

Event Background

The emergence of India as a strong economic power is receiving widespread recognition in the world. On the other hand, although we operate the fourth largest power system in the world, one-third of our population have no access to electricity and our percapita consumption of electricity is one-fourth of the world average! Transmission and Distribution losses in India are also quite high - about 26% in distribution and more than 7% in transmission. Government of India (GoI) and other stakeholders have realized that by implementing incremental improvements in a business as usual scenario we will not be able to provide 24x7 electricity to all households in the country - it requires innovative strategies, breakthrough technologies and bold decisions. In 2013, GoI issued Smart Grid Vision and Roadmap for India; and the newly elected Government in India is committed to provide 24x7 electricity to all households in next 5 years and has recently launched 3 focused programs towards this objective with a total capital outlay of US\$ 14 billion. The new Government has also announced ambitious programs to build 100 Smart Cities on fast track and add 150 GW of renewable energy (100 GW solar and 50 GW wind) generation capacity by 2022! With all these ground breaking initiatives, India has already emerged as the prime destination for Smart Grids and Smart Cities.

INDIA SMART GRID WEEK (ISGW) 2015 is the first edition of the Conference and an Exhibition that will be organized by **India Smart Grid Forum** (a public private partnership initiative of Ministry of Power, Government of India) with the support of several ministries, government institutions, non-government institutions and multi-lateral agencies from India and overseas.

Main Objectives of the Event

- Position India as an important emerging market for smart grid and smart city products and services to the international technology companies.
- Provide exposure for utilities, regulators and policy makers in Indian power sector on smart grid technologies, matured solutions and emerging technology trends for the near future.
- Bring World's top most thought leaders in energy sector to share their views on development needs and future technology trends that India could leverage to provide clean energy access to over a billion people.
- Provide a platform for networking and knowledge and technology transfer amongst:
 - o Indian utility professionals with their overseas peers who have already implemented smart grid technologies and smart city solutions.
 - o Indian industry professionals with overseas technology companies for collaborations and business partnerships.
 - Researchers, consultants and students in India to meet with experts from the industry, academia and research from overseas.
 - o Indian technology companies to showcase their products and solutions to potential clients from India and overseas to generate new ideas.
 - Technology start-ups to showcase their products and solutions to potential investors and clients.





Structure of ISGW 2015

(Conference and Exhibition Venue: Bangalore International Exhibition Centre)

- 02 March 2015: (1) SMART GRID TUTORIAL & MASTER CLASSES, (2) USA-India Smart Grid Workshop sponsored by USTDA (by invitation only)
- 03 March 2015: Inauguration of the Conference and Exhibition & ISGAN Annexe#6 Workshop
- 04 March 2015: Conference and Exhibition & a Special Luncheon Round Table on Smart Regulations for Smart Grids and Smart Cities
- 05 March 2015: Conference and Exhibition & Special Luncheon Round Table for Launch of Smart Utilities Group
- 06 March 2015: Site Visits 4 visits are proposed. Delegates, Speakers and Exhibitors may choose according to their preferences:
 - 1. Visit to Smart Grid Pilot Project in Mysore (including historical landmarks in Mysore City)
 - 2. Visit to Southern Regional Load Dispatch Centre (SRLDC) in Bangalore and Control Room of Bangalore Electricity Supply Company (BESCOM) and Central Power Research Institute (CPRI)
 - 3. Tour of India's Silicon Valley visits to campuses of some of India's largest IT companies based in Bangalore THIS TOUR IS OFFERED ON 02 MARCH 2015 ALSO
 - 4. Bangalore City Tour (including Nandi Hills)

(Please note that on 06 March 2015, *Holi*, the festival of colours is celebrated in India and touring around Bangalore and Mysore City will be great fun!)

Besides the above program, several side events with international development agencies such as EBTC, NEDO, USTDA, USIBC etc are planned during 02-05 March 2015.

Visionary Speakers at ISGW 2015

Several Nobel Laureates and Great Thinkers / Scientists have been invited as Visionary Speakers in the Special Plenary Sessions at ISGW 2015 and many of them have confirmed their participation.

Technical Papers

ISGW 2015 call for papers has received 133 Technical Papers. All shortlisted papers will be published and selected papers will be presented in the relevant technical sessions/Technical Papers Presentation Tracks.

