ISGF
India Smart Grid Forum

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SMART GRID Bulletin

October 2020

Distribution Utility Meet (DUM 2020)

4th Annual Conference of Power Distribution Utilities for Collaborative Growth

DISTRIBUTION UTILITY MEET DUM 2020

Distribution Utility Meet (DUM) will be held this year on Digital Platform with Host Utilities - BSES Yamuna, BSES Rajdhani, Tata Power Delhi Distribution Limited and Tata Power Company Limited, Mumbai on 27 – 28 Nov 2020.Most of the Indian Power Distribution Utilities (Discoms) will be Participating in DUM 2020

The 4th edition of ISGF's Annual Conference and Exhibition - Distribution Utility Meet (DUM 2020) will be held from 27 – 28 November 2020 on a Digital Platform this year. DUM 2020 is supported by Ministry of Power (MoP), Govt of India (GoI). It will be hosted by BSES Yamuna, BSES Rajdhani, Tata Power Delhi Distribution Limited and Tata Power Company Limited, Mumbai. DUM 2020 will provide a unique platform for the DISCOM community to share each other's experiences in dealing with Covid-19 challenges and efforts towards fast track automation and digitalization. As the world is struggling to cope with the new-normal and preparing for the next-normal, it is imperative that utilities do not make the same mistakes but learn from each other's experiences and also bring global expertise and experiences to India. Experts from leading Utilities and experts from USA, Europe, Japan, Bangladesh and Srilanka will participate in DUM 2020 and share their experiences.

Our Hon'ble Minister Shri RK Singh, Minister for Power, MNRE and Skill Development is invited to inaugurate the event. Other eminent speakers invited during the inauguration of DUM 2020 will be SN Sahai, Secretary, Ministry of Power; Karen Klimowski, Indo Pacific Coordinator & Acting Deputy Director, USAID /India; Kapil Mohan, Principal Secretary – Energy, Karnataka; Anshu Bhardwaj, CEO, Shakti

IN THIS ISSUE

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Sustainable Energy Foundation; Akash Tripathi, Managing Director of MP Power Management Company and Secretary, Energy, Govt of MP & Chairman of MPKVVCL and Ganesh Srinivasan, CEO, TPDDL.

ISGF has been spearheading the movement towards digitalization of utilities in India. Although, the actual implementation in many utilities may still be not be significant, there is already a unanimous voice for taking this journey to full digitalization. In the aftermath of Covid-19, digital platforms have become the coveted assets for utilities in their business continuity and resiliency. Government of India is about to launch a new program that is going to mandate smart meters for all the 250 million+ electricity customers in the country. Besides smart metering, utilities are expected to leverage digital platforms for many of their operations. All these new initiatives towards digitalization which in the business as usual scenario in the pre-Covid world would have taken well over a decade are now going to happen in the next 2-3 years on fast track. This is going to create data driven smart utilities which will open up new business opportunities for organizations providing tools and services to host and manage the enormous amounts of data utilities are expected to generate in the coming days.

The key themes of DUM 2020 are Digitalization in DISCOMs; Policies and Regulations for the Digital DISCOMs; DISCOM Privatization Plan; DISCOMs after COVID-19; and 250 million Smart Meters. DUM 2020 will also have a Plenary Session on New Revenue Opportunities for DISCOMs. United States Agency for International Development (USAID), New Energy and Industrial Technology Development Organization (NEDO) - JAPAN, The Electric Power Research Institute (EPRI), Florence School of Regulation (FSR) and Rocky Mountain Institute (RMI) have joined DUM 2020 as Knowledge Partners. DUM 2020 will have the Projects and Technology showcase by Amazon Web Services (AWS), Accenture, BSES Yamuna; BSES Rajdhani; Tata Power - DDL; and Tata Power Company Ltd, Mumbai; S&C Electric Company; isMobile; Schneider Electric and many other DISCOMs and Technology Companies.

Confirmed Speakers at DUM 2020 includes Raj Pratap Singh, Chairman, UPERC; Anand Kumar, Chairperson, Gujarat Electricity Regulatory Commission (GERC); MK Goel, Chairman, Joint Electricity Regulatory Commission (JERC); Richard Schomberg, IEC Ambassador & Chairman, IEC Smart Energy Systems Committee; Mark McGranaghan, Vice President, Innovation EPRI; Roberto Zangrandi, Secretary-General, E.DSO; Jean Michel Glachant, Director, Florence School of Regulation; Karen Klimowski, Indo Pacific Coordinator & Acting Deputy Director, USAID /India; Mritunjay Kumar Narayan, Joint Secretary (Transmission, Information Technology and Discom Privatization), Ministry of Power, Govt of India ; Arun Kumar Mishra, Director, NPMU, NSGM; AK Verma, Former Joint Secretary, Ministry of Power; Praveer Sinha, CEO & Managing Director, The Tata Power Company Limited; Amal Sinha, CEO, BSES Rajdhani Power Limited; Prem R Kumar, CEO, BSES Yamuna Power Limited; Bikash Dewan, Managing Director, Dhaka Power Distribution Company; Sanjay Banga, President, Tata Power; Apurva Chaturvedi, Senior Clean Energy Specialist, Indo Pacific Office, USAID/India; Anshu Bharadwaj, CEO, Shakti Sustainable Energy Foundation; Mahesh Patankar, Senior Advisor and Consultant Interim India Program Director, RAP India and Ajay Kaul, Head - States & Local Govt, Amazon Internet Services Pvt Ltd and Deepti Vikas Dutt, Head – Strategic Initiatives, Public Sector, Amazon Internet Services Pvt Ltd

ISGF has been organizing Distribution Utility Meet (DUM) since 2017. The first edition of DUM in 2017 was hosted by Bangalore Electricity Supply Company (BESCOM) in November 2017 in Bangalore and the second edition was hosted by Tata Power Delhi Distribution Ltd (Tata Power - DDL) and Tata Power Company Ltd (TPC) in Mumbai in Nov 2018. The Third Edition of Dum was organized in New Delhi and was co-hosted by BSES Rajadhani Power Ltd (BRPL), BSES Yamuna Power Ltd (BYPL), Tata Power Company Ltd, Tata Power Delhi Distribution Ltd. All the previous editions of DUM were huge success that attracted the attention and participation of majority of the distribution utilities in India. Leading utilities from USA, Canada, Japan and Europe also participated in DUM and shared their experiences in implementing Smart Grid Technologies.

