



OFGEM CALL FOR INFORMATION – FUTURE OF DISTRIBUTED FLEXIBILITY

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GEMSERV RESPONSE

QUESTION 1 - WHAT DO YOU THINK DISTRIBUTED FLEXIBILITY COULD CONTRIBUTE TO THE ENERGY SYSTEM?

The Great Britain (GB) energy system is broadly built on the principle of generation being geographically located remote from where it will be used. National Grid manage the high voltage transmission system that conveys the electricity to the distribution companies that transport the converted low voltage to the end consumer. Since the introduction of domestic micro-generation, the distribution network has had to cope with a change in usage as export energy is spilled from domestic premises onto the local network. This has led to infrastructure challenges that the Distribution Network Operators (DNOs) must meet through ongoing investment.

In the goal to achieve net zero, GB has moved away from predictable carbon intensive generation (coal and gas), increasing the use of renewable energy (wind, solar and hydroelectric), as well as a baseload maintained by nuclear. To achieve net zero coal and gas will need to be removed from the mix, leaving unpredictable renewable and predictable, but slow to respond to changes in demand, nuclear.

Peaks in demand that cannot be met by baseload have historically been met by the energy balancing system where fast responding (carbon intensive) generators bid to provide the required amount of energy. Net zero goals mean that either the fast-responding generation requirement is met by renewable energy (hydroelectric or battery farms), or by demand side response. This is where distributed flexibility comes in. In times of network constraint, distribution connected consumer and business owned assets could be used to help mitigate the constraint.

To achieve this those consumer devices, need to be able to respond to signals from Flexible Service Providers without consumer manual intervention. The response could be to switch off / reduce current demand during the constraint period, or for those consumers with batteries to provide export energy to the grid. For business owned distribution connected assets, such as Electric Vehicle fleets or battery farms, they may also be available to respond to constraints.

A distributed flexibility market is not just about balancing the system, there are multiple other markets that may interface and find benefit from it. Energy Suppliers may wish to provide tariffs to customers with flexibility capability that can be called on to help protect the Supplier from disadvantageous wholesale energy trading positions, the frequency of the system also needs to be balanced, distributed flexibility can play a role here as well. There is also the energy efficiency market that can provide consumers with smart appliances that shift their load, so demand is created at the optimal time of day for the system, and home energy management products that automate the process and centralise control within a premises. All of these markets may interact to provide conflicting signals so the developing flexibility market must provide a hierarchy of precedence to determine which call for flexibility action takes priority. This highlights the need for the common energy digital infrastructure, and associated flexibility exchange, to form the single source of truth for the data required to make these prioritisation decisions.

A robust, mutually beneficial, flexibility market will stimulate consumer uptake of flexibility products, promote electrification of heating and transportation, stimulate innovation in manufacturers (and other market players) to provide smart flexibility products, promote more efficient energy usage for domestic consumers and avoid the need for infrastructure investment, as well as contributing to the net zero objectives.



QUESTION 2 - WILL A FOCUS ON CER FLEXIBILITY ALSO HELP ENABLE OTHER FORMS OF FLEXIBILITY, ESPECIALLY DISTRIBUTED FLEXIBILITY?

Yes, Genserv believe that a focus on CER flexibility is essential to enable other forms of flexibility, especially distributed flexibility. CER will be an essential component of distributed flexibility, so without that focus the flexibility market will not develop to maturity as quickly.

The Energy White Paper, 'Powering our Net Zero Future' (CP 337)¹, published in December 2020 by HM Government, defines distributed flexibility as: 'Technologies that can deliver flexibility that are connected to the distribution network across the country.' Where flexibility is: 'The ability to change generation and/or demand in response to an external signal (e.g., price or contract terms). Flexibility enabling technologies include batteries, demand side response, interconnectors, and fossil fuel generators.'

