

## Energy Systems Catapult: Consultation Response

### Ofgem Forward Work Programme 2020-2022<sup>1</sup>

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Energy Systems Catapult (ESC) was set up to accelerate the transformation of the UK's energy system and ensure UK businesses and consumers capture the opportunities of clean growth. The Catapult is an independent, not-for-profit centre of excellence that bridges the gap between industry, government, academia and research. We take a whole systems view of the energy sector, helping us to identify and address innovation priorities and market barriers, in order to decarbonise the energy system at the lowest cost.

ESC welcomes Ofgem's Forward Work Programme (FWP) and the many positive initiatives underway or proposed. In particular, we note that this is Ofgem's first FWP since the announcement of the Government's commitment to achieving net zero carbon emissions by 2050 and also note the recent publication of Ofgem's Decarbonisation Programme Action Plan.

There exists a broad range of touchpoints between Ofgem's role as sector regulator and ESC's role to support and stimulate innovation across the UK's energy system. During this FWP we look to deepen our engagement and interaction with Ofgem, drawing from the Catapult's capabilities and assets in order to obtain deeper consumer and innovation insights that can support and enhance Ofgem's regulatory and policy analysis. Engagement activities would build on, for example, the Catapult's work through the [Energy Data Taskforce](#), [Local Area Energy Planning](#), ESC's [Living Lab](#) and the Consumers, Vehicles and Energy Integration Project ([CVEI](#))/[Electric Vehicle Energy Task Force](#).

We would like to emphasise the following areas of the FWP as deserving particular attention by Ofgem in seeking to protect the long-term interest of consumers while decarbonising the energy system and promoting innovation:

#### Improve vision/strategy for charging reforms and future market design

The implications of net zero are challenging and not yet fully incorporated into the policy and regulatory framework. To facilitate the challenging journey to net zero, innovators need a clear and coherent vision of the destination in terms of [market architecture](#) (i.e. the policy, regulation and commercial interactions between actors) and how regulation and market design are likely to evolve and interact. For example: clear definition of DSO as well as the future role and responsibilities of DNOs; interactions between key structural decisions about market arrangements and the approach to network charging; and the fragmentation of flexibility value across the electricity market and how value from different sources might evolve.

Market actors, decision makers and stakeholders need quality information relating to the evolution, progress and performance of the retail/wholesale energy markets. While Ofgem recognises the importance of market monitoring in its FWP, no actions are stated, yet review and consultation are needed.

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<sup>1</sup> Consultation documentation available at: <https://www.ofgem.gov.uk/publications-and-updates/forward-work-programme-2020-22-consultation>

**In summary, we encourage Ofgem to: better articulate its vision for the energy system's market architecture and ensure this vision is fully embedded in reforms; explore strategic choices using 'whole system' analysis and deeper consumer insights; improve coordination of reforms; and review and consult on market monitoring arrangements to ensure they are fit for the future.**

### Define DSO role in delivering integrated energy systems

ESC promotes a whole systems approach to energy sector development because of the clear benefits this approach can deliver. Ofgem needs to ensure the right environment exists for innovators to develop solutions for an integrated and optimised energy system and allow them to trial and prove alternatives, while protecting customers. **ESC therefore recommends that Ofgem incentivise DNOs to act promptly to build and develop DSO functions. Ofgem should also assess the case for future development and separation of DSO roles, potentially on a multi-vector basis, and keep open the option of implementing some separation of DSO roles within the current price control period.**

### Action on retail markets and supplier hub

We note that the FWP contains a milestone concerning the joint Ofgem/BEIS review into the design of the future retail market and that it has been set to a 'beyond' 2020/21 timeframe. We would expect to see a more detailed programme of work and associated milestones regarding retail market reforms, particularly given Ofgem's conclusions regarding the consultation on supplier arrangements, which were highly critical of the supplier hub model among other things. These reforms are urgent as they have potentially far-reaching implications in terms of shaping (or potentially blocking) innovation in business models and home energy value delivery for customers. This is an area of critical importance for enabling flexibility and innovative approaches to reach end customers and support heat and transport decarbonisation. **Retail market reforms, including reform of the supplier hub model, should feature more prominently in the FWP, with greater detail regarding the programme of work and associated milestones.**

### Accelerate code reform

ESC welcomes Ofgem's commitment to introduce a Retail Energy Code to rationalise codes for the retail energy market and bring them under "innovative governance", with the code to be fully operational by April 2021. There is, however, a strong case to accelerate the timeline for implementing wider energy industry code reform, given the pace of change required to deliver deep decarbonisation. Given the importance of multi-vector dimensions to decarbonisation, the remit of Ofgem should be widened to include the hydrogen and heat industries and potentially carbon, capture, utilisation and storage (CCUS), in addition to electricity and gas. Any new code governance body/s must be obligated to consider the operation of the whole system, including non-traditional actors and behind the meter technologies, systems and operations. **ESC recommends that energy industry code reform be accelerated and that the remit of Ofgem be reviewed in relation to regulating the hydrogen, heat and CCUS industries.**

### Deeper consumer insights needed for effective policy

Understanding consumers and their behavioural responses to policy and price signals is crucial to delivering successful policy and regulatory reforms. We note the reference in the decarbonisation programme action plan to how Ofgem is beginning to reap the benefits of its behavioural insights team and recognises the value of taking a behaviourally informed approach. **We encourage Ofgem to effectively use and develop the evidence base regarding consumer insights,**

including using the assets and work of the Catapult but also that of other providers/stakeholders.

