

## Shri RK Singh, Honourable Minister for Power and New and Renewable Energy attends the Special Plenary on “Regulations Enabling Energy Transition” at India Smart Utility Week 2020 on March 04, 2020



Speakers (L-R): Neil Chatterjee, PK Pujari, Raj Kumar Singh, Barry Gardiner

Honourable Minister Shri RK Singh inaugurated the Special Plenary Session on “Regulations Enabling Energy Transition” on 04 March 2020 at India Smart Utility Week 2020 which had eminent speakers such as i) Barry Gardiner, Member of Parliament for Brent North, House of Commons, London and Shadow Secretary of State for International Trade and Climate Change ii) Mr. Neil Chatterjee, Chairman, Federal Energy Regulatory Commission (FERC), USA, iii) Mr. PK Pujari, Chairman, Central Electricity Regulatory Commission (CERC) (iv) Eija-Riitta Korhola, Former Member, European Parliament.

Renewables have experienced a remarkable evolution over the past decade. Indisputably, they now form the leading edge in combination with energy efficiency of a far-reaching global energy transition. Policy support in a growing number of countries, renewable energy technologies have achieved massive technological advances and sharp cost reductions in recent years. Consequently, the growth in their deployment has come to outpace that of any other energy source. Every country in the world adopting renewable energy in the center of their energy policy are treating RE as a technologically mature, secure, cost-effective and environmentally-sustainable energy supply option to underpin continued socio-economic development, while simultaneously combating climate change and local air pollution. As renewable technologies mature, policy makers are confronted with new challenges. The rapid expansion of variable renewables, such as solar photovoltaics and wind power, requires more flexible energy systems to ensure reliable and cost-effective system integration. In general, moving forward, renewable energy policy approaches will have to be more holistic and sophisticated to reflect the transformative changes induced by the energy transition on the energy sector, society and economy.

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# Global Stories on Smart Grid

## Seychelles to Build World's Largest Floating Solar Plant

In Seychelles, French developer Qair, has been selected to develop the largest floating solar power plant to be installed on saltwater in the world. The 5-MW plant will be the first project led by an Independent Power Producer (IPP) in Seychelles. The project, which is anticipated to commence in July, will be built on a lagoon on Mahé, the main island of the archipelagic nation. The company claims it will be the world's largest floating PV project to be installed in a saltwater environment when it is completed by the end of this year. The project is the first solar array to be spearheaded by an IPP in Seychelles, claimed Qair. The solar plant will require 13,500 solar panels, which will be built across 40,000 square metres of water. Upon completion, the installation will account for about 2 per cent of total power generation in the island nation.

**Read more:** <https://bit.ly/39UsRhb>

## US-based PG&E Negotiating to Microgrid an Existing Power Plant in Wildfire Strategy

Pacific Gas & Electric (PG&E) has rolled out a new plan to keep power flowing during the 2020 wildfire season, which includes forming a microgrid from an existing natural gas-fired plant. The California utility outlined its strategy in an April 1 filing before the California Public Utilities Commission. The new plan replaces a program to install permanent microgrids this year at 20 substations. The utility recently announced that it was temporarily suspending the 20 microgrids after it became clear it would be difficult to build them by September, the traditional beginning of wildfire season. The purpose of the microgrids — and the new plan — is to keep the power flowing to customers if the utility is again forced to enact public safety power shutoffs — the de-energizing of lines to prevent them from sparking wildfires. The shutoffs last Fall caused power outages in northern California that crippled business and day-to-day activities. The utility is now negotiating with the owner of the 44-MW Red Bluff power plant to make the plant capable of acting as a microgrid — going into island mode — when it is necessary to de-energize lines that serve two substations, Rawson and Tyler.

