
Energy Systems Catapult Response to Energy Networks Association consultation: *Open Networks Project Phase 3 2019 Work Programme*

Introduction

The Energy Systems Catapult (ESC) was set up to help navigate the transformation of the UK's energy system. We work across the energy sector to ensure businesses and consumers grasp the opportunities of the shift to a low carbon economy. The ESC is an independent centre of excellence that bridges the gap between business, government, academia and research. We take a whole-systems view of energy markets, helping us to identify and address innovation priorities and market barriers, in order to accelerate the decarbonisation of the energy system at the lowest cost.

We would be happy to discuss these issues in more detail if helpful. Please contact Vilislava Ivanova at: vilislava.ivanova@es.catapult.org.uk

Key Points

- ***We support the creation of a new workstream focused on Whole Energy Systems aspects.*** We highlight that adopting a 'whole system' perspective implies understanding interactions between multiple vectors such as heat, gas, electricity and transport and how they are changing as a result of new technologies and digitalisation. Whole system thinking and action must also include 'both sides of the customer meter', and not be limited in definition to be transmission and distribution networks.
- ***We are willing to explore further collaboration opportunities and potential to support upcoming work under the new whole energy systems workstream.*** As highlighted in our previous response to your Future Worlds consultation,¹ we believe that some of the tools and capabilities that the ESC has developed can be helpful in informing Future Worlds and other ENA analysis.
- ***We believe sharing insights with other industry initiatives such the Energy Data Taskforce which we run and Electric Vehicle Energy Taskforce which we chair would be critical to drive a coordinated and holistic approach to the low carbon energy transformation.*** We welcome open and broad interactions within those forums and would welcome further exchange with Open Networks projects in those areas.

¹ A copy of the response is available at: <https://es.catapult.org.uk/news/energy-networks-association-future-worlds-consultation-response/>

- **We believe that more focus should be placed on the role of networks in addressing the heat decarbonisation challenge and investigating how local area energy planning can best be used to inform a cost-effective low-carbon heat transition.** Further consideration of the topic alongside government and local authorities, industry participants and the regulator could be an important element of the Whole Energy Systems workstream.
- **We believe that consulting with wider public/industry participants on the elements of the work programme would be critical for the success of the transition process.** This is especially relevant when the subject matter is linked to potentially competitive activities like the procurement of flexibility services, wider commercial arrangement and market facilitation (e.g. Products 2, 5, 6 within Workstream 1A Flexibility services). It would be key for the integrity of future markets that the process of setting the framework is transparent and draws on wide views and expertise.

Detailed Response to Questions

Q1. Which specific areas of 2019 work or Products are most important to you and why?

1. We see value in progressing further with the development of all the identified areas of work. Successful implementation of DSO transitioning (WS3), whole electricity system planning and data exchange (WS 1B), providing incentives for flexibility (WS 1A), and enhancing customer information provision (WS2) would be key elements of the low-carbon transition which have potential to unlock innovation, allow more cost-effective use of resources and better synergies.
2. **We find that the newly created workstream four Whole Energy Systems can be of particular strategic importance** and is aligned with steps taken by Ofgem for the introduction of whole systems responsibilities in licence conditions for electricity companies². As stated in our response to that consultation, a whole system approach should recognise actors outside the electricity system and stress the importance of engaging across the wider energy landscape to include gas, transport, and heat.
3. **We expect the whole energy system to become more closely interlinked with increasing co-dependence of energy vectors** and believe that extending the responsibility for whole system outcomes outside the electricity sector would be necessary. We support Ofgem's expressed view that those linkages need to be better understood and believe that the Open

² Ofgem (2019). Consultation on licence conditions and guidance for network operators to support an efficient, coordinated, and economical Whole System. <https://www.ofgem.gov.uk/publications-and-updates/consultation-licence-conditions-and-guidance-network-operators-support-efficient-coordinated-and-economical-whole-system>

Networks project can play an important part in the process, if more effort is put in understanding interdependencies across network boundaries and energy vectors.

