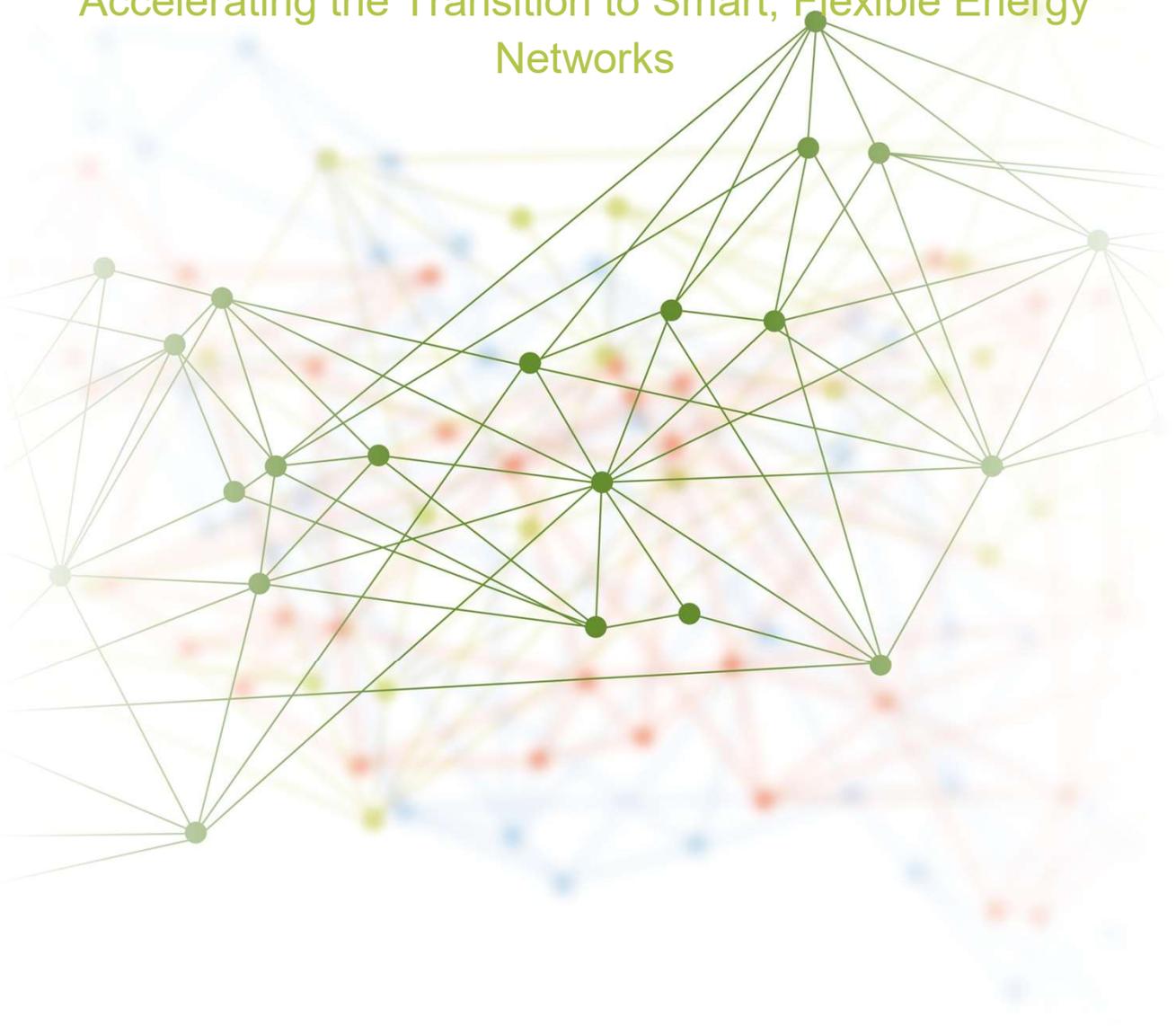


FUSION

USEF Consultation Report

Accelerating the Transition to Smart, Flexible Energy
Networks



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- This document forms part of the deliverables set out in the Project FUSION Directions – Report on consultation responses and analysis.
- This document can be cross-referenced with our publications of USEF Due Diligence Report and USEF Consultation Document on the FUSION Webpage.

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EXECUTIVE SUMMARY

Introduction

The purpose of this document is to provide summary and analysis of stakeholder responses to the “Accelerating the Transition to Smart, Flexible Energy Networks” Consultation on the USEF Framework. This consultation was launched for 8 weeks as part of Project FUSION on 8 July 2019. The consultation forms part of the third Work Package (WP3) of Project FUSION, which explores the **implementation of the USEF framework in the GB context** and seeks to inform policy development around flexibility markets and the DNO-DSO transition.

The aim of this consultation was to inform the Project FUSION flexibility market trial, where key USEF concepts will be implemented in practice to assess their feasibility and effectiveness, as well as the development of a USEF GB Implementation plan. The USEF implementation plan (to inform the FUSION flexibility market trail and for GB) will be compiled and made available as another publication under Work Package 3 of Project FUSION.

The questions presented in this document for the public consultation covered several aspects of the design, organisation, arrangements and requirements of flexibility markets. All of the questions included the relevant context and then set out USEF’s recommendations to form the basis of the questions. The questions also included a reference to the section(s) of the USEF due diligence report providing full details of USEF’s proposals, and linking it to the relevant GB context.

Consultation Process

A Due Diligence of the USEF framework was completed against legal, regulatory and market arrangements governing the GB energy sector. The purpose of this was to identify whether USEF is fit-for-use in the GB market and to identify innovative elements in the USEF framework that could add value to the current and future market design, and that can be trialled and proven within the FUSION project.

The findings from this Due Diligence formed the basis of the Consultation Document. The objective of the Consultation Document was to distil the key outcomes of the Due Diligence report into a series of key questions that the industry would have to be consulted on in order to plot a course for successfully implementing USEF in the UK. A set of proposals was developed to overcome gaps and conflicts between GB arrangements and the USEF framework, as well as to consider innovative elements of the USEF framework to inform future GB market design.

The questions were refined through consultations with key industry experts (Including Ofgem, BEIS, Elexon, ENA, National Grid ESO, Aggregators, DNOs, Energy UK Forum) in bilateral discussions and workshops to gather their views on the appropriateness of the questions prior to the open consultation. The stakeholders were generally positive that the right questions were being asked, and that the questions would address topics that have not been raised by other consultations or projects. The feedback was then used to refine the questions for the next stage of the consultation.

The Public Consultation consisted of 14 set questions and was live on various online platforms for 8 weeks. A further 3800 stakeholders with a wide range of expertise were contacted and encouraged to respond. Additionally, presentations to forums (Including the Energy UK and Flexibility Market Forum) and two public events were held in Glasgow and London. At these two events there were on average 35 representatives from different organisations who participated in each event, and actively welcomed the need for this consultation. The events were split in two halves. During the mornings, there was presentations and Q&A sessions to create a common understanding of Project FUSION and specific USEF elements. Then in the afternoon round table group discussions and 1-2-1 sessions were organised to directly engage with interested stakeholders on the USEF topics of their choice.



