Department for Business, Energy & Industrial Strategy

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Making a positive difference for energy consumers

UKRI Innovate UK

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Department for Business, Energy & Industrial Strategy, Ofgem and Innovate UK Statement on the Energy Digitalisation Taskforce Report

The digitalisation of the energy sector is critical to reaching net zero by 2050 and supporting a smart, flexible energy system. The British Energy Security Strategy published in April 2022 stresses the importance of flexibility to our energy security, to ensure that we can efficiently match supply and demand and minimise waste.[1] The future net zero energy system will comprise millions of assets, including solar panels, electric vehicles, heat pumps, batteries, and other smart consumer devices. These assets are already in homes and businesses today, and the need to integrate them efficiently and securely into our energy system continues to grow.

An increase in volume and variety of energy system participants, products and services will mean that the existing energy system will have to change, with open data practices, digital standards and potentially new institutions considered and implemented. Additionally, a digitalised energy system will bring new challenges, including changing operational processes, cyber security considerations, enhanced data measures and potentially unique competition concerns. We need new markets and platforms deployed effectively across the energy network, and at lowest cost. At the same time, decarbonisation will mean that energy operations are further intertwined with transport, telecommunications, and other sectors. To be successful, we must ensure digital cohesion with other sectors from the start.

The **Energy Digitalisation Taskforce** was commissioned by BEIS, Ofgem and Innovate UK in the UK's first Energy Digitalisation Strategy, to continue our focus on modernising the energy system to unlock flexibility and drive clean growth towards

[1] Department for Business, Energy & Industry Strategy (2022), 'British Energy Security Strategy', https://www.gov.uk/government/publications/british-energy-security-strategy

net zero emissions by 2050.[2] In January 2022, the Taskforce published their report, setting out six overarching recommendations, each with a suite of actions for BEIS, Ofgem and industry to spur a modern, decarbonised digital energy system.[3]

We welcome the Taskforce's report and would like to acknowledge and thank the Energy Systems Catapult, Laura Sandys CBE as independent chair, as well as the many other individuals and institutions that contributed their time and expertise. The report represents a key milestone in our collective journey to decarbonisation, with the crucial role of energy digitalisation clearly demonstrated, and the recommendations themselves forming a critical launchpad for further action and exploratory work.

We agree that without concerted action from BEIS, Ofgem, Innovate UK and industry to support, enable and deliver the required digital tools and infrastructure, we risk increased industry costs, delay to the transition to a net zero energy system and limits to the choices for consumers to use their devices and data. The Energy Digitalisation Taskforce has generated the momentum BEIS, Ofgem and Innovate UK originally sought through the Energy Digitalisation Strategy; now is the time to build on it.

This response first highlights the progress we have made already in support of the recommendations, before setting out our next steps, and how they align with the report.

[2] Department for Business, Energy & Industry Strategy, Ofgem, Innovate UK (2021), 'Digitalising our Energy System for Net Zero: Strategy and Action Plan 2021', https://www.gov.uk/government/publications/digitalising-our-energy-system-for-net-zero-strategy-and-action-plan

[3] Energy Systems Catapult (2022), 'Delivering a Digitalised Energy System', https://es.catapult.org.uk/news/energy-digitalisation-taskforce-publishes-recommendations-for-a-digitalised-net-zero-energy-system/

Progress

Since the publication of the report, BEIS, Ofgem and Innovate UK have announced new work programmes[4] and strategies[5] aligned to the **Taskforce's recommendations**. We have made progress in the following areas:

- In January 2022, Ofgem set out an intent to specify the Common Information Model (CIM) as the data standard in their licence requirements and for it to be used more broadly for data exchanges in the energy industry.[6] This is one of the crucial minimum standards to **deliver interoperability** and is aligned with a specific Taskforce action to **adopt network data standards**.

- Ofgem and Innovate UK continue to embed Energy Data Best Practice principles in various projects to increase innovation and competition across the energy system, including Modernising Energy Data Applications,[7] Strategic Innovation Fund (SIF) Round 1[8] and the Open Digital Solutions for Net Zero Energy competition. As part of the latter, Innovate UK have unveiled £1.8 million in funding for six open data and digital projects, to commence in July 2022.[9]

- BEIS and Ofgem are the joint competent authorities of Operators of Essential Services (OES) in the energy sector, as defined by the Network and Information Systems (NIS) Regulations, with undertakings in Downstream Gas and Electricity in Great Britain. In April 2022, Ofgem updated their guidance to assist OES in understanding their cyber security duties under the NIS Regulations, and in continually managing security and resilience with respect to the network and information systems on which their essential services rely.[10] [11] These new security measures and principles are aligned with the Taskforce's recommendation to **adopt digital security measures**.

