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THE BLOCKCHAIN ENERGIZER

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In this issue:

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K&L Gates Blockchain Energizer – Volume 26

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.

LO3 Energy and Direct Energy Business Are Launching "Exergy," a B2B Transactive Energy Network.

- LO3 Energy and Direct Energy Business, one of the largest energy retailers in North America, have partnered to develop a blockchain-based platform that will enable large-scale commercial entities in Texas to automate orders for customized power hedges. The platform, which is called "Exergy," will match orders with offers to enable transactive energy exchanges in increments down to the hourly level. Participants will access the platform by using LO3's smart meters.
- Direct Energy Business, which provides innovative energy solutions for business and industrial customers, is currently recruiting customers to use the platform in anticipation that phase one will be launched later this year. Direct Energy Business customers will use LO3 Energy's smart meters to access Exergy. If the prototype provides sufficient benefits, Direct Energy Business will coordinate with the Texas Public Utility Commission to bring it to scale in a manner that meets regulatory requirements.
- If successful, Exergy will increase the energy choices available to large commercial entities, and such companies will have greater flexibility in placing their energy orders. Exergy will also increase commercial entities' access to various sources of energy because participants will not be required to enter into long-term power agreements.

Green Power Exchange Releases Updated White Paper for Blockchain-based P2P Energy Platform.

- Green Power Exchange recently released an updated white paper describing a decentralized, blockchain-based, peer-to-peer electricity trading platform that Green

Power hopes will facilitate the purchase and sale of electricity using two types of digital tokens and will employ smart contracts (known as "Smart Purchase Power Agreements") to facilitate distribution.

- The Green Power Exchange platform relies on two types of tokens. The GPX token is the platform's native token through which platform participants buy and sell energy. Consumers and producers will be able to purchase GPX in exchange for Ether or fiat currency. Alternatively, they will be able to buy GPX from a third-party exchange. The second type of token, GET, represents the actual energy transacted, marked at 1 kWh of electricity. GET tokens are bought and sold using GPX.
- According to the whitepaper, energy producers will be able to list their energy offerings on the Green Power Exchange platform by providing certain specifications, such as kWs available over a given time period. Green Power Exchange will encode these specifications into smart contracts (referred to as "Smart PPAs"), and a corresponding GET token will be created for each 1 kWh of energy offered. Once the energy provider pays a 1 percent commission in the separate GPX token, the GET tokens will be offered on the platform.
- Using GPX, consumers will pay a producer the monthly rate specified in the Smart PPA for which the GET tokens were created. However, the consumer will pay only for the amount of energy they actually consume. The Smart PPA for the purchased GET tokens will govern the distribution of electricity from the producer to the consumer. Initially, transactions with GET tokens will be performed on the Ethereum Network, but private networks may be utilized as well.
- GPX joins the growing list of energy start-ups seeking to implement blockchain to expand consumer choice and lower transaction costs in the electricity market.

Arizona Governor Signs Legislation Allowing Corporations to Store and Transmit Data via Blockchain.

- Earlier this month, Arizona Governor Doug Ducey signed into law HB 2603, which allows information stored by corporations on a "blockchain technology" (defined as "distributed ledger technology that uses a distributed, decentralized, shared and replicated ledger") to constitute a written record. The significance of this bill is that Arizona corporations are now allowed to submit their records to the state government via blockchain.
- HB 2603 complements a bill the Arizona legislature enacted last year, which as previously reported, amended the state code to recognize signatures on a blockchain as electronic signatures and cemented the enforceability of smart contracts under Arizona law.
- By passing these bills and others, Arizona has become one of the most blockchain-friendly states, particularly with respect to recognizing the perceived security benefits of distributed ledger technology.

Chinese Petrochemical Company Utilizes Blockchain for Trial Gasoline Shipment.

- Sinochem Group is a Chinese state-owned petrochemical concern and one of the world's largest companies. Earlier this month, its subsidiary Sinochem Energy Technology Co. transported gasoline from China to Singapore with the assistance of a blockchain network. According to the company, all key participants in the logistics process used blockchain applications, a first for the petrochemical industry in China.

- Back in December, Sinochem Group conducted a simulated transaction for crude oil.
- Sinochem believes that it can increase the transparency of transactions between companies within the petrochemical industry and improve risk management by implementing and standardizing blockchain platforms. Moreover, the company believes that implementing blockchain will result in significant cost savings. Based on its December simulation, the company predicted that digitizing bills of lading and implementing smart contracts could reduce the financing cost of crude oil transactions by 20–30 percent.

Chile's National Energy Commission Launches Trial Blockchain Data Initiative.

- The National Energy Commission of Chile ("CNE") announced that it will record verified data sets from its Open Energy data platform onto the Ethereum blockchain. The state will retain its primary regulatory role, with any data first submitted to CNE for verification and recordation in CNE's own database. CNE, however, will also record the data on Ethereum and allow public access all of the Open Energy information CNE records. Once on the Ethereum blockchain, CNE will, functionally, be unable to remove that information.
- As we have previously written, CNE hopes that using blockchain will also increase public confidence in its data, which is used by investors in the Chilean energy space to inform their investment decisions.

Chelan County Public Utility District Cuts Power to Three Unauthorized Cryptocurrency Miners.

- As we have previously written, the Chelan County Public Utility District ("PUD") imposed a moratorium on energy applications from cryptocurrency miners. Earlier this month, Chelan County PUD shut power to three cryptocurrency miners because their energy consumption posed a fire risk to their respective facilities and threatened to damage grid equipment. In response to such unauthorized mining, PUD Commissioner Steve McKenna has ordered staff to impose fees and penalties on unauthorized miners and to report them to law enforcement as "power theft."
- According to the PUD, facility and distribution circuit limitations raise special fire risks for unauthorized cryptocurrency miners, with one commissioner calling for the installation of automated meters to prevent miners who are using power that exceeds a safe load size for the facility. According to the PUD, one crypto miner increased their apartment's monthly energy use 20-fold, from 500 kWh to 11,000 kWh.
- The PUD will hold a public hearing about the moratorium on May 14, 2018.

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