

Decarbonised and Democratised Energy? – the future is Asset Centric



A perfect storm of regulatory and technology change will see Asset Centricity dial up to 11, technology innovation expert Neil Pennington [tells Engerati](#).



The energy supply market is in trouble. Traditional margins have been eroded and are heading towards 2%; the holy grail of consumer engagement with their energy, promised by the smart meter roll out has (so far) failed to capture the imagination of customers; technology and regulatory change is starting to gather pace.

The traditional energy supply model has been based on providing a single contract to a single household and rely on inertia in switching, along with modifying tariffs to keep people just about interested, to maintain customer loyalty. Innovation has largely been unimaginative and limited to adding a discounted device (such as a thermostat) to a tariff to increase sales.

The problem has been that while this may provide a cheap way of a customer obtaining a cool device, it fails completely to achieve persistent and constant engagement.

All this is changing, and radically. In the last year, moves made by incumbent players and the entrance of new technology platform-based players are pointing the way. Further advances in decentralised technology and artificial intelligence, combined with regulatory change will see a shift from customer centricity to asset-centricity.

When we look back on the 2020's we will find that the decarbonisation and democratisation of the energy system will be defined by connecting to all assets owned by customers and communities, before and behind the meter. Enabled by regulation and the requirement to be open and interoperable everywhere – connecting and optimising the performance of each individual asset, ensuring all attributes (energy, carbon and others) can be accessed and traded, *through real-time verified connectivity*, will be fundamental to business success.

The future is Asset Centric.

Retail is “shaking out” and established players are having to change

Until relatively recently, the “Big 6” Energy Suppliers were largely able to ignore new entrants as they had been carbon copies of themselves, albeit with a lower cost-to-serve (from agile, low cost SaaS IT Systems, and staying small enough to avoid regulatory overhead) and an app-driven culture.

It is perhaps understandable that a market that has been slow to change since competition was introduced in the mid 1990's, coupled with the news of smaller entrants failing, and Ofgem tightening the award of new licences, could be taken as evidence that maintaining the status quo will win.

But this is a dangerous mindset to have, and there is clear evidence that energy companies have become much more aware of the need to turn rapidly to new business models driven by technology, enabled by regulation and the emergence of new technology platform-based competitors.

Some of the moves that have been made by the more established energy suppliers can be described as follows:

EXTENDED BUNDLE (e.g. Utility Warehouse)

Energy suppliers seeking alternative vehicles to bring broader service “bundles” to market e.g. telecoms, Home Services.

ACQUIRE AND INTEGRATE (e.g. Shell Energy, Centrica)

Large players, recognizing they need new capabilities in their portfolio, acquiring new technology companies (suppliers, aggregators, batteries). The biggest challenge will be to integrate these quickly enough, whilst navigating different cultures and organizational self-interest.

ACQUIRE & PIVOT (e.g. OVO Energy)

The most notable of early new entrants who survived the onslaught of price-led competition, growing by acquisition of energy customers and then pivoting into cross-vector markets such as electric vehicles and telecoms. This strategy will likely see the spin-out of pure platform plays.

Recent, disruptive new entrants are built around technology

The cohort of new entrants now entering the market are an altogether different proposition. They share a common belief that technology, artificial intelligence (AI) and machine learning (ML) are the keys to success in a dynamic energy market, albeit exercised in different ways. There are two approaches of note:

FINTECH PLATFORM (e.g. Octopus Energy)

Enabled by a strong financial backer, with a clear statement to the market that they do not need to be immediately profitable, Octopus will take a long position to leverage a leading CRM and energy-flow platform, based on experience in fintech, taking positions across all new business models: community, city, reseller, electric vehicles. They continue to recruit developers and to license their platform-approach to other ventures in the UK market and abroad.

Perhaps the most interesting new entrant and the one closest to “Asset Centricity” is Social Energy.

“ASSET” TECHNOLOGY (e.g. Social Energy)

Connecting to assets “behind the meter” to secure value across markets; use of AI to optimize asset performance and availability, ultimately to aggregate loads in return delivering “up to 70%” savings to consumers. Social Energy have entered the Australian market and the future success of their business model will be to assemble scale through building a “VPP behind-the-meter”.