Overview of the consultation responses

Stakeholders at the consultation events in Glasgow and London broadly recognised and welcomed the need for the USEF consultation and considered the practicalities of innovative elements defined within USEF. There was a general agreement to most of the recommendations and principles that a standardised and transparent framework could provide.

The outcome of both consultation events can be summarised with the following key points with discussions broadly concerning aggregators and flexibility services:

Glasgow

- There was broad agreement on the possible economic benefits of free bids in facilitating value stacking and risk management for aggregators.
- Flexibility services will be determined by the free market.
- Price and transparency will be crucial for the flexibility market
- The aggregator will have the honest broker role, it will be the main contributor and bring market actors together.
- The networks should consider deferring reinforcement to give the DNO/DSO time to establish a true picture of requirements before committing to large capital spend. This will also require large amounts of customer and network data, and raised the question of how will this data be received and stored.

London

- It is important to enable new business models and concepts and create a liquid market in which aggregators can provide as many services as possible.
- For flexibility market operation, explore the concept of sharing only the information needed to support an effective market and sharing only with those organisations who would need to have access to it to maximise the benefits.
- Locational Pricing will require stacking and all market actors will be involved in the process
 - Congestion, Connection and Reinforcement (Avoidance or Deferral) will be included in future income calculations.
 - Explicit Demand Flexibility will require some form of controls.
 - Implicit (Customer) Demand Flexibility will be unchanged by price signals.
- The group liked the Traffic Lights mechanism. Project FUSION will help to development the operation regimes further within USEF.
- Project FUSION will assist to develop and demonstrate the value of Flexibility Services and a Flexibility Services market.
- Free bids allow aggregators to use assets that cannot guarantee a certain pre-committed quantity.
- Flexibility only will have value to the DSO if it can be relied upon. Therefore, aggregators do have obligations, depending on their contract.



The Public Consultation received twelve written responses including comments and observations from multiple key stakeholders with wide range of expertise. The following table provides a summary of the key messages from these responses.

We asked your view on ...	You said...
Independent aggregation in wholesale energy markets	Respondents who provided an answer broadly supported USEF's recommendation on independent aggregation in wholesale energy markets. Stakeholders provided considerations around the complexities of multi-stakeholder interactions. Views on who should take the initiative to design and propose the Transfer of Energy (ToE) methodology varied.
Use of congestion point repository (Common Reference)	Most (67%) stakeholders would like to see standardisation of the publication of congestion points and associated connections. Some respondents recommended that Project FUSION should align efforts with the Energy Data Taskforce (EDTF). Half of the stakeholders consider there is no need for creating a new regulated entity and that existing processes and/or organisations could operate the repository.
Use of a central data hub	The majority (83%) of respondents supported USEF's recommendation to develop a central data hub for recording flexibility transactions. Several (42%) stakeholders consider there is no need for a new regulated entity for the central data hub.
Constraint Management Service Provider (CMSP) role	Stakeholders indicated that they found it challenging to answer this question, with half providing a neutral answer. Some (25%) stakeholders consider that the responsibilities of the CMSP should be formalised. Views on the scope of responsibilities of the CMSP role were limited.
Standardisation of operating regimes	Respondents acknowledged the need for transparency on network limitations. The majority (58%) of stakeholders welcomed USEF's operating regimes. The majority (67%) think that clear rules should regulate DSOs move from one state to the other.
Information exchange between suppliers/aggregators and the ESO/DSOs	Almost all (92%) of the stakeholders agreed with the need for further information exchange between suppliers/aggregators and the ESO/DSOs. Most respondents (67%) agreed with mandating the information exchange, specified in USEF's D-programmes. Stakeholders who did not support mandating D-programmes placed emphasis on additional barriers for aggregators to enter the market.
Standardisation of flexibility platforms interface	Respondents (92%) supported the standardisation of interfaces between platforms and/or market participants. Most responses did not differentiate between the two types of interface referred to in the question. Stakeholders provided various views on the scope of the standardisation.
Use of "free" bids in congestion management products	The majority (67%) of stakeholders acknowledged the potential value of "free" bids in congestion management products. Responses that said "Don't know" (25%) recommended that further analysis be undertaken to understand the benefits of this with regard to contracted long term flexibility services.



We asked your view on ...	You said...
Coordination mechanism for DSO flexibility products & processes	<p>Most stakeholders (75%) consider that a common mechanism for all DSOs and the ESO to procure flexibility and interact with the market would be beneficial.</p> <p>Many (42%) stakeholders supported USEF's Market Coordination Mechanism, with no negative responses.</p> <p>The scope of standardisation should include settlement processes, measurement, validation, operation, contracts, communication, data and terminology.</p> <p>Most stakeholders (58%) would like to see alignment with European processes.</p>
Aggregator implementation models (AIMs)	<p>Half of the stakeholders believe that aggregators should have balance responsibility, all other answers were either neutral or inconclusive.</p> <p>A majority (58%) of respondents considered that revising supplier's open position should be facilitated in the market.</p> <p>Some respondents highlighted that mechanisms are already in place and that the upcoming P344 modification will ensure that suppliers are fairly treated.</p>
Re-dispatch responsibility	<p>Half of the stakeholders gave a specific suggestion of who should perform the re-dispatch, the other responses were neutral. The most popular suggestion (25%) was that the ESO should be responsible for the re-dispatch.</p>
Use of dynamic pooling for flexibility value stacking	<p>Most stakeholders (67%) were supportive of dynamic pooling and acknowledged its potential benefits.</p> <p>Some (25%) of the respondents suggested that further analysis would help to understand the benefits, risks and practicalities of dynamic pooling and whether it should be applied to all products.</p>
Use of sub-metering in flexibility services and products	<p>The vast majority (83%) of stakeholders supported sub-metering in all markets and products.</p> <p>Responses varied on who should be responsible for validating the sub-metering data, with half answering "Don't know" or "No answer". Some respondents (17%) recommended ELEXON.</p>
GDPR alignment of Congestion point publication	<p>Some respondents (33%) believed that there is no GDPR breach as long as data excludes personal information and/or includes Meter Point Administration Number only, which, they say, cannot be linked to addresses and personal information.</p> <p>Three respondents suggested that it will be challenging to publish information on small assets, small businesses and households without breaching GDPR.</p> <p>25% suggested alternative solutions for capturing locational information, such as enhanced network monitoring by the DNO/DSOs or use of network data plans with aggregated data.</p>



Analysis of Consultation Responses

Figure 1 provides an overview of the respondents' support for USEF recommendations as well as the level of complexity required to discuss and implement the recommendations in GB context. The assessment of the complexity level reflects a combination of stakeholders' views, previous experience implementing USEF in European markets, the potential need for regulatory changes, the existence of current GB initiatives exploring similar changes, as well as the number of stakeholders that will be involved in, and affected, by the change.