Please register for participating in DUM 2020 at www.dumindia.in or contact Ronkini Shome for more details at ronkini.shome@indiasmartgrid.org.

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Appointments and Transfers

Tanmay Kumar has been appointed as Joint Secretary (Distribution), Ministry of Power, Govt of India

Mritunjay Kumar Narayan has been appointed as Joint Secretary (Transmission, Information Technology and Discom Privatization), Ministry of Power, Govt of India

Ram Subhag Singh has been appointed as Chairman, Himachal Pradesh State Electricity Board

DK Sharma has been appointed as Chairperson, Himachal Pradesh Electricity Regulatory Commission

Lokesh Dutt Jha has been appointed as Chairperson Joint Electricity Regulatory Commission for Union Territories of Jammu and Kashmir and Ladakh

DP Gairola has been appointed as Chairperson (Incharge), Uttarakhand Electricity Regulatory Commission

Ajay Gupta has been appointed as Member (Technical), Joint Electricity Regulatory Commission for Union Territories of Jammu and Kashmir and Ladakh

Rafi Andrabi has been appointed as Member (Finance), Joint Electricity Regulatory Commission for Union Territories of Jammu and Kashmir and Ladakh

RK Sharma has been appointed as Managing Director of Himachal Pradesh state electricity board Ltd

AK Dinkar has been been appointed as Secretary, Central Board of Irrigation and Power (CBIP)

ISGF Welcomes New Members

Amazon Web Services (AWS) as an Industry Member

GMRD Foundation as an Associate Member

Innovation for Cool Earth Forum (ICEF), Japan's top 10 Innovations

Since 2014, every year the Government of Japan has hosted the Innovation for Cool Earth Forum (ICEF), gathering international leading figures tackling climate change through technological innovation in Tokyo, Japan. Initiated by Japan's former Prime Minister Abe Shinzo, ICEF brings the world's best minds together to solve the 21st century's greatest environmental challenges.

"**Top 10 Innovations**" is an event in ICEF to select the most notable among recent innovative developments in energy and climate change mitigation. By examining the field "Top 10 Innovations" will provide the latest snapshot of technology development and diffusion with the potential to transform society in the fields of energy and environment. The event helps us to understand the state and trends of innovations in each respective area, and helps find areas where further efforts are needed in the future. Read details at following link: https://indiasmartgrid.org/viewnews.php?id=4752

ISGF Training Program on Artificial Intelligence and Robotics for Utilities and Smart Cities

The first Online Training Program on Artificial Intelligence and Robotics for Utilities and Smart Cities supported by Ministry of Power (MoP) and National Smart Grid Mission (NSGM) was organized from 14 September - 04 November 2020. The online Training Program received an overwhelming response and was attended by overall 134 participants from Distribution Utilities, Academic Institutions and the Industry from India and Overseas.

The Recorded Training Program is still available for the interested Participants on https://indiasmartgrid.org/onlinetrainingprogram/. Certificate of Participation will be awarded to all the Trainees after successfully clearing the examination. For Queries, please write to us at ronkini.shome@indiasmartgrid.org.

NUMBER OF TUTORS PARTICIPATED	NUMBER OF PARTICIPANTS	MODULES
33	267 ~ Live Classes: 124 ~ Recorded Classes: 143	5
CHAPTERS	**PRACTICALS**	**CASE STUDIES**
17	10	21

Smart Grid Updates: Policy, Regulations & Standards

INDIA

Article: Is Privatization A Panacea For Reforming Discoms?

A vibrant and sustainable power sector is essential to invigorate Covid-19 ridden economy. Electricity distribution is more vital during a pandemic to run our healthcare systems and other economic activities. But the situation is alarming as financial losses of power distribution companies (DISCOMs) are increasing. The Ministry of Power intends to privatize DISCOMs, starting with Union Territories, as a key intervention to resurrect the power distribution business and thereby the overall Power sector. The selection of UTs as a starting point gives the advantage of a quick start and also high chances of initial success as power distribution companies in UTs are better off. While the move pushes laudable sectoral reforms, the much-needed depth and preparedness amongst private sector players are missing.
Read More: https://indiasmartgrid.org/viewnews.php?id=4773

Delhi Expands Applicability of Virtual Net Metering for Renewable Consumers

The Delhi Electricity Regulatory Commission (DERC) has amended its regulations on group net metering and virtual net metering for renewable energy which has broadened the scope of applicability for virtual net metering connections. The amendment mentions that virtual net metering will be applicable for consumers under the domestic category as well as consumers such as hospitals, colleges, schools, other institutions run or managed by charitable institutions, non-profit organizations, trusts that do not fall under the category of domestic consumers, and renewable energy generators registered under Delhi's solar program.
Read More: https://indiasmartgrid.org/viewnews.php?id=4759

MNRE Extends BIS Exemption for Smaller Solar Module Manufacturers

The extension was announced in light of the concerns raised by the All India Solar Industries Association (AISIA) regarding the disruption caused by the COVID-19 crisis

The Ministry of New and Renewable Energy (MNRE) has extended the exemption for the Bureau of Indian Standards (BIS) certification for solar module manufacturers with a production capacity of less than 50 MW. The exemption will now last as long as the International Electro technical Commission (IEC) certification for their products is valid. Once the certificates expire, manufacturers are expected to register under the BIS mandatorily.
Read More: https://indiasmartgrid.org/viewnews.php?id=4760

Telangana Prepares Framework for Demand-Side Management of Distribution Licensees

The Telangana State Electricity Regulatory Commission (TSERC) has released the draft regulations for demand-side management (DSM) initiatives of distribution licensees (DISCOMs). As per the proposed regulations, the distribution licensee should assess the potential for DSM in its area of supply one year before the start of every control period. Every distribution licensee should also constitute a DSM cell within one month of these regulations' notification. The DSM cell will be responsible for load research and development of baseline data and a DSM plan formulation. It will also be responsible for the development of DSM projects and the implementation of related programs.

