

By e-mail to: FutureConsumers@ofgem.gov.uk

Ofgem Consultation: Innovation in the Energy Retail Market (Consultation) Capgemini Invent Response

Ofgem
10 South Colonnade
Canary Wharf
London
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Dear Jemma Baker,

Ofgem Consultation: Innovation in the Energy Retail Market– Capgemini Invent response

Capgemini Invent welcomes the opportunity to share our views on Ofgem's consultation regarding the 'Innovation in the Energy Retail Market'.

Capgemini Invent is the consulting, innovation, and digital business of Capgemini. Capgemini is Europe's largest supplier of systems and technology services to the Energy and Utilities Sector. HFS Research have placed Capgemini second globally in their list of business and technology service providers to utilities. Every year we publish the World Energy Markets Observatory (WEMO)¹, the 25th Edition of this was published in November 2024. The report consists of 400 pages of detailed analysis and insights on world energy trends, with a focus on security of affordable energy within the global context of a series of successive crises that impact supply, pricing, and consumer behaviour.

We also provide wider services that cover net zero consumer strategy, development of new market services, smart metering implementation, consolidation, harmonisation and digitalisation of retail market codes and wholesale markets. Furthermore, in 2022 we established the Energy Markets 2030+² working group, which involved collaborating with senior cross-industry representatives over a 10-month period to define the future energy system. This has produced a compelling vision for the future that is based on a broad consensus of how the energy system should work.

In responding to the questions outlined in the consultation, we have provided key observations and recommendations as follows:

- A fundamental shift in cultural attitude towards innovation may be required if the aim is to incentivise participation from new, smaller, disruptive market participants
- We recommend the review include wider system and whole energy innovation, to maximise potential benefit realisation
- Defining clear innovation objectives will help provide investment clarity to the market
- Further consideration should be given to adoption of principles-based regulation, to reduce complexity and regulatory overheads
- Ofgem may wish to consider providing additional targeted funding routes, such as a Consumer Innovation Fund

We have outlined these considerations in more detail in 'Appendix 1' I hope you find these insights and suggestions helpful and if you would like to discuss any areas of our response, please do not hesitate to contact Michael Taylor³, Jack Taylor⁴ and/or Ranbir Singh⁵.

Yours sincerely,

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¹ [Capgemini \(2023\), World Energy Markets Observatory Report 2023](#)

² <https://www.capgemini.com/gb-en/insights/expert-perspectives/defining-a-unified-vision-of-the-uk-energy-market-in-2030-part-1/>

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Appendix 1 – Executive Summary

Capgemini Invent welcome Ofgem raising the innovation in energy retail market consultation and believe that creating an environment and culture that promotes new, innovative products and services will be essential in the transition to net-zero. As such, identifying appropriate actions to incentivise and remove barriers to innovation to existing market participants and new entrants should be viewed as a priority objective.

In this executive summary, we have outlined our views on what we consider the primary barriers to unlocking energy retail market innovation.

Unlocking Whole System Innovation

Whilst we are supportive of Ofgem investigating methods of unlocking retail market innovation, we have concerns that focusing wholly on today's view of 'retail' may limit downstream benefit realisation. The future energy system will include higher numbers of and more diverse participants, as well as having greater interactions across energy vectors. For example, we anticipate that the future energy system will include far greater interactions between energy and heat. As such, we recommend that the review considers the entire value chain such that outcomes provide sufficient space for the market to develop innovative solutions that deliver the greatest benefit for industry and the end consumer.

Driving Cultural Change to Innovation

To understand the key blocker and barriers to retail market innovation, it is important to recognise the innovation culture of the wider energy sector and how that compares equivalent sectors and globally.

For example, in the late 1990/2000s small groups of university students in North America would experiment with innovative ideas from their garages, fuelled by the belief that they could become the next 'Fortune 500' company. This occurred despite the small probability of success, and the knowledge that most of the ideas would fail. However, many were still willing to take a chance leading to the creation of some of the world's most successful and innovative technology companies. In contrast, the UK witnessed an innovation boom within the telecommunications and financial services sectors. Unlike the US, this was driven by major market players, such as O2, Sony Eriksen, HSBC and Lloyds.

