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K&L Gates' The Energizer – Volume 43

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](#).

Florida's Biggest Utility Promises the World's Largest Solar-Battery System by 2021.

- On March 28, 2019, [Florida Power & Light Company](#) (“FPL”) [announced](#) plans to build a solar-powered battery system capable of storing 409 megawatts of electricity by late 2021. The battery system, which will be known as the Manatee Energy Storage Center (the “Storage Center”), will be able to distribute 900 MWh of electricity, the equivalent of 100 million iPhone batteries. Once completed, the Storage Center's capacity will be four times larger than the largest battery system currently in operation, a 100 MW system - located in South Australia.
- This announcement comes on the heels of FPL revealing its “30-by-30 initiative,” a plan to install 30 million solar panels by 2030. To meet its goals, FPL established a 74.5 MW solar farm in Parrish County, Florida, in 2017 and is preparing to open a second 74.5 MW solar farm in Manatee County sometime next year. In mid-March, the company filed plans with the [Florida Public Service Commission](#) to build the largest U.S.-based community solar project. The Storage Center will improve FPL's ability to manage electricity distribution and demand during peak demand times.
- FPL, a subsidiary of [NextEra Energy Inc.](#), currently sources 70 percent of its electricity from natural gas and 4 percent from coal. FPL anticipates the Storage Center will accelerate its timetable for retiring two natural gas-fired units at the nearby Manatee Power Plant.

China Considers Ban on Cryptocurrency Mining.

- On April 9, 2019, China's [National Development Reform Commission](#) (the “Commission”) included cryptocurrency mining in its draft list of industries to be eliminated because of its contributions to pollution and energy-intensive nature. “Mining” refers to the process of verifying transactions on a blockchain that operates via a “Proof-of-Work” (“PoW”) consensus protocol. PoW is generally an energy-intensive consensus protocol because it

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requires the participating network of computers to verify each transaction by solving complex mathematical equations — in some cases, increasingly complex equations. This proposal is not the first time the Chinese government has considered banning cryptocurrency mining. Last year, the government discussed prohibiting Bitcoin mining. In 2017, the Chinese government banned the exchange of cryptocurrency outright in local markets. If the proposal is implemented, miners operating in China will be required to cease their operations. Before issuing a final decision, the Commission is seeking public comments. The comment period is open until May 7, 2019.

- Similarly, as highlighted previously in *The Energizer*, some local communities in the United States have [increased electricity rates](#) for cryptocurrency miners or have issued moratoriums on mining activity. The Senate has started to take an interest in the issue; it convened a hearing to discuss the benefits of [shifting from PoW](#) to less energy-intensive protocols such as “Proof-of-Authority” and “Proof-of-Stake.”
- Some cryptocurrency miners have begun looking elsewhere for lower-cost electricity supplies in a more favorable regulatory environment. For instance, on March 18, 2019, [Integrated Ventures Inc.](#), a cryptocurrency mining and blockchain software company, [announced](#) a letter of intent to purchase an 80 MW natural gas-fired power plant in Pennsylvania. The acquisition will allow the company to install 52,000 mining devices.

Department of Energy’s National Energy Technology Laboratory Initiates Phase II of Electric Grid Security Project.

- On April 10, 2019, the [Department of Energy’s National Energy Technology Laboratory](#) [announced](#) the start of Phase II of an electric grid security project in conjunction with [Taekion](#), a blockchain-based cybersecurity platform that incorporates artificial intelligence. The project seeks to prevent cyberattacks on power plants by incorporating state-of-the-art technology to identify and counter malicious cyberattacks more quickly and effectively than current digital infrastructure. The program allocates \$1 million for research into decentralizing information regarding sensor, actuator, and device transactions, among other things.
- The announcement comes amid forecasts of growth for blockchain technology in the energy market. On April 10, 2019, [Global Market Insights, Inc.](#) published [a report](#) estimating investment in such technology to grow from \$200 million in 2018 to \$18 billion by 2025. The report also forecasts the growth of programs designed to facilitate the adoption of blockchain. Blockchain provides greater security for energy markets by improving transaction traceability, reducing transaction costs by minimizing or eliminating third-party intermediaries, and increasing transparency.

More Automobile Manufacturers Announce Plans to Develop Electric Vehicles Domestically.

- According to [recent reports](#), [Honda](#) intends to build more electric vehicles (“EVs”) in its manufacturing facility in Marysville, Ohio. In August 2019, Honda plans to retool the second-shift production on one of the plant’s assembly lines so it can manufacture EVs. Honda has not announced which EVs will be built in the plant. Honda’s plan to manufacture more EVs is consistent with its forecast that EVs will comprise two-thirds of its global sales by 2030.
- [Ford](#) has also [announced](#) its intention to build new EVs in its plant in Flat Rock, Michigan. The Flat Rock plant, which currently builds the Mustang and the Lincoln Continental, is in

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the process of constructing EVs that are reportedly apart of a \$11.1 billion initiative to sell 16 battery-electric and 24 hybrid models by 2022.

- Though EVs still constitute a small fraction of the U.S. automobile market, their market share is growing. According to [recent reports](#), more than 361,000 EVs were sold last year, an 81 percent increase from 2017. Recent efforts from Honda and Ford, coupled with a changing regulatory regime that promotes the adoption of EVs, indicate sustainable and robust growth in the EV market.

Energy Storage Handbook (Version 4.0)

- In connection with the 19th Annual Energy Storage Association Annual Conference, K&L Gates published the revised 4th edition of its popular *Energy Storage Handbook*. <http://www.klgates.com/epubs/Energy-Storage-Handbook-Vol4/>
- Among other topics, Version 4 of the *Energy Storage Handbook* covers the latest in financing and solar + storage agreements; new developments in California and New York; new insurance products to mitigate performance risk; the RTO/ISOs' FERC Order 841 compliance filings; and FERC Order 845-A, clarifying and revising Order 845.

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