In the context given above Consumer Energy Resources (CER) would include any consumer asset connected to the distribution network. This can range from the recent examples from the National Grid Demand Flexibility Service (DFS) where some consumers turned everything off at their fuse box, to assets that can be manually, or remotely, turned off in response to a signal. Electric Vehicle (EV) charging, Heating, Ventilation and Air Conditioning (HVAC) including heat pumps and air conditioning units, domestic battery storage, as well as white goods, such as fridges and freezers could all form part of CER. Similarly high consuming appliances such as electric ovens, hobs and kettles could have their usage shifted to quieter periods in response to signals. There are also exporting CER assets, such as solar panels, batteries and EVs, which could boost the available energy in a network if required.

One of the current barriers to CER flexibility is that few of these assets are "smart" and programmable to respond to remote signals. A focus on CER flexibility is required to stimulate the innovation required to amend existing products and introduce new products that can bridge this gap.

Responsive end user demand side management is also a different model of network management than that to which the network operators are used to and requires a greater level of network monitoring and information about connected devices than are currently available.

The flexibility market, whether that is demand response aggregators, or central bodies, must be developed to encourage more consumers to engage in it, invest in the assets, and to unlock the full benefit of distributed flexibility. That market must also include the Distributed Energy Resources (DER) business owned assets, as the combination of DER and CER flexibility will be required to meet the requirements from the network operator. Indeed, without a central co-ordinating role DER and CER may counteract each other.

There is a risk that the economic signals will not be sufficient to trigger required behaviour by domestic consumers, particularly where manual intervention by the consumer is required. Even if the economic signals are sufficient engagement fatigue may set in, putting the flexibility benefit case at risk. There is also the issue that the smart metering roll-out faced around data consent. Some consumers may wish to participate in flexibility but not wish to share their data. There is also the issue of consumers needing to have a smart meter to participate so that the settlement reconciliation activity can occur. The worst-case scenario is DNOs reduce their investment spend due to

¹ <https://www.gov.uk/government/publications/energy-white-paper-powering-our-net-zero-future>



expected distributed flexibility that then did not reliably materialise, resulting in local rolling blackouts and the infrastructure spend being required at a future time.

There is a further risk that distributed flexibility requires increased infrastructure investment from DNOs, not less, due to the distribution lines not being designed to cope with the load of bi-directional energy from solar farms and EV fleets providing additional generation as required.

All of these risks can be ameliorated by a mature flexibility market providing repeatable, reliable outcomes for participants.

An increased focus on CER will help to address the risks and clear the blockers listed above. A focus on innovation in creating home energy management systems, specifications for built in smart connectivity in CERs, as well as adaptors to convert dumb CERs to smart should result in a proliferation of CERs in domestic premises, leading to a critical mass within geographic areas that can be calculated to provide a flexibility benefit to DNOs, and hence stimulate distributed flexibility. The home energy management system enabling automation will address the risk of consumer engagement fatigue by removing the need for manual intervention. Addressing the risk of consumers opting out of participating due to concerns over data privacy, or the need to have a smart meter, is a more difficult task (after all it still remains an issue for smart metering). Consumers who already have domestic micro-generation, heat pumps or electric vehicles and so may be early adopters of CER flexibility are generally more engaged in their energy usage and less likely to have data privacy concerns. It is important that CER flexibility can be demonstrated as beneficial for consumers as well as for the energy system and NetZero, in that way less engaged consumers may be encouraged to enter the market. There may also be a need for an organisation to take on the role of mythbuster for flexibility so that the misinformation in the media that plagued smart metering is not allowed to repeat for flexibility. It is important that lessons are learnt from the successes and failures of Smart Energy GB so that if a similar organisation is created it has a greater chance of success in encouraging customer uptake.

QUESTION 3 - IS THERE A 'CASE FOR CHANGE' AND A NEED FOR A COMMON VISION FOR DISTRIBUTED FLEXIBILITY?

Gemserv strongly support the need for the establishment of a common vision for Flexibility across GB markets, and do not currently feel that there is a genuine form of consensus or clear direction that supports a tangible common vision across all stakeholders and market participants. It is our assessment, much aligned to the spirit of Ofgem's note on 'pockets of excellence', that there are a broad range of very exciting and innovative initiatives across the demand response and flexibility space. There are partnerships and pooled approaches developing, but this organic shaping of the markets and its operating structure is at risk of not achieving its full potential without a considered common vision.