To date, innovation in the GB energy market is generally accepted to have been led by a small number of major market players. Following the 2021 retail market volatility, there has been a compounding of market share being dominated by the top 5 suppliers, which now comprise 83% in 2024 when compared to 70% in 2018. Given the high market saturation, there is little space in which smaller, innovative, 'disruptors' to enter the space.

This suggests that it is extremely challenging for new business models to gain a foothold under the current retail market arrangement. As such, we can expect that innovation will be driven by incumbent market participants, unless there is significant reform that levels the field for new entrants. We recommend that Ofgem gives thought to the type of innovation that it wishes to cultivate, as it will impact the reform options taken forward.

What is holding innovation back?

We recognise the barriers to innovation that Ofgem have raised in the consultation document and agree that they are important and require addressing, notably those associated with regulatory challenges, price signals and stakeholder engagement. However, we believe there are some more systemic issues that should be considered within this review.

Arguably the largest contributing factor to low innovation rates in energy retail is the overall low profitability of the sector. Suppliers must purchase energy from an uncapped, often volatile wholesale market and re-sell into a capped market, which can involve periods of selling at a loss. For the avoidance of doubt, we recognise the role the price cap has played in protecting consumers against wholesale price spikes, excessive retail prices and maintaining affordability of bills. However, the impact that this has had to the attractiveness of the retail market to outside investment and the availability of funds for existing players to allocate into innovation cannot be understated.

A typical profit margin for an energy retailer is recognised as being approximately 2%⁴ and consumer debt sits at £3.7bn⁵. As such, it is understandable that innovation is not a priority for energy suppliers. Realistically, suppliers are unlikely to make sufficient gains through the retail market alone to justify innovation investment. Most would be reliant on alternative outside investment options, or through vertically integrated revenue streams. Even in these scenarios, retail market innovation investment is high risk, when the alternative of

⁴ [Ofgem Retail Price Indicator – latest publicly available figures. https://www.ofgem.gov.uk/energy-data-and-research/data-portal/retail-market-indicators](https://www.ofgem.gov.uk/energy-data-and-research/data-portal/retail-market-indicators)

⁵ <https://www.ofgem.gov.uk/publications/debt-and-arrears-indicators>

protecting margin through optimisation of business operation processes, or through upstream wholesale investment that reduces exposure to price volatility are lower risk, more attractive option.

Furthermore, there is a poor distribution of risk across the energy value chain, with retailers shouldering the highest risk and the lowest margins. The retail market has a high exposure to wholesale price volatility and has a history of experiencing market crashes. In the most recent retail crash, the remaining suppliers incurred significant damages through additional Supplier of Last Resort (SOLR) customers during a period of negative margins, and in mutualisation of missing Renewable Obligation (RO) payments.

Under the supplier hub model, retailers have overall responsibility for the consumer. This introduces significant regulatory complexity and operational overheads in managing processes and interactions across wider industry roles (e.g. Meter Operators Agents (MOA), Data Aggregators (DA), Distribution Network Operators (DNOs) and Data Collectors (DC)) and further dilutes available capital for innovation investment. The penalty for failure is high, with possible reputational damage from consumer experience failures and potential loss of licence for major compliance breaches.

Navigating regulatory complexity and maintaining compliance is another significant barrier to innovation, both for existing market participants and new entrants. New innovative retail products must demonstrate compliance with licence obligations as well as multiple energy codes. This presents a complex and high-risk route to market, requiring engagement with multiple different regulatory bodies, all of which have the potential to block, or slow progress. Furthermore, energy sector regulatory frameworks have been designed to minimise consumer supply risk through, often prescriptive, activity level rules. However, this is not a challenge that is wholly driven by central regulation, as suppliers have historically been wary of the additional regulatory overheads that can result from innovation led regulatory change.

We recognise the steps that Ofgem and other code bodies have made to simplify market access for new market entrants and innovators through regulatory sandboxing. However, sandbox uptake has been relatively low and whilst we acknowledge the alternative 'licence' options suggested within the consultation document, we have concerns that this further complicates an already complex market entry process.

Energy retailers are going through a period of significant change, both in terms of mandated regulatory change, and internal transformation to keep pace with IT developments, all of which is a further erosion of margin. In addition to the consistent high volume of 'business as usual' regulatory change, there has been an average of 1-2 major change programmes/year since the year 2000. Including the consolidation of the Retail Energy Code, the delivery for the Central Switching Service (CSS) and Market Wide Half Hourly Settlement (MHHS). Whilst these programmes are expected to deliver long-term benefits to retailers, it's worth recognising that the faster switching programme hasn't had the expected impact, due to low switching volumes.

