



SMART GRID Bulletin

December, 2018



ISGF and European Commission organised the 6th EU-India Smart Grid Workshop in Italy

19 - 22 November 2018, Florence and Rome, Italy



ISGF in collaboration with the European Commission, organised the 6th EU – India Smart Grid Workshop in Florence and Rome, Italy from 19 to 22 November 2018. The Workshop was hosted by Florence School of Regulations. The workshop was attended by high-level officials from electricity distribution companies and central and state regulatory commissions in India, Europe.

Smart grid has been highlighted as a priority area of cooperation under the frame of the EU – India Clean Energy and Climate Partnership, adopted at 2016 EU-India Summit (30 March 2016 in Brussels). The Leaders' Statement on Clean Energy and Climate, adopted at 2017 EU-India Summit (6 October 2017, Delhi) further emphasised the importance of continued cooperation on smart grids development and deployment.

ISGF and European Commission have collaborated for 5 workshops in the past and conducted EU-India Smart Grid Workshops in NICE (June 2015), Vienna (November 2015), Bornholm, Denmark (September 2016) and New Delhi (March 2017, March 2018). The Florence Workshop was attended by senior officials from electricity distribution companies and central and state regulatory commissions in India and interacted on the following themes: Regulatory Frameworks enabling RE Integration; European and Indian demonstration projects on Energy Storage to promote the integration of Renewable Energy and Electric Vehicles, Evolving role of Distribution System Operators in the context of Smart Grids; and Upscaling and transferring promising demonstrations in Indian and European contexts.

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The first day of the workshop focused on the integration of storage and EV in smart grids. The trends, issues, policy and regulatory frameworks that dictate the future of ES and EV were discussed. The second day of the workshop focused on the nuances of power sector regulation from both the EU and the Indian perspective. The topics addressed provided an introduction to the EU and India power sector and included lessons on network unbundling, tariffs of the future, regulation of innovative technologies in the electricity network industry and energy markets design.

The current issues in India for networks that were identified are the integration of the national transmission grids, public acceptability of raising tariffs to trigger necessary level of network investment, integration of intermittent renewables, the introduction of retail competition (content and carriage separation) and improving market efficiency. Furthermore, the need for regulation to be adapted to take into account the impact of innovative technologies was highlighted.

As a continuation of this dialogue, further projects and research exchanges between EU and India is envisaged in the near future.

A site visit to ENEL's Smart Grid Lab in Rome was also organised as part of the workshop on 22 November 2018.

Glimpses of 6th EU-India Smart Grid Workshop at Florence School of Regulation and site visit to ENEL, Rome



Appointments and Transfers

Mr RK Verma has been appointed as Member, Technical, Appellate Tribunal for Electricity

Mr Pravindra Singh Chauhan has been appointed as Member, Haryana Electricity Regulatory Commission

Mr TC Gupta has been appointed as Additional Chief Secretary, Power for the state of Jharkhand

Mr Hridesh Kumar has been appointed as Managing Director, Jammu and Kashmir State Power Development Corporation

Ms Vandana Dadel has been appointed as Secretary, Energy for the state of Jharkhand

Key Achievements by Ministry of Power (MoP) and Ministry of New and Renewable Energy (MNRE)

Year End Review 2018 – Ministry of Power (MoP)

- 9 States achieve 100% household electrification under Saubhagya; total 16 states have 100% household electrification now
- More than 2 crore electricity connections released under Saubhagya and 100 per cent village electrification achieved under DDUGJY; Energy deficit reduced to almost zero
- Around 1,07,000 MW Generation Capacity has been added till October 2018 since April 2014. All India Generation Installed Capacity has increased by 39.2% from 2,48,554 MW as on 31.3.2014 to 3,46,048 MW as on 31.10.2018
- India emerges as net exporter of electricity to Nepal, Bangladesh and Myanmar 31.68 crore
- LED bulbs distributed under UJALA scheme; 74.79 lakh LED street lights have been installed
- India's rank improved to 24 in 2018 from 137 in 2014 on World Bank's Ease of doing business - "Getting Electricity" Ranking

More details at: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=186285>

Year End Review 2018 – Ministry of New and Renewable Energy (MNRE)

- India attains global 4th and 5th positions in wind and solar power installed capacities; India now at 5th global position for overall installed renewable energy capacity
- A total of 101.83 billion units of power were generated in the country during the year 2017-18 from renewable energy
- The cumulative renewable energy installed capacity has increased from 35.51 GW as on 31.03.2014 to 73.35 GW as on 31.10.2018 (increase of around 106% during last four & a half years)
- The Government has declared the trajectory of bidding 60 GW capacity of solar energy and 20 GW capacity of wind energy by March 2020, leaving two years' time for execution of projects

More details at: <http://pib.nic.in/newsite/PrintRelease.aspx?relid=186228>

Brainstorming on Interconnection of Regional Grids in ASEAN, SAARC and GCC Regions



During the last two decades, significant work has been done on SAARC Grid, ASEAN Grid and GCC Grid and several inter-country transmission lines have been built in these regions for development of regional grids and fostering cross border trade in electricity. In the emerging era of mainstreaming renewables, the regional diversity can be leveraged to operate the power systems from ASEAN region (with Philippines in the east) to GCC region (with Saudi Arabia in the west) as one grid which is spread across a time zone of 5 hours. The ASEAN-SAARC-GCC Grid could form a significant portion of a future globally interconnected grid as envisioned by Prime Minister Narendra Modi with a powerful slogan: **'One Sun, One Earth, One Grid'**.

