



## Harnessing the Power of Data in UK Retail Energy Market

**Caroline Gundu, YEP and Senior Energy Consultant at CGI, looks at the fundamental necessity of smart metering data and the current challenges within the retail chain.**

The UK energy sector is undergoing a seismic transition. A transition driven by rapid advances in technology, demographic and social change, but most importantly data. I believe the impact of this transition is greater than the shift from being a nationalised sector to privatised. We are living in an era of accelerated technological advancement, characterized by new innovations, whose rapid application and diffusion are causing an abrupt change in society and disrupting traditional consumer behaviour. UK energy retail businesses are under unprecedented pressure to rethink their business models against this backdrop of technological disruption and the need to understand data to best serve their customers<sup>i</sup>.

A great awakening throughout industry's value chain has taken place in acknowledgement of this. A key indicator is the establishment of the independent Energy Data Taskforce, commissioned by the Department for Business, Energy and Industrial Strategy (BEIS), Ofgem and Innovate UK, which has made recommendations on how the national energy system can unlock value for itself through the use of data.<sup>ii</sup> The government endorses the recommendations from the Taskforce and is working with industry stakeholders to implement them. Data is a fundamental enabler of smart and flexible solutions for accelerating innovation, driving competition and decarbonising the energy system<sup>iii</sup>. It will be interesting on how these changes will develop in the retail sector.

Annually, CGI leaders meet face-to-face with business and IT executives from the utilities sector to discuss our clients' perspectives on the technical innovations and trends affecting their sector, including both the business strategies and IT priorities. Becoming digital to meet customer expectations remains a top trend in 2019<sup>iv</sup>, this includes an extensive focus on security measures. It's evident that the future of the energy retail market lies in harnessing digital capability to accommodate evolving consumer expectations and technological advances, while ensuring sufficient data protection is in place for consumers, regardless of their level of engagement. Well thought through and securely managed data is intrinsic to this revolution.

The introduction of smart meters is a game changer because they enable the measurement and reporting of property-level energy consumption<sup>v</sup>. Once the smart meters are fully embedded in all homes across GB, smart meter data will provide tremendous insight into consumer behaviour and will allow businesses to tailor products and services to customers while achieving significant operational efficiencies through careful analysis of the data provided. Data will be more granular, accurate and frequent (near real-time) and will require no intervention from the consumer, yet allow increasingly accurate settlement and efficiencies in load management throughout the energy supply chain. This data will can be accessible to consumers via Consumer Access Devices (CAD) and will support in leading behavioural changes in energy consumption<sup>vi</sup>. The business case for smart meter investment from both industry and government depends upon harnessing the flow of data that will be generated from the devices.<sup>vii</sup>

To harness the power of smart data, energy retail businesses will need to think long and hard on how to extract value from this information. The high-quality, granular energy consumption data captured by smart meters will unlock unprecedented opportunities for the energy retail sector and beyond. The breadth and



depth of data available could fundamentally change how companies supply energy, how consumers engage with it, and how society views the benefits of energy system.<sup>viii</sup> For businesses, there is an opportunity to engage with consumers and enable them to manage their energy usage more effectively, driving energy efficiency and reducing household bills through the sharing of these insights.

External stakeholders such as the Smart Energy Research Lab (SERL) previously known as the Smart Meter Research Portal (SMRP) are leveraging this consumption data to gain a better understanding of energy usage in the UK for scientific research in the public's interest. Retail energy companies will increasingly be driven by the need to productise the data, innovate in their customer relationships and must therefore invest in additional IT capabilities in advance analytics and secure data storage to support such aims.

As exciting as a smart data driven retail energy system is, there are still many challenges, particularly with Cyber Security, Data Privacy and Data Protection. Consumers are becoming more aware of the value of their data and the potential for companies to profit from them without their knowledge or consent. As a result, consumers may err on the side of caution in their willingness to share data. The role of the consumer should not be underestimated as they are the gatekeeper to access smart data. It is the consumer's choice as to whether they have a smart meter and then who they permit to access any data generated by the smart meter that is considered to be personal. Identifiable energy consumption data requires opt-in consent from each individual<sup>ix</sup>.

According to the "Digital utilities: from behind the curve to innovation" study by CGI and PAC, consumer acceptance and security concerns are viewed as the biggest obstacles on the path to full and successful deployment of smart meters. I think this is due to the consumers' lack of understanding of the level of granularity of smart meter data and how it will be for their ultimate benefit. To mitigate this, I think energy companies, with the support from consumer expert groups, have a responsibility to campaign, educate and engage consumers and other industries about the benefits of smart data. This engagement activity cannot be left to chance or other stakeholders outside the energy industry, because if neglected there is a risk they are not fully leveraging the benefits and influx of high quality energy consumption data.

<sup>i</sup> Mayes, N. (2017). **Digital Utilities -From Behind the Curve to Innovation - Trend study Digital Utilities: From Behind the Curve to Innovation How Europe's energy and water retailers.** [online] Available at: <https://www.cgi-group.co.uk/sites/default/files/2019-03/digital-utilities-report.pdf> [Accessed 7 Nov. 2019].

<sup>ii</sup> **Energy Data Taskforce.** [online] Available at: <https://www.gov.uk/government/groups/energy-data-taskforce>.

<sup>iii</sup> **Leading on Clean Growth the Government Response to the Committee on Climate Change's 2019 Progress Report to Parliament -Reducing UK emissions.** (2019). [online] Available at: <https://bit.ly/2Nu3wmr> [Accessed 7 Nov. 2019].

<sup>iv</sup> Cgi.com. (2019), **CGI Client Global Insights for Utilities,** [online] Available at: <https://bit.ly/34CwVAB> [Accessed 5 Nov. 2019].

<sup>v</sup> Webborn, E. and Oreszczyn, T. (2019). **Champion the energy data revolution.** Nature Energy, [online] 4(8), pp.624–626. Available at: <https://go.nature.com/2W18hvd> [Accessed 5 Nov. 2019]

<sup>vi</sup> BEAMA (n.d.). **CONSUMER ACCESS DEVICES APPLICATIONS FOR DATA IN THE CONSUMER HOME AREA NETWORK (C HAN) AND WIDER MARKET CONSIDERATIONS.** [online] Available at: [www.beama.org.uk/asset](http://www.beama.org.uk/asset). [Accessed 5 Nov. 2019]

<sup>vii</sup> Mayes, N. (2017). **Digital Utilities -From Behind the Curve to Innovation - Trend Study Digital Utilities: From Behind the Curve to Innovation How Europe's energy and water retailers.** [online] Available at: <https://www.cgi-group.co.uk/sites/default/files/2019-03/digital-utilities-report.pdf> [Accessed 7 Nov. 2019].

<sup>viii</sup> **The Future of Energy The future retail market and customers' relationship with it Report** (2019). [online] Available at: <https://bit.ly/32iolzC> [Accessed 5 Nov. 2019].

<sup>ix</sup> Webborn, E. and Oreszczyn, T. (2019). **Champion the energy data revolution.** Nature Energy, [online] 4(8), pp.624–626. Available at: <https://go.nature.com/2W18hvd> [Accessed 5 Nov. 2019].

**Ofgem, data and cyber security.** <https://www.ofgem.gov.uk/about-us/ofgem-data-and-cyber-security>. Published November 27, 2018. Accessed November 8, 2019.