Furthermore, existing suppliers have been exposed to a high churn of IT upgrades, driven primarily through evolving operating processes and changing regulations. Older IT systems are typically less effective in adapting to market changes and may delay the deployment of innovative products such as time-of-use tariffs or real-time data insights for consumers. As such, there has been a push for suppliers to adopt modern technologies, such as API compatible, multi-nodal systems.

In addition, systems must now handle much larger volumes of data due to increased smart meters deployment, half-hourly settlements, and integration with Distributed Energy Resources (DERs). This creates added pressure to scale and secure IT systems against increasing cybersecurity regulations simultaneously. Many systems lack interoperability, which is essential for integrating third-party services like peer-to-peer trading or EV charging networks. This can lead to costly redesigns and testing of new systems, that are likely to require bespoke elements, further exposing suppliers to downstream re-development costs. IT service providers also tend to lack in-house energy systems knowledge and experience, which can lead to ineffective system design and technical debt. Deployment of IT upgrade is also a high-risk activity that can result in disruptions to customer services and reputational damage.

Suppliers typically prepare for a certain amount of technology risk to ensure there is sufficient budget and resource headroom to deliver changes to existing systems. These may be driven by central system, or third-party system changes. Reallocating funds and resources for innovation increases risk that retailers are unable to meet externally driven change requirements. Innovation and technology are fundamentally linked, the inability to progress one has a significant impact on the other.

Market design and infrastructure issues are also holding back innovation, some of which are covered within the consultation document. We agree that smart meters, improved price signals and MHHS will key building blocks in unlocking retail market innovation. Market access and utilisation for retail consumers assets will also be an important factor. Whilst there has been some progress in this space, notably the role out of (N)ESOs Demand

Flexibility Service and the progression of BSC MOD P415⁶, there are still improvements to be made. For example, utilisation of demand units within the Balancing Mechanism BM is extremely low and DSO markets, despite recent improvements, are immature. Clean Power 2030 suggests that demand flexibility may need to increase to 16GW in 2030, much of which will come from distribution connected assets, which underlines the importance of facilitating market access and innovation within the retail space.

Currently the revenue is driven to retailers through a Price*Quantity calculation, with the standing charge added. As such there is little incentive for retailers to promote energy efficiency innovation as this could reduce their revenue. Although, with the above-mentioned low margins for retailers, there is an opportunity to switch consumer demand to times where the margins would be higher – retailers make limited margins on winter afternoons and better margins on summer weekends. Energy efficiency is a critical component of achieving our net zero targets and a key enabler for reducing consumer bills. Additional consideration should be given to how retailers can be incentivised to shift and reduce consumption.

Finally, the energy system and by extension the retail market is a challenging, complex sector in which to operate. Successfully navigating this space requires a deep understanding of its processes and regulatory environment, much of which requires hand on experience to obtain. Energy market fundamentals can only be accessed through specific university courses, or through industry/regulatory run courses, greatly limiting the pool of available innovators.

Defining Innovation Objectives

Whilst we acknowledge the benefits outlined within the consultation document, we believe that setting clear innovation objectives will help provide investment clarity to the market and assist regulators in removing barriers. Furthermore, we have a concern that the consultation document is slightly prescriptive on the specific innovations targeted. Allowing the market space to find innovative solutions in meeting clear objectives is likely to produce better outcomes.

Examples of retail market innovation objectives could include, but are not limited to the following:

- Should improve and must not degrade consumer outcomes, or result in consumer protection risk
- Should reduce and must not increase carbon output
- Should improve energy efficiency
- Must be set at a fair price and should promote affordability
- Should promote and must not degrade energy system resilience
- Market rules must promote competition and remain technology agnostic
- Should provide routes to re-skill at risk workforces
- Should be accessible to all consumer groups and not limited to affluent consumers only

Setting clear objectives and removing barriers will help create an environment in which the market can find the most innovative solution. This in turn removes the pressure on Ofgem to try and predict products and services, such that controls can be implemented ahead of time.

