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27th November 2024

NESO response to Innovation in the energy retail market consultation

Dear Jemma Baker,

Who we are

NESO lies at the heart of the energy system as an independent, public corporation responsible for planning Great Britain's electricity and gas networks, operating the electricity system and creating insights and recommendations for the future whole energy system.

At the forefront of our efforts is delivering value for consumers. We work with government, regulators and our customers to create an integrated future-proof system that works for people, communities, businesses and industry, where everyone has access to clean, reliable and affordable energy.

NESO's primary duty is to promote three objectives: enabling the government to deliver net zero, promoting efficient, coordinated and economical systems for electricity and gas and the economy and efficiency of energy businesses and ensuring security of supply for current and future consumers. NESO will take a whole system approach, looking across natural gas, electricity and other forms of energy and will engage participants in all parts of the energy ecosystem to deliver the plans, markets and operations of the energy system of today and the future.

Our key points

- NESO Clean Power 2030 analysis¹ highlights that levels of demand side flexibility may need to increase by up to four to times today's levels to deliver a clean power system by 2030, and that the majority of this flexibility is likely to come via innovative retail propositions such as time of use tariffs. Innovative retail propositions also have a key role to play in decarbonisation

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of demand, including bundled propositions and services incorporating zero carbon heat and transport technology, and increased energy efficiency.

- The Clean Power 2030 report highlights how a step change is also required to enable access for different kinds of businesses and business models to offer services and propositions to customers to unlock flexibility and wider consumer benefits.. Demand side flexibility needs to be appropriately valued and transparently passed through to consumers. While we support the focus of this consultation on relatively quick wins in relation to opening up routes to market for new entrants and current suppliers to innovate further, we encourage Ofgem and DESNZ to undertake a more holistic review of the structure of the retail market to assess whether it remains fit for the future.
- NESO has supported retail innovation through the Demand Flexibility Service(DFS) since 2022, which has seen suppliers offering flexibility propositions to their domestic and industrial and commercial consumers, engaging over 2.6 million homes and businesses. There is also growing participation by domestic and non-domestic consumers and demand side flexibility in the Balancing Mechanism and ancillary services markets, enabled by innovative retail propositions. NESO is committed to further enabling participation of demand side flexibility in our markets by removing barriers.
- Significant growth in distributed flexibility will be fundamental in delivering a decarbonised electricity system and ensuring clean and affordable energy for all. To deliver this goal at the pace required to deliver clean power, greater alignment is needed between local and national markets and services to make this a reality. We look forward to working collaboratively with Elexon as the Market Facilitator, alongside Government, Ofgem & DNOs to develop more coordinated market opportunities for all providers of flexibility in the future.
- While the scope of this consultation is specifically on parties undertaking supply of electricity or gas, we encourage Ofgem to ensure that they are taking a joined up approach to the licencing and regulation of load controllers and heat network operators to ensure that all consumers can benefit from innovation and decarbonisation across vectors, and that regulation doesn't stifle cross vector innovation. It is important that system security needs are taken into account during the design of any new regulations in order to minimise the risk(and associated costs) of unintended system resilience challenges that may arise.
- From a whole system perspective, as well as joined up licencing and regulation of suppliers of electricity, gas, heat and flexibility, coordination of market mechanisms is also needed. For example, demand side flexibility in gas as well as electricity and heat will be important in order to achieve clean and affordable energy for consumers. UNC 0856 is providing a framework for conducting non-daily metered demand side response trials, which can inform how domestic and smaller business gas consumers can participate and benefit from demand side response. Heat Networks also have great potential to be flexible, and to reward consumers for being flexible in their use of heat and hot water.

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We look forward to engaging with you further. Should you require further information on any of the points raised in our response please contact Rebecca Beresford, Director of Markets at box.consultationresponses@uk.nationalenergyso.com

Yours sincerely

Rebecca Beresford

Director of Markets

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Appendix 1 Consultation Question Responses

Innovation in the retail energy market

Question 1. What innovation is currently happening in the domestic and non-domestic retail markets?

What is the scale of this innovation? Our perspective on current innovation in the retail market comes mainly from our role in enabling suppliers to innovate with products and propositions by accessing our markets to balance the electricity system. While NESO doesn't directly deliver products and propositions to consumers, our markets such as DFS are playing a key role in stimulating innovative flexibility enabling products and propositions for suppliers and aggregators in the lead up to market wide half hourly settlement.

DFS launched in 2022 and has incentivised domestic, industrial and commercial consumers to shift demand, helping to manage peak demand on the electricity system. In winter 2022/23, 1.6 million households and businesses participated in the service by shifting demand, saving over 3.3GWh. For winter 2023/24 we saw this increase to over 2.6 million participants saving over 3.7GWh. A wide range of suppliers have participated in the service offering a range of propositions to their domestic, industrial and commercial customers and we have undertaken researchⁱⁱ to understand consumer motives for participating in DFS. Research from the first year of DFS highlights that reducing energy bills was the main motivation for consumers to participate.