### Action on heat decarbonisation

ESC has previously emphasised that heat decarbonisation is likely the most difficult decarbonisation challenge for the UK, involving complex and extensive inter-dependencies with consumer markets, consumer protection and regulatory arrangements for markets and networks overseen by Ofgem, including heat networks in future. We continue to strongly encourage Ofgem to play a full part in thinking through the regulatory models and policies that can drive cost-effective and consumer-friendly heat decarbonisation, together with industry and bodies like the Catapult. We acknowledge Action 4 of Ofgem's decarbonisation programme action plan regarding low carbon heat, with reference to achieving fair balance of costs and supporting Government to develop cost-effective and low risk options. **Nevertheless, we strongly recommend that Ofgem identify and develop concrete activities and milestones in this FWP in order that Ofgem can progress in this area in a timely manner.**

### Action on transport decarbonisation

As with heat decarbonisation, this is another area where Ofgem needs to play a proactive role, taking into account [the recommendations](#) of the Electric Vehicle Energy Taskforce:

- Ensuring that EV drivers, electricity consumers and the energy system benefit from the integration of EVs and the energy system;
- Providing financial incentives to EV drivers to ensure that the potential energy storage capacity of millions of electric vehicles is used to reduce peak demand;
- Prioritising greater standardisation across the charging network to ensure it works resiliently, efficiently and securely with the electricity system;
- Establishing an independent body to promote the benefits of smart charging through a major publicity campaign to ensure EV drivers are confident and well informed;
- Extending the principle of 'open data' in the energy system to include EV charge points and EVs to allow more effective smart charging of EVs;
- Co-ordinating energy and transport planning to ensure we have the right infrastructure in the right place.

**We welcome Action 7 of Ofgem's decarbonisation programme action plan to develop a regulatory strategy for enabling electric vehicles at low cost. We strongly recommend that this commitment be incorporated in the FWP as a defined activity, with accompanying milestones.**

### Apply Local Area Energy Planning

Our work on Local Area Energy Planning (LAEP) suggests that it can play a key role in informing investment decisions and providing a platform for long-term decision making to enable the transition to a low carbon energy system. We welcome Ofgem's inclusion of LAEP in the [business guidance](#) for gas and electricity transmission and gas distribution network companies. There is considerable scope for the regulatory framework to be further developed in order to ensure that a robust, well justified and consistent whole system evidence-based process is used and reviewed throughout price control periods. We intend to continue sharing our learning and to support the process of framework development and capacity building. **We would welcome progress in making LAEP an integral part of business planning for regulated network companies.**

### Track progress of data and smart energy interoperability

We welcome the steps currently undertaken to open access to network data as a key to unlock innovation and support energy system transition. We intend to continue working with stakeholders to develop the [Data Best Practice Guidance](#) to help organisations understand how they can manage and work with data in a way that delivers the vision outlined by the [Energy Data Taskforce](#).

**The ESC takes the view that it is critical for companies to demonstrate progress in this area during the timeframe of this FWP.**

### Develop and exploit Innovation Link

ESC strongly supports Innovation Link and sees opportunity for its further development and exploitation. Clarity on the outcomes of trials, such as how barriers are identified and addressed would be welcomed. ESC would also advocate that Innovation Link work closely with InnovateUK (ESC/EnergyRev) and BEIS (e.g. BEIS FLEX projects) in order to more effectively and quickly pull together learning from trials and research for the purposes of informing policy and regulatory decision-making. **ESC therefore recommends that Ofgem take action to better exploit Innovation Link and its outcomes.**

### Creating a framework to assess the impact of policies on consumers

Climate change and issues of consumer vulnerability have different causes and need different solutions. Furthermore, as the energy system changes, the causes of consumer vulnerability will also change. To date, the uptake of low carbon energy technologies has been concentrated on a very narrow group of consumers [1] and it is necessary to expand uptake across all consumer categories. **In relation to Ofgem's Consumer Vulnerability Strategy, ESC therefore welcomes the intention to create an analytical framework to assess the effects of policies on different consumers. This framework, however, will need to be agile, iterative and reflect the fact that some issues will not arrive until after implementation of policies. We believe ESC assets, such as the Living Lab, can assist the development of such a framework.**

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[1] For example, see: <http://researchbriefings.files.parliament.uk/documents/CBP-7480/CBP-7480.pdf> and [http://webarchive.nationalarchives.gov.uk/20160804221515/https://www.gov.uk/government/uploads/system/uploads/attachment\\_data/file/464763/uptake-of-ulev-uk.pdf](http://webarchive.nationalarchives.gov.uk/20160804221515/https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/464763/uptake-of-ulev-uk.pdf)