Recommendations with high support from the industry and low complexity (upper right quadrant) can be considered "quick wins" for USEF implementation in GB. USEF recommendations received generally high support (varying between 67% to 92% of written responses) from participating stakeholders.

The level of support was lower for specialist concepts with which individual stakeholders might have been less familiar, such as the role of the Constraint Management Service Provider (CMSP).

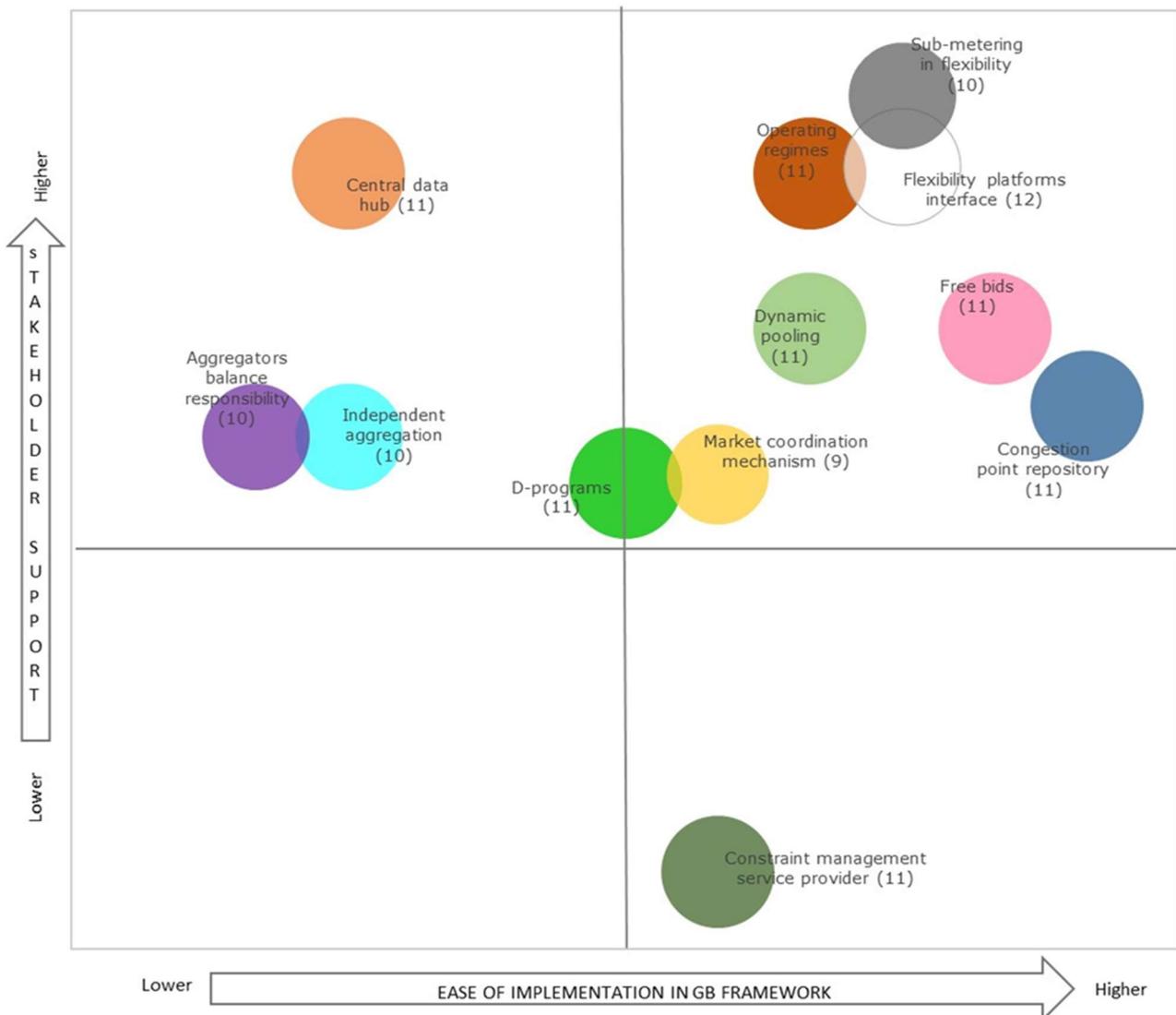


Figure 1: USEF Recommendations: stakeholders' support and ease of implementation (no. of responses indicated in the brackets)



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Main Outcomes

Following our analysis and review of the consultation responses, we consider the main outcomes and next steps to be as follows:

All questions were deemed highly relevant by the respondents, when implementing flexibility mechanisms in the GB market and regulatory framework.

This consultation sought to test the most relevant and innovative elements of USEF in the context of the GB market. Irrespective of the answers provided, respondents agreed that the questions raised need to be answered, in order to achieve well-functioning flexibility mechanisms in the GB market. As next steps we will: seek to facilitate and/or continue discussions with the industry where recommended by stakeholders; undertake further analytical work on changes required for a USEF-compliant implementation in the GB context; and where possible, underpin these discussions with insights gained from the Project FUSION trial.

The majority of the proposed innovative elements gained high support from the respondents.

Proposals such as a standardised way of communicating on congestion issues, the use of sub-metering and dynamic pooling in all organised markets and products, gained high support. Some of these topics are still under development in the current GB regulatory framework and some are being explored by other industry initiatives, such as the ENA ON project. We will therefore align our activities with industry initiatives and consider testing the proposed solutions in the Project FUSION trial to deliver wider learnings for GB energy stakeholders and consumers.

Several elements gained support on a conceptual level, but respondents indicated that more analysis, discussion and/or proof is needed to assess which of USEF's options are fit-for-purpose.

Some innovative elements (independent aggregation in wholesale markets, balancing responsibility for aggregators and re-dispatch options) received inconclusive answers, with respondents wanting to explore the proposals further in conjunction with the general direction of the market on these topics. For these elements, further work and discussions among GB energy industry stakeholders are recommended to explore the practicalities, risks and benefits of different options for implementation. Including such elements in the USEF trial may prove to be valuable, but this needs to be balanced with the possibility that the GB market may move an alternative direction.

One element presented a varied and inconclusive response from stakeholders.

The recommendation to define a separate role for a *Constraint Management Service Provider (CMSP)* received a varied response. This is observed due to a lack of awareness of the innovative elements of USEF at this stage. We will reconsider the impact of this outcome for the Project FUSION trial. As some stakeholders have observed, the responsibilities of the CMSP could easily be joined with those of another role, should this be the outcome of the GB discussion on the potential role of the CMSP.



1 Introduction to Project FUSION

Project FUSION is funded under Ofgem's 2017 Network Innovation Competition (NIC), to be delivered by SP Energy Networks in partnership with seven project partners: DNV GL, Origami Energy, PassivSystems, Imperial College London (academic partner), SAC Consulting, The University of St. Andrews, and Fife Council.