However, we are also conscious that it is important that a common vision, and the outcome of this call for input (and any future consultation), does not result in the hard and fast deployment of an end state design. Gemserv believes that the technological and innovative journey we are now on within the Energy sector does not, and should not, ever have an end state. As such, despite agreeing that a common vision is absolutely necessary for Distributed Flexibility, it should retain as much of its organic nature as is suitable to make the GB flexible Energy system 'cutting edge'.



We feel that the case for change is strong as the GB flexibility market requires change to support a consistent delivery of the benefits that are required as the use of the GB distribution networks evolves as more load is added from the electrification of heating and transport, and the likely increase in air conditioning use from hotter summers. The network must also adapt to more distributed generation connecting providing additional challenges to the DNOs.

Without a consistent framework and structure that allows all the parties to engage in an efficient manner then there will not be the clear signals required that will result in the consistent and repeatable flexibility changes required to manage the network. A well defined market and strategic vision for flexibility will also have the benefit of providing certainty to potential market participants and investors which is essential to stimulate market growth.

There are various markets that will have an interest in, and hence require access, to a distributed flexibility market. All those markets and market participants will need a clear method for how they become a participant in the flexibility market, e.g.:

- what the market entry requirements are;
- security requirements;
- liability arrangements;
- testing requirements for market entry;
- invoicing and settlement arrangements;
- interoperability requirements;
- specifications for home energy management systems and connected devices;
- change process;
- dispute process;
- etc.

This suggests the need for a Flexibility Code to be created and developed that will provide the certainty potential market entrants will require to secure investment. In line with Ofgem's code reform activity whether a new code needs to be created, or the activity included within an existing code will need to be explored. A Code will then need a Code Manager, and the underlying governance structure aligning to best practice which should be competitively procured.

QUESTION 4 - WHAT IS YOUR VISION FOR HOW TO ACCELERATE THE DELIVERY OF ACCESSIBLE, COORDINATED AND TRUSTED MARKETS FOR DISTRIBUTED FLEXIBILITY?

Gemserv's view of market challenges facing Ofgem and the industry draws from our unique experience in this field:

- Our extensive work delivering low carbon initiatives and supporting market transformation to deliver net zero strategies;
- Our expert understanding of the energy market and our role in supporting code bodies to ensure a diverse set of industry participants and consumers benefits from a common rule book aimed at ensuring efficient and effective markets; and
- Our experience in delivering digitally-enabled innovation to deliver positive real world impacts.



Our view is that any meaningful vision for achieving distributed flexibility at scale should focus on accelerated delivery but also ensuring industry involvement.

Delivering a common digital energy infrastructure will provide the necessary mechanisms for overcoming information, access and coordination challenges currently hampering the development of distributed flexibility markets. However, our contention is that common infrastructure, on its own, is an insufficient mechanism for drawing together a critical mass of participants and tackling the ‘tragedy of the commons’² described in the call for input.

Such a critical mass of engaged participants would build the trust necessary to break down silos and begin to align incentives. It would also encourage shared innovation, focus effort and further accelerate the pace of change.

As presented by Ofgem’s analysis, over the years industry has oscillated between a diverging and converging mindset. The resulting “limited conversion of innovation to business as usual” leads us to the view that the necessary industry consensus and collective adoption are unlikely to emerge organically at the pace needed. Achieving common adoption and participation should be an explicit aim of Ofgem’s vision.

Our strong view is that, in order to achieve the outcomes set out in p31-32 of the call for input, Ofgem should investigate and establish an industry code for distributed flexibility. Crucially this would sit alongside the technical delivery of the common digital energy infrastructure. The benefits of this approach would include:

- Engagement across the wide and diverse group of market participants involved in distributed flexibility.
- The opportunity to build industry consensus and drive ongoing development and innovation.
- Establishing and maintaining clear expectations and accountability for industry participants.
- Delivering the necessary services required to ensure the system is well-run, e.g. monitoring and dispute resolution.

