

INTERVIEW: “Blockchain could replace GOs”

(Montel) Blockchain could be a more efficient guarantee of origin (GO) for electricity as the technology enables market participants to track electrons across the system in real time, said Lauren Schmitt, secretary general of Entso-E.

Blockchain “could replace certificates of origin, which we know don’t have much value as they show the average of energy over the year”, Schmitt, of the European TSO association, told Montel.

By making a trading chain fully transparent, blockchain is able to verify transactions and reduce counterparty risk without the need of a broker or clearing house, enabling participants to save on market access and transaction fees via an automated system

“Blockchain will find its role with aggregators or retailers more than grid operators. If we start to have retailers using blockchain who want to guarantee the origin of the power, then we as grid operators can be a part of validating that,” Schmitt said.

“It will also play a role in energy trading a few years down the line.

“If one consumer or community is short of renewables and another is long, then the grid operator can play a role as trusted party to enable the trading of this power through the blockchain. But that’s [provided] renewables have the same dispatching rules as all other forms of generation,” he added.

In November, Belgian energy management firm Yuso and Dutch firm Priogen Trading transacted the first energy trade over blockchain, in a 1 MW deal for EUR 45/MWh

Schmitt, who comes from a background in IT and smart grids, became secretary general of Entso-E on 1 January, replacing Konstantin Staschus who previously held the position for eight years.

Transformation

Europe’s energy system is on the cusp of a digital transformation, said Schmitt.

“For instance, smart meters and grids will be rolled out and will provide much more data to network operators, who will have much better information to

operate their wires more effectively.

“If you have a smart meter with a PV panel this will provide real-time data back to the system. At the moment TSOs have no view on what gets injected into the grid,” he said.

Isn't this mainly the domain of the DSOs? “The grid is a single system and cannot be dispatched totally ignoring what happens [at the DSO level],” he said, highlighting the problem of “loop flows”, which are largely due to “unseen” renewables production.

Grid operators would be vital in increasing the market participation of “prosumers”, demand response and incentivising storage, Schmitt said.

The energy system was evolving from limited numbers of generation units whose marginal costs were largely dependent on fuel prices towards millions of distributed sub-systems capable of producing at zero marginal cost, Schmitt wrote in a blog in November.

Grid operators call them prosumers – an abbreviation of producer and consumer – market participants who seek new contractual arrangements to define their role and responsibility into the overall system, he added.

Pilot project

Schmitt highlighted the example of the Nice grid, which integrated prosumers into a “micro, community-based grid” and passed the data back to the TSO.

By 2020, he expected 50bn grid devices integrated through prosumers and prosumer virtual power plants to be connected to each other worldwide.

TSOs and DSOs will in the future sit on a huge amount of data. How can grid operators balance the needs of market transparency and data privacy?

“We need recognise that data privacy imposes on us to consider consumer data protection,” he said, adding if consumers opted to provide data to a DSO/TSO, they must be informed of what benefits they would get from providing it, by optimising their use, production and storage of energy.

“Once we have the data, the question is what we do with it. Shall we anonymise it? Is there a business model for TSOs in selling this data?”

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