To initiate a discussion about the potential of **Interconnection of Regional Grids in ASEAN, SAARC and GCC Regions**, ISGF held a brainstorming session on 14th December 2018 in New Delhi with key stakeholders comprising leaders from Government of India, Transmission System Developers and Operators, Regulators and Think Tanks from India. It is proposed to hold a workshop on the topic during India Smart Utility Week (ISUW 2019) in March 2019 in New Delhi which will have participation of stakeholders from ASEAN, SAARC and GCC countries.

Smart Grid Updates: Policy, Regulations & Standards

NATIONAL

Telangana Declares a Tariff of ₹6/kWh for Electric Vehicle Charging Stations

To pave the way for the growth of electric vehicles, Telangana State Electricity Regulatory Commission has fixed the tariff for charging stations at ₹6 per unit by creating a new category of consumer. Apart from fixing ₹6 per unit tariff for both low tension and high tension supply, it has also stipulated time-of-day charges for four slots in a day only for the high tension segment. For high tension segment, they had proposed ₹6.80 to ₹7.80 per unit in addition to demand charges of ₹390 per kVA per month and time-of-day charges. Read More: <https://bit.ly/2PLIMsX>

Goa Government Proposes to Modify Solar Policy to Incentivise Production

To incentivise production of solar power in the state, the government has proposed a 50% subsidy for small prosumers (consumers and producers of solar power) as an amendment to the Goa State Solar Energy Policy, 2017. Instead of granting an interest-free loan that would be recovered in instalments from small prosumers, the government proposes to provide a 50% subsidy on capital costs to prosumers in the residential, institutional and social sector categories that have solar plants with a capacity of up to 100kW. If the amendment is allowed, the Centre and the State will bear 30% and 20% of the subsidy's cost respectively. Read More: <https://bit.ly/2QDCA6D>

NITI Aayog-led Panel Proposes Free-market Pricing for all Local Natural Gas

NITI Aayog is actively considering free-market pricing for natural gas produced from all fields, a major market-friendly reform that according to oil companies is necessary to boost domestic output. The committee is consulting state-owned and private sector producers, the regulator, service providers and other stakeholders to prepare a blueprint for boosting local output. It is considering measures such as permitting private sector involvement in ONGC's fields, modifying exploration licensing norms, and curtailing scope for bureaucratic interference. Read More: <https://bit.ly/2SSJH83>

Uttarakhand Proposes Benchmark Costs for Solar Projects for FY 2019-20

Uttarakhand Electricity Regulatory Commission (UERC) has issued a draft order regarding the review of benchmark capital cost for solar PV, solar thermal, grid-interactive rooftop, and small solar PV projects to be applicable for the financial year (FY) 2019-20. In its order, the UERC has proposed a capital cost of INR 40.04 million/MW and also fixed the tariff at INR 4.62/kWh for solar PV projects to be commissioned on or after April 1, 2019. Similarly the tariff for solar thermal and rooftop projects has been fixed at INR 13.38/kWh and INR 5.38/kWh for projects to be commissioned on or after April 1, 2019. Read More: <https://bit.ly/2EHbwx8>

MNRE Amends Policy for Biomass-based Cogeneration Projects in India

The Ministry of New and Renewable Energy (MNRE) has amended the policy to support the promotion of biomass-based cogeneration projects in sugar mills and other industries in the country up to March 2020. The policy provides Central Financial Assistance (CFA) for projects utilizing biomass like bagasse, agriculture based industrial residue, crop residues, wood produced through energy plantations, weeds and wood waste produced in industrial operations. In the amended policy, MNRE has inserted a new provision which states that "Applications already received for capacity addition (expansionary) projects before notification of this program will not be eligible for CFA". Read More: <https://bit.ly/2CpVi9m>

MNRE Amends VGF Guidelines for 2 GW of Solar Projects

The Ministry of New and Renewable Energy (MNRE) has amended the guidelines for the implementation of its program under which the government aims to develop 2 GW of solar photovoltaic (PV) projects with Viability Gap Funding (VGF) under the third batch of the National Solar Mission (NSM) Phase-II. According to the new amendment, if there is a delay in the allotment of land for the project or connectivity by the government, the Solar Energy Corporation of India (SECI) can now extend the time for the financial closure and commissioning date of the project, without any financial implications to the project developer and the approval for any extension will be given only by the MNRE. Read More: <https://bit.ly/2ScdCYR>

Make in India Products Mandatory for Government Developed Renewable Energy Projects

Ministry of New and Renewable Energy (MNRE) has issued a memorandum for the implementation of public procurement in renewable energy sector giving preference to 'Make in India' products. For the grid connected solar power projects developed by central ministries, departments, and central public sector undertaking (PSU), solar PV modules have to be 100 percent locally manufactured and inverters have to be at least 40 percent locally manufactured and for decentralised solar power category, the requirement of local content in solar street lights, solar home lighting systems, solar power packs/micro grid, solar water pumps, inverters, batteries, and any other solar PV balance of system is 70 percent. Read More: <https://bit.ly/2UL8JYr>

Haryana Announces Subsidy of ₹15,000 for Installing Solar Home Systems

Haryana government announced that it would provide subsidy to the tune of INR15,000 to consumers for installing solar home systems under the 'Manohar Jyoti Yojana' was launched by the state government in 2017 and aims to promote renewable energy in the state. Through this program, Haryana has set a target of installing as many as 1,00,000 solar lighting systems across the state. The solar lighting systems are fitted with lithium battery and can run a ceiling fan and three LED lights and also has a mobile charging port. Read More: <https://bit.ly/2AKyU8k>