Our vision for a Flexible Energy Code

Whilst the common digital energy infrastructure, as described in the call for input document, presents an opportunity to develop the necessary trust and governance required for distributed flexibility, it is not itself a governance mechanism.

Our vision is for a code structure with the highlevel purpose of setting out the common rules of interactions between participants making use of the common digital energy infrastructure. In common with other current energy codes, a flexibility code would cover a range of crucial areas, including:

- Change management
- Performance assurance
- Data access and transfers
- Security
- Charging methodology

² This reflects the competitive and rivalrous nature of the markets involved. New common infrastructure on its own does not provide guarantee collective participation.



Infrastructure service provision Reflecting the Government's recent reforms for energy codes³, we envisage such a code being overseen by a Code Manager selected by Ofgem and tasked with establishing a common and accessible set of rules. This would create a transparent framework overseen by an independent party. As such, these arrangements would increase access. They would also reduce barriers to entry to new and other sector participants by facilitating engagement with industry.

Modern approaches to industry codes, enabled by the use of a variety of regulatory technology tools, means that the introduction of a new code need not result in one unnecessarily complex or cumbersome for participants. Our experience of using digital technology to deliver regulatory codes shows that they can be made accessible, responsive and intelligent.

We believe there is merit in Ofgem investigating a Flexibility Code, either as a new code which interacts with other relevant codes, or where suitable, an expansion of an existing well-run energy code. Such a development would play an important role in engaging industry as a whole in order to deliver the ambitions behind the common digital energy infrastructure.

QUESTION 5 - WILL CERTAINTY OF AN END VISION HELP ACCELERATE ENABLING WORK AND MAKE IT COHESIVE?

Gemserv believe that an end vision while certainly helpful, is not essential to help accelerate enabling work and make it cohesive. We believe that there should be a proposed end vision that retains flexibility to allow for evolution (and potentially revolution) within the market. This will mitigate the risk of an end vision being introduced that while suitable to accelerate enabling work now then becomes restrictive as the market evolves. A strategic vision needs to be introduced that enables the market to achieve a critical mass of participants to prove that it works and is an attractive market to be involved in. Gemserv believes that this should be the focus rather than an end vision. To achieve this one approach would be to set out the stages of strategic vision that maps out how the market grows from the inception / introductory stage it currently is in, through to the growth and maturity stages covering a suitable timespan to engender investment confidence. The strategic vision needs to be agile enough to not stifle an evolving market, but also rigid enough to provide investor confidence. This strategic vision could be reviewed at regular intervals as defined market milestones are achieved.

What vision is required to facilitate market growth?

Certainty of investment and return on investment is required to enable market growth. That certainty can be fostered by providing greater regulatory certainty by providing a clear understanding of the regulatory framework that investors, and market participants, will be required to comply with. This could be achieved by the introduction of a Flexibility Code that clearly sets out the requirements for participants to participate in the flexibility market, both from a Service Provider perspective, and for technology providers to manufacture interoperable devices that will move distributed flexibility from a manual activity requiring engaged customers, to an automated market that provides

³ As set out in Government's factsheet on code governance reforms being legislated for in the Energy Bill, which is currently being considered by Parliament, <https://www.gov.uk/government/publications/energy-security-bill-factsheets/energy-security-bill-factsheet-code-governance#:~:text=The%20energy%20codes%20are%20documents,to%20connect%20to%20the%20grid.>



predictable and measurable responses and output. A proliferation of CER devices complying with the regulatory structure plus an implemented common digital infrastructure and flexibility exchange as suggested by the medium archetype, will provide evidence that the market works as designed, and from there increase consumer confidence, encouraging more consumers to participate growing the market further.

What vision is required to facilitate market maturity?

