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Q&A-Blockchain to make distributed energy markets more efficient, secure; New energy market dynamics uncertain for PE: Jemma Green, Power Ledger



As distributed energy markets grow and mature, the use of blockchain will efficiently solve complexities at scale and ensure security, **Jemma Green, CEO at Power Ledger and former VP of sustainable finance at JP Morgan**, told the Reuters Global Markets Forum on Tuesday, May 4.

Green said over \$300 billion per year had been spent on new energies for the past six years, and that this trend is expected to ramp up leading to the 2030 corporate and country targets.

Green said even though private equity players could viably operate fossil fuel assets at a lower income base or lower utilisation, there was quite a bit of risk for PEs to take on as many plants' closure dates were being brought forward suddenly.

"The new energy market is very uncertain at this point, not in terms of whether it will exist, but the dynamics in it," she added.

Following are edited excerpts from the conversation:

Q: What are your thoughts on the general progress of digital energy transition targets, and if they are going in line with formal commitments that countries have made?

A: Europe is implementing its Clean Energy for all package (CEP), which was a direction for member states to implement local laws on energy-sharing by the end of 2021. Austria and France are first on that front. We see the European market as most progressed.

In the U.S. FERC2222 (Federal Energy Regulatory Commission's Order 2222) is really key too -- that will see a lot happening around prosumers being able to trade into the wholesale markets directly in the next year or so.

In India, we see places like (the states of) Uttar Pradesh and Karnataka leading the distributed energy story. India has done a lot on large scale renewables, but (in) distributed, they have some catching up to do.

Q: How can better and wider adoption of green-energy transition targets be enabled? Are financial sops the way to go, especially to developing countries?

A: We are moving out of a subsidized feed in tariff era into a market mechanism phase. This is important with larger penetration of renewables in systems, so we need price signals to build energy where and when its needed, or otherwise grid stability issues start to manifest.

Q: What sort of financing mechanisms are needed to facilitate the developing world's move to cleaner energy? Would a reduction in import taxes on green parts by countries or renewable energy certificates help?

A: I think modular financing is really important, microfinancing to start building small energy systems that can be scaled up into microgrids that eventually become interconnected grids. Renewable Energy Certificates or RECs provides a price signal to build new renewable assets so that the green attributes can be monetised. We have a partnership in the U.S. with one of the largest REC registries, M-RETS (Midwest Renewable Energy Tracking System), where we are connecting to their registry to allow trading of RECs - that have additional identifiers in them on time and place where the REC was created. Corporate leads are starting to match their REC buying against their load profiles.

Q: How does blockchain help in this space? If it's for creation of market for trading renewables, don't such markets already exist?

A: Distributed energy markets are nascent. As they grow and mature, the complexity of them will be significant. Complexity at scale is something that a blockchain can do very efficiently -- it's also more secure. It's like supermarkets and barcodes; you don't go to the

supermarket because of barcodes, but they make the experience more seamless and efficient with stock control and processing through the checkout.

Q: How much of the onus to get developing countries to get on board should fall on the developed world?

A: I think there is a significant role to play in these respects. Multi-laterals like the IFC (International Finance Corporation) and World Bank, but also direct support in country.

Q: What are your plans for India and China, two of the largest solar markets in the world?

A: So far, we have several things going on in India. We are working with the India Smart Grid Forum, the state of Uttar Pradesh and Tata Power with P2P (peer-to-peer) energy trading trials seeing how they can help renewables be scaled without subsidy.

Q: In terms of the global renewables target, could you tell us what sort of annual average capex is required, over what period of time, how much of that has been achieved, and how do you see it progressing from here?

A: Consistently for the past six-plus years, more than \$300 billion is spent per annum on new energies. We see this trend continuing and also ramping up further in the lead up to 2030 and to meet corporate and country targets.

Q: Are you worried about the carbon footprint left behind by crypto assets mining? In conversations with crypto-investors, many of them seem to believe that crypto-mining will move quickly to green/clean resources. Do you agree?

A: Different blockchains have different energy consumption profiles. Proof of work tend to be more energy hungry and there is a push to decarbonise the energy sources. Proof of stake are no more energy hungry than a regular database.

Q: Given the record inflows into clean energy funds, are you concerned by concentration risks?

A: I think there is a pretty diverse amount of developers and asset owners in the larger markets. Concentration risk is something of a concern in smaller jurisdictions. Gaming energy pricing in wholesale markets is something that needs to be thought about, but having distributed energy markets and local energy markets deals with this very effectively, and quarterises any perverse activity in a system. In Australia, two-sided markets should help with this, in addition to the CEP in Europe and FERC2222 in the U.S.

Q: If private equity (PE) picks up stakes in fossil fuel assets that conventional corporates are looking to cut exposure in, would a transition to a greener world be delayed, even doomed?

A: If private equity picks it up at a discount, they can viably operate assets at a lower income base or lower utilisation, but really, it's an inevitable situation that won't be delayed for much longer. We've seen planned closure dates for plants be brought forward suddenly and this is a lot of risk for PEs to take on. The new energy market is very uncertain at this point, not in terms of whether it will exist, but the dynamics in it.

Q: How do you see resource-dependent nations like Russia positioning for a greener future? Do they work to internally trim resource-use, like Norway has, to allow for a bigger exportable surplus?

A: Short-term you can trim but longer-term that will lead to contractionary economic outcomes, i.e. recessions. It's not sustainable. Countries will need expand their energy bases, so a transition will be needed to be embraced sooner or later. The later, the more destruction of value.

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