



# BLOCKCHAIN IN ENERGY SECTOR

A Quick Summary



CryptoIndexSeries

# ENERGY

An efficient energy system relies on a data systems which allows correct, quick and unique sharing of data with relevant actors in the ecosystem. Thus, how data is handled in decentralised electricity feeds, smart meters or grid operations is of an increasingly important matter.

Additionally, with the advancements in energy sector, consumers can also take an active role and participate in the energy-production process through distributed generation. The problem is that the traditional flow of electricity in the power systems was not designed with the concept of decentralisation in mind. This means the electricity market is largely set as a one-way, wholesale market among only a select number of intermediaries and producers. Particularly for countries with no or small energy trading systems, new markets with more participants can be created, and impactful investments can be made. The consequences for the consumer would include, but not limited to, higher security of supply, being able to produce and/or sell own renewable energy and directly benefiting from their investments. (Peter, Paredes, Rosado Rivial, Soto Sepúlveda , & Hermosilla Astorga, 2019)



Some of the areas of interest in Energy Sector and how Blockchain Technology will address these areas are summarised below (Consensys, 2019):

**Wholesale electricity distribution:** Blockchain solutions integrated with IoT devices allow consumers to purchase or trade energy directly from/with the main grid rather than retailers or intermediaries

**Peer-to-peer energy trading:** This type of energy markets would allow a shared network of individuals to trade and buy excess energy from each other. This would lead to reduced control of central authorities such as wholesale retailers

**Electricity data management:** Electricity data can be intentionally or unintentionally manipulated, misreported or omitted. The cost of such accidental or intentional errors can be very harmful to both business and governmental institutions. Distributed data ledgers provided by Blockchain solutions provide immutable records of transactions (energy usage data, payment data, etc.). This brings institutions trust over data and consumers greater efficiency and higher levels of control over their energy sources.

Other areas that Blockchain solutions will introduce innovation to include, but not limited to, commodity trading, utility providers, oil and gas resource exploration, oil and gas resource storage and transportation, refined resource management and sale (Takyar, 2019) (Consensys, 2019).







### Subsectors

Wholesale Electricity Distribution, Peer-to-peer trading, Data Management, Oil and Gas, Commodity Trading.

### Stakeholders

Electricity wholesale retailers, utility providers, oil and gas companies, renewable energy providers, consumers.

### Asset Type

The type of tokens in this sector are generally utility tokens with exceptions.

### References

Consensys. (2019, 11 27). Blockchain in Energy and Sustainability. Consensys: <https://consensys.net/enterprise-ethereum/use-cases/energy-and-sustainability/>

MerlindaAndoni, V. R. (2019, February). Blockchain technology in the energy sector: A systematic review of challenges and opportunities. *Renewable and Sustainable Energy Reviews*, 143-174.

<https://www.sciencedirect.com/science/article/pii/S1364032118307184>

Peter, V., Paredes, J., Rosado Rivial, M., Soto Sepúlveda , E., & Hermosilla Astorga, D. (2019). Blockchain Meets Energy, Digital Solutions for a Decentralised and Decarbonised Sector. German-Mexican Energy Partnership (EP) and Florence School of Regulation (FSR), The German-Mexican Energy Partnership is an initiative by the Federal Ministry for Economic Affairs and Energy (BMWi) and the Ministry of Energy of Mexico (SENER). .

Takyar, A. (2019, 11 27). Use Cases for Blockchain Energy. LeewayHertz: <https://www.leewayhertz.com/blockchain-energy-use-cases/>



### Authors



Gokce Phillips, PhD  
Co-founder  
Crypto Index Series LLC  
+905417979570  
gokce.phillips@projesium.com



Ibrahim Kiceci  
Market Research Expert  
Crypto Index Series LLC  
+905301568323  
ibrahim.kiceci@projesium.com



contact@cryptoindexseries.com



<https://www.cryptoindexseries.com/>



#### About this publication

All content provided here in this report is for your general information only. Information is based on sources considered to be reliable, but we make no warranties of any kind in relation to our content, including but not limited to accuracy and updatedness. No part of the content that we provide constitutes financial advice, legal advice or any other form of advice meant for your specific reliance for any purpose. Any use or reliance on our content is solely at your own risk and discretion. You should conduct your own research, review, analyse and verify our content before relying on them. Trading is a highly risky activity that can lead to major losses, please therefore consult your financial advisor before making any decision. No content on our report is meant to be a solicitation or offer.

Copyright © 2020 CryptoIndexSeries Ltd. All Rights Reserved.