

Energy is Catching Up.

By Landon Stevens



STRATA

Energy is catching up

When you think, “Blockchain,” most of us think of Bitcoin. But the electricity space is ripe for innovation. The energy world is changing rapidly, and technology is getting creative trying to keep up.



Since the Pearl Street coal plant opened in New York City in 1882, the electric utility sector has followed a predictable model. First, build a large centralized power plant, connect thousands of miles of power lines to energize society, collect payment, grow, and repeat. In the last 30 years or so, however, that model has started to shift. The traditional regulated monopoly model has been challenged and re-imagined in various ways.

Steve Martin, GE Power’s Chief Digital Officer, made a bold statement on the future of the energy grid. “The world’s most powerful utility in 2025 may not exist today,” he said. “At the very least, it does not operate today as it will in the future. Blockchain is rapidly evolving and has the potential to be an enabling technology for the future grid.”¹

In Brooklyn, LO3 Energy has developed a transactional energy microgrid to test whether neighbors can independently produce power from solar panels, trade peer-to-peer, and have transactions recorded on a Blockchain. They believe that with a more democratized energy marketplace, traditional markets will become more open and competitive. The company is now expanding projects to Europe and Australia.

“Our proprietary smart meters connect local residents together ‘virtually’ by using our Exergy blockchain to securely log and share their energy consumption and production data and smart contracts to automatically execute energy transactions within the community,” says Lawrence Orsini, the company’s chairman. “The biggest work to be done now to move this from a project to a large-scale commercial reality is with the regulatory bodies, to progress the changes needed for local peer-to-peer transactive markets.”²

1 Blockchain Technology Will Transform the Power Industry, Darrell Proctor, 1/1/2019, Power Magazine. <https://www.powermag.com/blockchain-technology-will-transform-the-power-industry/?pagenum=5>

2 Five Questions with Lawrence Orsini on Transactive Energy and Blockchain, Lawrence Orsini with Ron Pernick, Clean Edge. <https://cleanedge.com/views/Five-Questions-with-Lawrence-Orsini-on-Transactive-Energy-and-Blockchain>



Blockchain is finding a home even in more traditional market applications. In Europe, for example, a group of more than 40 energy trading companies now use Blockchain to trade through an initiative called Enerchain. Enerchain allows energy wholesale markets to leverage technology and execute decentralized trades, avoiding intermediaries and cutting costs. Findings from a nine-month proof of concept pilot with live-trading showed large cost savings could be expected as roles in management, market supervision, legal, regulation, compliance, support, IT, marketing, and sales either do not apply to a new decentralized trading platform, or could be significantly reduced as Blockchain trading expands.

As electric vehicles have seen tremendous growth over the last few years, one concern of wary consumers is range anxiety -- the fear of being left without a charger when away from home. In both California and Europe, companies have sought to tackle this issue using Blockchain to create a network described as “Airbnb for EVs.”³ The idea is to allow any business or entity who owns a charging station to rent out charging time to participating drivers through a simple mobile app. Drivers buy ‘tokens’ on the app and ‘trade’ those in when they need to charge and the station owner is then paid out. Because this system is open to electric cars from any manufacturer and partners with hundreds of stations using a variety of electricity providers, the guesswork for drivers is removed.

Other use cases like Renewable Energy Credit (REC) trading, transmission exchange, and distributed market management exist and the rise of Blockchain (or other distributed ledger technologies) in the energy space will continue. While the industry is still a few years behind other sectors, like financial services and supply chain, interest and resources seem to be entering the industry.

The energy landscape is drastically different today than it was even a decade ago. We get power from the wind and sun, fracking has made the U.S. the global leader in oil and gas production, and battery storage is quickly seeing costs fall and technologies mature. The way society interacts with power is fundamentally different and the market is responding with solutions to increase efficiency and produce greater value.

In the book *Blockchain Revolution* by Don and Alex Tapscott, they state that, “The Blockchain is an incorruptible digital ledger of economic transaction that can be programmed to record not just financial transactions, but virtually everything of value.”⁴ Electricity is the fuel that literally powers modern society, meaning its value immense and the industry is ripe for technological disruption.

The views contained in this piece are those of the author and STRATA, and do not necessarily reflect the official policy or position of any other agency, organization, employer or company.

3 EV Charging Meets Blockchain, Marija Maisch, 9/29/2019, PV Magazine. <https://www.pv-magazine.com/2018/09/29/the-weekend-read-ev-charging-meets-blockchain/>

4 Tapscott, D., & Tapscott, A. (2016). *Blockchain revolution: How the technology behind bitcoin is changing money, business, and the world*.