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THE BLOCKCHAIN ENERGIZER

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K&L Gates Blockchain Energizer – Volume 35

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. 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.

Come out and say hello to Blockchain Energizer co-author Buck Endemann as he presents on blockchain and renewable fuel standard, RINs, and biodiesel issues at the Oil Price Information Service (OPIS) conference in Chicago on October 1–3, 2018!

Clean Energy Blockchain Network to Provide an Automated Clean Energy Certification Service and EV Charging Station that Powers Low-Income Households.

- The Clean Energy Blockchain Network ("CEBN") is deploying an automated, blockchain-based clean energy verification service. According to Dr. Mike Ashley, Vice President of CEBN, the company's professional energy engineers "will inspect and audit . . . clean energy production site[s] and do follow-up spot audits to ensure" that the energy produced was created from clean resources. Once certified, CEBN will record the information on a blockchain, thereby creating a "transparent, auditable, and [immutable] . . . record of energy generation, storage and consumption . . . ." CEBN will also enable renewable energy certificate ("REC") trading on its blockchain platform. The platform will provide near-real time settlement on a secure system that will allow participants to track credits from "generation through retirement."
- CEBN is also installing a solar- and storage-powered electric vehicle charging and storage station in Evanston, Illinois. The Clean Energy Group awarded CEBN a technical assistance award through Resilient Power Project to develop the station. Once developed, electric vehicle owners will be able to recharge their car batteries, and the excess solar power not needed for electric vehicle charging will be distributed to low-income housing units in a nearby community for the cost of transmission. The unit will also use a smart meter to record data from each transaction onto a permissioned blockchain. By combining blockchain, energy storage, and solar power, the station will

reduce the cost of charging electric vehicles and develop an accurate and immutable record of electricity usage while lowering low-income homeowners' energy bills.

- By using blockchain technology, CEBN's verification services can improve transparency and reduce auditing expenses while improving accuracy in the REC and carbon credit markets. Moreover, blockchain can make REC trading more secure by encrypting the RECs and facilitating trades on a distributed system.

Share&Charge Foundation Plans to Create an EV Charging Stations Network Using the Energy Web Foundation's Blockchain Platform.

- The Share&Charge Foundation ("Share&Charge"), a nonprofit foundation based in the United Kingdom, has partnered with the Energy Web Foundation ("EWF") to develop a blockchain-based protocol designed to facilitate transactions between electric vehicle owners and electric vehicle charging equipment operators. Share&Charge is developing a decentralized blockchain-based protocol that is interoperable across various technologies and charging station units. Accordingly, almost any charging station owner or operator will be able to incorporate the protocol into their equipment, thereby creating a network that includes a variety of charging stations. Consumers will download an app connecting them to this network, enabling them to select from a variety of units. Share&Charge will operate its protocol on top of EWF's blockchain platform and, in its initial phase, will onboard EWF's affiliates onto the protocol. The project is in early stages, and the organizations are wading through various technical issues, such as minimizing the wait time to begin charging.
- By creating a blockchain-based platform, Share&Charge and EWF hope to expand consumer access to charging stations, minimize costs, record valuable data about electric vehicle charging, and, ultimately, promote greater adoption of electric vehicles. EWF and Share&Charge also believe that blockchain can undercut the role of private intermediaries, thereby reducing costs for charging station owners and operators. The electric vehicle market is rapidly expanding, yet the charging infrastructure is still fragmented. Blockchain-based solutions like the Share&Charge protocol could help the grid manage the growing demand more effectively.

ENGIE and Maltem Establish "Blockchain Studio" to Provide Software to Facilitate Commercial Adoption of Blockchain-based Applications.

- ENGIE, a French-based multinational electric utility company, and Maltem Consulting Group ("Maltem"), a digital innovation consulting group, have established "Blockchain Studio," a small software company that offers software products that enable companies in a variety of industries to leverage blockchain. ENGIE and Maltem have raised approximately $2.2 million to fund the organization, which has already released two products. One product is a software program designed to simplify the implementation of smart contracts so companies without substantial technical expertise can incorporate the technology into their operations. The other is software that manages blockchain infrastructure established on a company's servers or in the cloud, reducing administrative challenges. Currently, Blockchain Studio is comprised of 10 employees, but ENGIE and Maltem plan to scale up the organization to 25 workers by the end of 2019. They also plan to open an office in Singapore and to enter the Southern European market by the first quarter of 2019.

- Blockchain Studio is not ENGIE's first foray into the blockchain space. Last year, ENGIE joined the EWF as an affiliate and, in July, it signed a Memorandum of Understanding ("MOU") with the IOTA Foundation to research blockchain applications for energy management and smart cities. Through the MOU, ENGIE's Lab CRIGEN will test various applications on IOTA Tangle, which is the IOTA Foundation's open-source public blockchain. Unlike these previous ventures, however, Blockchain Studio's scope extends beyond the energy industry, seeking to serve commercial entities in various industries. As blockchain technology matures, interest in bridge services that enable blockchain-based applications to advance beyond the "proof-of-concept" stage will continue to grow.

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