 **INTERNATIONAL****IRENA Plans Single RE Market in Africa**

The International Renewable Energy Agency (IRENA) plans to create a single renewable energy market in Africa. The continental initiative would encourage lower electricity costs and a reliable supply for African consumers. The single energy market is included in the African Union's New Partnership for Africa's Development (NEPAD) infrastructure development program. A single renewable energy market will create a much larger scale for investment in renewable energy production in Africa and will also ensure universal access to electricity in Africa. Read More: <https://bit.ly/2EDANle>

New York PSC sets State's Energy Storage Target at 3 GW by 2030

The New York Public Service Commission (PSC) set an energy storage goal of 3,000 MW by 2030 with an interim goal of 1,500 MW by 2025, as well as a new energy efficiency target for the state's investor-owned utilities that aims to more than double utility energy efficiency reductions by 2025. To accelerate the deployment, the commission ordered the state's six investor owned utilities (IOUs) to directly procure energy storage resources on the state's bulk power system via competitive solicitation and have the facilities in service by Dec. 31, 2022. Read More: <https://bit.ly/2Lo8oXD>

European Commission Approves €600 Million in Public Support for Innovative Solar Power Installations in France

The European Commission has approved under EU State aid rules a measure to support innovative installations for electricity production from solar energy. The measure will further support the EU's energy and climate objectives without unduly distorting competition in the Single Market. The scheme has an indicative budget of €600 million and is financed from the French State budget. It will support the deployment of 350 megawatts of additional generation capacity. The support is available for innovative solar installations (at ground level or on buildings), with a capacity between 100 kilowatts and 5 megawatts. The beneficiaries will be selected through tenders organised until 2019. Read More: <https://bit.ly/2PXrFV9>

E-voucher System Launched in Kenya

Azuri and Unilever launch mobile e-voucher system in Kenya for off-grid rural consumers as a gateway to goods and services. This step has been taken to bring solar to millions more off-grid homes across Kenya and, with that, modern goods and services to enhance their lifestyle. The e-voucher system, powered by telecommunications provider Safaricom, has been developed to ensure the widest coverage across the remotest areas. Customers can redeem the e-vouchers at any participating kiosk or trader. Read More: <https://bit.ly/2BnLvi4>

Smart Grid Updates: Technology & Projects

GRID MODERNIZATION AND SMART METERING

\$500 Million Investment by Firstenergy Corporation (USA) for Grid Modernization in Ohio with Installation of 7 Lakh Smart Meters

Under the grid modernization plan, the FirstEnergy Corporation is going to install 700000 smart meters throughout the service areas comes under Ohio Edison, Cleveland Electric Illuminating Company and Toledo Edison. FirstEnergy is also going to install voltage optimization equipment for reduction of energy usage by 4% in Ohio's grid. Read More: <https://bit.ly/2QEJyo9>

ISGF Industry Member Auto Grid will Launch New Flexibility Management Programme with Colorado Springs Utilities (USA)

Colorado Spring Utilities(USA) is going to deploy Demand Response Software under New Flexibility Management Programme for peak load management for saving energy by reducing use during critical peak-demand periods and provide savings to its customers mainly for commercial and industrial consumers. It will also help in carbon free energy generation. Read More: <https://bit.ly/2UMi7LB>

G3-PLC Alliance Member Develo, Announces EU-Funded AMI and Renewable Energy Projects

The Germany-based powerline communications and smart metering firm is involved in various G3-PLC activities, with a particular focus on national and Europe-wide funding projects CALLIA and ENERGY. The projects involve investigating how energy transfer between distribution grids in two different countries is able to foster the integration of renewable energy. The goals of the project include achieving more efficient integration of decentralised generation units and stabilisation of the European electricity grid. Read More: <https://bit.ly/2EDVzrt>

RENEWABLE ENERGY AND MICROGRIDS

Bosnia's Serb Republic Invites Bids for A 49.5 MW Wind Farm

Bosnia's autonomous Serb Republic is seeking bids for a 50-year concession to build and operate a 49.5 megawatt (MW) wind farm to help Bosnia diversify its energy supply, the Energy Ministry announced on 6th December, 2018. The Grebak wind farm will comprise 15 wind turbines and be located near the southwestern town of Nevesinje, the ministry said in a tender. It is expected to cost about 130 million Bosnian marka (\$75.8 million). With only one 50.5 MW wind farm operational in the Balkan country, several developers are seeking to add around 500 MW in wind capacity in the coming years. Read more: <https://bit.ly/2PnVQ2L>

eMotorWerks and LO3 Energy Launch a Partnership to use Juicenet's Smart-Grid Control Technology

Microgrid + EV projects launched to explore high-value cases in USA

eMotorWerks, a subsidiary of the Enel Group's new business line Enel X, and LO3 Energy said they have launched a partnership to use JuiceNet's smart-grid control technology for a series of microgrid + EVs projects with the joint goal of exploring high-value use cases for local energy markets on 5th

December, 2018. An initial project will connect the JuiceNet EV charging platform to one of LO3's transactive energy marketplaces, activating local renewable energy to be traded between the microgrid and electric vehicle owners. LO3's Exergy platform underpins the data exchange that enables price signals and peer-to-peer transactions while the eMotorWerks JuiceNet platform enables control over local energy flows, matching in real time and in small groups the local demand from EVs and households with the local supply of green, affordable energy. Read more: <https://bit.ly/2E1ZnSm>