- As part of the Net Zero Innovation Portfolio's (NZIP) Flexibility Innovation Programme,[12] in April 2022, BEIS launched the Automatic Asset Registration innovation competition. This offers up to £2 million to support the development of solutions to automatically register small scale assets and to demonstrate the technical feasibility of a central asset register to hold this data. The projects are fully

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[4] Ofgem (2022), '2022/23 Ofgem Forward Work Programme', *Point 7: Data and Digitalisation,* https://www.ofgem.gov.uk/publications/202223-ofgem-forward-work-programme#data%20and%20digitalisation

[5] Department for Business, Energy & Industry Strategy, Ofgem, Innovate UK (2021), 'Digitalising our Energy System for Net Zero: Strategy and Action Plan 2021', https://www.gov.uk/government/publications/digitalising-our-energy-system-for-net-zero-strategy-and-action-plan

[6] Ofgem (2022), 'The Common Information Model (CIM) Regulatory Approach and the Long Term Development Statement', https://www.ofgem.gov.uk/publications/common-information-model-cim-regulatory-approach-and-long-term-development-statement

[7] Energy Systems Catapult, 'Modernising Energy Data Applications', https://es.catapult.org.uk/project/modernising-energy-data-applications/

[8] UK Research and Innovation (2022), 'Strategic Innovation Fund Round One Discovery Phase: Funded Projects', https://www.ukri.org/publications/strategic-innovation-fund-round-one-discovery-phase-funded-projects/

[9] UK Research and Innovation (2022), 'New Open Digital Solutions to Speed up the Energy Revolution', https://www.ukri.org/news/new-open-digital-solutions-to-speed-up-the-energy-revolution/

[10] Ofgem (2022), 'NIS Directive and NIS Regulations 2018: Ofgem Guidance for Operators of Essential Services', https://www.ofgem.gov.uk/publications/nis-directive-and-nis-regulations-2018-ofgem-guidance-operators-essential-services

[11] BEIS will also update their guidance on implementation of the NIS Regulations in the energy sector, which aims to assist OES' in meeting their duties under the Regulations, as well as set out the Competent Authority approach to enforcement.

[12] Department for Business, Energy & Industry Strategy (2021), 'Flexibility Innovation Programme', https://www.gov.uk/government/publications/flexibility-innovation

aligned with recommendations to **unlock value of customer actions and assets** and **deliver interoperability**.

- In May 2022, BEIS launched three further innovation programmes within NZIP, aligning with Taskforce recommendations to **unlock value of customer actions and assets,** and **deliver interoperability**:
    - Up to £9.15 million for the Interoperable Demand Side Response Programme, which aims to support the development and demonstration of energy smart appliances for the delivery of interoperable demand side response.
    - Up to £1.8 million for the Smart Meter System based Internet of Things (IoT) Applications Programme, which aims to support innovation to determine the feasibility of, and trial, Smart Meter System based IoT sensor devices.
    - Up to £1m for the Smart Meter Energy Data Repository Programme, which aims to support innovation to determine the technical and commercial feasibility of a smart meter energy data repository whilst ensuring privacy protections.

Next Steps

Whilst progress has been made, we recognise that more work is needed from BEIS, Ofgem, and industry to make an effective, secure, digitalised energy system a reality. We will build on the momentum generated from the Taskforce, and target specific priority areas for immediate focus.

We recognise the fundamental change needed and potential large-scale impacts of delivering some of the recommendations, particularly around digital infrastructure. On **smart enabled energy assets**, BEIS has already committed to taking powers to regulate energy smart appliances, setting requirements underpinned by the principles of interoperability, data privacy, grid stability and cyber security.[13] BEIS continue to work towards this aim and have recently consulted on our proposed approach.

Beyond this, BEIS and Ofgem will undertake further work into some of the Taskforce's strategic recommendations. We recognise that to truly **deliver interoperability** in the energy sector requires considerable action. In light of this, BEIS will procure a study to examine the opportunities, risks and potential architectures of **a digital spine,** and consider how it could interact with delivering a **data sharing fabric**. On **unlocking the value of customer actions and assets**, we will explore opportunities to further examine **development of a consumer consent dashboard** and consider appropriate next steps.