Results

Results of ISGW will be a set of recommendations to key decision makers in Government of India, state governments, regulatory commissions and utilities on way-forward to effectively leverage evolving technologies for developing smart grids and smart cities in India.





Event Organizers











Organizer

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Utility Partners

Knowledge Partner

Supporting Ministries



सत्यमेव जयते Ministry of Power Government of India



Ministry of New and Renewable Energy Government of India



Ministry of Urban Development Government of India



Department of Telecommunications Ministry of Communications & Information Technology Government of India



Department of Science & Technology Ministry of Science & Technology Government of India

Partners









(U.S. Commercial Service supports the goals of this event, but does not endorse the specific products, or views of the participating organizations)







































Media Partners













































EVENT DAY 1: 02 March 2015

- 1. SMART GRID TUTORIAL & MASTER CLASSES from 9.30 am to 5.30pm (Detailed Agenda on Page #9)
- 2. U.S.-India Smart Grid Workshop sponsored by USTDA from 10am to 5.30 pm followed by cocktails (Please register at: regonline.com/indiasmartgridbangalore)

E۱	/ENT	DAY	2: 03	Marc	h 2015
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Session Time	Session Details		
09:30 - 11:00	Inaugural Session (90 Min)		
	Welcome Address: ISGF		
	 Special Address: Secretary, Minist 	try of Power, Govt of India	
	 Special Address: Secretary, Minist 	try of New &Renewable Energy*	
	 Special Address: H.E. Ambassador 	r of Japan to India *	
	Special Address: Representative of Platinum/Gold Sponsor		
	 Special Address: H.E High Commissioner of U.K* 		
	Special Address: H.E Ambassador of France*		
	Special Address:Ms Leocadia I. Zak,Director USTDA		
	 Keynote Address: Shri. Piyush Go 	yal, Minister of State (I/C) for Power, Coal and	
	New and Renewable Energy, Gov	t of India*	
	 Presentation of highlights of the k 	Knowledge Paper: Bloomberg New Energy	
	Finance		
	 Release of Knowledge Paper by the Chief Guest 		
	 Inaugural Address by the Chief Guest: Shri Narendra Modi, Prime Minister of 		
	India*		
	 Vote of Thanks 		
11:00 – 11:15	Inauguration of Exhibition by Chief Guest		
11:00 – 11:30	Tea Break		
11:30 – 13:00		ate, Lessons Learnt, Business Models and Key	
	Emerging Trends Chair: Secretary Ministry of Power Court of	fladia	
	Chair: Secretary – Ministry of Power, Govt of India - USA: Russell Conklin, ISGAN		
	- Europe: Senior Representative of European Commission		
	- Japan: Hiroshi Kuniyoshi, Executive Director, NEDO		
	- China: Shu Yinbiao, President, State Grid Corporation of China*		
	- S.Korea: Ja-yoon Koo, Ex-Chairman of Regu	-	
	- Developing Countries Perspectives: Ravi Seethapathy, Smart Grid Canada; Praveer Sinha, Tata		
12.00 14.00	Power Delhi Distribution	on the Donald	
13:00 – 14:00 14:00 - 15.:30		unch Break Track B: Smart Energy – Vision for the Smart Grid	
14.00 - 1530	Track A: Future Electricity Grid Supporting Low Carbon Energy Supply and Energy	Evolving Towards Smart Customers and Smart Cities	
	Security	/Communities	
	Security	,	