India's Wind Power Potential Declining Due to Global Warming

The warming of the Indian Ocean due to global climate change may be causing a slow decline in India's wind power potential, according to a study. India, the third largest emitter of greenhouse gases behind China and the US, is investing billions in wind power and has set the ambitious goal to double its capacity in the next five years. The majority of wind turbines are being built in southern and western India to best capture the winds of the summer Indian monsoon, the seasonal weather pattern then brings heavy rains and winds to the subcontinent. Western India, including the Rajasthan and Maharashtra states, where investment in wind power is the highest, has seen the steepest decline over that time period, researchers said. However, other regions, particularly in eastern India, saw smaller or no decline. Read more: <https://bit.ly/2Gcug94>

Wind Farm Sites Spurs \$405 Million Bids in Massachusetts

Equinor Wind US LLC, Mayflower Wind Energy LLC and Vineyard Wind LLC each pledged \$135 million to secure individual leases from the U.S. government, drawn by state pledges to buy offshore wind power on 14th December, 2018. Mayflower is a joint venture of EDP Renewables and Royal Dutch Shell Plc's Shell New Energies US LLC. The auction raked in more than nine times the previous high-water mark: a 2016 sale of an offshore wind lease near New York to Equinor ASA for \$42.47 million. Each of the winning bids also approached the highest sum paid for oil drilling rights in the Gulf of Mexico since the start of area-wide leasing: \$157 million that Equinor spent nabbing a single 5,760-acre tract in 2012. Read more: <https://bit.ly/2S8IA5m>

Three companies bid a record-shattering \$405.1 million to build offshore wind farms

DNV GL Launches Mobile Solar PV Laboratory in India

The Onsite Solar Lab is a first for DNV GL and the company says it will allow asset owners to save time and costs and minimize risk by carrying out onsite testing that would otherwise be conducted in a stationary laboratory. "The Onsite Solar Lab will support the demands of the rapidly-growing solar market, further empowering developers and financiers to identify secure solar investments and accelerate India's energy transition." According to Nicolas Renon of DNV GL Energy, primary energy consumption of Solar PV in India will increase to 24 percent by 2050. Read more: <https://bit.ly/2EwoqNm>

Technology & Projects (Contd...)

Western Australia’s Horizon Power Embarks on DERMS Project to Manage PV & Batteries

PXiSE Energy Solutions, LLC a subsidiary of Sempra Energy and Mitsui & Co. Ltd., announced that Horizon Power would be installing the company’s Active Control Technology (ACT) as the distributed energy resources management system (DERMS) in Western Australia in the first week of December, 2018. PXiSE’s DERMS will provide Horizon Power with continuous, high-resolution visibility into the operations of the solar panels, batteries and generators in its approximately 888,000-square-mile service area. The platform will automatically respond to conditions on the grid by discharging power stored in batteries to correct any real-time disturbances and ensure a smooth, two-way flow of electricity across its systems. Read more: <https://bit.ly/2BcAXCn>

25 MW Floating Solar Project Tender Issued in Andhra Pradesh by NTPC

The tender allows for the project’s solar cells and modules to be sourced from anywhere in the world. The brief scope of work includes the supply of floaters, installation, anchoring, fixing of floaters, pathways corresponding to 35 MW (minimum) along with the engineering, procurement, and construction (EPC) of the project based on open category PV modules and cells. To be eligible to bid for the project, a bidder should have designed, supplied, installed and commissioned grid connected solar PV project of cumulative installed capacity of 20 MW or higher, out of which at least one project should be of 10 MW capacity or higher. Last date for bid submission is January 22, 2018 and the techno-commercial bid will be opened on January 23, 2018. Read more: <https://bit.ly/2S7iCOt>

Tender issued to develop 25 MW floating solar project at NTPC Simhadri

SMART CITIES

Greater Chennai Corporation’s 662 Buildings to Get Solar Panels Under Smart City Program

The Greater Chennai Corporation has planned to install solar panels on 662 of its buildings. These buildings would include government offices, schools, and hospitals and these together are expected to generate 3.06 MW of electricity. The work is being carried out under the government’s Smart City Program. The total project cost is ₹224 million (~\$3.17 million). Under the first phase of the scheme, approximately ₹370,000 (~\$ 5,233.65) was spent in installing solar panels in Padavattamman Koil Street, located in Royapuram region. The installation is for a capacity of up to 5 kW. The civic body has also written to the Tamil Nadu Generation and Distribution Corporation (TANGEDCO) to procure bi-directional net metres for feeding back the generated power into the grid. Read More: <https://bit.ly/2Sq12Vy>

Moscow Launches New Smart City District as a Living Lab

The government of Moscow has begun developing an existing district in the city to test nearly 30 new ‘smart’ technologies for urban development. Home to over 8,000 people, the district is

testing ideas on smart lighting, smart waste management, and smart heating. The authorities began implementing technologies in selected buildings situated in Maryino district on the southeast of Moscow. The district includes seven apartment buildings with different years of construction from 1996 to 1998.