We have seen small but increasing participation from consumers in DFS through "type of use" propositions (EV charging, electrified heating, solar & batteries), and a growing interest in participation and settlement of the service through asset meters (as opposed to a boundary smart meter). While this interest is mainly through aggregators, there is also growing interest from suppliers in utilising metering embedded within assets to provide flexibility services from specific assets, as opposed to at a household level. We are focusing on unlocking barriers that exist across our services for asset metering, and we are feeding into energy smart appliance standards to ensure that a wide range of appliances are suitable for a wide range of flexibility markets going forwards. Suppliers also seem to be adopting asset metering and type of use tariffs for electrified heating and Vehicle to Grid as seen through the Ovo Heat Pump Plus and Octopus Power Pack tariffs which suggests growing consumer interest and demand for "type of use" propositions.

In addition to DFS, there is also consumer enabled demand side flexibility participating in our balancing and ancillary services markets, with considerable growing interest from suppliers and aggregators to access these markets at greater scale. This includes aggregated domestic, industrial and commercial demand flexibility participating in the Balancing Mechanism, Short Term Operating Reserve (STOR), Static Firm Frequency Response (FFR) and Local Constraint Market (LCM). The consumer propositions linked to these services differ across supplier and consumer types, from fully integrated propositions such as Octopus Intelligent tariffs to explicit payments to consumers for service participation.

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In gas, UNC 0856 is providing a framework for conducting non-daily metered demand side response trials, which can inform how domestic and smaller business gas consumers can participate and benefit from demand side response. While not directly in scope, there is considerable innovation happening in the design of zero carbon heat networks, and in enabling and rewarding consumers of heat networks to be flexible in their consumption of heat and hot water. Taking a cross-vector perspective to the future of the retail market is important to align multiple vectors to energy transition goals and enhance value for consumers.

While retail of certified renewable electricity via certificates has been common in the market for a number of years, this has largely been via certificates for production produced on an annual basis or bespoke supplier specific matching services on a more granular basis. NESO is work on an innovation project, 24/7 carbon free trading, that is investigating the role of virtual certificate markets linked to the wholesale market to drive efficient dispatch of low carbon energy sources across vectors, that provide an additional revenue stream to support the business case for low carbon energy producers. Research suggests that such markets can scale to provide additional value to a range of consumers and help to better balance a low carbon electricity system.

Question 2. What innovation should happen to meet consumers' needs and meet net zero?

In light of the growing demand from consumers in "type of use" and "bundled" services, we recommend that enabling these types of products and propositions, and retailers that develop and deliver these services, through reform of regulation representing barriers or pain points needs to be a priority. There are currently significant barriers to "specialisation"ⁱⁱⁱ in the retail market, which is impacting all consumer groups from benefiting from innovation and choice for their individual needs; whether fuel poor, vulnerable, middle income or affluent, and while this consultation is focusing on quick wins, there is a need for further work to assess the reforms needed to the retail framework to unlock consumer value, choice and greater market competition.

Time-of-use tariffs and innovative tariff propositions will be essential to deliver the volumes of demand side flexibility needed to achieve clean and affordable energy for consumers across electricity as well as gas and heat networks. Considering the UK's increasing reliance on international gas supply, there is increasing value from enabling and rewarding consumers to be flexible in their gas demand, to contribute to security of supply. This could include consideration of investment policy support mechanisms which could provide a long-term signal for gas consumers to contribute to security of supply.

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Q3. What will be the impact on consumers of new, innovative products and services? How can we maximise the benefits and minimise the risk?

Our Clean Power 2030 report highlights that digitalisation, automation and consumer engagement need to lie at the core of the 2030 system. Our pathways assume that innovative tariffs or other retail offerings are the default from 2028, but innovation in the market to provide similar services and increased choice for consumers could deliver greater volumes of flexibility. At present, 1.5% of residential demand at peak responds to innovative tariffs (other retail market offerings). To achieve clean power by 2030, this needs to increase to between 8 and 9%. Timely delivery of market half hourly settlement is fundamental to this, as is increasing choice and innovation for consumers in the retail market. Changes to retail regulations may also be needed to manage any complexity brought by multiple appliances and technologies and fairly pass through the value to consumers' bills. Changes must be mindful of potential negative impacts on vulnerable and low-income consumers. This includes the need to consider fair outcomes for customers who are not able to participate in demand side flexibility.

Enablers and barriers to innovation

Question 4. Are there any additional enablers or barriers to innovation?

The absence of half hourly settlement for domestic consumers is currently a significant barrier to innovation, as suppliers are not incentivised to take advantage of wholesale market price opportunities across the day and these benefits are not being passed onto consumers. Delays to the market wide half hourly settlement programme are a concern.

While not yet an explicit barrier, we recommend that the licencing and regulation of load controllers and heat network operators needs to be closely joined up with electricity and gas supply regulations to ensure that all consumers can benefit from innovation and decarbonisation across vectors. Consumer groups that are served by an electricity supplier, heat network operator and load controller need to have choice and innovative propositions available to them, and in many cases this could be the same "retailer". The regulation of these entities needs to be effectively interoperable to enable retail innovation across electricity, gas, flexibility and heat networks.