Project FUSION represents a key element of SP Energy Network's transition to becoming a Distribution System Operator (DSO), taking a step towards a **clean, smart and efficient energy system**. As the electricity system changes from a centralised to decentralised model, it enables a smarter and more flexible network to function. Project FUSION is trialling the use of commoditised local demand-side flexibility through a structured and competitive market, based on **a universal, standardised market-based framework; the Universal Smart Energy Framework (USEF)**. USEF provides a standardised framework that defines products, market roles, processes and agreements, as well as specifying data exchange, interfaces and control features. The purpose of USEF is to accelerate the transition to a smart, flexible energy system to maximise benefits for current and future customers.

Project FUSION will also inform wider policy development around flexibility markets and the DNO-DSO transition through the development and testing of standardised industry specifications, processes, and requirements for transparent information exchange between market participants accessing market-based flexibility services. Ultimately, Project FUSION will contribute to Distribution Network Operators and all market actors unlocking potential and value of local network flexibility in a competitive and transparent manner. In doing so, Project FUSION aims to contribute to addressing the energy trilemma by making the energy system more secure, more affordable and more sustainable.

1.1 Objectives

Project FUSION aims to achieve the following specific objectives:

- Evaluate the feasibility, costs and benefits of implementing a common flexibility market framework based on the open USEF model to manage local distribution network constraints and support wider national network balancing requirements.
- Investigate a range of commercial mechanisms to encourage flexibility from energy consumers' use of multi-vector electrical applications in satisfying overall energy use.
- Explore the potential for localised demand-side flexibility utilisation to accelerate new demand connections to the network that otherwise would require traditional reinforcement.

In addition, through a live trial in East Fife, Project FUSION will:

- Gain an understanding of the potential use and value of flexibility within geographically local regions to further enhance efficient DNO network management; and
- Demonstrate proof of concept, and evidence the business case, of commoditised flexibility (locally and for GB) through a USEF-based flexibility market.



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1.2 Project Structure

Figure 2 shows the high-level structure and timeline for Project FUSION.

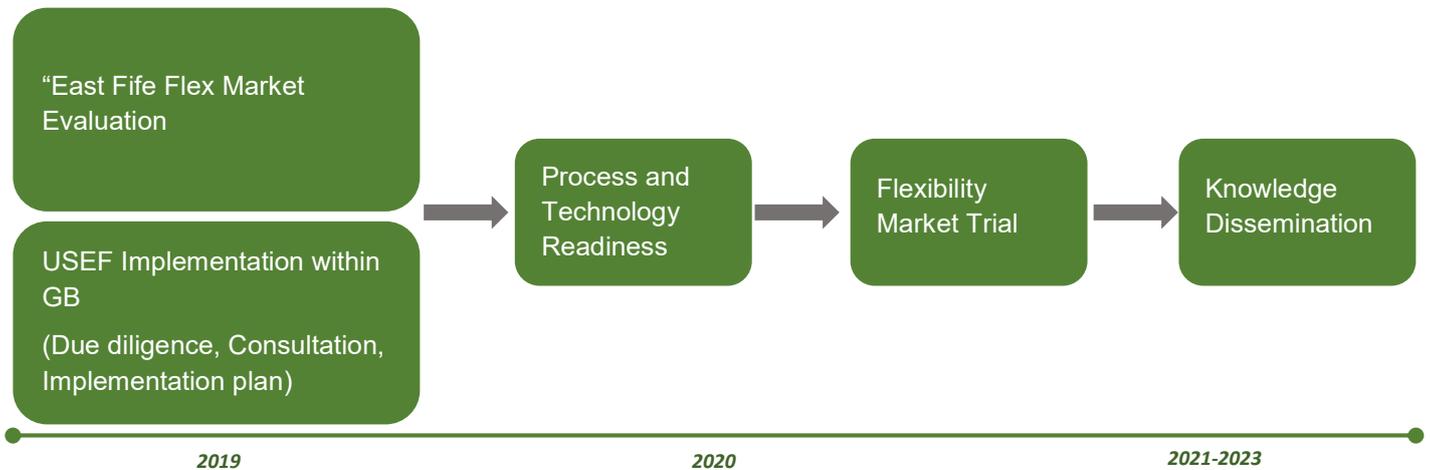


Figure 2: Project FUSION structure

The first two project stages are being carried out in parallel during 2019:

- The **flexibility market evaluation** involves a comprehensive assessment of the available flexibility in East Fife, including customers connected at all voltage levels, to map the potential flexibility and determine the specific trial locations.
- The **USEF Implementation within GB** stage involves a due diligence of USEF against current and (likely) future GB energy market arrangements, a public consultation process and culminates in the development of a reference implementation plan for USEF in the GB energy market.

These initial two stages will inform stage 3, **Process and Technology Readiness**, to be delivered during 2020. This stage will implement the requisite processes and network flexibility planning tools that integrate with SP Distribution’s existing network management tools to identify short-term and long-term flexibility requirements. This also includes implementation of USEF processes with market participants looking to participate in the trial. Moreover, Project FUSION will develop and implement a cloud-based procurement platform through which SP Distribution engages with participating aggregators and flexibility providers.

The **Flexibility Market Trial** in stage 4 will involve an open tender for the procurement of flexibility contracts with aggregators and other providers of flexibility in East Fife. Operational interaction with aggregators will be implemented using the cloud-based platform, which will facilitate the procurement, dispatch and remuneration of demand response and local generation. At the end of the trial, the trial results will be fully evaluated, and learnings will be made available to stakeholders through a range of appropriate dissemination methods.

More information on Project FUSION can be found on [SPEN’s Project FUSION website](#).



2 Consultation Roadmap

This document summarises stakeholder responses to the “Accelerating the Transition to Smart, Flexible Energy Networks” consultation on the USEF Framework, which was launched as part of Project FUSION on 8 July and closed on 2 September 2019.

The consultation on the USEF framework forms part of the third Work Package of Project FUSION (WP3, USEF Implementation within GB), which explores the implementation of the USEF framework in the GB context and seeks to inform policy development around flexibility markets and the DNO-DSO transition.

2.1 Objective of the Consultation

The consultation will inform the Project FUSION flexibility market trial, where key USEF concepts will be implemented in practice to assess their feasibility and effectiveness. Therefore, this consultation seeks to:

- obtain stakeholder views on the potential application of USEF concepts in the GB energy system;
- acquire stakeholder feedback on recommendations that will inform future arrangements for local flexibility markets and facilitate the DNO to DSO transition;
- inform the future work undertaken in Project FUSION to develop a USEF GB implementation plan as well as the Project FUSION flexibility market trial; and
- further develop thinking in the area of local flexibility markets.