The smart district residents can access smart systems responsible for heating, lighting, and waste collection. In total selected residential buildings are equipped with twenty-nine different smart technologies. As part of the project the first charging station for electric vehicles situated in residential district has been installed in Moscow – it has already become the most popular charging station for electric vehicles in the city. In addition, free Wi-Fi network is available on site. The project aims to improve quality of life and provide comfort and safety for residents. Read More: <https://bit.ly/2SRSozC>

EV AND ENERGY STORAGE

Delhi Launches Draft EV Policy

The Delhi government has released its draft Delhi Electric Vehicle Policy 2018 to improve Delhi’s air quality by reducing the greenhouse gas emissions from the transport sector. With this policy, the government targets 25 percent of all new vehicle registrations by 2023 to be Battery Electric Vehicles (BEVs). The policy also encourages the creation of jobs in driving, selling, financing, servicing and charging of EVs. Read More: <https://bit.ly/2Uas84F>

25 percent of all new vehicle registrations in Delhi to be Battery Electric Vehicles (BEVs) by 2023

NREL to Develop Low-Cost Thermal Energy Storage

The U.S. Department of Energy’s (DOE’s) National Renewable Energy Laboratory (NREL) has been awarded nearly \$2.8 million in funding from DOE’s Advanced Research Projects Agency–Energy (ARPA-E) to develop a system for grid electricity storage and power generation. The system includes a high-temperature charging device, low-cost thermal energy storage modules, a high-performance heat exchanger, and a closed-loop Brayton cycle turbine. Read More: <https://bit.ly/2Pq59z1>

CYBER SECURITY AND STANDARDS

Symantec Unveils New Network to Fight Cyber Threats for Protecting Critical Infrastructure like Power Grid

Symantec disclose a new network to fight cyber-attacks for infrastructure like power grid and industries where unscanned USB device are often used to update the system which could introduce malware and other cyber threats. Symantec Industrial Control System Protection (ICSP) neural uses artificially intelligence to detect and stop cyber-attacks on operational technology. It will retrofit existing infrastructure with a central nervous system to provide protection for critical infrastructure. Read More: <https://www.technomag.co.zw/2018/12/06/symantec-unveils-new-network-to-fight-cyber-threats/>

FERC Finalizes Cybersecurity Standards for Grid Supply Chain

Federal Energy Regulatory Commission (FERC) has approved cyber security standards proposed by the North American Electric Reliability Corp (NERC). These critical infrastructure protection (CIP-013-1) standards deal with supply chain risk management for industrial control system hardware, software, computing and networking services for U.S. bulk electric system. However, these standards exclude Electronic Access Control and Monitoring Systems (EACMS). For this gap, FERC gave NERC 24 months to develop modifications that will include EACMS associated with medium and high impact BES (bulk electric system) Cyber Systems within the scope of the supply chain risk management Reliability Standards. Read more: <https://www.power-eng.com/articles/2018/10/ferc-finalizes-cybersecurity-standards-for-grid-supply-chain.html>

DISRUPTIVE TECHNOLOGIES**Major South Korean City to Build Blockchain-Enabled Virtual Power Plant**

South Korea's government plans to spend 4 billion Korean Won (KRW) (about \$3.5 million) to set up a blockchain-enabled virtual power plant (VPP) in the city of Busan. South Korea's second most populous city after Seoul, has announced that the city administration has selected a project to support an innovative energy industry in the region by building a VPP based on a citizens-shared blockchain. The recently announced blockchain-powered VPP project is set to aggregate such power sources as Busan-area factories and public facilities of energy storage system (ESS), as well as solar power plants. Read More: <http://www.indiasmartgrid.org/viewnews.php?id=4996>

**Blockchain
Powered VPP
project set
to aggregate
South Korea's
Power Sources**

Battery Energy Storage System Uses Artificial Intelligence to Lower Energy Bills and Provide Utility Grid Services

Peak Power Inc., USA, has successfully completed the installation of 375 kW / 940 kWh of battery energy storage with GHP Realty, at their headquarters in New York. The project represents one of the largest energy storage installations in a commercial building in New York. It features Lockheed Martin's Gridstar 2.0 energy storage technology, paired with Peak Power's intelligent software platform, Synergy. The Synergy software optimizes the operation of distributed energy assets such as battery energy storage, electric vehicles, and solar. It forecasts moments of peak demand on the grid through the use of Big Data and Machine Learning, a form of Artificial Intelligence. This project also utilizes Peak Power's Building Insight Platform (BIP) which uses internet embedded sensors within the building as part of a comprehensive energy management system. Read More: <http://www.indiasmartgrid.org/viewnews.php?id=5024>

SMART WATER AND SMART GAS**UK Water Utility Pilots Revenue-Sharing Battery Storage Projects**

UK water utility Northumbrian Water is planning to pilot the use of battery storage units at a number of its sites under a new revenue-sharing partnership with developer Argonaut Power. Argonaut will oversee the installation of second-life Renault EV batteries, with all engineering work conducted by Connected. Argonaut Power will also act as the operator and manager of the completed projects, and will fully fund the installations under an installation and revenue sharing contract that is expected to be signed in the next fortnight. The utility serves around 4.4 million people in the UK with water and wastewater treatment, supplying just over 1 billion litres of water each day. Read More: <http://www.indiasmartgrid.org/viewnews.php?id=5006>

City of Waco In USA Signed Contract with Itron to Improve Water Efficiency and Reduce Water Loss