The State Electricity Regulatory Commission will establish DSM targets for each distribution licensee in the state

Read More: https://indiasmartgrid.org/viewnews.php?id=4761

Uttar Pradesh to Install Community Solar Tube Wells Under KUSUM Program

The government of Uttar Pradesh has come up with a new program for small and marginal farmers to promote solar energy in the state. The government has proposed a 'community mini green tubewell' program, under which 179 community solar tubewells will be installed in the state. The cost of one tubewell will be set at INR 469,000 (~USD 6,395), out of which the center will give financial assistance of INR 73,050 (~USD 996.1), the state will provide INR 242,000 (~USD 3,299), and farmers' society will provide INR 153,000 (~USD 2,086). The pilot project has been proposed for one year for which the government has approved a total amount of INR 60 million (~USD 818,166) for the program.

Under the program, solar-powered tubewells will be constructed for a group of small and marginal farmers

Read More: https://indiasmartgrid.org/viewnews.php?id=4762

No Road Tax for Electric Vehicles in Delhi

The transport department issued a notification saying that the Delhi government has exempted the tax on all battery electric vehicles with immediate effect in the region under the Delhi Motor Vehicle Taxation Act, 1962. The tax exemption is in line with Delhi Government's new EV policy to enhance the adoption of EVs so that battery electric vehicles comprise of 25% of all new vehicle registrations by 2024. The new policy also proposed tax waivers, charging and swapping infrastructure establishment, battery cycling ecosystem, and creation of a non-lapsable State EV Fund.
Read More: https://indiasmartgrid.org/viewnews.php?id=4766

INTERNATIONAL

Germany's New Climate Action Plan Focuses on Augmenting Solar and Wind Capacities

The federal cabinet of Germany has approved the amendments to the Renewable Energy Sources Act, intending to achieve its goal to expand renewable energy up to 65% by 2030. Through

The federal cabinet approved the amendments to the Federal Requirements Plans Act with regulations for expanding the electricity grid

these amendments, the federal government would now target annual solar tenders of nearly 1.9 to 2 GW capacity, onshore wind between 2.9 and 5.8 GW, along with nearly 500 MW of biomass energy. The amendment includes goal of greenhouse gas neutrality by 2050, enabling municipalities to participate financially in the expansion of onshore wind and synchronization between renewables and grid expansion. Read More: https://indiasmartgrid.org/viewnews.php?id=4768

European Commission adopts EU Methane Strategy as part of European Green Deal

One of the priorities under the strategy is to improve measurement and reporting of methane emissions

European Commission adopts the EU Methane Strategy which sets out measures to cut methane emissions in Europe and internationally. It presents legislative and non-legislative actions in the energy, agriculture and waste sectors, which account for around 95% of methane emissions associated with human activity worldwide. The Commission will work with the EU's international partners and with industry to achieve emission reductions along the supply chain. In addition the Commission will support the establishment of an international methane emission observatory in partnership with the United Nations Environment Programme, the Climate and Clean Air Coalition and the International Energy Agency. Read More: https://indiasmartgrid.org/viewnews.php?id=4769

Eskom Announces New 10 Year Transmission Development Plan

The total Transmission capital plan (2021-2030) amounts to approximately R118 billion

Eskom, the public electricity utility of South Africa, shared its Transmission Development Plan (TDP) for the period 2021 to 2030 which calls for a significant increase in transmission infrastructure over the next 10 years. It aims to increase the transmission infrastructure by approximately 5,650 km of high-voltage lines and 41,595 MVA of transformer capacity in the next 10 years. Some adjustments have been made to the TDP since its last publication in 2019, which include the re-phasing of capital investment in transmission projects to align them with the project execution timelines. Read More: https://indiasmartgrid.org/viewnews.php?id=4770

Australia to Invest USD 18 Billion in Low Emission Technologies over the Next Decade

The investment is likely to support 130,000 jobs in Australia by 2030

The government of Australia is expected to invest USD 18 billion through new investments in low emission technologies over the next ten years to reduce carbon emissions. The new plan requires reducing the production rate of hydrogen less than USD 2/kilogram, lower the cost of a long duration battery storage system under USD 100/MWh to provide a reliable supply of low-cost sustainable energy. The government will establish a Technology Investment Framework to set its investment preference in new technologies. The government will invest around USD 1.9 billion in a new energy technology package and will also set up Australia's first regional hydrogen export hub. Read More: https://indiasmartgrid.org/viewnews.php?id=4771

Colorado Roadmap Targets 80% GHG Reduction from Power Sector By 2030

According to the Colorado Greenhouse Gas Pollution Reduction Roadmap, Colorado may require 80% cut in electric sector emissions in order to meet the state's goal of eliminating 50% of carbon emissions by 2030. The roadmap calls for zero-carbon generation from both Xcel Energy and the Tri-State Generation and Transmission Association by 2050, in addition to a transition to 100% electric cars, incentives for electric heating in buildings and a 50% reduction in emissions from oil and gas production by 2030. Read More: https://indiasmartgrid.org/viewnews.php?id=4772