	Session A1:Smart Generation and	Session B1: Smart Energy Market Design &
	Integration	Regulatory Support
	Chair: Tarun Kapoor, Joint Secretary, MNRE	Chair: A.K.Bakshi, Member CERC/India *
	A1.1 Large-Capacity Renewable Energy	B1.1 Introduction: Requirements for a market design
	Generation and Integration Challenges	supporting Smart Energy: Suedeen G Kelly, Former
	and Way-forward : NREL, USA*	Commissioner, FERC, USA
	A1.2 Distributed Generation: Nandakumar	B1.2 Integration of distributed generation into an
	Pai, Managing Director, Wartsila India	unbundled market: Christopher Villareal,
	A1.3 Protection and Control of Integrated	California PUC
	Smart Generation	B1.3 Demand Response market (NegaWatt) potential
	(KEMA/ABB/Schneider/GE)	in India: Chris Hickman , Innovari Inc
	A1.4 Select papers from Call for Papers	B1.4 Model Smart Grid Regulations in India: <i>Vijay</i>
	Sponsoring Organizations	Sonavane , Advisor, MERC
15:30 - 16:00		Tea Break
16:00-16:30	Presentation on IESS2047 by Mr. Anil Jain, A	dvisor Energy ,Niti Ayog, Gol
16:30 – 18:30		
	Chair: Narendra Taneja, Convenor of BJP's Er	nergy Cell
	1. Jeffery D.Sachs, Director – Earth Institute, Columbia University (on Live Video)	
	2. Michel Porter, Author and Professor,	•
	3. Elon Musk, Founder, SpaceX, Tesla a	
	•	nool of Economics and Author of Capital in The 21 st
	Century*	
	5. Robert Lanza, Scientist & Author of Biocentrism*	
18:30 - 20:30	Networking Cocktails	

Session Time	Session Details		
	Plenary Session – 3: Smart Grid to Smart Cities and Smart Communities		
	Chair: Mr. Madhusoodan Prasad, Secretary, Ministry of Urban Development, Govt of India*		
	- Jesse Berst, Chairman, Smart Cities Council*		
	- Richard Schomberg, EDF		
	- Neil Jacobstein, Co-Chair of Artificial Intelligence & Robotics, Singularity University, USA*		
	(on live video)		
	- Anil Chaudhary, M.D., Schneider Electric India		
	- Erfan Ibrahim, Founder & CEO, The Bit Bazar LLC		
	- Dr.Chandan Chaudhary, M.D., Dassault Systemes India		
	- Case Study of Kitakyushu City, Japan – by Fuji Electric		
09:30 - 11:00	- Rep of WUXI City, China*		
11:00 - 11:30	Tea Break		
11:30 - 13:00	Track A: Future Electricity Grid Supporting	Track B: Smart Energy – Vision for the Smart Grid	
	Low Carbon Energy Supply and Energy	Evolving Towards Smart Customers and Smart	
	Security	Cities /Communities	





	Session A2: Evolving Integrated Grid with Distributed Generation Chair: Dr. Upendra Tripathi, Secretary, MNRE*	Session B2: Smart Cities & Smart Homes and other emerging technology trends Chair: Tom Rowlandsree, Bloomberg New Energy Finance
	A2.1 Introduction: Tools for Forecasting, Scheduling and Dispatch of distributed generation; Renewable Energy Monitoring Centres etc.: Rep from DG Energy, European Commission A2.2 Energy Storage solutions for grid stability: Rahul Walawalkar, IESA A2.3 Renewable Energy Sources & Distributed Generation Resources: Ravi Seethapathy, Smart Grid Canada - Challenges to Transmission System Operators - Challenges to Distribution System Operators A2.4 Select Paper from Call for Papers/ experts from sponsoring organizations A2.5 Green Corridor project in India/ PGCIL	 B2.1 Challenges and Opportunities in 100 Smart Cities program in India: MoUD Presentation B2.2 Smart Grids as Anchor Infrastructure to build Smart Cities at marginal cost: ISGF Presentation B2.3 How to achieve Smart Cities/Communities under high urbanization pressure: Madhav Pai, Director, World Resources Institute* B2.4 New Technology Trends: Girish Ghatikar, LBNL B2.5 Case Studies: Barcelona Smart City - Sandeep Pathak, Schneider Electric India & ISGF BoG Member
13.00 - 14.00		nch Break
14.00 - 15.30	Track A: Future Electricity Grid Supporting Low Carbon Energy Supply and Energy Security	Track B: Smart Energy – Vision for the Smart Grid Evolving Towards Smart Customers and Smart Cities /Communities
	Session A3: Smart Distribution - Evolution of the Distribution Grid Chair: Jean Francois Faugeras, VP-EDF	Session B3: Smart Customer Chair: B.N.Sharma, Joint Secretary, Ministry of Power, India
	A3.1 Increasing the intelligence of the Distribution Grid to integrate distributed generation: Jean Francois Faugeras, VP-EDF A3.2 Data Analytics for increased intelligence of Distribution Grid: Jim Connaughton, C3 Energy A3.3 Consequences of distributed generation for distribution networks: Laurent Schmitt, Alstom Grid A3.4 Smart Micro Grids – Why so relevant for India?: Terry Mohn, General	 B3.1 Unlocking the value of Smart Meters with Behavioural Science: Alex Lasky, Founder & Chairman – OPOWER B3.2 Smart Homes, Smart Buildings: Select Technical Papers/Sponsoring Organizations B3.3 E-mobility and EV infrastructure solutions for India: Prof. Rajit Gadh, SMERC, UCLA B3.4 National Electric Mobility Mission in India: Ambuj Sharma, Additional Secretary, MoHI* B3.5 Case Studies Leveraging Social Media for Consumer Engagement: ISGF Study Paper