2.2 Consultation process

The starting point for WP3 and the basis for the consultation was a due diligence of the USEF framework against legal, regulatory and market arrangements governing the GB energy sector. The due diligence was carried out by DNV GL and assessed the fit of USEF with the direction of reform of GB energy policy and regulation, as well as forward-looking industry initiatives like the Energy Networks Association’s Open Networks (ENA ON) project, to inform the transition to a smart, flexible energy system.

The findings from this Due Diligence formed the basis of the Consultation Document. The objective of the Consultation Document was to distil the key outcomes of the Due Diligence report into a series of key questions that the industry would have to be consulted on in order to plot a course for successfully implementing USEF in the UK. A set of proposals was developed to overcome gaps and conflicts between GB arrangements and the USEF framework, as well as to consider innovative elements of the USEF framework to inform future GB market design.

The questions were refined through consultations with key industry experts (Including Ofgem, BEIS, Elexon, ENA, National Grid ESO, Aggregators, DNOs, Energy UK) in bilateral discussions and workshops to gather their views on the appropriateness of the questions prior to the open consultation. The stakeholders were generally positive that the right questions were being asked, and that the questions would address topics that have not been raised by other consultations or projects. The feedback was then used to refine the questions for the next stage of the consultation.

The Public Consultation consisted of 14 set questions and was live on various online platforms for 8 weeks. A further 3800 stakeholders from a wide range of expertise were contacted and encouraged to respond. Additionally, presentations to forums (Including Energy UK, Flexibility Market Forum) and two public events were held in Glasgow and London. At these two events there were on average 35 representatives from different organisations who participated in each event, and actively welcomed the need this consultation. The events were split in two halves. During the mornings, there presentations and Q&A sessions to create awareness of project FUSION and USEF elements. Then in the afternoon round table group discussions and 1-2-1 sessions were organised to directly engage with interested stakeholders on the USEF topics of their choice. The objective of the events was to provide



information and clarification on the consultation questions, as well as providing a platform for stakeholders to discuss the consultation questions and exchange views on USEF's recommendations. A summary of the outcomes of these discussions and their subsequent consultation responses is provided in the following chapters.

After the consultation closed, DNV GL reviewed and analysed the responses to inform how USEF recommendations could be implemented in the GB market, as well as how the Project FUSION trial might test some of the proposed innovations.

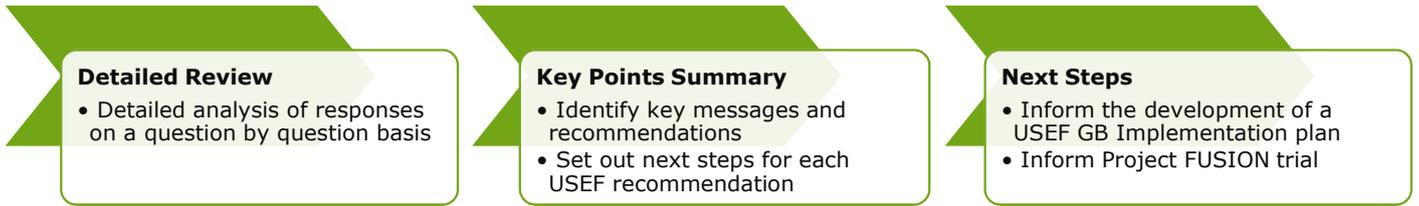


Figure 3: Consultation Review Process



3 Overview and analysis of the consultation responses

The Public Consultation asked stakeholders 14 questions, categorised into six areas that were cross-referenced to the key topics covered in the due diligence report:

- Flexibility Value Chain (Q1) is about facilitating commercial flexibility services by aggregators;
- Market Organisation (Q2-4) proposes new functions, roles and interactions to maximise the potential benefits of flexibility for the energy system;
- Market Design (Q5-7) focuses on the design of market mechanisms to facilitate effective operation and coordination among market participants;
- DSO Flexibility Transactions (Q8-9) proposes arrangements to facilitate cost-effective flexibility transactions for future DSOs;
- Market Access Requirements (Q10-13) considers arrangements for aggregators or aggregated flexibility resources to access specific flexibility markets; and
- Privacy and Cybersecurity (Q14) considers potential GDPR requirements in making information available to market participants.

Stakeholders at the consultation events in Glasgow and London broadly recognised and welcomed the need for the USEF consultation and considered the practicalities of innovative elements defined within USEF. There was a general agreement to most of the recommendations and principles that a standardised and transparent framework could provide. The outcome of both events can be summarised with the following key points with discussions broadly concerning aggregators and flexibility services:

Glasgow

- There was broad agreement on the possible economic benefits of free bids in facilitating value stacking and risk management for aggregators.
- Flexibility services will be determined by the free market.
- Price and transparency will be crucial for the flexibility market
- The aggregator will have the honest broker role, it will be the main contributor and bring Market Actors together.
- The networks should consider deferring reinforcement to give the DNO/DSO time to establish a true picture of requirements before committing to large capital spend. This will also require large amounts of customer and network data, how will this be received and stored?

London

- It is important to enable new business models and concepts and create a liquid market in which aggregators can provide as many services as possible.
- For flexibility market operation, explore the concept of sharing only the information needed to support an effective market and sharing only with those organisations who would need to have access to it to maximise the benefits.
- Locational Pricing will require stacking and all market actors will be involved in the process



- Congestion, Connection and Reinforcement (Avoidance or Deferment) will be included in future income calculations.
- Explicit Demand Flexibility will require some form of controls.
- Implicit (Customer) Demand Flexibility will be unchanged by price signals.
- The group liked the Traffic Lights mechanism. Project FUSION will help to development the operation regimes further within USEF.
- Project FUSION will assist to develop and demonstrate the value of Flexibility Services and a Flexibility Services market.
- Free bids allow aggregators to use assets that cannot guarantee a certain pre-committed quantity.
- Flexibility only will have value to the DSO if it can be relied upon. Therefore, aggregators do have obligations, depending on their contract.

There were twelve written responses provided to the consultation, which were from organisations from a diverse range of backgrounds in the GB energy industry.

The following sections summarise and analyse stakeholders' written responses to each consultation question. Most questions received a high response rate including various comments and observations from the stakeholders, underscoring the relevance of these questions for the development of flexibility markets in GB.



Q1 Flexibility Value Chain - Independent aggregation in wholesale markets

Q1a: Provided appropriate arrangements for wholesale energy and imbalance settlement for affected suppliers are in place, do you agree that aggregators should be able to provide their services in the wholesale energy markets without a supply licence or an agreement with the supplier of the customer? (Yes, No, Don't know)

Q1b: If yes, a baseline methodology needs to be defined for the ToE in the wholesale markets. Which organisation(s) should take the initiative to design and propose this methodology?

Please provide the basis for your answers.

This question sought industry views on facilitating independent aggregation by enabling wholesale market access underpinned by a uniform baselining methodology to inform the transfer of energy (ToE).