Another area of digitalisation in the report is to **adopt digital security measures**, a key consideration for BEIS and Ofgem given our joint competent authority role as defined in the NIS Regulations. In addition to the developments in the 'Progress' section above, BEIS and Ofgem will continue to work with industry to strengthen cyber security practices – making sure measures continue to be appropriate and proportionate as the sector becomes more decentralised and digitised.

The Taskforce report also sets out recommendations relating to **new digital governance** and **carbon monitoring**. We recognise that these warrant further investigation and are dependent on outcomes of work related to other recommendations in the report, as well as other BEIS and industry workstreams. We will ensure that these are embedded as key themes of Ofgem's series of stakeholder workshops, to be organised between now and September.

Innovation is central to the Taskforce's report and will remain key to enabling the transition to a smart, flexible, and decarbonised energy system at the lowest cost. BEIS, Ofgem and Innovate UK will continue to invest in innovation for the

[13] Department for Business, Energy & Industry Strategy, Ofgem (2021), 'Transitioning to a Net Zero Energy System: Smart Systems and Flexibility Plan 2021', https://www.gov.uk/government/publications/transitioning-to-a-net-zero-energy-system-smart-systems-and-flexibility-plan-2021

development of new energy system digital tools and a digital infrastructure as part of the NZIP,[14] SIF,[15] and regulatory price control mechanisms where relevant.[16]

The report also sets out the importance of embedding **a digitalisation culture** to achieve whole system optimisation. BEIS and Ofgem will provide leadership and direction, supporting industry on the transition to a digitalised energy system and ensuring that it contributes to broader strategic objectives. Over the coming months, we will carry out the following actions as we progress our journey towards a digitalised energy sector:

- BEIS will procure a study to examine the opportunities, risks and potential architectures of a digital spine and consider how it could interact with the data sharing fabric recommendation.
- BEIS will drive forward innovation in energy system digitalisation through the NZIP Flexibility Innovation Programme.
- Innovate UK will continue to stimulate the market and accelerate innovation in energy system digitalisation through the Prospering from the Energy Revolution challenge and future programmes.[17] Innovate UK will also work with industry to develop data and digital solutions to energy system challenges within Round 2 of SIF, announced in May 2022.[18]
- Ofgem will organise a series of industry workshops between now and September, supported by BEIS, to establish priorities with respect to detailed Taskforce recommendations.
- As part of Ofgem's forward work plan, Ofgem will continue its review of the data and digital regulatory landscape, including reviewing current and potential regulatory levers and relevant initiatives. This year, Ofgem will issue a call for evidence on its review of the digital energy market.

[14] Department for Business, Energy & Industry Strategy (2021), 'Net Zero Innovation Portfolio', https://www.gov.uk/government/collections/net-zero-innovation-portfolio
[15] Ofgem, 'Strategic Innovation Fund', https://www.ofgem.gov.uk/energy-policy-and-regulation/policy-and-regulatory-programmes/network-price-controls-2021-2028-riio-2/network-price-controls-2021-2028-riio-2-riio-2-network-innovation-funding/strategic-innovation-fund-sif?sort=publication_date&page=2
[16] Ofgem (2021), 'Digitalisation Strategy an Action Plan Guidance', https://www.ofgem.gov.uk/sites/default/files/docs/2021/05/digitalisation_strategy_action_plan_guidance_v0.3_0.pdf
[17] UK Research and Innovation, 'Prospering from the Energy Revolution Challenge', https://www.ukri.org/what-we-offer/our-main-funds/industrial-strategy-challenge-fund/clean-growth/prospering-from-the-energy-revolution-challenge/
[18] Ofgem (2022), 'Strategic Innovation Fund- Round Two Innovation Challenges', https://www.ofgem.gov.uk/publications/strategic-innovation-fund-round-two-innovation-challenges

Again, we would like to thank the Energy Digitalisation Taskforce for their hard work and continued efforts to highlight the vital need for a fully digitalised, net zero energy system. If you would like to respond to any of the issues highlighted in this statement, please contact digitalisation@ofgem.gov.uk or smartenergy@beis.gov.uk.

Yours Faithfully,

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