

THE BLOCKCHAIN ENERGIZER

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A biweekly update on applications of blockchain technology in the energy industry

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There is a lot of buzz around blockchain technology and it’s potential to revolutionize a wide range of industries from finance and health care to real estate and supply chain management. Reports estimate that over \$4.5 billion was invested in blockchain startups in 2017 alone, and many institutions and companies are forming partnerships to explore how blockchain ledgers and smart contracts can be deployed to manage and share data, create transactional efficiencies, and reduce costs.

While virtual currencies and blockchain technology in the financial services industry have been the subject of significant debate and discussion, blockchain applications that could transform the energy industry have received comparatively less attention. Every other week, the K&L Gates’ Blockchain Energizer will highlight emerging issues or stories relating to the use of blockchain technology in the energy space. To subscribe to the Blockchain Energizer newsletter, please click [here](#).

Cryptocurrency miners face mounting resistance to energy demands in the United States and Canada.

- On March 15th, the [New York State Public Service Commission](#) (“NYPSC”) [announced](#) that upstate municipal power authorities could increase electricity rates for cryptocurrency miners. By raising rates on cryptocurrency miners (more specifically defined as “high-density load customers that do not qualify for economic development assistance and have a maximum demand exceeding 300 kW [kilowatts] and a load density that exceeds 250 kWh [kilowatt hours] per square foot per year”) the NYPSC argued it is protecting existing residential and commercial customers from substantial energy price increases. NYPSC Chairman John Rhodes noted that the decision was particularly important for rural communities given the scarcity of affordable power available to them. According to Chairman Rhodes, cryptocurrency miners use nearly four times the amount of electricity per square foot basis as a large paper manufacturer, yet do not create many jobs or inject capital into communities.
- Cryptocurrency miners are also facing resistance in Washington state and Quebec, Canada. Chelan County, Washington, [recently](#) placed a second moratorium on power applications from cryptocurrency miners until May 14. Like the NYPSC, Chelan County implemented the moratorium due to an already significant increase in demand from the county’s twenty-two existing cryptocurrency miners, which has resulted in rising electricity usage and costs, and increasing strain on the County’s power grid. The number of cryptocurrency miners applying for power in the first quarter of 2018 was almost equal to the number of miners who applied for power in all of 2017. As previously [reported](#), [Hydro-Quebec](#) was considering whether to increase rates on cryptocurrency miners. [Now](#), the utility is instead temporarily rejecting energy applications from cryptocurrency miners.

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Quebec's [Ministry of Energy and Natural Resources](#) also expressed concern that powering cryptocurrency miners will overtax energy intended for residential homes.

- Across the Atlantic, the European Union's ("EU") Commissioner for Digital Economy and Society has taken the opposite view. Commissioner Gabriel [released](#) a statement clarifying that there is no legal basis on which to limit electricity to cryptocurrency miners, provided they are complying with the law. Miners are still subject to the EU's regulations covering energy efficiency and greenhouse gas emissions, among others.
- Cryptocurrency miners have historically migrated to locales with low-cost energy sources, particularly renewable energy, to minimize their operating costs. Canada and parts of the U.S. have become popular destinations for miners. These recent developments, however, may indicate a growing resistance to cryptocurrency miners from utilities and their regulators.

LO3 Energy will launch a blockchain-based renewable energy trading platform in Southern Australia.

- As we have previously [reported](#), [LO3 Energy](#), which developed the Brooklyn Microgrid, is partnering with [Yates Electrical Services](#) ("Yates") to [create](#) a blockchain-based solar energy trading platform in Paringa, Australia. The region is experiencing increased electricity prices, despite its abundant supply of wind and solar energy. To bring prices down, LO3 Energy will develop a blockchain-based trading platform on which Yates will sell solar energy from its thirty (30) solar farms and other solar resources owned by other power providers. To date, over a dozen companies have agreed to participate.
- According to LO3, Australia is an attractive environment because its government has a progressive policy on integrating renewable energy into its energy markets. As a result, LO3 will include services such as battery storage and incorporate Internet of Things devices to improve demand-side response.
- Despite Australia's forward-facing perspective, businesses and consumers cannot currently bypass retailers for their energy needs. Energy generators like Yates, however, can obtain a retailer exemption that allows them to sell energy to commercial customers directly.

International Energy Research Centre plans to develop a peer-to-peer energy trading platform.

- In Ireland, there is a new consortium dedicated to creating a peer-to-peer energy trading platform for consumers. The [International Energy Research Centre](#) and the [INSIGHT Centre for Data Analytics](#) at the [National University of Ireland-Galway](#) have [started](#) an energy blockchain consortium called EnerPort to develop a blockchain-based peer-to-peer energy trading platform. Several Irish companies have joined the consortium. To date, there is no publicly announced timeline for when the consortium will create or demonstrate a prototype.

Elia, Belgium's transmission system operator, to explore blockchain.

- [Elia](#) has [issued](#) a request for information from blockchain software developers as it considers using blockchain to improve demand response services. Specifically, Elia is exploring the feasibility of automating various demand response processes through blockchain-based applications to more effectively balance Belgium's energy grid. The proposed blockchain application would focus initially on registration, data verification, measurement, and settlement of the assets in its tertiary reserve. Over time, however,

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Elia plans to scale up the blockchain beyond demand response so it can automate these processes for more frequently used balancing products.

- The company also hopes to expand the number of energy providers in the flexibility market. The application will operate on [Tobalaba](#), which as previously [reported](#), is the alpha phase of the [Energy Web Foundation's](#) (“EWF”) proprietary blockchain network. Elia has also become an affiliate of EWF, which has created one of the largest energy blockchain consortiums in the world, and continues to move forward with a number of pilot programs.

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