Key Statistics

Figure 4 summarises responses of the twelve stakeholders on Q1a and Figure 5 presents their recommendations on which organisation should initiate the baselining methodology design for the ToE. The “Key Messages” below provide further background and analysis of the key statistics and stakeholders’ responses.

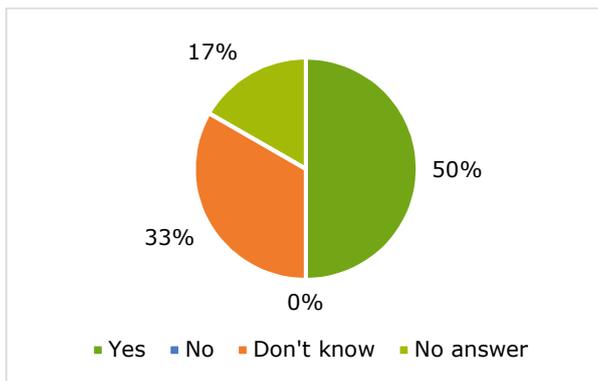


Figure 4: Should independent aggregation access the wholesale market?

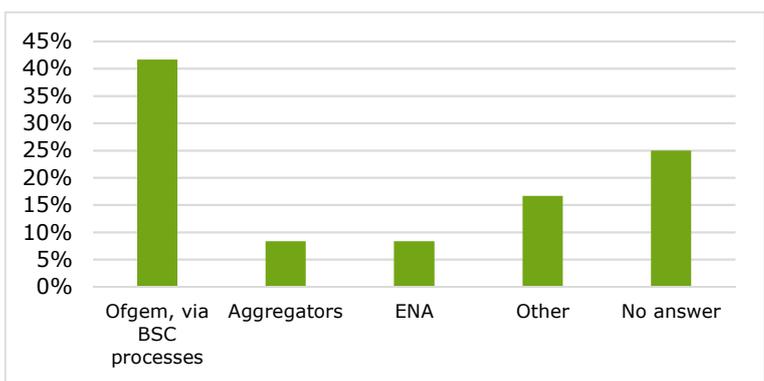


Figure 5: Who should initiate ToE baselining methodology?¹

¹ The category “Other” in Figure 5 represents responses which recommended that there is no need for a baselining methodology design or that it is already in process via BSC modifications. We acknowledge these responses but following discussions with ELEXON we confirm that BSC modifications have not considered yet a baselining methodology for the Transfer of Energy (ToE).



Key Messages:

- Respondents who provided an answer broadly supported USEF’s recommendation on independent aggregation in wholesale energy markets. Even stakeholders who answered “Don’t know” agreed in principle with USEF although they considered that robust market arrangements and big changes would be required and therefore further discussion would be useful to provide an assertive answer.
- Two stakeholders (17%) did not answer Q1a, which may indicate that the topic is of a lesser relevance to them and/or they could explore this topic further.
- Stakeholders expressed considerations around the complexity when more than one party operates at a location, the need for consumer protection standards and network charges adjustments as well as the impact independent aggregation on the supplier’s balance responsibility and supply position.
- Views on who should take the “initiative to design and propose” the ToE methodology varied. 42% of the stakeholders identified Ofgem as the most suitable party to define or set the outcomes of the approach and suggested that the methodology should be delivered through the Balancing and Settlement Code (BSC) processes.

Observations & Recommendations

We provide below some observations and recommendations from stakeholders on the role of the aggregator and the complexities of multi-stakeholder interactions in case of independent aggregation in wholesale energy markets. USEF acknowledges concerns that the ToE mechanism could create additional complexities, which need to be addressed. One stakeholder (quote on the left) recommends that the aggregator should define the baseline methodology for the ToE. On this point, USEF also recommends that the baseline methodology for wholesale trading should be nomination based (i.e. based on forecast of the aggregator) and that Ofgem should be responsible for designing this methodology.

“The aggregator, working with and on behalf of the customer has the most knowledge of the customer’s operations and so is best placed to define a baseline methodology that reflects the baseline value of the ToE.”

“... it is important that the ToE mechanism does not result in the aggregator having to buy energy that they are unable to sell using the same mechanism.”

“... whenever there is more than one party operating at a location there are complexities to be considered.”

Next Steps

The majority of stakeholders that provided views supported USEF’s recommendation or agreed in principle with it. Respondents recognised the relevance of the questions and that industry should take further steps to explore how aggregators’ access to wholesale energy markets should be facilitated. We acknowledge that this recommendation of the USEF framework will require potentially complex changes in the GB market. Further discussion between GB energy industry stakeholders would be valuable to identify the benefits of allowing independent aggregators access to wholesale markets, relative to the (complexity of the) efforts required.



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Q2 Market Organisation - Congestion point repository

Q2a: Should there be a standardised publication of congestion points and associated connections, flexible assets and active aggregators, which market participants have access to? (Yes, No, Don't know)

Q2b: If yes, do you think this should be a regulated entity (e.g. operating under licence, and regulated by Ofgem)? (Yes, No, Don't know, N/A)

Please provide the basis for your answers.

We asked this question to understand industry's view on both the opportunities and challenges of developing a standardised publication of congestion points as well as the need for regulating this function.

Key Statistics

Figure 6 shows that two thirds of the stakeholders support the development of a standardised congestion points repository. A few (17%) stakeholders provided neutral responses due to considerations around both the granularity of data and the benefits to flexibility service providers. Figure 7 illustrates that half of the stakeholders believe that there is no need to create a regulated entity for the operation of the Common Reference, although 17% of respondents ("Don't know") indicated that they would like to have further discussions to answer the question. There was only one stakeholder who did not answer either question.

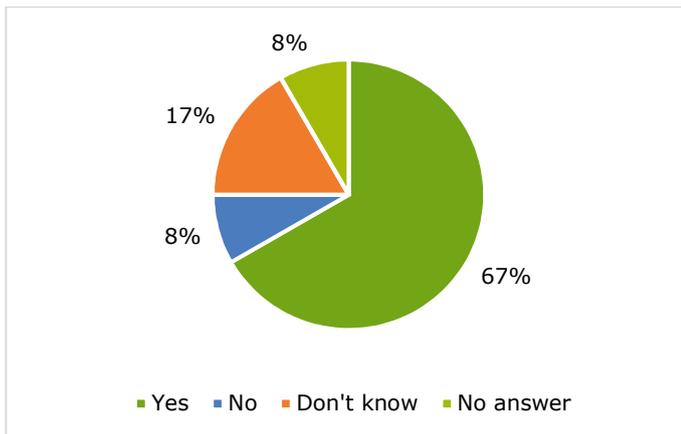


Figure 6: Should we standardise congestion points publication?

