><b>Interactive Session - Polling question for the wider audience (5 mins)</b></p>

<p><b>15:40 IST/ 11:10 CET</b></p>	<p><b>Session 3: International perspective on challenges and opportunities for high shares of solar and wind</b></p> <ul style="list-style-type: none"> <li>• <b>International insights on power system transformation for Karnataka:</b> Ms Szilvia Doczi, Energy Analyst, Renewables Integration and Secure Electricity, IEA (10 mins)</li> <li>• <b>Regulatory innovation for increasing share of solar and wind, US experience:</b> Ms Diane X Burman, Commissioner, New York State Public Service Commission (7 mins)</li> <li>• <b>The deployment of Battery Storage in GB and Europe:</b> Mr. Samuel Ebohon, Transaction Associate Director / Associate, Business and Investor Advisory, Arup (7 mins)</li> <li>• <b>Role of energy storage in Karnataka Context:</b> Mr. Nikit Abhyankar, Scientist, Lawrence Berkeley National Laboratory (7 mins)</li> <li>• <b>Rooftop solar integration in Australia:</b> Ms Gabrielle Kuiper, former DER Strategy Specialist, Australia's Energy Security Board (7 mins)</li> </ul> <p><b>Panel discussion (15 mins)</b></p> <p><i>Moderated by: Mr. Anoop Singh, Founder &amp; Coordinator, Centre for Energy Regulation</i></p>
<p><b>16:35 IST/ 12:05 CET</b></p>	<p><b>Interactive Session - Polling question for the wider audience (5 mins)</b></p> <p><b>Wrap up and take aways:</b> Mr. Cesar Alejandro Hernandez, Head of Renewable Integration and Secure Electricity Unit, IEA (10 mins)</p>