	A3.5 Nanogrids : Dr Ashok Das , SunMoksha - Select Technical Papers Select Technical Papers
15:30 – 16:00	Tea Break
16:00 – 18:00	Plenary Session – 4: International Collaboration, Joint Research, Development and Deployment Projects to bring down costs Chair: Agnese Cecchini, Editorial Director, Groupo Italienergia, Italy - GSGF: Paddy Turnbull, Chairman - IEC: Frans Vreeswijk, General Secretary & CEO - ISGAN: Russel L. Conklin - NEDO – Hiroshi Kuniyoshi, Executive Director - USTDA: Henry Steingass, Regional Director for South & South East Asia - Senior Representative of World Bank - Senior Representative of CIGRE
18:00 –18:45	Special Dinner Plenary: Myth and Mytha - Devdutt Pattnaik, Author and Motivational Speaker*
18:45 – 22.00	Cocktails, Cultural Program & Dinner

Session Time	Sessi	on Details	
09.30 - 11.00	Leap!	s that New India should embrace for the Big	
	Chair: R.Chidambaram, Principal Scientific		
	1. Ray Kurzweil, Co-Founder and Chancellor, Singularity University and Director of Engineering at Google - on Live Video		
	2. Amory Lovins, Rocky Mountain Institute – on Live Video		
	3. Janine M.Benyus, President, Biomimicry Institute - on Live Video		
	4. Arun Manjumdar, Stanford University*		
	5. Chris Hickman, Innovari, Inc.		
11:00 - 11:30	Tea Break		
11:30 – 13:00	Technical Session-C: Cross Cutting Themes	Track B: Smart Energy – Vision for the Smart Grid	
		Evolving Towards Smart Customers and Smart	
		Cities /Communities	
		Cities /Communities	
	Session C1: Standards and Inter-operability	Session B4: Smart Grid Communications and	
	Session C1: Standards and Inter-operability Chair: Richard Schomberg, IEC Smart Energy	•	
		Session B4: Smart Grid Communications and	
	Chair: Richard Schomberg , IEC Smart Energy	Session B4: Smart Grid Communications and Cyber Security	
	Chair: Richard Schomberg , IEC Smart Energy	Session B4: Smart Grid Communications and Cyber Security Chair: Paul de Martini, Managing Director, New	
	Chair: Richard Schomberg , IEC Smart Energy Chairman & Vice President, EDF	Session B4: Smart Grid Communications and Cyber Security Chair: Paul de Martini, Managing Director, New Port Consulting Group, USA B4.1 Communication Solutions and the Digital	
	Chair: Richard Schomberg, IEC Smart Energy Chairman & Vice President, EDF C1.1Smart Grids Standardization Roadmap by	Session B4: Smart Grid Communications and Cyber Security Chair: Paul de Martini, Managing Director, New Port Consulting Group, USA	