Asset Centricity is about to redefine the business model for power, heat and transport

Perhaps the most important factor in asset centricity, is that it is truly “cross-vector” and does not respect traditional sector boundaries. When we are able to define an asset, give it a unique self-sovereign digital identity, prove the origin and the usage of attributes such as carbon ... that asset can interact in all environments and systems; provided the provenance of its interactions can be established. The technology, from IoT metering through connectivity to the blockchain-based platform, is available to rid the world of estimates and provide true visibility of all transactions.

The fundamental importance of Asset Centricity is about to “dial up to 11” as regulatory change becomes aligned to technology change in a “perfect storm”:

- Open Data, Open Asset Registers – the Energy Data Task Force (EDTF) has cut through regulatory inertia to enable the main regulatory bodies to provide a clear strategic requirement and make funding decisions against: no more proprietary closed platforms.
- P379, P375 – due in mid-2021, specific changes to regulation that allow multiple suppliers in a household; breaking the monopoly arrangement of single supplier per MPAN and enabling individual assets to be accessed and traded on different exchanges.

- Low cost sensors (IoT meters), secure connectivity – allowing direct onboarding of assets at significantly lower cost than today, which enables attributes such as carbon to be tracked and settled in real time.
- Open standards for identity and public blockchain (Energy Web Foundation) – the secure, trusted digital operating system to enable all claims from every asset to be verified and accessible to whoever has the correct permissions.

The result is a whole new world:

- No longer the monopoly position of one supplier to one household. Soon multiple suppliers to multiple assets in the household (from PV, battery, fridge, EV, EV charging point); soon assets programmed to activate or not activate depending on their own self-interests; soon those assets able to switch between energy suppliers at very frequent intervals within day.
- No longer reliance on estimates or lack of visibility of carbon. This world brings with it the ability to verify carbon intensity from origin to usage, which will be revolutionary for our fight against climate change.

Imagine a World ...

Imagine a world where your electric vehicle is under contract to one energy supplier and the rest of your home another energy supplier. You plug your EV in at home and your assets make autonomous decisions about when to generate, store and consume, according to your preferences and also the offers coming from neighbours and the local grid. Imaging that this can happen every 15 minutes. Now imagine that your house can also to switch from its supplier to the EV supplier to secure even more value, and then back again. Imagine also that, for each transaction, carbon can be accounted for and valued directly with absolute certainty. This is the future.

For those who respond with the usual “no one will go for this as it’s too complex and I don’t want to think about it”; you won’t; your assets will do this for you; your service providers will need to focus on making the experience easy and demonstrating fast return of value.

Service providers (be it energy suppliers, EV providers, aggregators – in fact current labels become obsolete in this world) will need to embrace digital identity, blockchain, AI, ML and combine this with great UX/UI and social engagement to compete in this world.

Products and platforms based on open standards and decentralised technology (such as the EW-DOS and others), that can identify and connect, optimise and trade, and bill and settle hundreds of millions of transactions will also be key – as will the ability and will of energy companies to incorporate into their business operations.

Excellent Retail Brands (such as Apple, Amazon, Facebook) will capture the customer and viral gamers (those behind Fortnite, Call of Duty) will continue to capture the imagination. With innovation and technology, energy sector companies may just be able to capture the asset.

Stay connected with this author for one or two exciting developments in this area over the coming months.

About the Author:

Neil Pennington is an innovator, experienced in decentralised technology, blockchain and digital identity, including micropayments, secure messaging and decentralised energy. He has advised the Energy Web Foundation, energy sector companies and the Commonwealth. Neil has deep, senior-level experience of the energy sector with companies such as BG, PwC, IBM, RWE (Innogy) across networks, retail, energy services, smart metering and IoT. An advocate for the ID2020 Summit, and a frequent speaker and writer on innovation, energy, and blockchain, Neil has a BSC (Hons) in Physics, a PhD in Electrical Engineering, and an MBA from the London Business School.

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