

ISUW 2020 CONFERENCE AGENDA

**THEME-A: TOWARDS A NET ZERO ENERGY POWER SECTOR - MAINSTREAMING RENEWABLES
ROADMAP FOR 450 GW RENEWABLE ENERGY BY 2030**
Crystal Ball Room 1, The Lalit Hotel, New Delhi
04 MARCH 2020, 12:00 TO 13:30

AGENDA (DRAFT)

Supporting Partner: NITI Aayog (www.niti.gov.in)

Session Coordinator:

Gaurav Bhansali, ISGF

Contacts:

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Background

One of India's major advantages today (and going forward) is that its Renewable Energy (RE) potential is vast and distributed across the country. RE capacity installations reached 86 GW as of December 31, 2019. Wind is the major contributor with 44%, followed by solar with 39%. Recent estimates indicate that India's solar potential to be greater than 10,000 GW and wind potential higher than 2,000 GW. To take advantage of India's RE potential, will require new and bold policy initiatives from both Central and State governments. The Central government has committed to 40% electricity from non-fossil resources by 2030 as part of the Paris Agreement and has already set a target of 450 GW of RE by 2030.

This session will discuss how will India achieve 450 GW of RE by 2030 and what are the policy and regulatory interventions required for achieving this target. This session will also cover potential barriers and risk factors in operating a power system with >65% capacity from RE resources.

Key Topics

1. How must the Indian power system evolve if India chooses to put RE at the core of the future power system, rather than at the periphery?
2. What should be done differently to drive a dramatic scale-up of renewable energy, particularly solar rooftop and wind power on shore and off shore?
3. Policy tools currently in place and its evolution as RE reaches higher penetration levels?
4. How greater private investment can be stimulated?

Chair: RP Gupta, Special Secretary, NITI Aayog

Moderator: Ravi Seethapathy,
Executive Chairman, Bio-Sirus Inc., Canada
Advisor, India Smart Grid Forum.

Contact: ravi.seethapathy@gmail.com

Speakers:

1. **Jean-Christophe Füeg**, Ambassador, Swiss Federal Office of Energy
2. **Christine Falken-Grosser**, Head of Division - Bilateral Energy Cooperation, Federal Ministry for Economic Affairs and Energy, Germany.
3. **Antoine Jourdain**, Senior VP, COO and Head of International Affairs, ENEDIS, France.
4. **AK Verma**, Former Joint Secretary, MoP
5. **Amal Sinha**, CEO, BRPL
6. **Shalabh Srivastava**, Country Director, RTI India

ISUW 2020 CONFERENCE AGENDA

THEME-A: TOWARDS A NET ZERO ENERGY POWER SECTOR - MAINSTREAMING RENEWABLES
POWER SYSTEM FLEXIBILITY
Crystal Ball Room 1, The Lalit Hotel, New Delhi
05 MARCH 2020, 11:30 TO 13:00

AGENDA (DRAFT)

Supporting Partner: Power System Operation Corporation Limited (www.posoco.in)

Session Coordinator:

Gaurav Bhansali, ISGF

Contacts:

gaurav@indiasmartgrid.org | +91 75670 61538

Background

The growth in variable renewable energy resources (VRE) calls for increased system flexibility. This flexibility includes distributed load-generation balancing and the ability of the wires to accommodate two-way power flows without power quality violations. Demand response, energy storage, intelligent smart microgrid inverters as well as regulations and market design all play a critical path in enabling this. A better understanding of such capabilities are needed. Work is under way in many countries to demonstrate such flexibility to successfully accommodate a high penetration of VRE, VPPs to better deal with fluctuating supply and demand. According to the world energy outlook released by IEA in November 2019, Indian power system would require maximum flexibility by 2040: +50%/-35% in the generation capacity, which will be a herculean task. This session will discuss such technologies and pathways for achieving flexibility.

The Power System Flexibility Campaign seeks to help governments and industries accelerate system transformation across all elements of the power system, while contributing to cost-efficient and reliable electricity supply.

Key Topics

1. Criticality of flexibility in power system operation
2. Role of ESS and DR
3. Flexible operation of coal plants
4. Smart microgrids for power system flexibility

Chair: Ghanshayam Prasad, Chief Engineer, Ministry of Power

Moderator: Ravi Seethapathy

**Executive Chairman, Biosirus Inc. Canada
Advisor, ISGF**

Contact: ravi.seethapathy@gmail.com

Speakers:

1. **PK Agarwal**, Director- POSOCO
2. **N Venu**, Managing Director, ABB Power Grids in India and Region Head- South Asia, Power Grids, ABB
3. **Winfried Damm**, Head of Indo-German Energy programme, Delhi, India
4. **Randi Kristiansen**, Economics & Financial Analyst, Gas, Coal and Power Division, IEA
5. **Raymond Kaiser**, Director of Energy Management Systems, Amzur, USA
6. **Shishir Shekhar**, Worldwide Industry Manager, Utilities & Energy, MathWorks

ROUNDTABLE ON

GLOBAL PERSPECTIVES ON ENERGY TRANSITION AND SMART GRIDS

Jointly Organized By



REGENCY 3, THE LALIT HOTEL, NEW DELHI
04 MARCH 2020, 14:00 TO 17:00

AGENDA

Background

Energy transition is a pathway towards transformation of global societies from fossil fuel-based system to zero-carbon by the middle of this century. Decarbonization of the energy sector requires top priorities as many other verticals such transportation, water production/treatment and HVAC are increasingly being electrified. This decarbonization of other verticals (electrification), puts a heavy burden on the energy sector to ensure overall success.

