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Ofgem Forward Work Programme Consultation 2022-2023

Dear Mr Brearley,

We welcome the opportunity to respond to your 2022/23 Forward Work Programme Consultation.

National Grid Electricity System Operator (ESO) is the electricity system operator for Great Britain. We move electricity around the country second by second to ensure that the right amount of electricity is where it's needed, when it's needed –always keeping supply and demand in perfect balance. As Great Britain transitions towards a low-carbon future, our mission is to enable the sustainable transformation of the energy system and ensure the delivery of reliable, affordable energy for all consumers.

We support Ofgem's focus on the strategic objectives that frame the Forward Work Programme and welcome the similarities between Ofgem's priorities and our own strategic goals. We fully appreciate the challenges and shocks to the industry in recent times and the impact this has on consumers. The action Ofgem has taken and your continued focus on protecting customers aligns with our own mission to deliver reliable, affordable energy for all consumers. As a partner at CoP26 in Glasgow in 2021 we are also pleased to note that you are equally focused on delivery of net zero targets which links with our strategic objectives of a whole electricity system that can operate carbon free and a whole system strategy that supports net zero by 2050.

We believe that Ofgem's Forward Work Programme for 2022/23 covers key industry issues, addressing both the difficulties of the recent and ongoing challenges of market exits and wholesale price volatility, whilst also looking forward to the transition to a net zero energy system, to meet the challenge of climate change. We look forward to the publication of the 'Energy Transition' roadmap in early 2022 so we can all work together to reach net zero by 2050.

We have focused our response on the key points set out in Ofgem's statement where we wish to provide further feedback. The key areas where we can see common ground between your Forward Work Programme and our objectives are in your planned work on Low Carbon Infrastructure, Full Chain Flexibility and Data and Digitalisation. We have outlined our thoughts on these and other areas which we believe are relevant to the ESO below.

We are happy to further discuss the points raised within this response. Should you require any further information or would like clarity on any of the points outlined in this paper then please contact Adelle Wainwright in the first instance at adelle.wainwright@nationalgrideso.com.

Yours sincerely,

Matthew Wright
Head of Strategy and Regulation

Point 1: Enduring Priorities

1 - Core Regulatory Functions

Industry Codes and Licensing

As Code Administrators we look forward to working with Ofgem and other stakeholders across industry to ensure that the codes are fit for purpose and enable us to deliver a competitive, robust, reliable energy system.

Heat Network Regulation

Low Carbon Heat Networks (LCHNs) are included in the modelling of credible pathways to net zero by 2050 in our Future Energy Scenarios and are suitable for decarbonising heat. Whilst their potential may not be as great as some other technologies, they will still play a role in helping to deliver clean, reliable, affordable energy¹. We fully support Ofgem's intent to develop a new regulatory framework in this area, which provides certainty to investors and assists with decarbonisation and energy security, whilst also protecting consumers, whichever heat technology they may use.

Engagement with European Stakeholders

We welcome continued cross-border cooperation with European stakeholders, given the relevance for the efficient operations of current and planned or future interconnections. Therefore, we are supporting the UK - EU Trade and Cooperation Agreement deliverables through setting up a new framework of cooperation with the EU TSOs/European association for the cooperation of transmission system operators (ENTSO-E).

Institutions for net zero

To meet the government's Net Zero target by 2050, the institutions regulating the Energy System must ensure that economic regulation facilitates the delivery of efficient, effective, and innovative solutions, and allocates risk where it can best be managed within the market. Coordination across the bodies responsible for setting policy and regulation is vital to provide the industry with the certainty and confidence needed to plan over the longer term whilst being able to quickly, learn, adjust, and deliver.

Onshore Price Control Delivery

We will continue our ongoing, regular engagement with Ofgem to finalise and agree our Business Plans under the RIIO-2 Price Control Period to enable an ambitious, proactive, flexible, collaborative, and forward-looking ESO. We will also continue to engage with stakeholders, to ensure that the ambitious outputs we have in our Business Plans help facilitate the transition to net zero and deliver consumer benefits.

Offshore Transmission Infrastructure

We will continue to support the implementation of Ofgem's Cap and Floor regime for Interconnectors by continuing with our system operability impact analysis informing Ofgem's targeting of regions.

Point 2: Strategic Change Programmes

Point 3: Future of Retail

We agree that the pace of change is increasing in the energy market. As we described in our Bridging the Gap 2021² report, there has already been significant progress in the decarbonisation of electricity generation, with even more change to come in the next decade. We support Ofgem's aims of delivering a retail market that delivers fair prices to consumers, supports the transition to net zero and provides effective protection for consumers, particularly vulnerable consumers. In our 2021 Innovation Strategy³ we identified democratisation as a major trend during the energy transition, with consumers and communities playing a greater role in energy system operation. Accelerated innovation in the retail market will support this transition by delivering value to consumers in new and varied ways.