**Read more:** <https://bit.ly/2x3dtlq>

## NERC Moves to Defer Reliability Standards, Provide COVID-19 Flexibility

The North American Electric Reliability Corporation (NERC) has asked the Federal Energy Regulatory Commission (FERC) to delay the implementation of seven reliability standards that relate to cybersecurity, training, disturbance monitoring and reporting, generator relay loadability, and coordination of protection systems for performance during faults. In an April 6 filing to FERC, NERC noted the rules were scheduled to become effective later this year, but, as NERC noted, their implementation could be hampered by “significant uncertainties” regarding the duration of the COVID-19 outbreak and recovery.

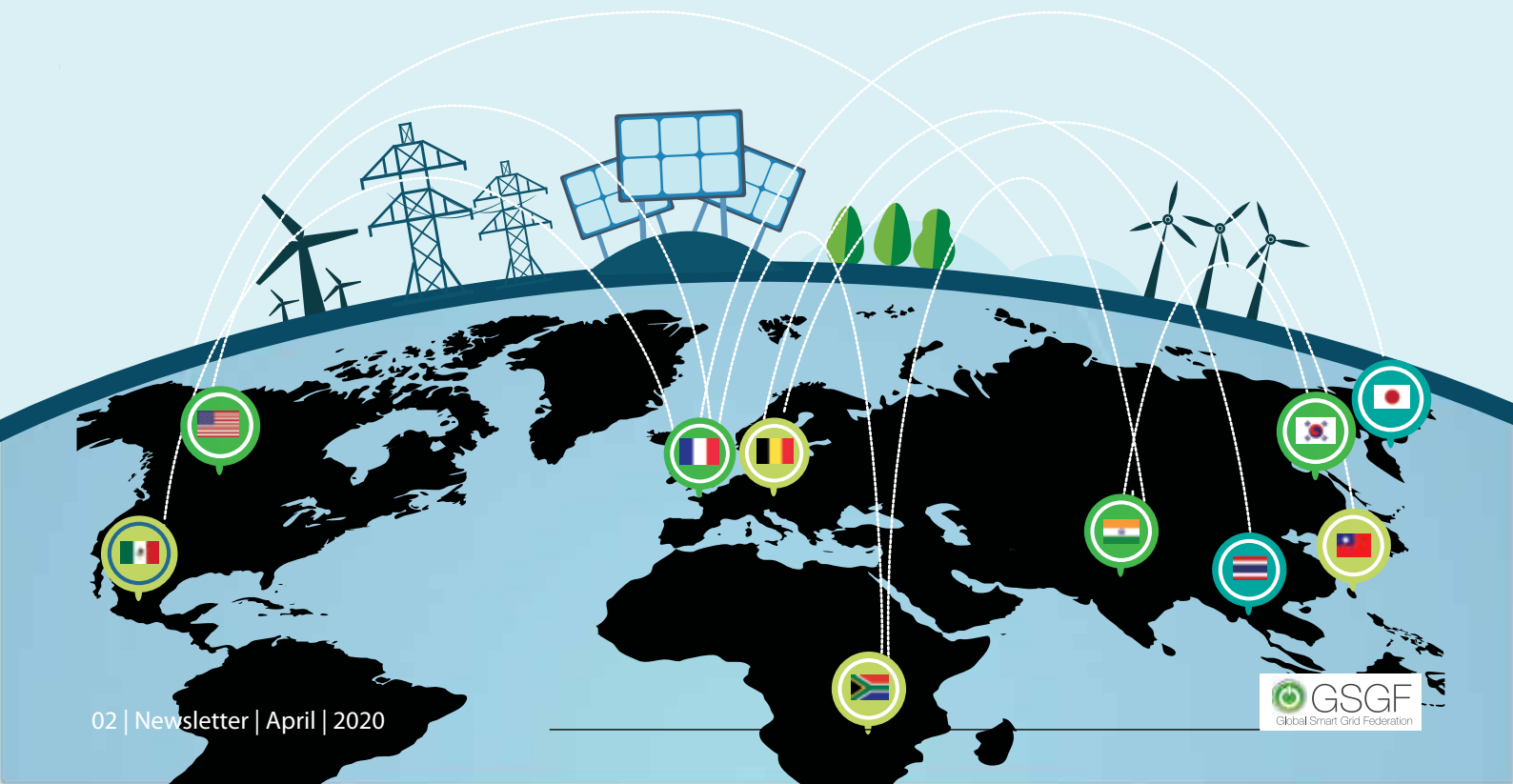
**Read More:** <https://bit.ly/3efpMf7>

## US Department of Energy Announced \$30 Million for Machine Learning and Artificial Intelligence Research

U.S. Department of Energy (DOE) announced a plan to provide up to \$30 million for advanced research in machine learning (ML) and artificial intelligence (AI) for both scientific investigation and the management of complex systems. Applications will be open to DOE national laboratories, universities, nonprofits, and industry.

The initiative encompasses two separate topic areas. One topic is focused on the development of ML and AI for predictive modeling and simulation focused on research across the physical sciences. ML and AI are thought to offer promising new alternatives to traditional programming methods for computer modeling and simulation. A second topic is focused on basic ML and AI research for “decision support” in managing complex systems. Potential eventual applications could include cybersecurity, power grid resilience, and other complex processes where ML and AI can make or aid in making decisions in real time.

**Read more:** <https://bit.ly/2V9LyJx>



# Global Stories on Smart Grid

## Dewa shapes the future of utilities using Artificial Intelligence

**Key Highlight :** Dewa is world's first digital utility to use autonomous systems for renewable energy, storage, expansion in AI adoption, and providing digital services

The Dubai Electricity and Water Authority (Dewa) has announced the continued success of its Artificial Intelligence (AI) solutions that are helping it keep pace with the rapid developments all around the world. Dewa started its AI journey since 2017 and developed a road map for AI techniques. It has initiated services and initiatives that use AI to enhance and add value to the customer, employee, and stakeholder experiences. Saeed Mohammed Al Tayer, MD and CEO of Dewa, informed that using AI at Dewa to provide smart and innovative services aligns with its strategy to achieve the Dubai 10X initiative.