	C1.2 Smart Grid Architecture supporting	B4.3 Last Mile Connectivity Solutions for Smart
	Interoperability: Ronald Ambrosio, IBM and	Grids and challenges in India: Ajoy Rajani, ISGF
	Gridwise Architectural Council*	B4.4 Cyber Security for Smart Grids : Sachin
	C1.3 Smart Grid Standardization Efforts in	Burman, Director, NCIIPC, India
	India: BIS/CEA, India	B4.5 M2M: Convergence of communications,
	C4.4 World Smart Energy Harmonization:	home automations, entertainment and energy:
	IEC Presentation	DoT/TEC/ Select Technical Papers
13:00 - 14:00	Lur	nch Break
14:00 - 16:00	Track A:Future Electricity Grid Supporting	Track C: Cross-cutting Themes
	Low Carbon Energy Supply and Energy	
	Security	
	Session A4: Smart Metering	Session C2: Training and Capacity Building
	Chair: Colin McKerracher, Bloomberg New	Chair: Sunil Arora , Secretary, Skill Development
	Energy Finance	Ministry, Govt of India*
	A4.1. Rollout challenges - worldwide	C2.1 Skill Development - the biggest challenge in
	experiences and lessons: BNEF Presentation	India: Ministry of Skill Development Presentation
	A4.2 Global Technology Trends: <i>Eric</i>	C2.2 Capacity Building for Smart Grids and Smart
	Dresselhuys, Silver Spring Networks	Cities: ISGF Presentation
	A4.3 India's Smart Metering Market: <i>Rahul</i>	C2.3 Regulatory Capacity Building: CERC/FOR
	Tongia, ISGF	C2.4 NSDCL and Skill Development Centres -
	A4.4 Smart Metering Case Study: Francesco	NSDCL
	Marini, Enel, Italy	C2.5: International Examples: USAID/ DoE; MKE/
	A4.5 Smart metering and challenges in India	S.Korea
	and options/Roadmap: Sponsoring	
	Organizations/Select Technical Papers	
16:00 – 16:30	Te	ea Break
16:30 – 17:30	Closing Ceremony of Conference and Exhibition	on

^{*} Invited and confirmation awaited

PARALLEL EVENTS		
Session Time	Session Details	
9.30-17:30	Event DAY 1: 02 March 2015;	
	US-India Smart Grid Workshop sponsored by USTDA (Agenda under Finalization)	
18.00 - 21.00	Cocktails	
	Smart Grid Tutorial and Master Classes	
9:30 -11:00	1. Introduction to Smart Grids: Rahul Tongia & Pradeep Kumar Yemula	
11:30 -13:00	 Communication Technologies for Smart Grids and Smart Cities – Ajoy Rajani & Kishore Narang 	





14:00 -18:00	MASTER CLASSES (Parallel Tracks)
	a. IEC 61850 by Christoph Brunner , Chair of IEC Working Group on 61850 in TC-57
	b. Cyber Security by Sachin Burman , NCIIPC & Shailendra Fuloria , Eaton/ISGF
	c. Energy Storage Technologies by Rahul Walawalkar & Ravi Seethapathy, Smart Grids
	Canada
	 d. Smart Microgrids by Terry Mohn, General Microgrids Inc & Erfan Ibrahim, The Bit Bazar LLC
Event DAY 2	: 03 March 2015
Session Time	Session Details
13:00-16:30	ISGAN Annexe-6 (POWER T&D SYSTEMS) Workshop (detailed agenda under finalization) Workshop Chair: Bo Normark, ISGAN - Chair Annex 6
	Expert Panel:
	1. Terry Mohn, General Microgrids Inc & Microgrid Alliance UN
	2. Ken Hayles, Eskom, South Africa
	3. Nick Singh, Eskom, South Africa
	4. Anders Lindskog, SP Technical Research Institute of Sweden
	5. Rahul Walawalkar, India Energy Storage Alliance
	(Participation by invitation only. Please write to: c.amritha@indiasmartgrid.org)
11:30-15:30	Presentation of Technical Papers
Event DAY 3	: 04 March 2015
Session Time	Session Details
11:30-15:30	Luncheon session - "Smart Regulations for Smart Grids and Smart Cities" for Regulators and Policy
	Makers
	Speakers:
	 Sudeen G.Kelly, Former Commissioner, FERC
	2. Christopher Villareal, Senior Policy Analyst, California Public Utilities Commission
	3. Vijay Sonavane , Advisor, MERC
	4. Paul Fieldman, Innovari Inc
	5. Balawant Joshi , Partner, Edam Infra
	Key topics:
	 Model Smart Grid Frameworks to support positive regulatory change to new technologies.
	Regulatory Examples from around the world to enable the Demand side. A discussion of many different countries and regulations and to see what has worked and what has not worked.
	3. Market Structures – How are the different markets working? From fully unbundled to vertically integrated, where have electricity grids been able to provide higher levels of reliability while maintaining affordable cost?