The City of Waco, Texas signed a contract with Itron to install Itron's OpenWay® Riva IoT solution, including smart water communication modules and leak sensors, to reduce water loss and improve water delivery for the utility's nearly 45,000 customers. The utility will also take advantage of Itron Analytics, a software-as-a-service offering that collects and analyzes data within the distribution network to improve operational awareness. To upgrade its water metering infrastructure and improve operational efficiency, the City of Waco will deploy 45,000 communication modules and 12,000 leak sensors. With an open, standards-based network, the utility will improve efficiency and reduce water loss by gaining access to high resolution consumption data and insights that will enable utility personnel to pinpoint and address problems quickly. The solution will also enhance customer service with more accurate bills and tools to proactively investigate and resolve billing complaints. Read More: <http://www.indiasmartgrid.org/viewnews.php?id=4978>

**45,000 smart water
communication
modules and
12,000 leak sensors
as part of an IoT
solution to be
installed in USA**

Singapore Company Plans to Set Up Natural Gas Distribution Infrastructure in Punjab with 2K Cr FDI

Singapore-based Think Gas Investments PTE Limited (Think Gas) has decided to establish natural gas distribution infrastructure in Punjab with an expected foreign direct investment (FDI) of Rs 2,000 crore and employment generation potential of more than 1500 jobs. The proposed infrastructure will be spread across an area of 12,000 square kms covering the districts of Ludhiana, Barnala, Moga, Jalandhar, Kapurthala and SBS Nagar. The Company aims to transform the energy consumption patterns in the state by penetrating approximately 45 percent of Punjab's households, in both urban and rural areas, along with its industrial sector. Read More: <http://www.indiasmartgrid.org/viewnews.php?id=4935>

Smart Grid Updates: Pilot Projects in India

Sr. No.	Project Name and Location	Name of Consultant	Key Functionalities	Key Vendors	Customers (Nos.)	Project Completion Date	Latest Progress
1	APDCL (Paltan Bazaar, Narengi, Ulubari - Assam)	Medhaj Techno Concept Pvt Ltd	AMI-R, AMI-I, PLM, OMS, PQM, DG	M/s Fluentgrid Ltd M/s Sinhal Udyog	15083 (15938)*	2018	<ul style="list-style-type: none"> 13895 smart meters has been installed; 9069 meters communicating to Control Center Installation of Control Centre hardware equipment is under progress A total of 200 DCUs installed, out of that 193 are communicating FAT for software modules has been completed Integration of Smart Grid system with R-APDRP SAP-MBC system started and expected to complete by 31st Dec'2018.
2	PSPCL (SAS Nagar, Punjab)	POWERGRID	AMI-R, AMI-I, PLM		2,734		<ul style="list-style-type: none"> MDM development is in progress by M/s Analogics Tech. Bids are under evaluation for Smart Meter Tender
3	TSSPDCL (Jeedimetla Industrial Area, Telangana)	CPRI	AMI-R, AMI-I, PLM, OMS, PQ	M/s. ECIL	11,904	2018	<ul style="list-style-type: none"> 5000 number Single Phase Smart Meters installed at Jeedimetla area. 2000 Smart meters connection to Data Acquisition system is under process. Erection of 60 RMUs out of 62 have been completed Erection of 71 autoreclosers out of 77 have been completed Erection of 89 sectionalizers have been completed Commissioning of SGCC (Smart Grid Control Centre) is under progress. 20KVA UPS Commissioned at SGCC
4	TSECL (Agartala - Tripura)	POWERGRID	AMI-R, AMI-I, PLM	M/s Wipro M/s JnJ Powercom	42,676	2018	<ul style="list-style-type: none"> Total 31044 meters are installed and communicating with server 267 DCUs have been installed and commissioned successfully Rooftop Solar net metering & billing is being integrated with AMI system Billing of 6,700 consumers done with smart meter data Acceptance testing of applications completed
5	WBSEDCL (Siliguri, Darjeeling, West Bengal)	POWERGRID	AMI-R, AMI-I, PLM	M/s Chemtrols M/s CMS Computers Limited	5,275	Yet to be decided	<ul style="list-style-type: none"> 5112 smart meters installed out of which 2387 are communicating 75 DCU installed at site out of 100 DCU and as of now 50 DCU are communicating Material & hardware for Control centre setup has been received and installed except Printer and 55 inch LED Display Design document for integration with SAP (billing and collection) system has been finalised and work is in progress
6	PED (Puducherry)	POWERGRID	AMI-R, AMI-I	M/s Dongfang	34,000	2018	<ul style="list-style-type: none"> 25,535 smart meters has been installed. 5500 meters communicating with Control Centre. 253 DCU installed. Control centre installation completed and operational 602 CT meters and 46 DT meters are installed
7	UGVCL (Sabarmati, Gujarat)	POWERGRID	AMI-R, AMI-I, OMS, PLM, PQ	M/s Genus Power M/s Cyan Connode M/s Fluentgrid Ltd	39,422	June 2018	<ul style="list-style-type: none"> 20622 nos 1 phase & 2032 nos 3 phase smart meters and 52 nos 3 phase CT smart meters installed at Naroda site. 23000 meters data acquisition started. 149 DCU installed. Control Centre Hardware installation, configuration has been completed Application customization is under progress: the billing data, load survey data, notification & alerts requirement, remote connect-disconnect connection facility are tested / verified. UAT (User acceptance test) in under progress. The web portal and mobile app development is under progress. The billing of 1 Phase 20600 and 3 phase 2084 consumers has been done.