Dewa collaborated with Smart Dubai to apply the AI Ethics and Principles in all its projects and initiatives, and Smart Dubai AI Lab. Dewa launched Digital Dewa as its digital arm, with four pillars, making Dewa the world's first digital utility to use autonomous systems for renewable energy, storage, expansion in AI adoption, and providing digital services.

**Read more:** <https://bit.ly/2VbuYZZ>

## State Grid to Spend \$383m for Setting up 78,000 Charging Piles

**Key Highlights:** State Grid Corp of China would invest 2.7 billion yuan (\$383 million) to set up 78,000 charging piles across the country, among them 53,000 charging piles will be located in residential areas while 18,000 will be for public use.

State Grid Corp of China, a State-owned electric utility, that it would invest 2.7 billion yuan (\$383 million) to set up 78,000 charging piles across the country, as China seeks to further promote the development of electric vehicles and related sectors. The new batch of charging piles will be distributed to 24 provinces and municipalities, including Beijing, Tianjin, Jiangsu province as well as northwestern China's Qinghai province. Among them, 53,000 charging piles will be located in residential areas while 18,000 will be for public use. The move is expected to boost the revenue from sales of new energy vehicles by over 20 billion yuan and foster the production of power products and components, as well as upstream and downstream industries of NEVs. By the end of year 2020, the nation will invest over 10 billion yuan on the charging pile industry and plans to establish 200,000 new charging stations including 20,000 public ones, according to the National Development and Reform Commission.

**Read More:** <https://bit.ly/3aaC995>

## New Project of Blockchain for India's Power Consumers

Electricity distributor BSES Rajdhani Power Limited (BRPL) has partnered with Power Ledger, a specialist in blockchain-based renewable energy trading, to install a large-scale peer-to-peer (P2P) energy trading trial in Delhi, India.