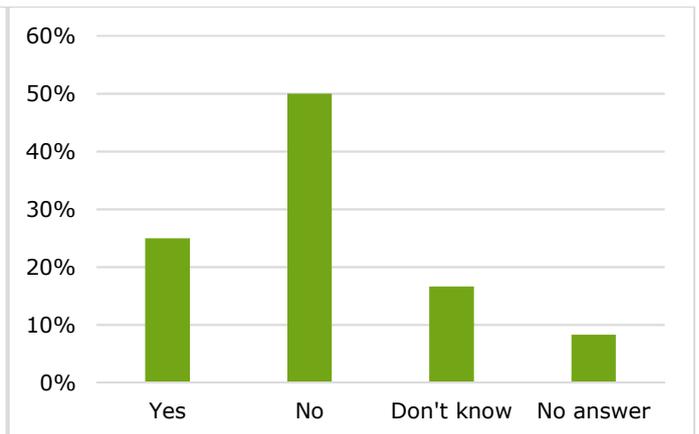


Figure 7: Should the Common Reference be regulated?



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Key Messages:

- Most (67%) of the stakeholders would like to see standardisation of the publication of congestion points and associated connections. Some respondents recommended that Project FUSION should align efforts with the Energy Data Taskforce (EDTF).
- One respondent felt that registering and categorising flexibility assets would be a complex process.
- One respondent suggested that establishing a single and standardised Common Reference Operator (CRO) might hamper competition and innovation.
- Half of the stakeholders believe that there is no need for creating a (new) regulated entity and that existing processes and organisations could operate the repository. They also recommended that the publication of congestion points could be integrated into existing licences and industry codes.
- Respondents also emphasised the importance of consistency of data (e.g. format, information, definitions) and of congestion points publication processes.

Observations & Recommendations

This question received various recommendations on the structure and the operation of the congestion point repository. Recommendations from the stakeholders are in line with and enhance USEF principles associated with the design of the congestion points repository.

- One stakeholder suggested that the Common Reference development should consider the Distribution Connection and Use of System Agreement (DCUSA) change proposal to find an optimal solution for registering assets.
- One respondent recommended the use of a central repository where DSOs automatically could send their data to or the use of an online repository which would link the flexibility maps of the DNOs.
- Three recommendations on aligning standardisation with the Energy Data Taskforce approach. (See quote on the left).
- Some stakeholders did not recommend the creation of a new regulated entity for the operation of the congestion points repository. Two of them recommended that publication could be governed by industry codes or Electricity licences. (see quote on the right)

“We support the recommendations of the EDTF and advocate the greater availability of data in a consistent and transparent manner.”

“Depending on the approach taken, there may not be much work associated with maintaining these registers, especially if the bulk of the effort rests with the DNOs. Therefore, creating a new regulated, licenced entity to manage this would seem disproportionate and it might be a role better provided by a body like the ENA.”

Next Steps

Most respondents supported USEF’s recommendation on the creation of congestion point repository (Common Reference) albeit there were a range of views on how this should be operated, on its role and on the level of data granularity. Half of respondents do not consider a regulated entity (or new regulated entity) for the congestion point repository necessary at this development phase of flexibility markets, due to potential disproportionate additional cost and complexity.



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Further engagement with, and discussions between, the stakeholders to explore possible pathways for operating the repository would be beneficial. Next steps on the deployment of the Common Reference should ensure alignment with the Energy Data Taskforce and ENA ON initiatives, such as the Wide System Resource Register. Project FUSION will take into account stakeholders’ recommendations as well as provide further information and insights to inform industry discussion, should the Common Reference be tested in the Project FUSION trial.

Q3 Market Organisation - Central data hub

Q3a: Do you agree that there should be a central data hub to record flexibility volumes and transactions to allow consistent settlement of flexibility and create transparency? (Yes, No, Don't know)

Q3b: If yes, do you think this should be a regulated entity (e.g. operating under license and regulated by Ofgem)? (Yes, No, Don't know, N/A)

Please provide the basis for your answers.

This question sought feedback on the development of a central data hub. All stakeholders responded to the question with various recommendations, reflecting industry’s interest in data management and standardisation.

Key Statistics

Figure 8 shows the general endorsement of USEF’s recommendation to develop a central data hub for recording flexibility volumes and transactions. One stakeholder did not provide any response, while another stakeholder questioned whether other solutions are most cost effective.

Figure 9 visualises stakeholders’ preferences not to regulate the central data hub, although 25% provided neutral answers (“Don’t know”). Three stakeholders believe that a regulated entity would facilitate transparency and efficiency of the process. One stakeholder provided no answers.

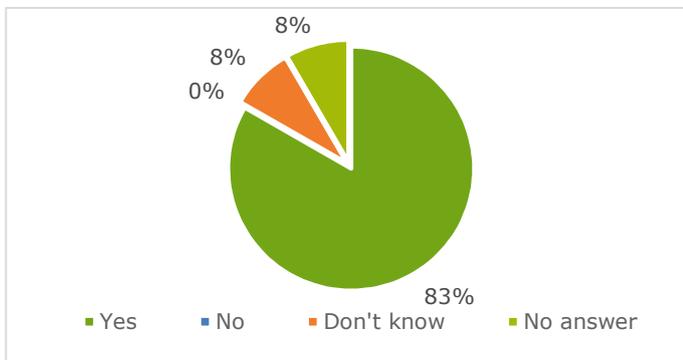


Figure 8: Should we have a central data hub?

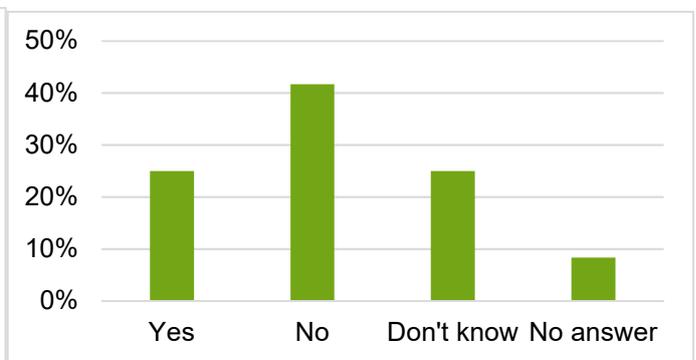


Figure 9: Should the central data hub be regulated?



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Key Messages:

- Most (83%) respondents supported USEF's recommendation to develop a central data hub. Arguments in favour of included that it would enhance transparency and participation in a flexibility market, facilitate efficient settlement processes, lower complexity of transactions, and facilitate consistency and standardisation.
- One respondent noted that access-based solutions could be more cost effective than a central data hub.
- Another stakeholder highlighted that existing processes of recording data could be used (e.g. Monthly Balancing Services Summary (MBSS)).
- The second question regarding regulating the central data hub received mixed responses. Several (42%) of the stakeholders believe that there is no need for a (new) regulated entity. Some of them believe that regulation could be required partially and for few processes of the central data hub and/or that existing regulated entities and processes could be used. Few stakeholders suggested that the central data hub could be performed by an independent company.
- Six out of eleven respondents emphasised the need to manage and operate the data hub efficiently, regardless of its status of regulation.