Smart Grid Projects Completed in India

8	UHBVN (Panipat - Haryana)
9	HPSEB (Kala Amb Industrial Area - Himachal Pradesh)
10	CESC (Mysore - Karnataka)
11	IIT Kanpur - Smart City Pilot (Kanpur, Uttar Pradesh)

Smart Grid Projects under NSGM in India

12	CED (Chandigarh)	POWERGRID	AMI, DT monitoring, Substation Automation, Rooftop Solar PV, IT infrastructure	N.A.	29,433	Yet to be decided	<ul style="list-style-type: none"> REC Power Distribution Company Limited (RECPDCL) appointed as Project Management Agency on 30 Aug 2016 Approval of Tender award is in Process.
13	Amravati, MSEDCL, Maharashtra	No consultant	AMI, OMS, DR	N.A.	1,48,495	Yet to be decided	<ul style="list-style-type: none"> Bids are opened on 3rd May 2018. Bids has been cancelled and likely to re-bid.
14	Congress Nagar, MSEDCL, Maharashtra	No consultant	AMI, OMS, DR, SCADA	N.A.	1,25,000	Yet to be decided	<ul style="list-style-type: none"> Bids are opened on 3rd May 2018. Bids has been cancelled and likely to re-bid.

Abbreviations: AMI R/I - Advanced Metering Infrastructure Residential/Industrial, DT - Distribution Transformer, PLM - Peak Load Management, OMS - Outage Management System, PQ - Power Quality, PQM - Power Quality Monitoring, DG - Distributed Generation, SCADA - Supervisory Control and Data Acquisition, DR - Demand Response, EV - Electric Vehicles, IT - Information Technology, HEMS - Home Energy Management System, HAS - Home Automation System, PV - Photovoltaic, DTMU- Distribution Transformer Monitoring Unit

*Latest number of customers

New Tenders for Smart Metering in India

Ongoing Tenders

Sl. No.	Utility	Tender Details	Submission Dates	Source
1	Military Engineer Services	Special Repair Renewal of Ber Electrical Appliances Fans, Exhaust Fans, Provision of Pre Paid Smart Meters for Private Parties at Shopping Complex and Certain Minor Works at Belgavi	02 January 2019	https://bit.ly/2A774nn
2	Kerala State Electricity Board (KSEB)	Appointment as Implementing Agency for Implementation of AMI/ Smart Metering systems covering 3,21,800 nodes under IPDS in 63 towns of Kerala state	05 January 2019	https://bit.ly/2rGEh4r
3	BSES Yamuna	Supply & installation of Smart Meters (single phase, three phase WC, LTCT, HT, and DT)	18 January 2019	https://bit.ly/2GsqnNz
4	BSES Rajdhani	Supply & installation of Smart Meters (single phase, three phase WC, LTCT, HT, and DT)	18 January 2019	https://bit.ly/2EBPgF0

Expected Tenders

Sl. No.	Utility	Tender Details	Submission Dates
1	BESCOM	Supply of Single-phase whole current Smart Meter, Three-phase whole current Smart Meter and CT operated Three-phase Smart Meter as a part of Advance Metering Infrastructure along with the communication network for HSR Layout area	Expected
2	MPPKVCL	Smart Meter for 1300 households in Parmanu Nagar Indore, Madhya Pradesh	Expected
3	TANGEDCO	Advance Metering Infrastructure along with the communication network for the Theyagaraya area, Tamil Nadu	Expected
4	HESCOM	Supply of Single-phase whole current Smart Meter, Three-phase whole current Smart Meter and CT operated Three-phase Smart Meter as a part of Advance Metering Infrastructure along with the communication network, Hubli, Karnataka	Expected

Smart Grid Events

INDIAN

Dec 20 - 21, 2018: Renewable Energy Technologies and its Integration with Grid, Vadodara, www.guvnl.com

Jan 10 - 11 2019: Energy Storage India (ESI) 2019, New Delhi, <http://www.esiexpo.in/>

Jan 14 - 15, 2019: India m2m + iot forum, New Delhi <http://m2m2iotforum.com/>

Jan 18 - 20, 2019: 9th Vibrant Gujarat Global Summit 2019 <https://vibrantgujarat.com/>

March 12 - 16 2019: India Smart Utility Week 2019, New Delhi, <http://www.isuw.in/>

March 15, 2019: ISGF Innovation Awards 2018, New Delhi <http://www.isgfinnovationawards.in/>

INTERNATIONAL

Jan 14 - 17, 2019: World Future Energy Summit, Abu Dhabi <https://www.worldfutureenergysummit.com/>

Feb 05 - 07, 2019: Distributech 2019, USA <http://www.distributech.com/index.html>

Feb 05 - 07 2019: E-world Energy & Water 2019, Germany <https://www.e-world-essen.com/en/>

Feb 27 - Mar 01, 2019: INT'L Smart Grid Expo, Tokyo <https://www.smartgridexpo.jp/ja-jp.html>

March 26 - 28, 2019: Smart Grid Tech Europe 2019, Amsterdam Netherlands, <https://www.smartgrid-forums.com/forums/sgtech-europe-2019/>

March 29 - 31, 2019: Energy Intrusion Detection 2019, Amsterdam, Netherlands, <https://www.entsoe.eu/events/2019/01/29/energy-intrusion-detection-2019/>

April 15 - 16, 2019: China Utility Week, China <http://www.china-utility-week.com/>

April 25 - 26, 2019: ICSG Istanbul 2019, Istanbul <http://www.icsgistanbul.com/en/>

May 06 - 08, 2019: Utility Analytics Summit, NC <https://utilityanalyticssummit.com/>

May 14 - 16, 2019: Microgrid 2019, San Diego, USA <https://microgridknowledge.com/microgrid-2019-conference/>

May 15 - 16 2019: Innogrid 2020+, Brussels <https://www.innogrid2020.eu/>

May 27, 2019: The Clean Energy Ministerial (CEM), Canada <http://www.cleanenergyministerial.org/>

June 03 - 06, 2019: CIRED 2019, Spain <http://www.cired2019.org/>

June 17 - 21 2019: EU Sustainable Energy Week (EUSEW) 2019, Belgium, <https://www.eusew.eu/>

June 19 - 20, 2019: Event Horizon, Berlin <https://eventhorizon2019.com/>

Disclaimer: This information is from the public domain. ISGF does not hold any responsibility for the information provided in this section.