Q2. Are there any other areas of work or Products you would like to see included in the Open Networks Phase 3 workplan and if yes, why and how should they be prioritised compared with other work?

4. **Our work suggests that at the local level, Local Area Energy Planning (LAEP) can be a key tool for building coherent transition plans that meet government targets, rather than just uncoordinated opportunistic projects.** Pilot studies (documented in the ETI/ESC report³: 'Local Area Energy Planning: D11 Insight report 3: implications for government') conducted by the ETI/ESC in Newcastle, Bridgend and Bury (using the EnergyPath™ Networks (EPN) modelling framework) have shown the potential of LAEP to provide the evidence, guidance and framework to enable the long-term transition to a low carbon energy system.
5. **We believe that more focus should be placed on the role of networks in addressing the heat decarbonisation challenge and investigating a potential role of local area energy planning to inform a cost-effective low-carbon heat transition.** Further development and discussion on the topic alongside government and local authorities, industry participants and the regulator could be an important element of the Whole Energy Systems workstream.

Q3. Should any areas of work or Products be removed or deferred and if yes, why?

We have not identified a need to remove or defer work areas at this stage.

Q4. Do you agree with the proposed Products for wider consultation and what other work should be consulted on and why?

6. **We believe that consulting with wider public/industry participants on the elements of the work programme would be critical for the success of the transition process.** This is especially relevant when the subject matter is linked to potentially competitive activities like the procurement of flexibility services, wider commercial arrangement and market facilitation (e.g. Products 2, 5, 6 within Workstream 1A Flexibility services). It would be key for the integrity of future markets that the process of setting the framework is transparent and draws on wide views and expertise.

Q5. Do you agree with the defined Dependencies, have we prioritised dependencies inappropriately or are there any missing?

7. We welcome the identification of a wide set of interdependencies across the project boundaries. We believe that that the Open Networks project should actively collaborate alongside industry,

³ ETI (2018): 'Local Area Energy Planning: D11 Insight report 3: implications for government'.

government and the regulator on developing further understating on key topics such as data and smart energy inter-operability, local area energy planning, and the creation of appropriate market and trading arrangements to support flexible and cost-effective use of resources.

Q6. Is one consultation per quarter a suitable number and frequency, can you only support fewer or would you rather see more?

8. As highlighted under Q4, we believe that consulting with wider public/industry representatives would be key for the success of the project. We do not think that the number and frequently of consultations should be a driving force behind the development of the work programme.

Q7. Do you agree with the proposed Whole Energy Systems Workstream 4 and can you please provide any relevant Whole Energy Systems projects, initiatives or views that you would like considered as part of that new workstream?

9. A 'whole systems' approach for us means considering interactions of the power, heat and transport systems as traditional lines between them break down; understanding how the physical energy system, the set of market arrangements and policy instruments work together in the context of new digital communications systems; and crucially how the consumer interacts with the wider energy system and infrastructure.

10. We have developed a wide range of assets and capabilities which adopt this whole systems perspective to support stakeholders, including a wide range of modelling and simulation tools, consumer research assets, digital and data capability, technical and system engineering and integration expertise. We are utilising these capabilities to provide integration guidance, innovation services and technical expertise to successful projects within Government's Industrial Strategy Challenge Fund – Prospering from the Energy Revolution (PFER).

Q8. How would you like to provide input to the Open Networks Project and be kept informed of developments?

11. As highlighted above and in our response to the Future Worlds consultation we believe the tools and capabilities that the Catapult has developed could be helpful in informing analysis. We would be willing to explore further collaboration.

Q9. In what ways might the Open Networks Project improve the way it consults with stakeholders, beyond the Stakeholder Advisory Group?

12. We appreciate that active steps are taken to engage with stakeholders and provide project updates to parties that have joined relevant mailing list. Extended stakeholders' engagement via workshops for those willing to assist the development of project products should be further considered in the coming year.

Q10. Do you feel the Open Networks Project has held enough stakeholder engagement events in 2018? What type of events would you like to see more of in 2019?

As above.