

Conversation with Electron on locational pricing



Who is Electron?

Electron's configurable market platform, ElectronConnect, allows electricity system and network operators, renewable generators, and flexible energy consumers to optimise their use of both variable renewable power and network capacity based on time and location. Electron is using its platform to help network utilities in the UK, Europe, and North America to launch and scale local flexibility markets.

We spoke with Jo-Jo Hubbard (CEO) and Nick Huntbatch (Head of Product) to hear more about their views on locational pricing.

Why are stronger locational signals important to your innovation? Do you have a preference on the strength of locational signal?

Electron's software supports the launch and operation of new flexibility markets that are time and location specific.

As such, our product is predicated on the need for a such a price overlay to unleash the efficiencies of using network capacity and renewable generation more efficiently for a faster, cheaper Net Zero grid.

How our platform enables that changes under the three broad buckets:

- 1. The current, single national price, approach results in increasing levels of redispatch required via the Balancing Mechanism (BM) (5% of national demand in 2012, to >50% now), and inefficiencies with 'local' markets and services that are attempting to do the same/similar things (e.g. BM versus NGENO's Local Constraint Market). This may limit our ability to scale the use of our technology, as existing processes designed for a single national price collide with the need for local price signals and actions - that need is clear, given the increasing requirement for redispatch.*
- 2. Zonal market clearing may lead to infeasible power flows due to network constraints - where network constraints are not accounted for in market clearing as the zones do not reflect network congestion. This results in increasing levels of redispatch as grid congestion increases in GB, so we are in a similar position as with a single, national price.*



3. Under nodal pricing the area of the trade is consistent with the physics of the transmission network, and as such there should be less requirement for redispatch. **Our technology fits best with this nodal pricing world, where actions taken within markets and services align with system needs.**

Our business predicated on the idea that there's value for greater locational signals, and as such we do not even conceive the potential for the status quo to hold and that no change in locational signals is brought forward.

Are the other options on the table within REMA, such as alterations to the Balancing Mechanism, as important?

Firstly, REMA shouldn't be considered separately to "tweaks to the BM"; the BM is being overhauled anyway under the Open Balancing Program, to a new "ecosystem of services" approach that can support new balancing products and tools as well as third party platforms. ElectronConnect can still add value here, in an 'evolution only' world where the existing processes are evolved. However, the extent to which new trading value can be unlocked will depend on how that evolution progresses and the decisions made at each stage.

Ultimately, as noted in point 1 above, there is a danger that following the 'evolution only' approach will limit the ability of technology such as ours to provide the most benefit to the system and end-consumers. Clarity on sharper locational price signals, and liquid markets to solve for them at a zonal or nodal level, will unlock the adoption of new trading platforms such as ours to correct for constraints behind the definitions of those zones or nodes.

Are there other issues you think should be flagged?

It is worth noting that many of the ongoing initiatives to update (e.g. IT infrastructure, connections, data sharing, etc.), will be required in any case, and it is important that solutions that promote locational price signals have the ability to adapt to changing functional and non-functional requirements.

Where can people find out more about Electron?

Visit our website at: <https://electron.net/>