Market maturity will come from an established flexibility market with engaged market participants. Those engaged participants through regular use of the market mechanisms will identify ways that the market can be improved and become more efficient. Regulation of the flexibility market will need to allow for adaptability and enable future changes in technology and innovation that are likely to be introduced as the market evolves on the journey to reach maturity. A robust and efficient change process with associated clear governance, will be required to facilitate these improvements and pave the way to market maturity. The strategic vision will need to be reviewed against the market landscape that exists at this future point to ensure that it is still appropriate and best serves the market.

QUESTION 6 - WHEN SHOULD A COMMON DIGITAL ENERGY INFRASTRUCTURE BE IN PLACE? AND THEREFORE, WHEN SHOULD DEVELOPMENT BEGIN?

Gemserv believes this is a crucial question given the pace of change needed to achieve our 2035 energy targets. At various points in the call for inputs, Ofgem makes clear just how vital a common digital energy infrastructure and various enablers are to enabling flexibility at scale to become a reality. As enablers of flexibility at scale, their absence represents a clear barrier to progress. We recognise the obvious urgency underpinning this agenda.

We believe three important factors should inform the realistic timescales for achieving such a common digital energy infrastructure.

- *The central challenge of coordination:* as the paper points out, the lack of coordination⁴ and common infrastructure to enable coordination to sit across the full range of strategic challenges standing in the way of distributed flexibility at scale.
- Notably, there are currently insufficient incentives for system actors to work together to remove these barriers organically. Waiting for an organic industry solution could mean a delay of 5-10 years.
- *A looming deadline:* The Government's analysis indicated that the UK needs to treble the current 10GW low carbon flexibility capacity in the system today to around 30GW by 2030.⁵ Underlying this is a vision of a fully digital and data-enabled flexible energy marketplace, supporting innovation, new business models and new consumer service offers.⁶

⁴ Noting the importance of this being in accordance with competition law and not resulting in anti-competitive behaviour.

⁵ BEIS (2021), Smart Systems and Flexibility Plan 2021, p11, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1003778/smart-systems-and-flexibility-plan-2021.pdf

⁶ BEIS (2021), Digitalising our energy system for net zero - Strategy and Action Plan 2021, p20, https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1004011/energy-digitalisation-strategy.pdf



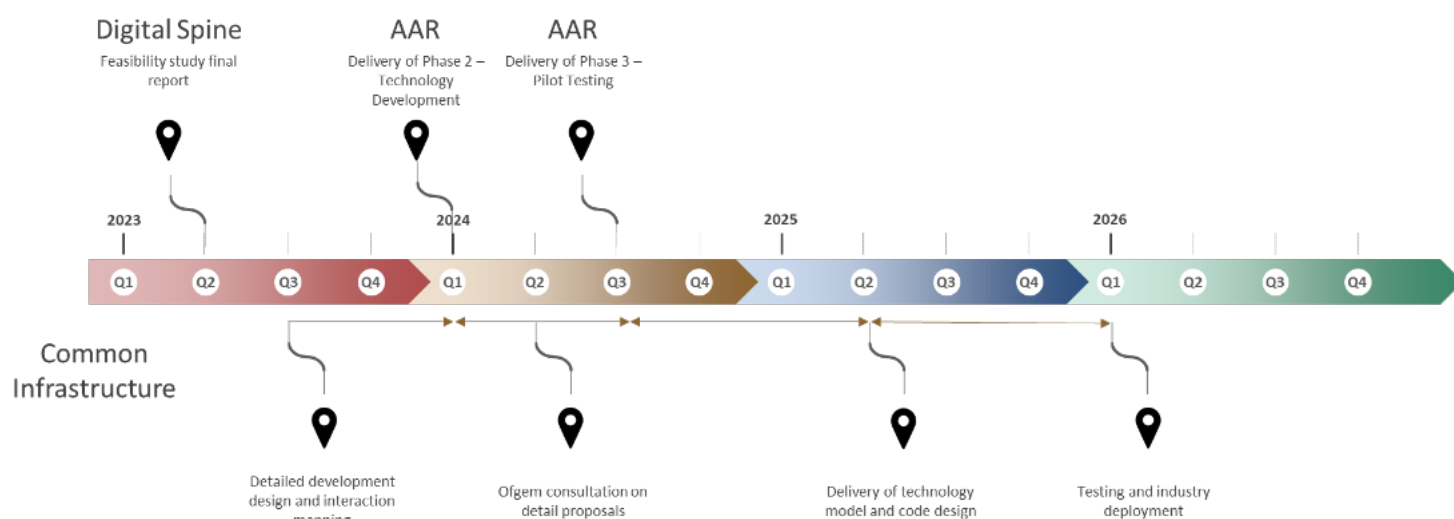
- **Supporting investment in flexibility:** The financial benefits of a fully realised distributed flexibility market are significant. However, the scale of investment needed is similarly significant. Positive investment decisions are more likely where there is clarity on the actions the Government and the regulator are taking and where there is a clear roadmap for delivery.

