BLOCKCHAIN ENERGIZER VOL. 2

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Energy Alert

There is a lot of buzz around blockchain technology and its potential to revolutionize a wide range of industries from finance and healthcare to real estate and supply chain management. Reports estimate that over $1.4 billion was invested in blockchain startups in 2016 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.

BLOCKCHAIN TECHNOLOGY - A POSSIBLE SOLUTION TO CHINA'S AIR POLLUTION PROBLEMS?

- IBM and the Chinese technology company Energy-Blockchain Labs have plans to use blockchain technology to clean up the environment. The companies recently partnered to develop a blockchain-based green asset management program, which will launch in connection with the opening of China's unified national carbon market.
- The hope is that blockchain technology, paired with smart contracts, will help solve some of the logistical problems facing China's carbon market, particularly with respect to carbon asset development and management.
- Additionally, the immutable nature of the distributed ledger will help to increase transparency and the credibility of the market. Such a ledger could also reduce compliance and regulatory-related costs, since the ledger can be designed to provide regulators with an efficient means of auditing stakeholders.
- IBM and Energy-Blockchain Labs completed a proof of concept transaction late last year, and hope to release the platform formally this May. If successful, this application of blockchain technology could be a model deployed in other countries and markets looking for ways to monitor and control carbon emissions to meet particular climate goals.

BLOCKCHAIN TECHNOLOGY DEPLOYED TO OPTIMIZE CRUDE OIL TRADING

- IBM also recently partnered with Trafigura and a financial services firm to deliver the first blockchain technology-powered crude oil finance trading platform. Built using the Hyperledger Fabric blockchain technology, the platform will allow crude oil traders and their respective banks to share and record

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transaction data, including trade documents, shipping updates, and delivery and payment confirmations, on a single, decentralized ledger.

- The shared ledger will be "permissioned," meaning only pre-approved parties to a transaction will be able to access and record data on the blockchain network, ensuring that sensitive trade information will not be shared beyond the parties to any specific transaction.
- Currently, crude oil trade finance transactions involve extensive paper documentation. According to Trafigura's CEO, the goal is to replace existing paper-heavy manual processes with optimized blockchain-powered workflows that will improve transparency, data sharing, and efficiency by removing each party's need to maintain and update its respective transaction documents and records.
- Although the platform will not be deployed for at least a year, the hope is to one day make use of a single shared ledger to power the entire crude oil trade finance industry.
- To facilitate the transition to a shared ledger technology, the industry will need to consider implications for regulatory reporting and record-retention standards.

BLOCKCHAIN TECHNOLOGY GAINING GROUND IN THE ENERGY INDUSTRY

- Blockchain technology is gaining momentum among energy industry participants, and not just among start-ups. Siemens, which partnered with LO3 Energy last year to develop the Brooklyn Microgrid (the Microgrid uses Siemens "smart" microgrid controllers to manage the Microgrid's solar energy assets), has been particularly active in testing the use of blockchain technology in the energy sector.
- In a recent interview, the President of Siemens Digital Grid US stated that he does not see blockchain technology as a threat to traditional utility companies, but rather a means to facilitate coordination between large-scale electric generators and distributed energy resources. In particular, blockchain technology could be used to provide wholesale energy markets with a means of monitoring (via a shared ledger) what energy prosumers are doing at a micro level and allow such markets to optimize around such signals.
- Siemens is not the only company to recognize the potential of blockchain technology in the energy industry. Recently, former NPower CEO Paul Massara agreed to join the board of directors of Electron, a company developing blockchain technology-based energy infrastructure platforms.

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