

Testimony

before

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Committee on Energy and Commerce

Subcommittee on Energy

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Summary of Points

- LO3 Energy applies tools from energy, finance, and computing to build a blockchain platform for a community-based, peer-to-peer, real-time energy market.
- A distributed energy marketplace can leverage distributed computing power to incentivize energy use and investments in energy assets and to efficiently track energy transactions.
- Federal policy can recognize and streamline the integration of new community energy marketplaces with the wholesale markets.

Testimony

Chairman Upton, Ranking Member Rush, and Members of the Subcommittee, thank you for the opportunity to provide testimony for “Powering America: Technology’s Role in Empowering Consumers.” My name is Monica Lamb and I serve as Director, Regulated Markets for LO3 Energy, an energy technology company that enables an interactive, multi-sided marketplace to allow consumers, producers, and utilities to deploy and manage energy assets in an increasingly open and competitive electricity market using distributed ledger information architecture, built on a blockchain data structure.

LO3 Energy is a young company with deep roots in energy, finance, and technology. We

are passionate about the future of an increasingly flexible, responsive, and reliable utility grid. We are developing ways to give people and utilities opportunities to shape that future. The community energy marketplaces that we are building enable utilities and neighborhoods to share in the responsibilities and benefits of reliable distributed energy resources.

You may be familiar with the concept of the “internet of things,” the idea that our devices, machines, thermostats, automobiles and appliances are able to use built-in sensors and computing power to communicate information, coordinate with each other, and manage our environment and our energy use intelligently and independently, by following the rules that their owners program into them. Our blockchain platform activates an internet of things within the local power grid, enabling it to generate market signals that will govern and balance neighborhood loads, generation, and storage assets, and allowing them to coordinate with the broader interconnected transmission grid. Our platform enables this functionality by implementing a market in which neighbors, independent power producers, energy services companies, and utilities can choose to buy and sell energy and energy services on a peer-to-peer basis in real time. For example, a neighborhood resident may run his washing machine when electricity in the local peer-to-peer market is least expensive, perhaps when energy output from his neighbor’s solar panels reaches its peak in the early afternoon; or a department store may dial back its air conditioning when that local electricity is most expensive, for example when a local utility transformer is being over-taxed in the late afternoon on a hot summer day.

Currently, LO3 Energy is developing such a marketplace within the community of Brooklyn, New York, through a benefit corporation called Brooklyn Microgrid. The goal of this project is to enable the multi-participant marketplace for consumer choice that is envisioned by the energy regulators in New York, and likewise to improve the local community’s energy

security during extreme weather events and other emergencies.

This community energy marketplace in Brooklyn—which can be replicated in hundreds more communities around the U.S. and globally—will create a decentralized, peer-to-peer energy network that also coordinates with the broader power grid. By sending appropriate price signals for energy and energy services, these locally optimized networks engage all market participants to deploy distributed energy resources and infrastructure upgrades in the most efficient manner. These local energy resources also provide resiliency for emergencies; reduce customer costs; optimize utility infrastructure investments; and enable renewable electricity, energy efficiency, and energy storage deployments within that community. Meanwhile, the new market drives community investment and jobs, boosting the local economy.

This is a new opportunity for the energy consumer who, until now, has been dependent on the grid but not able to directly participate in, control, or contribute to the reliability or source of the electricity on the grid. LO3 Energy, and distributed energy marketplaces enabled by the internet of things more broadly, will enable consumers to truly determine their energy future—their source of energy, when they want to use that energy, and the price they pay for that energy.

The role of public policy is key to enabling the community energy marketplace. Federal policy can recognize and streamline the integration of new community energy marketplaces with the existing competitive wholesale markets operated by the Independent System Operators and Regional Transmission Organizations under FERC's jurisdiction. Policymakers can help lift roadblocks to the participation of individuals and local governments in energy transactions in community marketplaces and encourage cooperation, communication, and interaction between these new community energy marketplaces and the wholesale markets. Federal policy can clarify that behind-the-meter consumer energy assets should access energy markets on equal footing

with in-front-of-the-meter energy assets, and that distributed energy resources like batteries, thermal storage, active demand management, microgrids, and other hybrid energy resources can transact energy services in the same manner as traditional generation.

In summary, we think the community energy marketplace, enabled by the internet of things through blockchain, will be critical to enabling consumers to participate in and benefit from community-based energy resources, both under normal operations and in emergencies. We see this as a win for the consumer, a win for the utility, and a win for the grid. We are grateful that this Committee is discussing these important issues and look forward to serving as a resource as you continue these conversations.

Thank you again for the opportunity to deliver this testimony. We look forward to addressing any questions the Members of this Subcommittee have about LO3 Energy and our energy marketplace platform.