Taking these factors into consideration, we believe the optimal scenario - one enabling sufficiently effective and efficient distributed flexibility to meet our 2035 net zero goals, would see:

- a common digital energy infrastructure operating within the next 2-5 years (at an absolute maximum).
- during this time, clear connections and interoperability were established with all other emerging national digital flexibility initiatives, e.g., AAR and the proposed digital spine, and 'smart local energy system' projects.

To achieve this, the initial development of the common digital energy infrastructure must coincide with the development and delivery of the digital spine and AAR initiatives. This points to ongoing development work starting in 2023/2024.

A potential route map for achieving this scenario might be:



In contrast, there are inherent risks in developing a common platform intended to interact with a range of already delivered digital innovations developed without a requirement to consider how they would relate to a common digital energy infrastructure platform.

Those risks include:

- the possible need for substantial additional work to adapt those digital innovations to realise the intended interactions and functionality within a common infrastructure;
- a delay in realising the benefits within the common infrastructure of integrating the functions presented by initiatives such as the Digital Spine and an Automatic Asset Register; and
- insufficient motivation, once initiatives are delivered, to engage with the development of the common digital energy infrastructure.



QUESTION 7 - WHAT SHOULD A COMMON ENERGY DIGITAL INFRASTRUCTURE LOOK LIKE, AND WHY? PLEASE CONSIDER THE ARCHETYPES OR DEVELOP YOUR OWN PROPOSITION.

Gemserv believes that the archetype offering the most utility is the medium archetype – it provides a sufficient common vision and infrastructure to enable coordination and direction without potentially stifling the market by administering market competition. It also can potentially benefit from the retention of some of the existing infrastructure that is either a good foundation or is working well.

The medium archetype common digital energy infrastructure containing Information Provision, Market Coordination, Trust and Governance as a minimum plus interfaces forming the flexibility exchange appears the ideal starting point for a flexibility market, so long as it is built so as not to prohibit later additional functionality (included in the thick archetype) that may prove beneficial as the market matures.

The light archetype:

- continues the proliferation of pockets of excellence;
- feels largely unmoderated;
- is at risk of commercial interests shaping the markets; and
- might be challenging for new entrants / smaller entrants to the market.

The heavy archetype:

- is potentially slow and cumbersome;
- is at risk of becoming a change quagmire;
- is potentially not very agile and able to adjust quickly to market demands; and
- may lead to a monopoly of commercial interest.

If, as suggested in the Technical Annex, we consider the eventual solution to be on the spectrum of archetypes presented, then we believe that one of the principles that form the basis of the solution should be that any repeat activity (i.e., transformation of data, etc.) should be conducted where it provides the most economic efficiency. The flexibility market will hopefully be attractive enough to include multiple participants, where activities can be centralised removing cost from each participant is to be encouraged as it will facilitate competition.

QUESTION 8 - WHAT IS YOUR VIEW ON THE DESIRABILITY AND FEASIBILITY OF THE ARCHETYPES OR YOUR OWN ALTERNATIVE PROPOSITION?

Gemserv believes that out of all the archetypes presented by Ofgem, the “Medium” archetype presents the best model. It positively reflects the need to balance a) the delivery of an enabling infrastructure and functionality; b) limit the risk of an overly centralised model which could harm long-term innovation and adaptability.

