DOCKETED	
Docket Number:	20-EPIC-01
Project Title:	Development of the California Energy Commission Electric Program Investment Charge Investment Plans 2021-2025
TN #:	238220
Document Title:	Kempf and Associates Consulting Comments - Blockchain Transactive Energy is Not Just about Peer-to-Peer Energy Trading
Description:	N/A
Filer:	System
Organization:	Kempf and Associates Consulting
Submitter Role:	Public
Submission Date:	6/15/2021 2:46:37 PM
Docketed Date:	6/15/2021

Comment Received From: Kempf and Associates Consulting
Submitted On: 6/15/2021
Docket Number: 20-EPIC-01

Blockchain Transactive Energy is Not Just about Peer-to-Peer Energy Trading

Many energy system professionals in the US, particularly those working in the regulatory area, have the mistaken impression that blockchain transactive energy is all about peer-to-peer energy trading. Likely this is because the first high profile use of blockchain in energy systems in the US was the Brooklyn Microgrid Project [1] in 2015, in which LO3 Energy implemented a peer-to-peer energy trading system with blockchain technology, and blockchain enabled peer-to-peer energy services are available in other parts of the world, such as Europe and Australia, with different regulatory regimes. Peer-to-peer energy trading in the retail market is, of course, prohibited under the regulated monopoly retail market regime currently in place in California, so blockchain tends to be dismissed out of hand.

There are, however, other use cases for blockchain transactive energy. Examples include:

â€¢ Enabling retail DER prosumers to participate in wholesale grid event markets via DER aggregators without double counting the same energy towards reducing their retail bill,

â€¢ Co-ordinating DERs for providing grid services such as frequency regulation,

â€¢ Accounting for energy stored in a shared front of meter energy storage facility by DERS from multiple load-serving entities,

â€¢ Allowing a utility and a microgrid operator with renewable DERs to track the energy stored to and used from a common storage facility so that the proceeds of settlement can be properly attributed to the original source of the energy [2],

â€¢ Enabling a successor to NEM by offering prosumers energy tokens instead of retail credit which could also enable higher DER deployment in developed areas, thereby reducing habitat destruction from utility-scale projects in remote areas.

I urge the Commission to include investigation of how blockchain technologies can help improve grid resilience, reduce the consumption of land for renewable deployments, and help ensure a fairer and more equitable distribution of the benefits of renewables to California in its portfolio of investments for the coming planning cycle. The recently released IEEE Blockchain Transactive Energy Task Force whitepaper (which will shortly be available from this link: [3]) has more information on architecture and use cases for blockchain transactive energy.

Thank you for your attention.

[1] https://lo3energy.com/innovations/
[2] https://jaksv.medium.com/is-blockchain-the-solution-to-californias-microgridlock-17f4d8fd124d
[3] https://attend.ieee.org/bcte/