BRPL is the first electricity distribution company (Discom) in India to use the technology to trial P2P solar trading. The trial initially comprised 5-6MW of existing solar infrastructure, servicing a group of gated communities (CGHS) in the Dwarka region.

During the trial, residents with rooftop solar infrastructure sold excess solar energy to their neighbours, rather than letting it spill back to the grid. This enabled participants access to cheaper, renewable energy and prosumers to monetize their investment in solar assets.

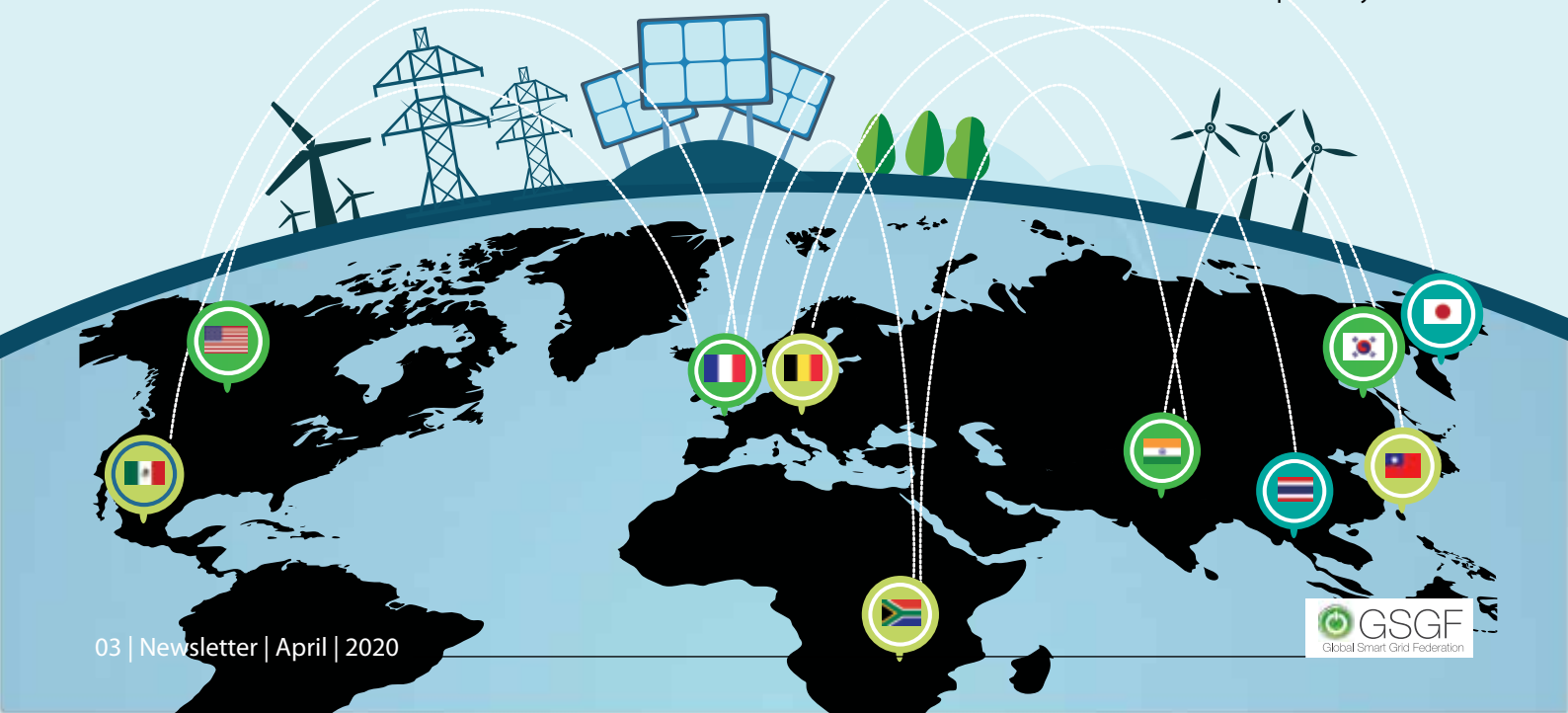
**Read more:** <https://bit.ly/3exUNuW>

## Power Ledger Inks Deal to Allow French Consumers to Customize Green Energy Mix

Power Ledger is moving into the French power market with a partnership that enables the tracking and certification of green energy supplies on the blockchain. On April 1, the Australia-based blockchain startup announced a deal with French green energy retailer ekWateur that will enable French households to have greater control of, and customize, their energy mix for the first time.

