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## K&L Gates’ The Energizer – Volume 47

A biweekly update on blockchain technology applications, distributed energy resources, and other innovative technologies in the energy sector.

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*There is a lot of buzz around blockchain technology, distributed energy resources (“DERs”), microgrids, and other technological innovations in the energy industry. As these innovations develop, energy markets will undergo substantial changes to which consumer and industry participants alike will need to adapt and leverage. Every other week, K&L Gates’ The Energizer will highlight emerging issues or stories relating to the use of blockchain technology, DERs, and other innovations driving the energy industry forward. To subscribe to The Energizer newsletter, please click [here](#).*

### Puerto Rico Introduces “MiniGrids” to Improve Grid Resilience.

- On June 7, 2019, [Puerto Rico Electric Power Authority](#) (“PREPA”) revealed its [integrated resource plan](#) (“IRP”) to revamp Puerto Rico’s electric grid. The 20-year plan proposes the installation of roughly 1.4 GW of solar power and 920 MW of battery storage by 2022 to comply with the government’s mandate to supply 100 percent renewable energy by 2050. Once implemented, the IRP could reduce emissions by 88 percent, and shift two-thirds of Puerto Rico’s energy supply to clean energy. Implementing the IRP, which was prepared for PREPA by [Siemens](#) Power Technologies International, is projected to cost approximately \$14 billion.
- The IRP places a distinct emphasis on redistributing resources, transmission, and distribution rather than new generation, reflecting Puerto Rico’s unique conditions. Most strikingly, it segments the island’s grid into eight largely self-sufficient “MiniGrids,” a direct response to the massive power outages caused by Hurricane Maria in 2017. Smaller microgrids further support the particularly remote areas of the island not easily accessible by transmission lines or suitable for a MiniGrid. For similar reasons, the IRP focuses on decentralizing power production by recommending storage resources be added in blocks of 150 MW to 200 MW and that solar be built in 250 MW blocks across the system.

### New Jersey Becomes the Latest State to Commit to 100% Clean Energy.

- [The New Jersey Board of Public Utilities](#) (“BPU”) announced its [Draft 2019 Energy Master Plan](#) (the “Plan”) on June 10, 2019. The Plan sets a goal of achieving 100 percent clean energy usage by 2050. To further that goal, the Plan sets benchmarks of 600 MW of energy storage by 2021 and 2,000 MW by 2030. New Jersey also proposes to increase offshore wind development, targeting 3,500 MW by 2030, to reach these goals.
- The Plan sets forth seven strategies: (1) reducing emissions and energy consumption in transportation; (2) accelerating deployment of renewables and distributed resources; (3) maximizing efficiency and reducing peak demand; (4) reducing energy use and

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emissions; (5) modernizing grid operations; (6) incentivizing local generation; and (7) expanding the state's clean energy economy.

- [Public Service Enterprise Group](#), the state's largest utility, is still reviewing the Plan but has expressed public support for the Plan's stated goals. The BPU will take comments on the proposal until September 16<sup>th</sup> and has scheduled three public meetings to hear feedback.

### KEPCO to Lead a Blockchain-based Renewable Energy Certificates Trading Platform Pilot Program.

- Earlier this month, [Korea Electric Power Corporation](#) ("KEPCO"), the largest provider of power in South Korea, [signed an agreement](#) with domestic power suppliers, including [Korean Southern Power Co.](#), and Nambu Electric Power, to develop a pilot program testing a blockchain-based renewable energy certificates ("RECs") trading platform, according to trade press. South Korea's [Ministry of Science](#) will oversee the pilot project. Upon completion of the pilot project, the companies will reassess the program and consider long-term implementation.
- By leveraging blockchain technology, KEPCO and the South Korean government expect to increase the transparency, security, and efficiency of REC transactions. This pilot program is KEPCO's latest, rather than its first, venture involving blockchain technology. For instance, in 2018, the company publically [announced](#) plans to develop blockchain technology as part of its initiative to develop new microgrids, known as "Open MG." The experimentation with blockchain is part of the company's pivot towards digitalization as a means to improve decarbonization efforts.

### U.S. Department of Energy Assigns Energy Security Grant to XAGE.

- On June 11, 2019, the U.S. Department of Energy [awarded](#) one of its [small business innovation and job creation grants](#) to [Xage Security, Inc.](#), a cybersecurity company for industrial control systems. The grant will help fund the company's exploration of how blockchain and other distributed ledger technology ("DLT") can protect the U.S. power grid. Specifically, Xage will develop the secure identity and access control via blockchain-connected devices. The Department of Energy is interested in how DLT technology's security, traceability, and immutability can further promote grid security with respect to legacy and future devices deployed within utility networks. Xage believes its technology can promote grid security as grids become more open to DERs and further connected to the "Internet of Things."

### PPL Electric Earns Award for its DER Management System.

- Last week, [PPL Electric Utilities Corporation](#) ("PPL Electric") [announced](#) that it was named the 2019 Investor-Owned Utility of the Year by the [Smart Electric Power Alliance](#) ("SEPA") due to the success of its Distributed Energy Resource Management System ("DERMS") for renewable power. SEPA, a nonprofit working to facilitate the electric power industry's shift to renewable energy, hosts the annual "SEPA Power Players Awards" to honor utilities that advance a "clean and modern energy future" through education, research, standards, or collaboration.
- According to trade press, PPL Electric's DERMS manages DERs that are connected to PPL Electric's grid, thereby "optimiz[ing] power quality, while encouraging the adoption of DER like solar." Further, the DERMS enables PPL Electric to host more interconnected DER because "it leverages these resources to counteract some of the negative impacts

that DER can have in high penetrations.” PPL Electric will be recognized at a gala on Monday, July 29, as a part of SEPA’s Grid Evolution Summit in Washington, D.C.

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