Theoretically, Renewable Energy (RE) and Energy Efficiency (EE) measures can potentially achieve 70-90% of the required carbon reductions, but a practical pathway needs to be developed for mass adoption. The architecture and flexibility of future energy systems (Smart grid) must intelligently integrate the actions of all stakeholders and users - generators, T&D, consumers and prosumers— in all their energy needs (electricity, heat, cool, transport, etc.) in order to efficiently deliver sustainable, economic and secure electricity supply.

Key Topics

1. Do you think Renewables (both T&D connected) is difficult to implement in your countries (lack of design, standards, and implementation)? How can it be helped?
2. What is the status of Smart Meter rollout in your countries (Electricity/Water/Gas)? Are you implementing TOU rates for all customers? What are the major impediments? What help is needed?
3. Do you think Energy Efficiency is difficult to implement in your countries (lack of design, standards, and implementation)? How can it be helped?
4. What steps are being taken to increase distributed energy resources and rooftop solar in LV levels, in your communities? What is the target penetration? What Grid Code changes have been made to facilitate this?
5. Is Local Integrated Resource Planning (LIRP) being initiated to address last mile needs (generation, heat, cool, load management)? IF not, what are your efforts in this area?

Chair: Eddie Widiono , Chairman, Indonesia Smart Grid Initiative (PJCI)	Moderator: Ravi Seethapathy , Ambassador Americas Global Smart Grid Federation Email:
Time: 14:00 - 14:15	Opening Remarks Chair and Moderator
Time: 14:15 - 15:15	Panel-1
Panelists:	
<ol style="list-style-type: none"> Arvind Jadhav, Former Chief Secretary, Karnataka RN Sen, Former Chairman, WBERC Rohan Seneviratne, Deputy General Manager, CEB, Sri Lanka Patrick Clerens, Secretary General, EASE* Gopal Saxena, Former CEO, BRPL and BYPL Raymond Kaiser, Director of Energy Management Systems, Amzur 	
Time: 15:15-15:30	Break
Time: 15:30-16:30	Panel- 2
Panelists:	
<ol style="list-style-type: none"> Pankaj Batra, Former Chairman, CEA BP Singh, Former Member, DERC Ujjwal Deep Dahal, Director, Druk Holdings & Investment RR Mehta, Former CEO, Reliance Energy Martin Hauske, Asia Pacific Energy Segment Sales Leader, Nokia Gianluca Corbellini, CEO and Co-founder, Hive Power IA Khan, Former Chairman, Telangana ERC Rahul Tongia, Fellow, Brookings India & ISGF Hitendra Dev Shakya, Managing Director, NEA Engineering Company Mohammad Hossain, Director General, Power Cell, Power Division Michael Williamson, Section Chief- Energy Division, UN ESCAP <i>(On Video)</i> Mohammad Abdullah Al-Drazi, Protocol Officer, GCCIA RK Chauhan, Director – Projects, Power Grid Corporation of India Rajesh K Mediratta, Director (Business Development), IEX Rajiv Mishra, Director, PTC India Harry Dhaul, DG, IPPAI Sunil Wadhwa, Advisor, IPPAI Ghanshyam Prasad, Chief Engineer, MoP SR Narasimhan, Director – System Operation, POSOCO 	
Time: 16:30-16:55	Open House
Time: 16:55-17:00	Closing Remarks by Chair and Moderator
Session Coordinators: Aashima Chaney , ISGF Parul , ISGF	Contact: aashima@indiasmartgrid.org parul@indiasmartgrid.org

TRACK-4: TECHNOLOGIES ENABLING ENERGY TRANSITION: ENERGY STORAGE SYSTEMS (ESS)

Regency 3, The Lalit Hotel, New Delhi
03 MARCH 2020

AGENDA (DRAFT)

Background

India's renewable energy (RE) target of 175 GW (including 40 GW RTPV Solar) target by 2022 is well on track – having achieved 87 GW by January 2020. ISGF undertook detailed studies and estimated 17 GWh of battery energy storage systems (BESS) requirements for integration of 175 GW of RE to the grid by 2022. Besides this, BESS required for other stationary applications such as data centres, telecom towers, UPS and inverters, DG replacement and etc., is calculated at 121 GWh making an aggregate requirement of 138 GWh for stationary applications. Electric Vehicles (EVs) would require another 40 GWh of BESS during the same period, up to 2022. This session will discuss key topics listed below.

SESSION 1

Time: 09:30~13:00

1. Battery Technologies for Grid Storage and Electric Vehicles
2. Energy Storage Systems Roadmap for India: 2019-2032

Tutors:

1. **Arumugam Manthiram**, Director, Texas Materials Institute, Materials Science and Engineering Graduate Program, The University of Texas, Austin, USA
2. **Ravi Seethapathy**, Honorary Member and WG Chair, ISGF and Chairman, Biosirus Inc. Canada

Time: 13:00~14:00

NETWORKING LUNCH - PRE-FUNCTION AREA OF REGENCY

SESSION 2

Time: 14:00~17:30

1. Manufacturing of Energy Storage Systems in India
2. Value Streams and Business Case for Energy Storage: Impact of Power Market Design and Regulation
3. Battery Requirements for Electric Mobility in India
4. Storage Projects: International Best Practices and Lessons for India

Tutors:

1. **Rahul Walawalkar**, President – India Energy Storage Alliance (IESA)

Session Coordinator:

Shuvam Sarkar Roy, ISGF

Contacts:

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