Innovation in the data and digitisation space has the potential to unlock new value for consumers, for example by supporting consumer flexibility. Within a more data-centric world, Ofgem should also consider the role they

¹ FES 2021 – Figure CV.17: District heat networks in 2050 (page 52).

² [Bridging the Gap to Net Zero](#)

³ [Electricity System Operator Innovation Strategy 2021/22](#)

will have to play in protecting consumers' data and privacy, ensuring equity of access for all, and empowering consumers to play an active and informed role in their energy choices.

We look forward to learning more detail on this important programme of work in Spring 2022.

Point 4: Low Carbon Infrastructure

Electricity Transmission Network Planning Review

We are looking forward to a decision on the next steps for progressing transitional arrangements for Centralised Strategic Network Planning (CSNP). As we outlined in our response to the findings of the Electricity Transmission Network Planning Review in December 2021, we consider that the initial integrated Holistic Network Design (HND) and Network Options Assessment (NOA) will meet the requirements for the transitional arrangements.

Future Gas Policy and Hydrogen, Nuclear Generation and CCUS Networks

In the Future Energy Scenario (FES) 2021 pathways, hydrogen production and storage have a key role in the decarbonisation of the whole energy system and supporting whole system security of supply. We therefore welcome plans in the Forward Work Programme to help government develop an evidence base for policy decisions on the future of gas as well as working with stakeholders to identify and overcome barriers to hydrogen deployment. We believe that this should be considered in the round with a strategic infrastructure plan for whole energy system requirements at its core, including colocation requirements for a mix of technologies including electrolysis, Carbon Capture Use and Storage (CCUS), as well as hydrogen and the future of gas. Iterative policy and regulation which can adapt and learn from experience quickly is necessary for both energy policy and regulation, in addition to the new business models that are being developed by government. With Ofgem having been named recently as the regulator for the CCUS market, we believe that Strategic Policy Statements (SPS) would help guide the future regulatory agenda. An SPS would achieve the consistency needed across overlapping areas of decarbonisation policy, supporting the energy industry by developing a coherent, holistic regulatory framework.

RIIO-3 Development

As we have done throughout the development of the RIIO-2 price control, we intend to fully engage with Ofgem in the design of a RIIO-3 price control which ensures that we can progress towards our vision of reliable, affordable energy for all.

Offshore Transmission Infrastructure and Interconnectors

We look forward to continuing to work with Ofgem and BEIS to ensure that the solutions and regulatory models for the offshore network are developed in a coordinated, efficient way. As we highlighted in our earlier response to the Offshore Transmission Network Review, we believe it is important to work holistically across related programmes, including the Electricity Transmission Network Planning Review (ETNPR), the BEIS and Ofgem work related to our Early Competition Plan, Ofgem's Transmission Network Use of System (TNUoS) charges Call for Evidence and the BEIS and Ofgem work on the Future System Operator (FSO) Programme. We think it is important that Ofgem and BEIS are also aligned across these programmes to ensure consistency of outcomes and decisions and to reduce complexities, inefficiencies, and unintended consequences.

We will continue to work on the system operability impact analysis informing Ofgem's targeting of regions as outlined in the decision on the Interconnector Policy review, in support of the cap-and-floor investment round for interconnectors which can connect by 2030.

Point 5: Full Chain Flexibility

We agree that obtaining all the benefits of smart, flexible energy is essential to achieving a greener, affordable, and reliable energy system. We welcome the reconvening of the Smart Systems Forum to drive the delivery of the Smart Systems and Flexibility Plan 2 (SSFP).

We look forward to more detail on a joint policy statement with BEIS regarding a vision for Electric Vehicle (EV) smart charging. As outlined in FES 2021⁴ we believe that EV smart charging has the potential to be a

⁴ Figure FL.8 Impact of flexible DSR on peak demands in 2050 Consumer Transformation – page 143 of FES 2021

significant part of the flexibility needed in the energy system and fully harnessing this will be critical to securely balancing a net zero energy system at an efficient cost.

Similarly, we look forward to understanding more detail around how the barriers to large-scale and long duration electricity storage (LLES) will be addressed. We believe that different types of storage which can be utilised across days, months, seasons, and intra-year will be vital to the decarbonisation of the energy system. A mix of technologies offering different storage capabilities will provide resilience in the system. Removing the barriers to LLES technologies, including hydrogen storage, requires intervention to reduce risk and accelerate investment so that there is a sufficient pipeline of projects coming onto the system in time to bridge the gap between energy storage that is available now and what will be needed in the future.

