Terms of Reference for the Energy Data Taskforce

Context

An Energy Data Taskforce is being established to develop a set of recommendations for how industry and the public sector can work together to facilitate greater competition, innovation and markets in the energy sector through improving data availability and transparency. This is in line with the Government's Industrial Strategy, Clean Growth Strategy and the Smart Systems & Flexibility Plan that set out the importance of data and artificial intelligence to a low carbon, flexible and affordable energy system.

The GB energy landscape is undergoing significant change driven by decarbonisation, more distributed resources on the system, rapid advances in technology and the emergence of new business models. Data is intrinsic to this changing system. Optimising the energy system will require much better data transparency and access whilst ensuring appropriate security and data protection measures.

We are therefore setting up an Energy Data Taskforce to undertake a review of the data landscape, identify gaps and make recommendations for how data can be used more effectively in the energy system. The focus of the Taskforce will be on improving data flows to optimise the operation of the energy system. The efficient integration of solutions such as demand response, electric vehicles and storage may require better handling of real-time data, improved forecasting capabilities and better access to data for new players in the system. Improving data visibility to participants in the energy system is expected to increase competition in existing and enable the creation of new markets and address barriers, where parties holding data for commercial purposes prevent market opportunities for other participants. With the participation of Government, Ofgem and the sector, we will draw on the skills and experience from the wider data and digital economy to inform the outcomes.

Objectives

The aim of the taskforce is to produce a report that identifies how to move from the current data landscape to one where competition and innovation are enabled by more open, richer data. The report will include:

- A list of the key data or data sets that are held by industry, Ofgem, Government or other parties, their main attributes and who would benefit from accessing them, and which should be made public, under what conditions;
- A list of specific data or data sets that need to be improved or do not yet exist but whose existence would make the energy system work more effectively;
- Proposals or options for data architectures (e.g. optimising data flows or modes of transfer between energy system participants) and data formats (e.g. standardisation, interoperability, the level of granularity and frequency it is updated);
- Proposals or options for the roles of different parties in governing data in the energy system; and
- Proposals or options for managing risks associated with data in the energy system.

Scope

The main areas for the Taskforce to consider will be:

Area	Challenge for the Taskforce
Data Availability and Value	• Who holds existing data sets, how robust/accurate are they, and what are they used for? • Which relevant data sets are missing? • Which parties have access to this data and which do not? What are the reasons why a data set is not available to the parties that need it?
Opportunities	• What data are parties missing to best optimise the energy system or extract the best value from their service(s)? • What data is needed to help energy network companies, or other parties to optimise the operation of their networks, including forecasting and planning investment? • What data could improve the way distributed energy resources deliver value to the energy system? • What data might improve the functioning of local energy markets? • What data can be made available to foster innovation in the energy system?
Architectures	• What data architectures and frameworks could be considered that would enable improved data transparency and availability? • What is the role of interoperability and standard in facilitating the effective and beneficial use of data by existing and new sector participants?
Governance	• What governance arrangements are necessary to enable greater data access and transparency? Who should pay? What would a data platform look like, if one is needed? • What roles do different parties have in regulating, governing, using and publishing different sets of data? • What regulatory interventions, if any, might be needed to make sure that we have the most optimal use of data on the energy system?
Risks	• What potential vulnerabilities could greater data availability and transparency lead to? • What protections and safeguards need to be put in place to ensure that cyber and data privacy risks are addressed?

Process & outputs

The Taskforce will be led by the Energy Systems Catapult and chaired by Laura Sandys of Challenging Ideas. They will be responsible for reporting progress of the Taskforce back to Government and Ofgem. The chairperson and the Catapult will also identify key members to participate in the taskforce.

The Taskforce should present, and publish, a report to Government and Ofgem that includes ambitious and practical policy recommendations within 6 months of its launch. The report should summarise the evidence gathered to make the recommendations and provide this evidence to Government and Ofgem. The Taskforce should also consider how energy system data impacts and interchanges with other sectors and wider society. Recommendations should include those that can and should be implemented by industry and other bodies, as well as by Government and Ofgem.

Recommendations from this taskforce will be considered and implemented at the Government's and Ofgem's discretion.

Annex

What types of data do we need?

There are different types of data, and these can be broken down into 5 key categories:

Assets	Operation	Market	Personal	Supplementary
What is plugged in? How is it being used (smart)? Where is it?	Utilisation, capacity, constraints, voltage levels	Prices, trades, contracts, revenue stream availability and location	Granular (smart meter) information on the individual/ household and their usage profiles	Weather, fuel poverty, building performance, energy efficiency potential

Why is data key to enabling a smart and flexible energy system?

Government has a stated objective of making the energy system more flexible and smart, which will result in a lower-carbon energy system at a low cost to consumers. Greater competition and markets for energy services are at the core of the future system and data transparency will be a key enabler of this. For example, network companies could make opportunities for deferred network investment visible to parties able to offer flexibility services. Greater visibility of demand and generation connections on the distribution system could allow for optimised forecasting and investment. We expect that data transparency will lead to innovative solutions for energy services and incumbents offering new services on the system. More specifically, we expect greater data availability and transparency to:

a) Enable **smart grids and technologies to work more efficiently**, in terms of predicting supply and demand more accurately, providing greater visibility of generation, storage and demand assets, and preparing the network for upcoming challenges such as increased uptake of EVs and electric heat pumps;
b) Create **new revenue streams** by improving price discovery and through combining existing and new data sets in novel ways– for example, showing where uninsulated, electrically heated homes contribute to demand constraints;
c) **Level the playing field** for those in the industry and opening up opportunities **for innovative new services and business models**, from allowing smart solutions to better compete with network reinforcement or to enabling Peer to Peer trading[1], driving **greater competition**; and
d) Address **engagement** barriers and significantly enhancing consumers' ability to make informed choices, access the best energy deals, as well as providing innovation space and market stimulation for new energy-based **consumer products and services** – for example, from enabling easier **switching** to facilitating **energy-as-a-service** companies.
e) Link the energy sector with other emerging data-enabled sectors (e.g. **open banking**) to enable the development of cross-sectoral products and services (e.g. automatic payment of **blockchain**-enabled energy bills) resulting from data interoperability.