Smart Grid Updates: Technology & Projects

GRID MODERNIZATION

Hitachi ABB Power Grids Launches Transformer Digitalization Ecosystem

Hitachi ABB Power Grids is launching the TXpert Ecosystem for digitalization of transformers. The ecosystem is designed to drive data-driven intelligence and decision making in the operations and maintenance of transformers and power grids. It is a complete suite of products, software, services and solutions that work together and have the capability to integrate with new and existing digital equipment from other manufacturers. Using TXpert Ecosystem solutions for digital asset management of bushings, the real-time status of the bushing health can be monitored and corrective action taken before failure probability becomes high. At the heart of the ecosystem is the TXpert Hub from Hitachi ABB Power Grids – a data monitoring and diagnostics device that also provides connectivity. Read More: https://indiasmartgrid.org/viewnews.php?id=4754

National Grid Launches Subsea Interconnector Between Britain and France

National Grid recently launched a new subsea interconnector, the IFA2. The 149-mile-long power cable runs along the sea bed between Portsmouth, Hampshire, in the United Kingdom and near Caen, Normandy, in France, sharing surplus clean energy between

the two countries. The IFA2 is expected to deliver 1.2% of Britain's electricity needs, enough to power up to one million homes with zero-carbon energy. By the end of its first year in operation, the IFA2 will have helped avoid 1.2 million tons of CO2 from entering the atmosphere, equivalent to planting 50 million trees. The 1000-MW HVDC electrical interconnector is National Grid's second link to France and is the result of a shared £700 million (US$905.7 million) investment with partners RTE. Read More: https://indiasmartgrid.org/viewnews.php?id=4755

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SMART METERING

Lithuania's Ignitis Grupė Secures €110 Million Loan for Smart Meters

In Lithuania, energy company Ignitis Grupė has secured a €110 million ($127.9 million) loan from the European Investment Bank to support its smart metering systems and IT solutions projects. The loan will be used to install smart meters and implement IT solutions for data collection and management with the energy distribution operator AB Energijos Skirstymo Operatorius (ESO). The loan covers the replacement of 66% of all meters installed in Lithuania and is expected to bring energy savings to customers of Ignitis Grupe. ESO is planning to replace approximately 1.2 million units of smart meters by the end of 2023, starting with domestic users, who use the biggest share of energy (who use more than 1,000 kWh electricity per year). The first phase is expected to be completed by the end of 2023 and the second stage will start in 2024 and the meters will be replaced for the users, whose metrological inspection deadline will be extended.

The deployment of smart meters is part of the revised National Energy Independence Strategy as adopted in Lithuania in June 2018. The smart meter rollout investments were approved by the national energy regulator in September 2019. Read more: https://indiasmartgrid.org/viewnews.php?id=4758

DLMS Standard Now Available Across LPWAN and for New Applications

The DLMS User Association has announced that its standard, currently rolled out across millions of devices globally, can now be used in energy & water infrastructure where low power wireless connectivity features are necessary. The DLMS User Association has released the new versions of the 'Blue and Green' Books (14 and 10 respectively) – the tested and approved updates of the DLMS/COSEM standard. The release of the standard follows successful standardisation and prototyping across WiSUN, LoRaWAN and NB-IoT networks in Liaisons projects. The new books, which include additional functionality for the standard, mainly detail the approach to using the DLMS standard across low power wireless networks, demonstrating for the first-time possible implementations far beyond the smart metering world in which it is used today. This includes usage in applications such as water metering and health and usage monitoring systems for energy and water preventative maintenance, guaranteeing security and interoperability across devices. Read more: https://indiasmartgrid.org/viewnews.php?id=4759

L&T Creates Advanced Infra Solutions for 5 Lakh Smart Meters

L&T and EESL have already successfully implemented the advanced metering infrastructure (AMI) system for more than 5,00,000 smart meters including integration and commissioning of 50,000 smart meters for NDMC. Larsen & Toubro (L&T) said it has created advanced metering infrastructure solutions for five lakh smart meters for state-owned Energy Efficiency Services Ltd. L&T's Smart World & Communication has been engaged by EESL to roll out the largest AMI solutions implementation comprising over five million smart meters across Haryana, Uttar Pradesh and NDMC. The project aims to help discoms improve billing efficiency, save energy, and empower consumers to save and manage energy consumption by providing real time data on energy costs. The smart meter project is primarily aimed at regulating power consumption pattern, promoting online billing, infusing transparency, reducing line losses etc. Having built the capacity to install 1,00,000 smart meters a month, we will now be able to achieve our target within the stipulated timeframe. Read more: https://indiasmartgrid.org/viewnews.php?id=4762

ELECTRIC VEHICLES

Proposals Invited for Installing EV Charging Infrastructure on Highways and Expressways Across India

The Department of Heavy Industry (DHI) has issued an expression of interest (EoI) inviting proposals for setting up public electric vehicle (EV) charging infrastructure on major highways and expressways in the India. The DHI invited proposals for installing, building, and operating charging infrastructure along the highways and expressways specified in its EoI. The deadline for submitting proposals is December 7, 2020. Proposals are invited from government organizations, public sector undertakings (PSU), state or central distribution companies (DISCOMs), oil public sector undertakings, and other public or state entities. The DHI required at least one charging station out of every four to have either a minimum of one 50-kW CCS or CHAdeMO chargers alongside one 15-kW DC001 charger. Read More: https://indiasmartgrid.org/viewnews.php?id=4763

The DHI required at least one charging station out of every four to have either a minimum of one 50-kW CCS or CHAdeMO chargers alongside one 15-kW DC001 charger.

Tamil Nadu, India to Setup Electric Vehicle Charging Stations in Six Cities

The Tamil Nadu government has informed the National Green Tribunal that it will set up electric vehicle (EV) charging stations in Chennai, Coimbatore, Tiruchi, Madurai, Salem and Tirunelveli, and provide charging points in government office parking slots. The

charging stations will also be set up on NHAI and State Highways and EV related and charging infrastructure manufacturing industries in the State will be provided 100% exemption on electricity tax till December 31, 2025. The government submitted that it plans to promote conversion of all auto rickshaws to electric vehicles in the six major cities within the next 10 years and extend it to other cities and towns gradually. Read More: https://indiasmartgrid.org/viewnews.php?id=4764

The Tamil Nadu State Government will be provided 100% exemption on electricity tax till December 31, 2025.

