

Every industry in the UK should be aiming for the same goal, net zero by 2050. For many industries, this is a daunting task and the biggest challenge to company strategy. No industry is feeling this pressure more than the energy sector, specifically those concerned with the maintenance and operation of the electricity grid. With the move to net zero, low carbon technologies are key, and studies have indicated this could almost triple the electricity demand in Great Britain. [1] The change the energy industry is undertaking is unprecedented. While all businesses are making changes, distribution network operators must provide the framework to make this change, and therefore net zero, possible. How is open data helping with this? The answer is simple, better data acquisition allows better analysis and therefore better decisions. Data sharing allows customers and stakeholders to assess opportunities and participate in markets, operate existing sites, and inspire innovation. [2]

Digitalisation is integral to decarbonisation and data is integral to digitising the energy supply. Data provides the ability to understand what is occurring on the network in real time, the changes in demand and allows future forecasting to form a strategy. At an industry level, data is essential to inform operational decisions and investment in infrastructure. Data is key to maximising the efficiency of the already existing network, and to identify pinch points for upgrading capacity. [3] This will be critical to the energy sector, as future requirements of the network can be predicted but the speed in which this will need to be implemented not yet fully understood. Collaboration and sharing of data between all network operators is vital and will allow consumption patterns, constraints and user needs to be understood and visualised like never before. Whilst this may appear trivial, it will require significant commercial behavioural changes within many organisations. In return this will allow organisations to design new products and services while having a true understanding of what customers need. [4] Open data promotes smart investments and innovation that can help catapult energy companies towards net zero.

Education and accountability, regarding network capacity particularly with regards to flexibility services and connections will be vital to the next decade. A huge part of the strategy energy companies and therefore consumers will have to adopt for net zero centres around flexibility. To reduce cost and the likelihood of network overload, customers will receive faster, cheaper connections to the network and in exchange they will accept an agreement for the effective capacity to be reduced under certain conditions. For example, peak usage periods or unplanned outages when the grid is under abnormal strain. In the case of an EV charger for example, they may be required to provide power back to the grid. [5] However, the current level of public education surrounding the requirement for flexibility is poor. This is where open data could prove critical. Educating the public will require access to data such as constraints of the network meaning customers are more likely to adopt a flexible connection strategy. This combined with financial incentives will allow the energy industry to smooth the demand, in effect helping to triple the 'capacity' of the grid by 2050. This will allow time for further investment and network upgrades to be made. Open data also promotes active participation in customers energy supply, with more opportunities than ever seen before to be a part of how electricity is managed and provided to users. This enables accountability, which is crucial on both an individual and industry level to make better choices and improve consumption behaviours to continue towards a sustainable future.

The availability of open data and the requirement for accurate data in the energy sector is not just crucial for the next decade but looking towards a more sustainable and greener future. Open data has a massive number of benefits, from innovation, investment, education, optimisation, and affordability. The energy sector must lay the foundation for the UK to achieve net zero, open data is an essential tool in achieving this. It is no small task, one in which every person and industry must actively participate to ensure we keep the lights on while moving towards the greener future we must achieve.