**India
SMART UTILITY
Week 2019**

International Conference & Exhibition
on Smart Utilities for Smart Cities

March 12 - 16, 2019
Manekshaw Center, New Delhi, India



Please visit www.isuw.in and [@isuw2019](https://twitter.com/isuw2019)

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SUSTAINABILITY BY SWEDEN SHOWROOM INDIA

Clean Energy, Environment, Climate - Innovations & Freen Growth



India and Sweden share a long history of collaboration, which is guided by dedicated MoUs in the fields of energy, environment and sustainable urban planning. During the visit of the honourable Indian Prime Minister to Sweden in 2017, both countries also mutually agreed on deepening cooperation in areas of smart cities and transportation, clean energy, smart industry etc. to promote sustainable development.

In line with this, **Swedish Energy Agency and Business Sweden – The Swedish Trade and Invest Council, in cooperation with the Embassy of Sweden have setup the first of its kind showroom in New Delhi to showcase Swedish cleantech, renewable and energy efficiency technologies in the India context.** The showroom showcases over 20 Swedish innovative technologies, which have been introduced through the

dedicated bi-lateral program - India Sweden Innovations Accelerator (ISIA). The showroom deploys advanced audio-visual technologies to showcase how these innovative Swedish technologies fits into Indian context along with various projects setup by these companies in India. In addition, different systems based on Swedish technologies to track air quality, power quality, energy savings etc will be showcased in the showroom. The showroom will remain open for visitors on second and fourth Friday of every month. Refer the following link to know about the Swedish technologies showcased in the showroom: <http://innovationsaccelerator.com/members-references/>

For more details, please contact Ludvig Lindstrom, Country Head (India), Swedish Energy Agency at ludvig.lindstrom@energimyndigheten.se or Pawan Tahlani, Program Manager, India Sweden Innovations Accelerator, Business Sweden at pawan.tahlani@business-sweden.se

IGL received Excellence Award for Successful Implementation of Smart Metering



ISGF Member Indraprastha Gas Limited (IGL) received the award for successful implementation of “ Smart Metering - A Digital India Initiative” from Hon’ble Union Minister of State for Home Affairs, Shri Hansraj Gangaram Ahir, during Excellence Awards & Felicitations 2018 at New Delhi. Shri Raman Srivastava, Chief General Manager (I&A) of IGL and ISGF BoG Member received the award.

Join the Indian Delegation to DistribuTECH 2019 from Feb 05 - 07 2019 in New Orleans, USA

ISGF with support from US Department of Commerce (USDOC) of the American Embassy, New Delhi is taking an official delegation from India to the DTECH 2019 which will be held from Feb 05 – 07 2019 in New Orleans, Louisiana, USA. DistribuTECH (DTECH) is the premier North American trade show for equipment vendors and service providers from across the transmission, distribution, and smart grid technology industries, attracting around 12,000 attendees and around 500 exhibitors from around 70 countries. The event also attracts attendees from electric utilities, water utilities, gas utilities, federal power agencies, energy service companies, energy service providers, energy end users (retailers, hospitals, data centers, etc.) and a wide-range of manufacturers and vendors. Visit the event’s website for additional information: <http://www.distributech.com>

As part of the Indian Delegation, the delegates will be entitled to the following benefits:

- Complimentary Pre-Registration for the show (value of the exhibit hall access is \$125)
- Discounted Registration for full conference
- Pre-arranged and facilitated briefings, meetings (including Meet and Greet meetings) with U.S. Exhibitors and U.S. industry associations, customized according to the delegates interests.
- List of exhibitors who export or indicate an interest in exporting to the group’s country and/or region of the world
- Optional site visits to smart grid project sites and technology companies. (Please note that the site visit will be organized subject to response received from the delegation.)

To join the delegation or for more information, please contact: Ms. Reena Suri (reena.suri@indiasmartgrid.org)



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India
SMART UTILITY
Week 2019

International Conference & Exhibition on
Smart Utilities for Smart Cities

12 - 16 March 2019
Manekshaw Centre, New Delhi



ISGF

India Smart Grid Forum

Presents

INNOVATION
AWARDS
2019

15 MARCH 2019
NEW DELHI

ISGF is organising Innovation Awards as part of India Smart Utility Week (ISUW 2019) to foster and recognize break through innovations in Smart Grid and Smart Utility Domains

Best Smart Grid Project in India by Utility

1

6

Smart Startup of the Year

Best Smart Grid Project in India by Industry

2

7

Smart Incubator of the Year

Innovative EV of the Year

3

8

Most Progressive Gas Utility in India

Smart Technology of the Year

4

9

Most Progressive Water Utility in India

Best Project for Household Electrification

5

10

ISGF President's Award for the best contribution towards growth of Smart Grids in India

Nomination
Categories

Send Your Nomination

Last date to submit your nominations for ISGF Innovation Awards 2019

Extended to **15 January 2019**

1

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