Utilizing a new blockchain-powered project known as Vision and leveraging Power Ledger's own Ethereum-based ERC-20 POWR tokens, users will be able to track and certify where the energy that powers their homes is coming from.

**Read more:** <https://bit.ly/2Vb70hu>





# Global Stories on Smart Grid

## AFDB donates 12 million euro to finance energy transition in São Tomé and Príncipe

The ETISP has an overall cost of around 13 million euros of which 550,462 euros has been financed by the Santomean government

The concessional financing window of the African Development Bank Group has approved, a donation of 12.46 million euros to finance the Energy Transition and Institutional Support Program (ETISP) in São Tomé and Príncipe. The objective of the program is to help the authorities of the archipelago to promote green growth and the sustainable development of the electrical network of São Tomé and Príncipe, and to strengthen the management of public finances and the local business climate. The program is based on three components: directing the energy transition towards renewable energies, providing institutional support while strengthening financial governance and the business climate, and supporting the government in the implementation of the program and capacity building institutional

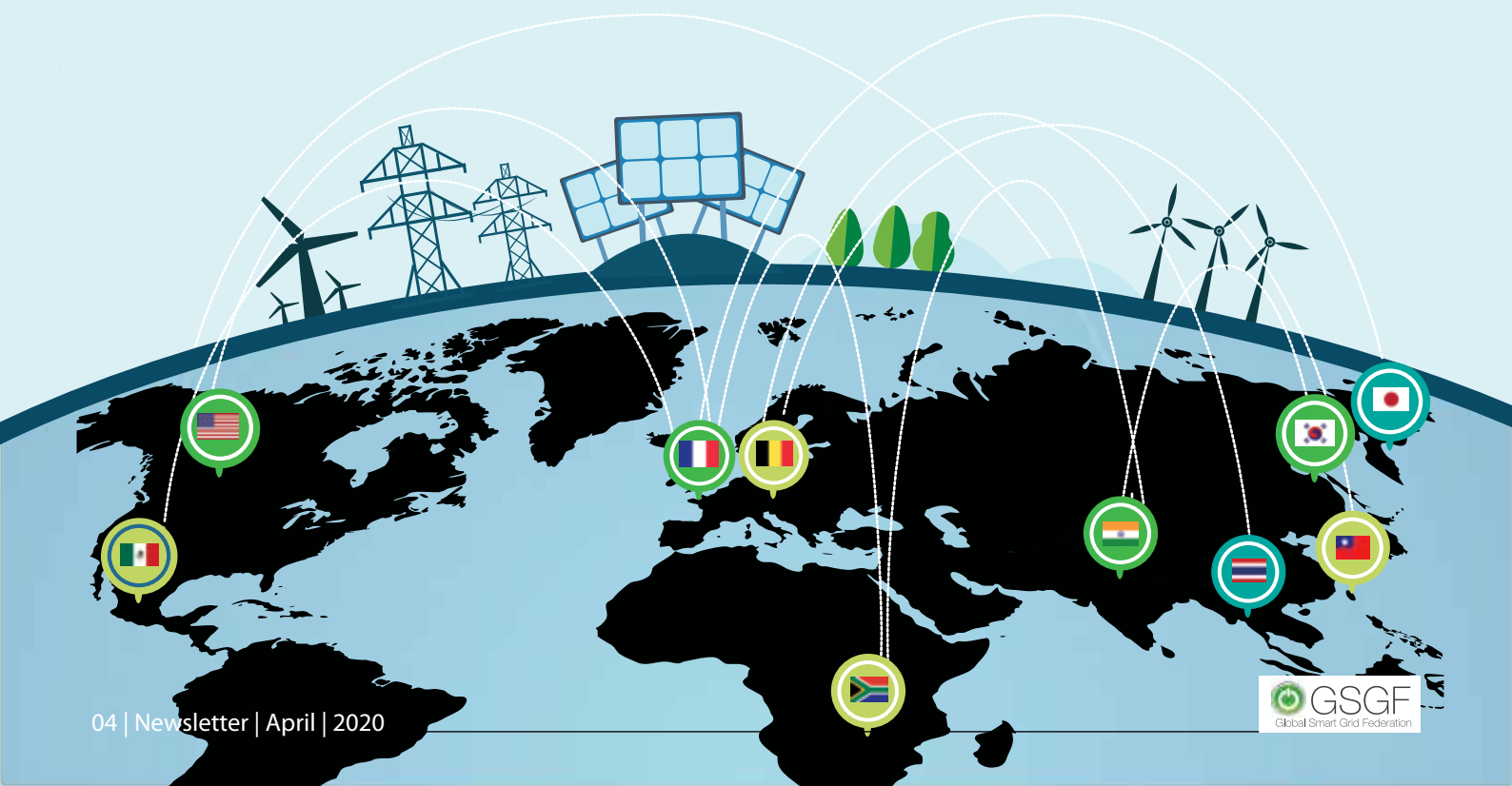
**Read More:** <https://bit.ly/2Kb1xkg>

## EU Strategy on Energy Sector Integration

The European Green Deal aims to make Europe the first climate-neutral continent by 2050 and to meet the climate objectives, EU is preparing a strategy to better link up the energy system and exploit the synergies enabled by an integrated energy system. The objective of this initiative is to strengthen the necessary links across different sectors in the energy system, and to use every opportunity to reduce emissions. This will help to achieve cost-effective decarbonisation of economies. It will build a more decentralised and digital energy system, in which consumers are empowered to make their energy choices.

**Read More:** <https://bit.ly/3epgEo8>

Several Smart Grid events scheduled from April 2020-July 2020 have been rescheduled due to the spread of Corona virus. The changes will be uploaded soon.



# Member Updates

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## ONLINE TRAINING: PEER v2 CERTIFICATION FOR CAMPUS ELECTRICAL INFRASTRUCTURE IMPROVEMENT