California Targets Nearly $400M to Fill Gaps in EV Charging Infrastructure

The California Energy Commission (CEC) is putting a "down-payment" of $384 million over the next three years on the electric vehicle charging and zero-emissions vehicle infrastructure needed to meet Gov. Gavin Newsom's pledge to end sales of new gasoline powered cars by 2035. CEC's clean transportation plan will direct $133 million for light-duty EV charging systems, and another $130 million for infrastructure for zero-emissions medium and heavy-duty vehicles, most of its electric charging. Another $70 million will go toward hydrogen refueling infrastructure, and $25 million for "zero-and near-zero carbon fuel production and supply," to meet the need for alternatives to battery-powered vehicles in the decades to come. Read More: https://indiasmartgrid.org/viewnews.php?id=4765

CEC's clean transportation plan will direct $133 million for light-duty EV charging systems, and another $130 million for infrastructure for zero-emissions medium and heavy-duty vehicles.

UK Energy Company Develops First-of-its-kind EV Charging Technology System

Coventry-based energy tech company ZPN Energy has become the first business to develop technology using the new standard for electric charging infrastructure. ZPN Energy's new energy network technology is the first of its kind using the new Open Charge Point Protocol (OCPP 2.0.1), which paves the way for universal contactless charge points for all electric vehicles. OCPP 2.0.1 also enables a number of other benefits, including integration of renewable technology, payment processing and better security and device control. The company's smart technology can also be used in commercial or domestic property, utilizing green energy tariffs to store and use energy at the optimum levels. Read More: https://indiasmartgrid.org/viewnews.php?id=4766

ZPN Energy's new energy network technology is the first of its kind using the new Open Charge Point Protocol (OCPP 2.0.1), which paves the way for universal contactless charge points for all electric vehicles.

ENERGY STORAGE

NASA Needs Your Ideas for Energy Storage on the Moon

According to NASA, the long nights plus extreme temperature changes are enough to require a plan for better energy management and storage, such that sustained moon exploration could be pursued. NASA is asking for help through a crowdsourcing partnership with HeroX, offering up a kitty of $5 million dollars to be divided among teams who can develop viable solutions related to energy distribution, management, or storage. Winners of the aptly titled "Watts on the Moon Challenge" could also receive an opportunity to actually fly their solution to the moon. To participate, you must be 18 years or older, a US resident or citizen, and submit your concept design by the Phase 1 deadline of March 25th, 2021 at https://www.herox.com/WattsOnTheMoon/timeline Read More: https://indiasmartgrid.org/viewnews.php?id=4735

Azelio to Deploy Over 65 MW of Energy Storage in India

Sweden's Azelio AB plans to install more than 65 MW of energy storage systems in India until 2025 in cooperation with local renewable energy producer Atria Power. The two companies have entered into a memorandum of understanding (MoU) to outline the terms of the collaboration, which marks Azelio's first operation in the country. The pair will start with small-scale commercial installations of 100 kW in 2021 and proceed with larger projects with an expected total of 12 MW in 2023, 18 MW in 2024 and 35 MW in 2025. The cooperation with Azelio will help Atria expand its domestic business offering. It will use its partner's technology to store energy and deliver both electricity and heat to its customers as well as potable water and cooling for rural villages and communities in India. At present, Atria Power has 522 MW of operational renewable energy plants, including 373 MW of wind farms and 100 MW of solar parks. The company is also developing a further 350 MW. Read more: https://indiasmartgrid.org/viewnews.php?id=4769

SECI Announces 100 MW Solar Tender with Battery Energy Storage in Chhattisgarh, India

The Solar Energy Corporation of India (SECI) has invited bids for a 100 MW (AC) solar power project along with a 50 MW/150 MWh battery energy storage system (BESS). The project is slated to be developed at Rajnandgaon in Chhattisgarh. Apart from the design, engineering, supply, construction, and commissioning of the project, the contract will also include operation and maintenance activities for ten years. As per the tender document, SECI has applied for financing from the World Bank and intends to apply part of the proceeds toward the payments for the project. The last date for the submission of bids was October 27, 2020, and the pre-bid meeting took place on September 29, 2020. The bidder should have experience in engineering, procurement, and construction (EPC) of ground-mounted solar power projects of a cumulative capacity of at least 50 MW or at least two projects having an individual capacity of 10 MW in the last five years. The projects should have been in operation for at least six months before the last date of bid submission.

Recently, SECI once again extended the bid submission deadline for its tender for 14 MW of solar projects with 42 MWh battery energy storage systems (7MW/21 MWh each). The projects are set to be developed at Leh and Kargil. As per the latest announcement, the bid submission deadline has been extended to September 30, 2020. Read more: https://indiasmartgrid.org/viewnews.php?id=4770

RENEWABLE ENERGY AND MICROGRIDS

Renewable Energy Jobs Continue Growth to 11.5 Million Worldwide

Renewable energy continues to bring socio-economic benefits by creating numerous jobs worldwide, according to the latest figures released by the International Renewable Energy Agency (IRENA). The seventh edition of Renewable Energy and Jobs – Annual Review shows that jobs in the sector reached 11.5 million globally last year, led by solar PV with some 3.8 million jobs, or a third of the total. Last year, sixty-three per cent of all renewables jobs were recorded in Asia, confirming the region's status as a market leader. Biofuels jobs followed closely behind solar PV, reaching 2.5 million. Many of these jobs are in the agricultural supply chain, particularly in countries like Brazil, Colombia, Malaysia, the Philippines and Thailand, with labour-intensive operations. Other large employers in the renewables sector are the hydropower and wind industries, with close to 2 million and 1.2 million jobs, respectively. Renewables jobs have shown more inclusion and a better gender balance than fossil fuels. The report highlights that women held 32 per cent of total renewables jobs, as opposed to 21 per cent in fossil fuels sectors. Read More: https://indiasmartgrid.org/viewnews.php?id=4771

