

Topic – ‘Regulatory Perspective: Digitalisation and Net Zero’

Intro... Ofgem – the Office of Gas and Electricity Markets.

Ofgem is the independent regulator for GB energy sector. Our role is to protect consumer interest by working to deliver a greener and fairer energy system. Our strategic vision is for an energy system to be on track for net carbon zero, and: the energy consumers to receive good value energy services and fair treatment from innovative world-class energy companies. We envision an electricity system - which is able to function without fossil fuels; will have a rapid growth in the use of heat pumps, electric vehicles and Increasing the level of flexibility throughout the system, with energy consumers routinely using smart technology to shift demand and minimise the cost.

This will result into a data enabled sector, with smart metering and open access to data which stimulates new services and markets.

Data and digitalisation are transforming economies across the globe, in sectors ranging from banking to transport and to healthcare. Now it's the turn of energy, with digitalisation an essential enabler of the rapid decarbonisation which we need to avoid catastrophic climate change.

In April this year, the UK government announced a world-leading climate change target, the sixth Carbon Budget, to reduce emissions by 78% by 2035 compared to 1990 levels, which is on a pathway to net zero greenhouse emissions by 2050. In the energy sector, we will need to deploy millions of low carbon technologies – including solar panels, heat pumps, and electric vehicles. Electricity from the sun and wind will need to be balanced, second-by-second, with the energy demand from our homes, businesses, and vehicles. Consumers will be able to choose from a range of smart technologies, tariffs and services to maximise their use of renewable energy whilst keeping their bills low. The benefits of this future ‘flexible’ low carbon system are significant in enabling faster and lower cost decarbonisation. However, it will only be possible if we harness the power of data and digitalisation across our energy system.

In July this year, Ofgem and BEIS, working with Innovate UK jointly published a Strategy & Action Plan on ‘Digitalising our energy system for net zero’. This provides a vision, approach, and suite of actions for digitalising the energy system so that we can meet our net zero ambitions. This strategy was published alongside the government and Ofgem’s new Smart Systems and Flexibility Plan, which sets out how we will utilise technologies such as energy storage and flexible demand to integrate high volumes of low carbon power, heat and transport onto the energy system. Digitalisation enables the system to operate flexibly, optimising assets across our networks so that they can be integrated at least cost to consumers. Consumers will be at the heart of this system. They will need to be provided with the right information so that they can choose the right tariffs and services that help keep their bills down whilst helping the system decarbonise. There will be more ways for consumers to actively participate in the energy market, including selling energy generated from their rooftops or using smart controls to shift their demand to periods of the day when prices are lower. This will require an enormous step-change in the system’s ability to understand and react to its increasingly complex energy flows. The success of this step-change relies on the digitalised exchange of data to facilitate an energy system which can accelerate, automate, plan, and anticipate processes far better than at present. All parts of the energy system – demand, supply, markets, networks – need digitalising to create a more efficient ‘whole system approach’.

The sector has already taken good strides to overcome these barriers, but much more needs to be done... and the data landscape is continuing to evolve. Ofgem is doing its part by encouraging better use of data to modernise regulated activities by the market and regulation itself. Effective use of data can provide valuable insight for consumers and marketplace intermediaries. We are promoting more effective use of data, including increasing its openness.

We are facilitating industry coordination around data best practice to promote competition and transparency in the energy market, as well as lowering barriers to the innovation of new and better products and services.

The independent Energy Data Taskforce, commissioned by BEIS, Ofgem and Innovate UK, made recommendations on digitising the national energy system to enable modern best practice use of data. Working with the energy sector and data experts from other markets, the Taskforce made five recommendations for how to make the most of data for the benefit of energy consumers. Overall, it urges digitisation of Britain's energy system and openness when working with its data. Through this the energy system will deliver better services for consumers.

Ofgem agreed with Taskforce's report and believe data plays a crucial role in enabling competition and innovation to drive down prices for consumers and provide them with new products and services. We are working with BEIS, consumer groups and the industry to ensure that better use of data unlocks a brighter future for energy consumers.

Today we are at JRC's annual conference, as we know JRC enables radio telecoms connectivity for network companies and across the sector. The role which the utility telecoms will play in enabling the digitalisation and flexibility cannot be underestimated. Well-developed utility telecoms will underpin this enormous task of collecting data from energy assets, and enabling data exchange between market players and the consumers. From my personal experience, if we take example of electricity distribution networks, telecom services and technologies have developed over time mainly around individual power system applications, not as a kind of telecoms system, and have often been left behind the developments in mainstream telecoms sector. This resulted in the creation of isolated islands and bespoke mix of telecom technologies. However, significant technological developments have taken place on this in the last decade and utility telecoms will now need to evolve further quite rapidly. And will need to rise up to the challenge of supporting the need for digitalisation of the sector, enabling flexibility and achievement of net zero targets. JRC is already doing excellent work in the sector, and also leading on the new utility telecoms themes. I hope you've a great day today at this year's JRC conference... and Thank you for inviting me along.