As you might be aware, globally buildings are the major consumers of electricity. This shows that we live with huge energy infrastructures at the site and off the site that help us in uninterrupted power supply in meeting our day-to-day operation. In 2018, GBCI launched the PEER version 2 rating system for Campuses, Cities and Utilities and Transit systems to evaluate their power system performance and demonstrate their sustainable electrical infrastructure.



To create awareness and educate the campus stakeholders on the need for reliability, resiliency and power quality, GBCI organized an online training. The online event provided information on how various industries – from hospitals, IT Parks and more are implementing PEER to meet their sustainable energy goals. The registered participants include project owners, facility teams, utility service providers and power system consultants.

Recorded version of the online training now available at USGBC Education portal. Please use the hyperlink to access it – Online Training. Please note after completion you can achieve a certificate.

In this online training one learns:

- PEER v2 rating system and credit requirements
- Benefits that PEER offers to campuses
- Process of Certification
- Case studies and best practices

Speakers include:

- Mili Majumdar, Managing Director, GBCI India and SVP, USGBC
- Ishaq Sulthan, Associate Director, GBCI India

If you have any questions reach out to [peer@gbci.org](mailto:peer@gbci.org)

**Author: Ishaq Sulthan**



## Karen Wayland

State Policy Advisor, GridWise Alliance



Greetings from Las Vegas, where I am hunkered down practicing social distancing. I hope this note finds GridWise Alliance friends and family safe and healthy. The COVID-19 pandemic is exploding around the globe, and the crisis has burdened our public health system, exposed inequities in our safety net, and challenged federal, state and local governments in ways few crises in history have before. The priorities for business, policy makers and citizens held in January are unlikely to be the same today, and certainly will shift in the coming months. That is true for GridWise Alliance, and while we cannot anticipate how the ways we live and work will change as a result of the pandemic, I've been reflecting on the implications of what we do know and how we might shape the future to strengthen the country's resilience in future disasters/disruptions.