Ørsted and Yara Develop Green Ammonia Project in Netherlands

Ørsted and Yara have joined forces in developing a pioneering project, aiming to replace fossil hydrogen with renewable hydrogen in the production of ammonia. The plan has the potential to abate more than 100,000 tonnes of CO2, equivalent to taking 50,000 conventional cars off the road. The two companies will develop a 100 MW wind–powered electrolyser plant for renewable hydrogen production. Their aim is to replace fossil–based hydrogen with renewable hydrogen for ammonia production in Yara's Sluiskil plant, located in the Dutch province of Zeeland.The renewable hydrogen would generate around 75,000 tonnes of green ammonia (approximately 10% capacity of one of the ammonia plants in Sluiskil) based on dedicated renewable energy supply from Ørsted's offshore wind farms. Read more: https://indiasmartgrid.org/viewnews.php?id=4772

Andritz Bags Equipment Contract for Pumped Energy Storage Project in India

Austrian company Andritz announced it has bagged the contract from Greenko Energy for the supply of electro-mechanical equipment for India's largest pumped storage plant coming up at Pinnapuram in Andhra Pradesh. The 1,200-Megawatt project is being developed by Greenko, an Independent Power Producer. Its first unit is expected to be commissioned by 2023. Located in Kurnool district, the hydropower plant will be part of the first integrated renewable energy storage project combining electrical energy production based on photovoltaic solar, wind, and pumped storage.

Andritz Group supplies plants, equipment, systems and services for the pulp and paper industry, the hydropower sector, the metals processing and forming industry, pumps, solid or liquid separation in the municipal and industrial sectors, and animal feed and biomass pelleting. Read more: https://indiasmartgrid.org/viewnews.php?id=4774

Indian Railways to be Largest Green Network by 2023-End

In about three years from now, Indian Railways (IR) will attain total electrification, becoming the only rail network in the world to achieve this feat. Despite several measures adopted, IR continues to guzzle over 30 lakh kilolitres of high-speed diesel annually to run trains through non-electrified sections. Not only does this impact railways' efforts to lower its carbon footprint, it also reduces earnings significantly. While a decision has been taken that all new lines will be electrified ones, existing non-electrified stretches are being converted.

In addition to electrification, several other steps have been adopted by IR to reduce diesel consumption. Electric locomotives have started adopting the Head on Generation (HOG) technology that allows these to power lights, fans and air-conditioning units in coaches from electricity drawn from overhead equipment (OHE). New locomotives being developed for trains such as Tejas are also powerful enough to draw enough electricity and generate power for all coaches. Read more: https://indiasmartgrid.org/viewnews.php?id=4775

AI, Blockchain Powered Microgrid Pilots Renewables Trading in Port of Rotterdam, Netherlands

The new microgrid electricity trading platform was jointly developed by S&P Global Platts and Blocklab, the Port of Rotterdam's blockchain subsidiary. In the two months of operation to date, it has brought both reduced electricity costs and increased renewables use. The platform named Distro draws on both artificial intelligence and blockchain's distributed ledger technology to enable commercial energy consumers in the port to actively trade renewable energy derived from solar and battery storage to manage their power consumption. The trial, claimed to be the world's first high frequency decentralised energy market, commenced in August 2020 in the Port of Rotterdam's Innovation Dock. The platform provides every market participant with an AI enabled 'energy trading agent' software tool that learns their energy needs, preferences and behaviours. The trial provided the participating buyers and sellers with a 48 hour forward market with access to dynamic local energy prices reflecting the supply and demand balances. With the technology, the energy consumers reduced their costs by 11%, while the renewable producers saw a 14% improvement in their revenues. The trial also demonstrated 92% consumption of on-site solar generation, overcoming historic wastages,

and a 20% increase in battery storage return on investment. Read more: https://indiasmartgrid.org/viewnews.php?id=4776

Solar Plus Storage Microgrid Installed for Costa Rica Factory

A new solar plus storage microgrid in Costa Rica will provide resilient power and cost savings for an international component assembly and manufacturing company that makes sensitive components for industries from robotics to telecommunications. The new microgrid will significantly reduce the costs created by power outages and other disruptions during the manufacturing of sensitive products and equipment. The microgrid is designed for Micro Technologies' new factory, remotely located in San Jose, Alajuela Province of Costa Rica. The microgrid can also store or shift energy if outages or other disruptions occur during construction or when the factory is complete. Sensitive components intended for the robotics, automotive, aerospace, and telecommunication fields will be made at this facility, so smooth, consistent, stable energy operation is essential. The combined new solar and energy storage system is grid-tied and intended primarily to offset utility energy costs. Its secondary function is to provide battery backup power when needed. The system consists of 480 kW of solar power and 558 kW from battery energy storage. Read more: https://indiasmartgrid.org/viewnews.php?id=4777

SMART CITIES

Xiangtan Receives $200 Million ADB Loan for Smart City Project

The Xiangtan municipal government in China had $200 million in loans approved by the Asian Development Bank (ADB) to implement low-carbon smart city plans. Transport makes up a significant portion of the plans to transform Xiangtan. The Xiangtan Low-Carbon Transformation Sector Development Program will help the municipal government transform public transport through: Sixty kilometers of dedicated bus lanes with transit signal priority, real-time bus information, transforming street layout for better walking and cycling access, redesigning the access at two railway stations for easy mode-shift and improving road safety at school zones. Xiangtan is an old industrial city undergoing rapid urbanization and industrial transformation that is committed to achieving carbon peaking by 2028. ADB is providing two loans – $150 million for the project activities and a $50 million policy-based loan. Read More: https://indiasmartgrid.org/viewnews.php?id=4778

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LG CNS to Lead Smart City Development in Sejong, South Korea

The Ministry of Land, Infrastructure and Transport, South Korea and the Korea Land and Housing Corp. announced on October 8, 2020 that the Sejong, South Korea O1 consortium led by LG CNS has been selected as the preferred bidder for the Sejong smart city project. The project is to build a smart city in a 2.74 million square meter area in Hapgang-ri, Sejong City. The total cost of the project scheduled to be completed in April 2023 is 2.5 trillion. The city is expected to come with smart IT services such as autonomous driving, telemedicine, smart education, drone-based delivery and smart traffic light control. Read More: https://indiasmartgrid.org/viewnews.php?id=4779

The total cost of the project scheduled to be completed in April 2023 is 2.5 trillion.