In particular:

- *Limited unnecessary disruption* - the development of a “flexibility exchange” presented in this archetype explicitly accommodates existing market processes and digital infrastructures. Doing so mitigates against



unnecessary disruption and the need to force migration to a central platform (which is a consequence of central platform approach of the “Thick” archetype).

- *Enabling use cases* – in contrast to the directory function envisaged in the “Thin” archetype, there are sufficient use cases envisaged in the “Medium” archetype to improve outcomes and, importantly, the ability to add new use cases as distributed flexibility scales, accelerates and matures.
- *Focus on coordination* – it is a virtue of the “Medium” archetype that it maintains a focus on enabling coordination. At this stage, the ambition of optimising outcomes across all markets could be premature and result in less innovation and competition.

The strategic challenges and emerging market failures explored in the call for input highlight the fundamental problem of information asymmetry and a lack of a ‘single source of truth’, therefore it is highly desirable to focus on the archetype able to effectively address that issue. An infrastructure model centred on delivering a data exchange would deliver against critical need.

Ofgem could further develop its thinking by commissioning a more detailed, but rapid, feasibility study of the different archetypes presented. This study should gather further evidence and industry views on a range of relevant issues, including:

- Fully mapping and exploring the range of in-train or existing initiatives which the different archetypes will need to interact. This is an area not fully explored in the call for input, associated technical annex or the commissioned design study;
- Explore how industry participants would expect to interact with the different archetypes and what potential barriers participants might face;
- What expectations on governance and functionality participants are likely to have; and
- The economic model for a common infrastructure to gain a more granular understanding of the costs and benefits associated with its adoption.

Understanding the full range of initiatives and their capabilities would further illustrate the breadth of coordination needed across the distributed flexibility. We would expect such an exercise to set out the necessary and intended interactions between initiatives, as well as where further work is needed to achieve that goal.

QUESTION 9 - SHOULD A COMMON DIGITAL ENERGY INFRASTRUCTURE BE NEW-BUILD, OR SHOULD IT BUILDOUT FROM EXISTING INFRASTRUCTURE?

There are some inherent challenges that should be considered if adopting an approach predicated on extending existing infrastructure assets:

- Our experience is that it is generally harder and more complex to repurpose or extend the functionality of existing assets at this scale.
- Even if ultimately achievable, adopting this approach almost always introduces constraints and require trade-offs between limiting the disruption for existing users, having to make use of legacy technologies, and achieving the intended goal.



In contrast, there are benefits to adopting a new build strategy that should be considered including the ability to take advantage of a range of modern technologies. For instance, adopting a cloud-first approach to provide security, scalability, and performance benefits.

In general, we support the expectation that the solution would use modern modular technology, using open-source solutions and common standards.

More broadly, there is value in viewing the delivery of common infrastructure as establishing ‘public interest digital assets’.⁷ This approach looks to maximise the utility of sector investment, increase the likelihood of international adoption and minimise technical monopolies.

Alongside the technical delivery approach used, we believe that there are considerations which should inform the overarching delivery approach taken:

- ***Independence:*** The infrastructure should be independent and responsive to the full range of industry needs and viewpoints.
- ***Future-driven:*** Ensuring that the infrastructure design is not an adaptation away from some prior, narrower objective but driven and reflective of a broader evolving ambition.
- ***Commercially neutral:*** Given the importance of the infrastructure, Ofgem should consider how the asset can be delivered in a commercially neutral way. More straightforwardly, Ofgem should be wary of establishing common infrastructure that entrenches any particular commercial viewpoint from within the system.
- ***Optionality:*** In this sense, providing Ofgem with a full range of options for the governance and maintenance of the asset. Rather than being dependent or having to adapt already established arrangements.

QUESTION 10 - WHAT ARE THE IMPORTANT AREAS FOR CONSIDERATION WHEN DESIGNING INSTITUTIONAL DELIVERY MODELS FOR A COMMON DIGITAL ENERGY INFRASTRUCTURE?