Like almost everyone I know, I have been obsessively following the news of virus transmission and the toll of human life in hot spots. Like only a couple of people I know, I have also been obsessively looking at how COVID-19 is affecting jobs in the energy sector. According to the 2020 U.S. Energy and Employment Report (USEER), energy jobs grew faster in 2019 than job growth as a whole, and the transmission, storage and distribution sector, which employed over 700,000 people, was projected to grow 3.5% in 2020. We are already beginning to see job losses, with the clean energy sector losing over 100,000 jobs, wiping out last year's gains. The utility sector has not yet experienced job loss but is facing unprecedented financial challenges from low load and unpaid bills. When over 50% of U.S. households have no emergency savings, the massive unemployment numbers of the last month mean that many households will continue to have trouble not only paying bills but putting food on the table.

Electricity is the most critical service upon which all other services rely, and as such, the electricity sector can be the engine to drive post-COVID-19 recovery. GridWise Alliance is developing a proposal for grid investments for when Congress considers funding infrastructure in an economic stimulus package, possibly in early summer. We anticipate our proposal will include recommendations for technology deployment for grid modernization, connected communities, cybersecurity, resilient supply chains and equipment manufacturing. We will have a draft proposal in the next week or so to share with you and will begin building a coalition around our recommendations. If your companies are preparing your own recommendations for the next stimulus package, please share them so we can incorporate key elements.





## Smart Cities: Post COVID-19

By

Ravi Seethapathy P.Eng., MBA, FCAE

“Ambassador for the Americas”, Global Smart Grid Federation, USA  
Executive Chairman, Biosirus Inc., Canada

COVID-19 has upset most of our social life (relationship, practices and customs), not only human to human but potentially with pets as well. While humanity has been struck with several pandemics in the past, none has been so vicious which is forcing us to distance ourselves from one and another and seek solitude for several weeks (maybe months). *“But humans are terrible at being apart”,* Angela Dewan, CNN (<https://www.cnn.com/2020/04/02/health/coronavirus-human-contact-wellness-intl/index.html>) .....“the desire to be physically near others, is a human nature”, she writes (for survival, happiness, and work efficiency). So, the very idea that COVID-19 should change this, is very disheartening. *But there appears no other way!* Medical experts state this virus will linger in our communities, till “herd immunity” is built up amongst us, or we have effective vaccines to fight it.

*Life after COVID will be a “new normal” (new rules, behaviors and customs).* This brings us to re-define urban life and Smart Cities. The current concept of urban/smart cities rests on high people density, public transit and high walkability as an essential part of system efficiency and greening the planet (fewer private vehicles/commutes, efficient heat/cool, better work-life balance and better community relationships). *How will all this change or be mitigated?*

The following analysis is more like a Jules Verne novel (some conceivable, others far-fetched). For easier understanding, it may need to be broken down to (a) Physical Changes and (b) Mitigated Adaptations:

1. **Work Space:** Workstation space shrunk by 75% in 25 years (from 17 sq. m./180 sq. ft. to 3.7 sq. m./40 sq. ft.) due to electronic media records. However, sitting close in teams was a second factor. This too is changing lately, yielding to tele-working (thanks to traffic congestions). Spatial distancing at work (increases by 70%) will become unaffordable. *Hence, tele-working for 70% of staff, will likely be the new norm.*
2. **Virtual Team Work:** Introduction of shared cloud platforms and video technologies makes virtual team work possible. The high-quality video element offers “near-social” interactions. Several companies already leverage this across multi-continent teams. *For the entire tele-working staff, virtual video team work will likely be the new norm (also many business meetings).*
3. **Residential Space:** While single family residential space may not change much, remote/virtual team work requires an additional “Office Room” equipped with workstations (for the couple), high bandwidth communications and video-voice systems. *This will likely become a “must have” feature. Also, multi-tenant (non-family) shared occupancy (prevalent amongst millennials) will likely see discouragement post COVID due to social distancing.*
4. **Schools:** It will be a challenge for schools to accommodate social distancing. The very essence of children’s learning, fun and play, depends on such close interactions. *Class activities may warrant children to use a face mask (or a shielded cap) while in school.*
5. **Public Areas:** This is very hard one to predict as it will be based on “herd mentality”, one’s own health conditions and general information. Public areas are numerous and take many forms (a) indoors (lobby, elevators, malls, stores, restaurants, public washrooms) and (b) outdoors (pavements, bus-shelters, stadiums). Such areas are hard to re-design (corridors, pathways, pavements, lobbies) or unprofitable to operate (e.g. restaurants, ball games, theatres), if social distancing is applied. *Expect more use of masks and shielded caps in such places. A new series of fashion, fabric and clothes will emerge (fashionably safe).*
6. **Public Transportation:** A distinction should be made with respect to (a) inner-city daily commute (metros, streetcars, buses, taxis) and (b) inter-city travel (airplanes, trains). The former is more crowded, frequent and short, while the latter is longer, fixed-seating and infrequent. It would appear the “community spread” could be more in inner-city frequent commutes than inter-city travels. To redesign public transportation (restrict passengers, allocate wider seat-spacing and longer wait times) will be expensive and unprofitable to operate. *Expect more use of masks and shielded caps in such places. Also, expect more use of personal vehicles.*
7. **Greetings:** Business handshake will likely give way to a (no-contact) “Hello”. Other closer social greetings amongst friends and colleagues (warm hugs) may see modifications as well.

It can be seen from the above discussions, that new norm may take (1) physical redesigns (where possible), (2) new digital work forms (virtual team work) and (3) more personal protective clothing (face masks) at other times. So, planning for smart cities and urban designs will likely have to be re-jigged to include the above factors. It is doable, but retrofitting existing stock will be expensive.

The real question though is, if such changes are at all warranted. Will society just go back to its usual ways and forget COVID-19 ever happened? *The answer lies in global casualty numbers, seasonal re-attacks, virus mutations, immunity buildup and new vaccines.* All of which is at least a few years away. Smart City planning will undergo some major philosophical re-think in its core assumptions (high people density, public transit) going forward. *A new normal call for new times, new forms and new methods.*

Just like resiliency came to the forefront in energy systems planning against climate change, so too will social distancing, technology and personal protection in Smart City living against future pandemics.

# GSGF at a glance

## Charter Members



Think Smart Grids



India Smart Grid Forum



Korea Smart Grid Association



Prakarsa Jaringan Cerdas Indonesia (PJCI)



GridWise Alliance

## Regular Members



Smart Grid Mexico



Japan Smart Community Alliance

## Utility Members



Electricity Generating Authority of Thailand (EGAT)



Electricity Supply Commission of South Africa (ESKOM)



EDM Mozambique



Tenaga Nasional Berhad Malaysia

## Associate Members



Green Business Certification Inc.



Florence School of Regulation (FSR)



Energy Block Chain Consortium

## Current Working Groups

- **Smart Grid Roadmaps:**  
Chair-Smart Grid Mexico
- **Smart Grids for EVs:**  
Chair - Think Smartgrids, France
- **Flexible Grid-Towards Customer Enablement**  
Chair- Ambassador, Americas

## Working Groups in Pipeline

- Blockchain for Utilities
- AI and Advanced Analytics for Utilities
- Robotic Process Automation for Utilities

## Contact us for more information.

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