IIIT Hyderabad Sets Up Smart City Research Centre

The International Institute of Information Technology, Hyderabad (IIITH), Telangana, India has set up a Smart City Research Center (SCRC) with support from MEITY (Government of India), Smart City Mission and Government of Telangana. There is a huge push for smart cities in India under the Smart Cities Mission, a new initiative by the Government of India to drive economic growth and improve the quality of life of people. IIITH existing centres will be lending their expertise to the Smart City Research Centre in various domains covering signal processing, OneM2M server, design of smart and automated buildings, optics and photonics, flexible electronics, embedded systems and IoT, radio frequency integrated circuit design and low-power VLSI design, research and development in fundamental aspects of computing systems etc. Read More: https://indiasmartgrid.org/viewnews.php?id=4780

Indore Smart City Spends INR 660 cr in Indore's Development

The Smart City Indore which is enthusiastically working for the restoration of Indore's heritage, reconstructing roads, riverfront development and cleaning rivers and other such work under area-based development system, has spent around INR 660 crore in the city till date. The central government provides a certain amount of funds as per the requirement of the city and a similar amount of funds have to be provided by the state government. In Indore, the sum of INR 1000 crore has been sanctioned - INR 500 crore will be provided by the central government and the same amount by the state government. Read More: https://indiasmartgrid.org/viewnews.php?id=4781

STANDARDS AND CYBER SECURITY

Artificial Intelligence can Protect All Companies in the Energy Transition from Cyber Attacks

Most energy companies today struggle with the complex technological and economic challenges involved in detecting, monitoring, and preventing cyberattacks on critical infrastructure. The operational technologies (OT) and information technologies (IT) responsible for running energy systems now were never engineered to be secured in a digital environment, posing a technical challenge tough to solve and difficult for small and mid-sized operators to afford. Yet in today's digital energy ecosystem, the failure of weak links can take down critical infrastructure for all participants. Protecting the entire system requires all industrial operators—both large and small—to detect and defend against cyberattacks. New developments in artificial intelligence (AI) based solutions can help all energy companies put defenders ahead of attackers, while adapting to the changing energy landscape. Read More: https://indiasmartgrid.org/viewnews.php?id=4748

Energy Department of USA, Industry Contribute $7M to EV Cybersecurity Project

A Michigan-based cybersecurity company will receive $7 million in funding from the U.S. Energy Department and others to develop infrastructure that protects the electric grid from cyberattacks while electric vehicles are recharging. The concern is that a hacker or a virus-infected vehicle could intentionally or unintentionally damage the larger electric grid by accessing chargers. The Dream Team LLC, a newly formed entity for the project, in collaboration with Ypsilanti's American Center for Mobility and the state of Michigan will seek to integrate technology in the charging systems to protect the grid. Read More: https://indiasmartgrid.org/viewnews.php?id=4750

India-Japan Sign Cyber Security Agreement, to Cooperate In 5G and Iot

India-Japan have signed a cyber security agreement that promotes cooperation in 5G, Internet of Things (IoT) and Artificial Intelligence (AI). The two countries pact comes amid international backlash against the Chinese telecom giant Huawei. The Ministry of External Affairs said the agreement promotes cooperation in capacity building, research and development, security and resilience in the areas of Critical Information Infrastructure, 5G, IoT, AI among others. It also covers critical information infrastructure, including infrastructure for banks and payment systems, telecommunications and internet, nuclear reactors and energy transmission systems, transport systems such as air traffic control, and water supply systems. Read More: https://indiasmartgrid.org/viewnews.php?id=4751

DISRUPTIVE TECHNOLOGIES

AI is Throwing Battery Development into Overdrive

Inside a lab at Stanford University's Precourt Institute for Energy, there are a half dozen refrigerator-sized cabinets designed to kill batteries as fast as they can. Each holds around 100 lithium-ion cells secured in trays that can charge and discharge the batteries dozens of times per day. Ordinarily, the batteries that go into these electrochemical torture chambers would be found inside gadgets or electric vehicles, but when they're put in these hulking machines, they aren't powering anything at all. Instead, energy is dumped in and out of these cells as fast as possible to generate reams of performance data that will teach artificial intelligence how to build a better battery. Read More: https://indiasmartgrid.org/viewnews.php?id=4774

XRP Ledger Foundation, Ripple, and Energy Web Announce World's First Decarbonized Blockchain

XRP Ledger Foundation, Ripple, and Energy Web announced the decarbonization of the XRP Ledger. This marks the first-ever widespread decarbonization of a public blockchain, addressing a significant environmental challenge for blockchain technologies around the world.

The pioneering innovation has been achieved using technology from Energy Web, the nonprofit energy tech company co-founded by Rocky Mountain Institute. This initial deployment uses energy attribute certificates (EACs) from renewable energy assets to decarbonize the blockchain's electricity use. Energy Web's open-source application, called EW Zero, enables individuals, businesses, or in this case an entire blockchain ecosystem to transition to verified zero-carbon electricity. Read more: https://indiasmartgrid.org/viewnews.php?id=4742

Facebook and CMU Open Catalyst Project Applies AI to Renewable Energy Storage

Facebook AI and the Carnegie Mellon University (CMU) Department of Chemical Engineering announced the Open Catalyst Project. The venture aims to use AI to accelerate the discovery of new electrocatalysts for more efficient and scalable storage and usage of renewable energy. To help address climate change, many populations have been increasing reliance on renewable energy sources such as wind and solar, which produce intermittent power. The electrical energy from the intermittent power sources needs to be stored when production exceeds consumption, and returned to the grid when production falls below consumption. In California for example, solar generation peaks under the afternoon sun, while demand continues strongly into the evening.