We note the intention to continue working with us and with government to consider options for market design reforms to ensure that market arrangements are fit for net zero. We welcome this and look forward to continuing to work together to bring about the reforms needed to ensure that by 2030 we have simplified, accessible markets with arrangements that deliver decarbonisation, unlock investment, and reflect the different timescales of system stability. In our Bridging the Gap 2021 report we outline the need to focus on demand side as well as supply side markets, to encourage the development of a variety of flexibility products and aggregator services, and to have policy and regulation which is coherent, consistent and instils confidence for investors.

As outlined in our response to the Call for Evidence on Transmission Network Use of System Charges (TNUoS), we believe that the development of charging policy should be part of a holistic market reform, so that there is consideration of the interactions with markets, including wholesale markets, the Balancing Mechanism, the Capacity Market and Contracts for Difference (CfD) auctions, as well as network constraints, Balancing Use of System Charges (BSUoS), and the move to market wide half hourly settlement. We believe there are significant links between the Offshore Transmission Network Review (OTNR) and TNUoS reform and we believe that it is important that policy and regulatory goals are aligned and workstreams complement one another. We welcome the opportunity to consider in more depth the potential scope and timing of a review of transmission charging arrangements for the medium to long-term.

Similarly, we are supportive of looking at further development of options for Distribution Use of System Charging (DUoS) reforms. We agreed that it was prudent to take forward the review of DUoS under a separate vehicle from the original Access and Forward-Looking Charges Significant Codes Review (SCR). We believe that having wide-ranging DUoS reform in a separate SCR better supports whole system outcomes and better reflects the reality of the changing energy system, such as greater numbers of generators connecting at distribution level.

We also note your plans to secure further development of flexibility markets at local levels, including improved coordination and data sharing by Distribution Network Operators (DNOs) and the ESO. We have recently spent time with each DNO and welcome their commitments on data sharing with the ESO and industry stakeholders. We look forward to having more detail around how this will operate and note that there is a need for consistency amongst the DNOs activities and functions to ensure interoperability across the market and between all participants. We look forward to working with Ofgem, DNOs and other stakeholders on the development of policy for longer-term arrangements.

Point 6: Data and Digitalisation

Digitalisation is essential to managing an energy system with smart, flexible demand. We agree that with increasing flexibility there comes greater complexity, with growing numbers of participants, assets, products, and services across the energy landscape. As the ESO, we believe that we will need more, better-quality data to unlock the full potential of digitised systems and to manage the peaks and troughs of a net zero system. At COP26, we launched our Virtual Energy System in support of our ambitious, which is an industry-wide mission to digitise the energy system. Over time, this will be populated by existing and new digital twins, replicas of physical components of our energy system. Built on an open framework, each digital twin will contribute to and be able to access real-time data on other elements of the system. As the data becomes more layered, this virtual environment will enable us to test and model the data across the system, creating valuable insights and intelligence to inform the decisions needed to guide the transition to net zero

We believe that regulatory incentive regimes should encourage effective collaboration and data sharing and that an industry wide interoperability standard for data would ensure the effective sharing of information between all participants to keep the system stable. We welcome Ofgem's focus on robust data sharing and a collaborative approach to increase clarity on the digital roles and responsibilities of participants across the energy industry. We agree that a balance between data sharing and privacy must be struck to promote trust

amongst consumers and to unlock demand side flexibility, so we look forward to Ofgem's planned review of whether further regulation or monitoring is needed to enable consumer benefits and protections.

Point 7: Energy Systems Governance

FSO Reforms

As outlined in our response to the earlier consultations, we welcome the proposal to establish a future system operator (FSO) that fulfils the technical and strategic roles needed to help deliver net zero. We look forward to working with Ofgem and BEIS on making the necessary arrangements to ensure we can operate as the future system operator if one is created. As discussed in our consultation response, we strongly believe in the need for consistent understanding and application of whole system thinking, with a shift from focussing on individual fuels to a whole energy system perspective. This needs to be replicated in the wider governance of the GB energy system, so we welcome the intention to work with BEIS on policy design, legislation and licence drafting and reform implementation.

RIIO-2 DSO Governance

As we noted in the recent call for evidence for Electricity Distribution Business plans for RIIO-2, we strongly believe that alignment across DSO activities is key in the delivery of a low carbon energy system. We believe it is critical that DSO functions are carried out in a consistent manner with common ways of working across Great Britain to ensure alignment with the ESO and other stakeholders. We look forward to engaging with the DNOs and Ofgem on areas where there is interaction between DSO and ESO operations to deliver efficient, whole system outcomes for the benefit of consumers.

Code Governance Reform

We believe that Code Governance Reform should not only facilitate more effective governance of the energy system but should also include an objective to ensure they are net zero compliant. Reform should also be proportionate and should be no more complex than necessary to achieve its stated aims and objectives. In a net zero context, regulation needs to be flexible and agile to keep abreast with the pace of change needed, whilst also recognising that, ultimately, regulation exists to protect the end consumer and must continue to do so to ensure that decarbonisation delivers for all.