This approach can also be applied to regulatory sandboxes. As mentioned in our response to the '*Future of Regulations Sandbox*' consultation in January 2024, we believe that in designing sandboxes there should be a set of 'design principles', that could include promotion of transparency, do no harm, accelerating industry learning, and removal of barriers to entry.

Principles based regulation

As discussed above and highlighted in the consultation document, we view regulatory complexity as a primary barrier to retail market innovation. Adopting principles-based regulation is a recognised method of reducing complexity, lowering regulatory overheads, increase regulatory agility and promote innovation. It has been successfully applied to the nuclear industry which is governed by 23 principle and underpinned standards.

We recognise that principle-based regulation will need to be supplemented with standards to ensure high risk processes that are not suitable for retrospective compliance have robust assurance. However, we believe that Ofgem should consider adopting principles-based regulations that align to retail market objectives as an option in reducing regulatory complexity.

Customer Innovation Fund

We believe that there is a need for a Customer Innovation Fund, currently there are no funds available to organisations that want to innovate to support customers. Our view is that a fund would set objectives, such as helping vulnerable customers, and retailers, networks, charities and other bodies could then apply for funding to support their projects.

⁶ [P415 Facilitating access to wholesale markets for flexibility dispatched by Virtual Lead Parties - Elexon BSC](#)

The consultation document draws attention to several government-led funds that retail innovators can access, such as the Alternative Energy Markets Innovation programme. Whilst we support central government making more funding accessible to energy market participants, there is some challenge as to whether the amounts on offer and the ease of access go far enough to make the retail energy market an attractive place to stand up an innovation project.

Currently the routes to accessing funding schemes are complex. Simplifying routes to scheme access would facilitate entry, which could increase the number of innovation projects captured. In doing this, the barrier to entry would be lower, meaning that there would also likely be a rise in the participation rate of suppliers with smaller portfolios.

As discussed above, the energy retail market can be considered a less attractive as an investment option when compared to other parts of the energy value chain. As such, an Ofgem may wish to consider alternative retail specific innovation funds as an investment incentive. Currently, the primary energy sector innovation funds are the Network Innovation Allowance (NIA) and the Strategic Innovation Fund (SIF), however as network funds there is limited access for retailers. Introducing a retail market innovation fund, such as customer innovation fund, could incentivise targeted projects that improve consumer experience. This could be made available to a wider set of potential innovators, such as charities and third-party service providers.

Consumer Protection

We fully support Ofgem's desire to enable inclusive innovation that allows all consumers to benefit from a decarbonised and digitalised sector, including innovation that helps to solve the needs of consumers in vulnerable situations. We caution that the commercial drivers for developing innovative energy products and services risks leading to a high proportion of innovative offerings being targeted at more affluent demographics, with significant access barriers (such as the need to have an electric vehicle, solar panels, heat pump or other flexible assets) putting the innovative products out of reach of those who are struggling with energy affordability. Longer term, as uptake of innovative products grows, this could result in the average p/KWh paid the fuel poor being higher than the general population due to their inability to access the innovative products within the market.

To combat this risk, we believe that a central body should be specifically tasked with taking a leading role in ensuring that vulnerable customers are not left behind as the energy market evolves and flexibility offerings grow. This central body could facilitate a number of activities including:

- Acting as the key conduit between the energy industry and non-industry organisations (such as charities, housing association and councils) to support innovation in the vulnerable energy customer sphere and improve outcomes for those customers.
- Managing an innovation funding pot that supports customer related work, similar to the Strategic Innovation Fund (SIF) available for network related projects. The central body could set priorities, such as vulnerability, debt, disabled customers, better use of data, and invite organisations to submit innovation proposals related to the selected priorities and determine which will receive funding.
- Publishing aggregated energy market data providing insight into consumer vulnerability that can be used within the industry and beyond to better target initiatives. For example, monitoring uptake of flexibility offerings by groupings such as deprivation level, income level, Priority Service Register (PSR) status and pensionable age status.
- Using data insight to improve outcomes for vulnerable customers. For example, driving initiatives to increase uptake of innovative products across vulnerable groups where data indicates they are being 'left behind'.

Conclusion

We strongly support Ofgem raising this consultation and view it as the first steps in driving energy market innovation. However, we recommend that additional thought on innovation culture; interaction between retail market innovation, the wider energy value chain and energy vectors; energy market design; and funding routes is incorporated into the next stage of the review, to ensure recommendations result in impactful, lasting change.