Converting excess solar and wind energy to other fuels is a popular renewable energy storage solution, but relies on expensive electrocatalysts such as platinum for driving chemical reactions. To be widely adopted and scaled to nation-sized grids, it is necessary to find lower-cost catalysts. Though researchers can test and evaluate new catalyst structures via quantum mechanical simulations such as density functional theory (DFT) calculations, such simulations' high computational cost limits the number of structures that can be tested. It's hoped the use of AI may find ways to more quickly and accurately predict atomic interactions. Read more: https://indiasmartgrid.org/viewnews.php?id=4782

Machine Learning Algorithms Could Increase Energy Yield of Nuclear Fusion Reactors

Researchers from Sandia National Laboratories recently designed machine learning algorithms intended to improve the energy output of nuclear fusion reactors. The research team utilized AI algorithms to simulate the interactions between plasma and materials within the walls of a nuclear fusion reactor. Unlike nuclear fission, which involves splitting atoms apart, the energy created by fusion reactions releases energy through the creation of plasma. Hydrogen atoms are superheated to create a plasma cloud and this cloud releases energy as the particles within it smash into one another and fuse together. This process is chaotic, and if scientists can better control the fusion process, it could lead to substantial increases in the amount of usable energy created by nuclear fusion reactors. Read more: https://indiasmartgrid.org/viewnews.php?id=4783

ANNOUNCING India Smart Utility Week (ISUW 2021)

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ISUW 2021 Conference and Exhibition Program

2nd March 2021 Tuesday	3rd March 2021 Wednesday	4th March 2021 Thursday	5th March 2021 Friday	6th March 2021 Saturday
Master Classes	Conference & Exhibition Welcome Reception	Conference & Exhibition	Conference & Exhibition ISGF Innovation Awards & Gala Dinner	Technical Tours Cultural Tours (Optional)

For Queries Regarding Sponsorship, Exhibition and Participation, Contact India Smart Grid Forum
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CALL FOR TECHNICAL PAPERS ABSTRACTS
India Smart Utility Week (ISUW) 2021

ISGF Invites Technical Paper Abstracts for ISUW 2021 on Themes such as Electric Mobility, Smart Grids for Smart Cities, Foundational Blocks for Smart Grids, Emerging Trends, Disruptive Innovations for Utilities, Regulations for Smart Grids and Power Markets, 250 Million Smart Meters in India – Rollout Strategies and Business Models, Towards 100% Renewables, Smart Water and Smart City Gas Distribution.For details and topics under each theme, please visit http://www.isgw.in/technical-paper-isuw-2021/

Experts and Researchers on Smart Grid Technologies are Eligible to Submit Technical Papers. Abstract in Max 250 words to be submitted with this application latest by 15th November 2020. For queries email us at tp@isuw.in

Entries Now Open for ISGAN's 2021 Award of Excellence in Partnership with Global Smart Energy Federation

GSEF Global Smart Energy Federation

Award of Excellence 2021

Nominations are now open for the Seventh ISGAN Award of Excellence competition, sponsored by the International Smart Grid Action Network (ISGAN), in partnership with the Global Smart Energy Federation (GSEF). The award will recognize excellence in innovation, integration, and transformation of smart grid systems.2021 Award Theme is Future-Proofing the Grid Operation via Advanced Digitalisation & IoT. The Submission Deadline 4th December 2020. Interested parties are encouraged to visit the ISGAN Awards website to learn more about the award rules, entry format, etc.The winning projects will be recognized next year during the Twelfth Clean Energy Ministerial (CEM12) meeting, which will be attended by the energy ministers and corporate leaders from around the globe. For any further questions, please contact at award@smartgrid.or.kr

ISGF India Smart Grid Forum

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Announcing Distribution Utility Meet (DUM) 2020

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OBJECTIVES

- Brainstorm how to cope with the new-normal and preparing for the next-normal post-Covid-19
- Discuss and evaluate new and emerging technologies, business models and monetization options for utilities
- Discuss digitalization of processes and operations of utilities leveraging existing systems at incremental cost
- Discuss case studies and best practices from across the globe
- Evaluate regulatory, policy, financial and business challenges of DISCOMs for digitalization and remote working and operations

THEMES OF DUM 2020

Digitalization in Discoms

- What all Systems and Processes can be Digitalized and Automated on Fast-Track at Incremental Cost?
- Robotic Process Automation (RPA) – Priority Functions for RPA
- Roadmap to 'FULL PAPER-LESS" and CONTACT-LESS Operations

Policies and Regulations for the Digital Discoms

- Regulatory Challenges for Digitalization and Remote Operations/Working
- Changes in Regulations for "PAPER-LESS" Operations
- Impact of the Proposed Electricity Act on DISCOMs
- DISCOM Privatization Plans

Discoms After COVID-19

- Functions/Operations Not Being Attended Regularly and the Plan for Mitigation/Clearing Backlog
- Work Place "Re-Entry" Strategies
- Employee Wellness Plans
- Collaboration Platforms
- Impact of COVID-19 on Operational Cost
- Business Continuity and Resiliency Planning

250 Million Smart Meters

- Prepaid or Post-paid or Mix of Both?
- DISCOM-wise or State-wise or Centralized Rollout?
- Standard Bidding Documents and Model Contract
- Key Challenges

New Revenue Opportunities for Discoms

- Regulated and Non Regulated Businesses through Unlocking Physical and Digital Assets

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Participation of Discom and Government officials is complimentary and unlimited passes are available.