

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 its 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](#).

Development of a Peer-to-Peer Energy Market Underway in the United Kingdom.

- The U.K.-based energy blockchain developer [Electron recently announced](#) that it has established a consortium with several large energy and utility companies to develop, test, and commercialize a blockchain-powered bilateral energy-trading platform. According to a [recent article](#), the goal is to create a shared marketplace for energy assets to respond to a variety of pricing signals. In particular, the platform is being designed to support new “flexibility markets,” which are being designed in the United Kingdom to allow distributed energy resources to support the distribution network during periods of peak demand.
- The platform will leverage Electron’s blockchain-based registration system, which as discussed in an [earlier volume](#) of the *Blockchain Energizer*, allows for the seamless registration and management of electricity meters.
- The establishment of the consortium is the latest in a series of moves by Electron to engage industry players in the development and implementation of blockchain technology. As noted in an [earlier volume](#) of the *Blockchain Energizer*, Electron previously received a grant from National Grid and Siemens to develop the platform, and the company plans to add additional stakeholders to its growing consortium later this year.

Blockchain Continues to Gain Ground in the Oil and Gas Industry.

- [Ondiflo](#), a joint venture between [Amalto SA](#) and blockchain developer [ConsenSys](#), has [developed](#) a prototype blockchain-based automatic ticketing process to streamline water hauling in the oil and gas industry. For each water-hauling truck on a worksite, Ondiflo

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will use “Internet of Things” sensors to capture the exact volume of water hauled in each individual truck, the time each truck spends on site, and other details. The sensors will transmit this information to the company’s [Ethereum](#)-based blockchain, which will use smart contracts to generate tickets and invoices between oil field operators and water haulers. By pairing blockchain technology and smart contracts, Ondiflo hopes to reduce inefficiencies in the ticket recording and payment process and reduce disputes over services rendered.

- This particular use case is just the first step in a larger vision by Ondiflo to bring blockchain to the oil industry. Over the next quarter, the company has announced that it will develop a consortium of large oil field operators, service providers, fuel haulers, and financial institutions to develop additional use cases for the technology.
- On the trading side, [S&P Global Platts](#), in coordination with the United Arab Emirates’ [Fujairah Oil Industry Zone](#) (“FOIZ”), recently announced that it is [deploying](#) a proprietary blockchain network built on the [Hyperledger](#) framework to allow oil traders to submit weekly oil inventory data to FOIZ and allow FOIZ terminal operators to automatically verify and aggregate that data in real time. Importantly, the data posted to the blockchain will also be available to the regional regulator, FEDCom, allowing for a full and secure audit trail and an overall reduction in manual data management.
- According to S&P Global Platts, the implementation of blockchain in this space represents a first for oil markets, and the hope is that the switch from manual verification and aggregation to an automated blockchain-powered system will, among other things, increase speed and efficiency, improve reporting quality, provide increased data security, and simplify asset ownership certification.

Canadian Electric Utility Company Considering Implementing a Higher Energy Rate for Cryptocurrency Miners.

- The Canadian utility company [Hydro-Québec](#) recently announced that it is [considering](#) raising its electricity rates for cryptocurrency mining following its receipt of over 100 inquiries from cryptocurrency mining companies about its energy prices. In light of these requests, and the significant amount of load associated with them, the company is considering whether to supply some of its energy surplus to cryptocurrency miners, how much energy to supply them with, and whether to adopt a higher rate specifically for the cryptocurrency mining industry. [Canada’s Department of Natural Resources](#) is reportedly considering the potential industry-specific rate increase as well.
- The company has said that it would likely be unable to accommodate all of the requests due to the energy-intensive nature of cryptocurrency mining operations, with some of the requests exceeding 100 megawatts. As noted by the article, that amount of power is 20 times the amount needed to supply Montreal’s Bell Centre Arena, which is the home of the city’s hockey team.
- As we have previously [written](#), Canada is becoming a popular destination for cryptocurrency miners due to low energy costs and a favorable climate. The province of Québec is particularly popular, as its energy rates are reportedly some of the lowest in North American for large businesses.
- Moreover, the growing demand for affordable energy is leading some companies to develop “green mining” equipment. Cryptocurrency ATM provider and exchange company [Cointed](#), for example, plans to sell cryptocurrency mining equipment powered by hydroelectric and wind energy sometime during the first quarter of 2018.

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