	4. Regulatory implications of amendments proposed in the Electricity Act 20035. Regulations for Separation of Carriage and Content - Experiences and Recommendations
11:30-15:30	Presentation of Technical Papers

Event DAY 4: 05 March 2015

Session Time	Session Details	
11:30-15:30	Special Luncheon session and launch of ISGF's Smart Utilities Group (SUG)	
	SUG is a voluntary forum for utilities to share their experiences and learn from each other on smarter initiatives and implementation of new technologies. For details write to: (c.amritha@indiasmartgrid.org)	
	Agenda:	
	Introduction and launch of SUG	
	1. Election of a Chair for SUG	
	2. Finalization of framework for SUG functioning	
	3. Presentation: Electricity Act 2003 Amendment (proposed) – Challenges to Regulators and Utilities	
	4. Presentation: Changes in Business Processes and IT Systems of Discoms with	
	separation of Carriage and Content as envisaged in the Electricity Act 2003	
	Amenments	
11:30-15:30	Presentation of Technical Papers	

ISGF - TiE - IAN Smart Innovation Hub: 03-04-05 March 2015

ISGF in collaboration with The Indus Entrepreneurs (TiE) and Indian Angel Network (IAN) is organizing Smart Innovation Hub at ISGW 2015 where start-ups and entrepreneurs can exhibit their technologies/solutions to potential, clients, technology partners, investors and business associates. Smart Innovation Hub will be at the exhibition floor and will be open on 03-04-05 March 2015.

For details write to: akshay@indiasmartgrid.org





Technical Committee for ISGW 2015

- 1. Mr. Vijay Sonavane, Ex-Member, MERC, Chair of Technical Committee for ISGW 2015
- 2. Mr. Richard Schomberg, EDF, Co-Chair of Technical Committee for ISGW 2015
- 3. Mr. Colin Mckerracher, Global Lead Smart Grid Analysis, Bloomberg New Energy Finance (BNEF), Knowledge Partner
- 4. Mr. Debdas Goswamy, Bureau of Indian Standards, BIS
- 5. Mr. L Ravi, General Manager, DAS & SG, Bangalore Electricity Supply Company Limited
- 6. Mr. N S Sodha, Executive Director, Power Grid
- 7. Mr. S A Khaparde, Professor, IIT Mumbai
- 8. Mr. U S Mane, Independent Director, UHVBN
- 9. Mr. Ajoy Rajani, Senior Vice President, Reliance Infrastructure Ltd and BoG Member ISGF
- 10. Mr. Pradeep Kumar Yemula, Assistant Professor, IIT Hyderabad and BoG Member ISGF
- 11. Dr. Rahul Tongia, Advisor, ISGF
- 12. Prof Rajit Gadh, University of California, Los Angeles
- 13. Dr. Girish Ghatikar, Lawrence Berkeley Laboratory, USA
- 14. Mr. Terry Mohn, CEO, General MicroGrids, USA
- 15. Dr. Rahul Walawalkar, Executive Director, India Energy Storage Alliance
- 16. Mr. Ravi Seethapathy, Director, Smart Grid Canada

Advisory & Organizing Committee for ISGW 2015

- 1. Mr. Hiroshi Kuniyoshi, Executive Director, NEDO, Japan
- 2. Mr. N Murugesan, Director General, Central Power Research Institute
- 3. Mr. Paddy Turnbull, President, Global Smart Grid Federation (GSGF)
- 4. Mr. Pankaj Kr Pandey, Managing Director, Bangalore Electricity Supply Company
- 5. Mr. R M Agarwal, DDG (NT), Ministry of Communication & IT, DoT
- 6. Mr. R R Mehta, CEO Reliance Infrastructure Ltd.
- 7. Mr. Reji Kumar Pillai, President ISGF
- 8. Mr. Rupendra Bhatnagar, SAP and Gen. Secy. ISGF
- 9. Mr Sandeep Pathak, Schneider Electric India & BoG Member, ISGF
- 10. Mr. Russel L Conklin, International Smart Grid Action Network
- 11 Mr. Sachin Dev Sharma, Executive Director, Messe Desseldorf India
- 12 Mr. V. K. Kanjila, (CBIP), Treasurer, ISGF

