

NITI – IEA Meeting Agenda:
Indian Power Sector: Supporting a Low Carbon Transition
Date: 9 March 2017
Location: New Delhi, India

Context

India is at the centre of the global energy stage. It has the third largest energy consumption in the world but per capita electricity consumption is around a third of the world average. Moreover, Indian electricity demand is expected to continue to expand as a result of economic and population growth, along with increased urbanisation and industrialisation. India is therefore faced with a triumvirate of challenges: how to i) expand access, ii) meet growing electricity demand and iii) integrating renewable energy, all while iv) transitioning to a low-carbon electricity system in order to achieve ambitious economic, social and climate objectives.

India and International Energy Agency (IEA) benefit from a long, ongoing bilateral relationship built on co-operation in a broad range of areas including energy security, statistics, efficiency, market analysis, implementation agreements and technology. India has been the focus of many recent IEA analyses and reports, for instance through the special focus chapter on the Indian power sector of the Energy Technology Perspectives (ETP) publication in 2014 and the World Energy Outlook (WEO) 2015 special report on India's energy outlook. High level policy dialogues have been further intensified over the last few years, as demonstrated in the signing of a Statement of Intent on data and research cooperation by the IEA Executive Director and the Vice-Chairman of the National Institution for the Transformation of India (NITI) Aayog.

Scope and Objectives

NITI Aayog and IEA are working to assess current domestic power generation and the potential to support India to provide universal access to electricity for its population under its “24x7 Power for All” initiative, while meeting its engagement under the Paris Climate change agreement.

This meeting will bring together stakeholders to discuss and analyse current trends and challenges in electricity production and consumption, globally and specifically in India. The meeting focusses on the potential for India to transition to a low carbon power generation system. Both technological and regulatory challenges (e.g. electricity pricing) will be discussed. In particular the role of flexible thermal power plant operation and storage options for future electricity systems will be addressed. Experts will discuss global best practices & advances in HELE (e.g. USC, IGCC), flexible thermal power plant technology and the potential opportunities & barriers to improve efficiency and flexibility in existing fossil based power plants. Further topics include an account of other possible pathways for integrating renewables into the power system like energy storage (e.g. pump storage, batteries) and mini-/smart grid applications.

The outcomes of this workshop will serve as the basis for further work in this area by the participants, such as a possible technology roadmap for low-carbon thermal power generation in India and inform long term policy analysis and planning.

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Opening 9:30-10:00	Registration & Coffee
Session 1 10:00-11:30	<p>Welcome Address: Shri Anil Kumar Jain, Additional Secretary (Energy), NITI Aayog.</p> <p>Keynote: Flexibility of power systems: An increasing priority worldwide – relevance for India: <u>Christian Zinglensen, Head of the Clean Energy Ministerial (CEM) - IEA</u></p> <p>The Role of Flexibility in the Energy Transition</p> <ul style="list-style-type: none"> • Flexibility options in India: The role of smart electricity systems and energy storage: Shri Sameer Saxena, DGM, POSOCO • System integration of renewables: options and practices to address the integration challenge: <u>Peerapat Vithayasrichareon (IEA)</u> <p>Panel Discussion Moderator: <u>Shri K.V.S Baba, CEO, POSOCO</u></p> <ul style="list-style-type: none"> • What lessons can be learned from global experiences of renewables integration? • What are the flexibility needs in the Indian power sector, now and in the future? • What role may flexible generation, demand response, smarter grids and storage play in the Indian energy system?
Session 2 11:30-13:30	<p>Thermal Power Generation – Improving Efficiency and Flexibility</p> <ul style="list-style-type: none"> • Evaluation of advanced coal–fuelled electricity generation technologies: <u>Juho Lipponen (IEA)</u> • Storage solution and flexible operation –Shri S.S. Mishra AGM (Engg), NTPC & Shri Sameer Sharma DGM (OS), NTPC • Flexible generation and storage solution (battery / pump storage solution etc.) Shri Bhaskaran Thatra K, TATA Power-Head-Power System Control Centre • Load Follow-up Capability of MHPS Boilers –Shri Munehiro Kakimi, General Manager- Boiler Engineering (MHPS India) • Recent developments in flexible thermal power plant technology: <u>Raimund Malischek (IEA)</u> <p>Panel Discussion Moderator: <u>Dr. Somit Dasgupta, Member (Economic & Commercial)</u></p> <ul style="list-style-type: none"> • What is the state of the art in clean fossil power technologies around the world? • What are the major technological challenges in fossil based power generation in India? • What are the opportunities and challenges for India’s industrial base to support the energy transition? • Which technologies are needed? Status of flexible thermal power plant operation.
13:30-14:30	Lunch
Session 3 14:30-16:00	<p>Pathways to a Low Carbon Power Generation Transition – The Role of Policies and Regulation</p> <ul style="list-style-type: none"> • Indian power system regulation and electricity pricing: Mrs. Shruti Deora, Adviser (RE), CERC • Policies and financing for investment in the low carbon power transition - international experiences: <u>Michael Waldron (IEA)</u> <p>Panel Discussion: Moderator: <u>Shri S.K Chatterjee, Jt. Chief (Regulatory Affairs)</u></p> <ul style="list-style-type: none"> • Policy and regulatory environment: Best practices for enabling an electricity system of the future • How does the regulatory framework affect current market outcomes in India? • What are the major challenges to achieving a more low-carbon power sector? Which policies, regulations and technologies will be needed?
16:00 – 16:40	<p>Wrap up & way forward</p> <ul style="list-style-type: none"> - <u>Christian Zinglensen (IEA)</u> - Shri Surinder Singh Sur, Joint Adviser (Energy), NITI Aayog