K&L GATES

THE BLOCKCHAIN ENERGIZER

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K&L Gates Blockchain Energizer – Volume 37

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.

Energy Web Foundation, PJM-EIS Launch Pilot Program to Use EW Origin to Facilitate REC Trading.

- Energy Web Foundation ("EWF") and PJM Environmental Information Services ("PJM-EIS") will launch a pilot program to apply EWF's EW Origin toolkit to administer part of PJM-EIS's Generation Attribute Tracking System ("GATS"). The pilot will run from October 2018 through November 2019 in the PJM region of the GATS market. EWF will operate the EW Origin toolkit, and PJM-EIS will ensure that the pilot meets the necessary regulatory and business requirements for REC issuing, trading, tracking, reporting, and retiring. By using EW Origin, an open-source blockchain application that facilitates efficient procurement of renewable energy, PJM-EIS hopes to leverage several of blockchain's key features: immutability, auditability, and replication. EWF believes the pilot will demonstrate that blockchain can enable even small market participants, like households with rooftop solar panels, to take part in the REC market.
- Currently, GATS tracks electricity production by generating an electronic certificate for each megawatt-hour produced by a generator. These certificates are created per generator. Through the GATS system, PJM-EIS can track various attributes, such as emissions, of each underlying megawatt-hour of electricity. Importantly, PJM-EIS tracks ownership of the certificates, which companies trade or use to meet their renewable energy portfolio requirements. The partnership is a huge step forward for the adoption of blockchain technology in the energy industry, and could represent a turning point that brings more integrity and efficiency to the REC market.

Nevada Public Utilities Commission is Exploring Blockchain for Portfolio Energy Credit Tracking.

- The Nevada Public Utilities Commission ("NPUC") opened a docket (18-09008) exploring the use of blockchain, and alternative technologies, to power a tracking system for Portfolio Energy Credits ("PECs"). According to NPUC Commissioner Ann Pongracz, Nevada's current PEC tracking system is inadequate because its software is incapable of meeting current demands. Commissioner Pongracz, who introduced the measure, advocated for a blockchain-based system. Chairman Ann Wilkinson and Commissioner Bruce Breslow supported the measure, but did not commit to using blockchain.
- PECs are credits that track renewable energy production. Renewable energy producers earn PECs for the electricity they produce and sell the PECs to utilities. Utilities purchase the PECs to meet their obligations under Nevada's mandatory portfolio standards. By 2025, 25% of the electricity a utility sells must be derived from renewable sources. That standard may increase to 30% by 2030 if Nevadans approve a ballot initiative slated for a vote this November.
- The NPUC is not the first public utility commission to open a docket about blockchain. As previously reported, the Arizona Corporation Commission opened such a docket in July. That docket proposes to explore the use of blockchain for a variety of purposes, including how blockchain technology can improve cybersecurity, utility accounting, and tokenization and tracking of renewable energy credits.

Electron Signs Cooperation Agreement with eEnergy Center to Develop Electron's Flexibility Trading Platform.

- Electron, a blockchain energy trading system developer based in the United Kingdom, has signed a cooperation agreement with eEnergy Center ("eEnergy") to "develop and commerciali[z]e" Electron's flexibility energy trading platform for Swiss energy companies. Through the agreement, Electron will build out its platform to enable eEnergy's consortium members to engage in bilateral trades. Consortium members include, among others, several Swiss-based Distribution Systems Operators. eEnergy will provide market forecasting services that Electron will integrate into the platform. The companies anticipate that the combined product will reduce consortium members' balancing costs, improve the accuracy of their energy demand forecasts, and increase their choices. A blockchain-based platform could make demand-side responses more efficient by reducing trading costs and minimizing settlement times. Such a system could also provide flexibility and expand access to numerous market participants.
- Electron is not limiting its technology to demand-side response management, however. As previously reported, Electron has been developing a meter registration platform to facilitate consumer choice. Consumers will be able to use the platform to switch quickly between energy suppliers, thereby expanding their access to suppliers and, in turn, potentially driving down electricity prices.

JAMS Establishes a Blockchain, Smart Contracts, and Cryptocurrency Practice.

- JAMS, the world's largest private provider of mediation and arbitration services, is developing a new initiative to establish "protocols that support the use of [alternative dispute resolution] arising from blockchain transactions, including smart contracts." To develop rules specifically tailored to the particular nature of smart contracts, JAMS is collaborating with the Accord Project. The Accord Project is a non-profit that designs open

source code and documentation for "smart legal contracts" for attorneys and businesses, and promotes a "common and consistent legal and technical foundation" for such contracts. Currently, the organization's draft rules are under review by various stakeholders. JAMS established the new practice, which appears to be the first of its kind among alternative dispute resolution providers, in response to businesses' growing adoption of smart contracts and to help advance the "use of smart contracts across industries."

- Smart contracts can streamline various operations by automating contract execution and enforceability. They can also minimize accounting errors, reduce settlement times, and improve the quality and transparency of data by minimizing paper processes. On the other hand, the immutable nature of smart contracts, whether all indicia of traditional legal contracts are met, and the risk of hacks and other cybersecurity attacks raise novel legal concerns. JAMS's foray into smart contract dispute resolution indicates the legal industry's growing capacity to mediate such issues.

Power Ledger Wins the 2018 Extreme Tech Challenge.

- Power Ledger, an Australian-based blockchain company, has been crowned the winner of the world's largest startup competition: 2018 Extreme Tech Challenge. The competition seeks to connect startups creating ground-breaking technologies with prominent investors and mentors in order to scale their products. Power Ledger won for its work developing blockchain solutions for the energy industry, including a peer-to-peer electricity trading platform for consumers (named "xGrid").
- In addition to xGrid, Power Ledger is operating a microgrid in Bangkok, in partnership with BCPG, and is exploring the possibility of creating a virtual power plant. Power Ledger has also partnered with Northwestern University to facilitate renewable energy trading on-campus and between campuses through pre-existing electricity meters. To date, the company has also developed projects in Australia, India, and Japan.