The six delivery models set out in the paper usefully reflect an extensive range of real delivery experiences across regulated spaces. However, these examples also present a range of objectives and sectoral contexts.

Gemserv has a viewpoint drawing on extensive experience in developing and maintaining sectoral governance and new regulatory regimes. In addition, our experience across both SEC and RECCo underlines the importance of bodies able to enable collaboration across industry spaces.

Given the nature of the challenge in creating a common digital energy infrastructure, we believe that Ofgem should consider several relevant success factors in deciding on a viable institutional delivery model:

- ***Are the objectives sufficiently clear:*** Ofgem should ensure an explicit articulation of the objective for the common digital energy infrastructure and its intended impact. That should then run through the centre of the

⁷ The development of public interest digital assets was a key recommendation from the Energy Digitalisation Taskforce. Energy Digitalisation Taskforce Report (2021), p38, <https://esc-production-2021.s3.eu-west-2.amazonaws.com/2022/01/ESC-Energy-Digitalisation-Taskforce-Report-2021-web.pdf>



delivery model. Doing so will allow both delivery and industry participants to maintain a shared understanding of what is intended.

- *Is there a strong mandate driving the use of the infrastructure and is it clear where the mandate lies:* As the paper makes clear, system actors have varying incentives, none of which have resulted in greater coordination and collaboration. To combat this, Ofgem should ensure a clear mandate for using the common digital energy infrastructure and its delivery, adoption and ongoing use. As set out in question 4, we believe that a flexibility code would ensure that clear mandate.
- *Is this a clear government/regulator priority:* To ensure ongoing engagement with system actors and to drive consensus, the industry will need to see that this is – demonstrably – a government/regulatory strategic priority?
- Are there clear mechanisms for ensuring the overall security of the infrastructure: ensuring overall security and protection will be crucial given the data-rich nature of the proposition and the need to develop and grow trust. *Does the delivery model enable evolution and iteration:* As highlighted earlier, the system will need to adapt to future needs and challenges. Whilst there are clear and present imperatives, we can see disbenefits in a system that struggles to adapt to fast-moving market situations and technological innovations.

To this end, Gemserv strongly suggests Ofgem consider a hybrid model. This would involve the clarity of a mandated central entity to oversee the initial design and delivery of the common infrastructure and incorporate the variation of a code manager to ensure sufficient industry engagement over the ongoing evolution of the common infrastructure.

The benefits of such a model include:

- Maintain a transparent and industry-engaged framework for evolving and monitoring the use of the common infrastructure.
- Ensuring a clear line of accountability for the common infrastructure's design, build and technical maintenance.
- A clear distinction between an independent delivery entity able to advise and provide innovative services where needed, for instance, to support new market entry. In contrast with a representative body coordinating involvement, engaging in the ongoing development of the common infrastructure and reporting on its use.

QUESTION 11 - WHAT ARE THE IMPORTANT AREAS FOR CONSIDERATION WHEN DESIGNING FINANCIAL DELIVERY MODELS FOR A COMMON DIGITAL ENERGY INFRASTRUCTURE?

It is clear that further development work will be needed in order to properly consider the best financial delivery model for realising common infrastructure. There is a particular challenge in the design of any financial model, given the breadth of industry interests and differences in the relative benefits gained from a common infrastructure.

An economic model should be undertaken to properly assess the relative economic value and costs on market participants.

Gemserv believes that a successful financial model for common infrastructure will need to reflect:

- Considerations about whether common infrastructure represents a public interest asset or whether it is a commercially ownership.
- Involvement of all parties and a fair reflection of the different views across the system;



- Transparency and accountability for initial and ongoing costs, as well as the spending decisions made;
- Clear evidence and assessments of the value and costs of the infrastructure, based on an economic case for the infrastructure (including understanding where the benefit lands amongst system actors);
- A proportional allocation of existing costs, as well as a funding strategy that also reflects future innovation and market access.
- The impact and benefits on consumers, who ultimately pay for improvements in the energy system.



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