Going forwards, in a more interconnected multi-vector system, we expect a growing need for consumer participation in supporting balancing energy supply with demand. However, to enable this, coordination of market design and regulation across vectors will be critical for adequate incentives to be in place, including the ability to reward consumers for flexible energy consumption enabled through mechanisms such as the offering of time of use tariffs.

There are likely enablers that Ofgem can focus on to better enable regulation of multiple cross vector retailers such as considerations of how Ofgem leverage data and digitalisation to enable proportionate, measurable and digitised licencing^{iv}.

There are already examples^v of how incremental siloed reform of rules and regulations are leading to conflicting roles and responsibilities between suppliers and aggregators serving

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consumers, with potentially inefficient market outcomes and increased costs for all consumers. We recommend that an overarching vision for how energy system retail markets (electricity, heat, flexibility etc) will best serve consumer needs in future is required to drive such joined up reforms of retail market rules, and associated energy market responsibilities for retailers such as energy balancing (and interactions with other parties). We know that this is a difficult area to get cross-industry agreement, and so we would encourage an approach which identifies clear priorities (such as maximising competition in the largest markets first to maximise savings). It may also be useful to set clear short-term approaches using current regulations while waiting for more beneficial rules to be implemented, to give short term clarity to industry.

Question 5. What is the most significant barrier to innovation? Why?

In the current retail market, there appears to be limited reward available for suppliers to take advantage of closer to real time (e.g. day ahead) markets and incentive their customers to be flexible, compared to the risk of exposing themselves to price volatility that might price them above the price cap, and for them to be uncompetitive with the rest of the market. As such, the majority of the market is hedging over the long term and ensuring they are in line with the price cap, leading to largely homogenous tariffs and propositions across retailers. While the price cap and new rules to ensure sustainable practices by suppliers are in place, rightly, to protect consumers, reforms to the price cap should be considered to ensure that it represents a "backstop" for consumers, and that its design leaves room for tariff choices that provide additional value and appeal for consumers. These reforms should consider international experience such as the introduction time of use based default tariffs in some countries.

A low carbon electricity system will required closer to real time trading by suppliers in order to maximise the benefits to consumers of the variable output from generation powered by the wind and sun. We consider that more needs to be done to create sustainable competition and encourage retailers to innovate, by ensuring that they are rewarded for taking on risk and providing value to consumers. Half hourly settlement is also a vital enabler to encourage suppliers to benefit from and reward consumer flexibility.

Question 6. What innovation is not happening because of regulatory barriers?

Evidence suggests that participation in NESO balancing and ancillary services markets can help support innovative supplier propositions. We have been engaging with industry, including suppliers and aggregators, specifically on barriers for demand side flexibility in NESO services over recent months. Some of the key regulatory barriers to participation in our markets include delays to market wide half hourly settlement, final consumption levies limiting competitiveness of demand turn up, and a lack of clarity and consistency between emerging smart appliance standards and the Measuring Instruments Regulations for asset/embedded metering. Wider than this we consider that "type of use" tariffs and propositions, including bundling, and other innovative tariff offers are likely being held back, given the level of interest we are seeing for asset metering lead flexibility.

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Question 7. Should we do further work to improve routes to market?

While we support the focus of this consultation on relatively quick wins in relation to opening up routes to market for new entrants and current suppliers to innovate further, we encourage Ofgem and DESNZ to undertake a more holistic review of the structure of the retail market to assess whether it remains fit for the future. Delivering a clean power system and decarbonising heating are considerable challenges and will not happen without considerable engagement and buy in from consumers. Product and service innovation and market competition, with appropriate consumer protections in place, are central to gaining this consumer engagement and buy in.

Options to improve routes to market for products or services that involve selling energy:

Question 12: Are there any other improvements to routes to market which should be considered as part of enabling significant innovation in the retail market?

We do not have specific comments in relation to specific routes to market reforms, other than generally being supportive of reforms that increase competition and innovation in the retail market, but also highlighting the potential for market defects unless reforms are joined up to be coherent with associated retail roles and responsibilities (other suppliers, aggregators, heat networks, balancing responsibilities etc).

In relation to the consideration of raising a significant code review or providing code governance direction to consider how best to enable licence exempt supply in upstream markets (e.g. balancing or wholesale markets), we are concerned that this could exacerbate issues such as those seen in BSC Issue group 114, which is considering how suppliers and aggregators should interact, including balancing responsibilities and associated impacts. Any proposed change to enable licence exempts suppliers to participate in wholesale and balancing markets needs careful consideration of the roles and responsibilities of licence exempt suppliers, such as their balancing responsibilities, and how these interact with their supplier partner and potential aggregators who may be delivering services to consumers supplied by a licence exempt supplier.

ⁱ <https://www.neso.energy/publications/clean-power-2030>

ⁱⁱ <https://www.neso.energy/news/demand-flexibility-service-consumers-have-their-say>

ⁱⁱⁱ <https://www.citizensadvice.org.uk/wales/policy/publications/ripping-off-the-band-aids/>

^{iv} <https://es.catapult.org.uk/report/digitalising-licensing-in-energy/>

^v <https://www.elexon.co.uk/smg-issue/issue114/>