Observations & Recommendations

The observations below highlight the diversity in the responses received. Some stakeholders focused on the need for innovative solutions and for mandatory processes, with standardisation being less important (below quotes on the left). USEF welcomes views that support innovation, since USEF itself aims to facilitate innovative solutions and design. USEF considers that the standardisation of processes will accelerate innovation in flexibility provision, integration of technologies, and scale-up the market for flexibility by reducing complexity and lowering barriers for participation in flexibility markets.

Other responses recommended the aggregation of connections' data and the use of existing resources and processes for the development of the central data hub (quotes on the right).

"Specifically regarding "consistent settlement": the market needs to allow for innovative new approaches to baselining and settlement to evolve."

"It will also be more efficient to optimise existing industry resources including ELEXON settlement systems to process and publish information and existing ESO and DNO resources."

"Whilst regulating all activities appears a safe and prudent approach, the importance is to obligate the parties transacting (or the market places) to share/report the information."

"It may be better to publish flexibility volumes at an aggregated level so that there is transparency over how the market is developing but without exposing the operational details."



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Next Steps

Stakeholders widely supported the central data hub and made recommendations on its operation, the granularity of data to be captured, and that it should fit with existing processes. A key message emerging from the responses is that processes associated with the data hub need to be transparent and consistent across the industry, which aligns with USEF’s principles and approach.

Since the central data hub recommendation received high support, further discussions within industry should seek to explore: the practical implementation of the central data hub in the GB market and regulatory environment; the PROs and CONs of a regulated activity; and take into account progress and insights of similar initiatives such as the Data Catalogue from EDTF.

Q4 Market Organisation - Constraint management service provider

Q4a: Would it be beneficial to formalise the responsibilities and the role of the constraint management service provider (CMSP) similarly to the BSP role? (Yes, No, Don't know)

Q4b: If yes, what kind of responsibilities should be defined for the CMSP role?

Please provide the basis for your answer.

The question on the role and responsibilities of the CMSP was one of the most challenging questions of the consultation with seven stakeholders providing a neutral response or no response.

Key Statistics

Figure 10 highlights the lack of conclusive responses from the stakeholders around the role of the CMSP, with 50% of them answering “Don’t know” and one stakeholder not answering at all. Although stakeholders identified some benefits on formalising the role, they challenged the need for this formalisation. Reflecting the uncertainty on this topic, only 41% of the stakeholders provided recommendations on responsibilities of the CMSP, that should align with the Balancing Service Provider (BSP), or adjust to the needs of each System Operator (SO), or align with the USEF recommendation as set out in the consultation document. The category “Other” includes two responses that recommended clarification of procedures, or formalisation of functions, rather than responsibilities.

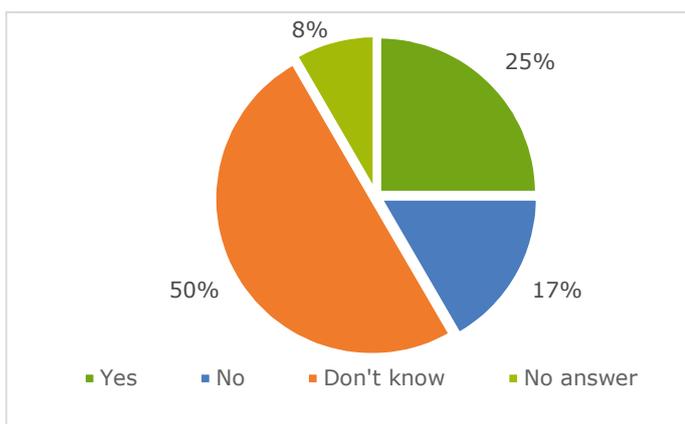


Figure 10: Should we formalise the CMSP role?

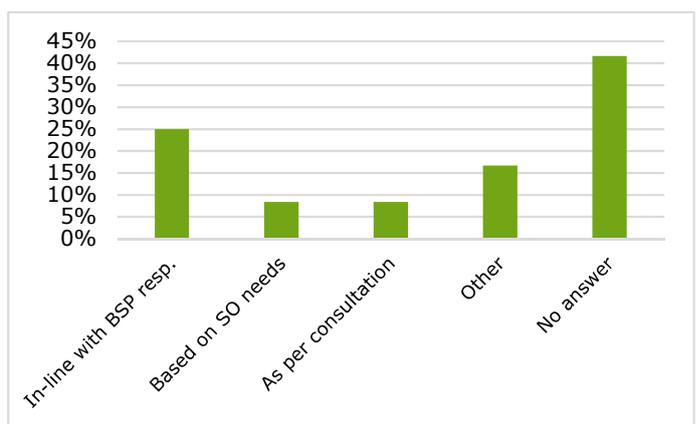


Figure 11: What should be the CMSP responsibilities?



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Key Messages:

- A quarter of our stakeholders believe that the responsibilities of the CMSP should be formalised, although they did not elaborate on the benefits of this formalisation.
- Most of the stakeholders found it challenging to answer this question. Their responses indicate that the potential benefits of formalising roles and responsibilities in the UK may not yet be widely supported. One stakeholder, for example, acknowledges the benefits of USEF'S recommendation but has considerations around the costs of implementing this change, while another respondent believes that the BSP role could be extended to cover DSO congestion management services.
- Respondents offered limited views on the scope of responsibilities of the CMSP role, with two recommendations that a further open consultation led by the industry could inform this issue.
- Varied and inconclusive responses highlight the need to further discuss and clarify USEF's recommendation, particularly to further discuss the roles and responsibilities that come with the provision of congestion management services to the DSO GB flexibility markets.

Observations & Recommendations

We provide below some responses which suggest that the standardisation of the CMSP role could wait for the flexibility markets to become more mature so that the industry gains further experience and understanding. One stakeholder emphasised that locational requirements of each DNO could vary and therefore formalisation might not fit for purpose (quote on the left).

“standardising these [*responsibilities*] may limit our ability to adjust and experiment with variations of these contracts as we gain more experience with flexibility services.”

“The market is still undergoing rapid change, and it's not clear which business models will make sense in the long term.”

“Whilst the clarification of the roles/procedures is good, the needs of the different DNOs may not lend themselves for a unique solution.”

Next Steps

Since the majority of respondents did not provide a definitive answer to this question, further discussion among GB energy industry stakeholders, as part of the wider maturation of flexibility markets, would be beneficial to clarify the difference between the CMSP role and the (existing) BSP role as well as to identify the benefits of formalising this role. The outcome of Project FUSION trial could inform this discussion.

Reflecting stakeholders' views that standardisation of roles and responsibilities should align with the pace of development of flexibility markets, the ENA ON project has chosen not to relate responsibilities to specific roles. The ENA ON refers to actors, and has decided that only after several years, when enough experience has been gained, roles can be defined and mapped on actor types. The Project FUSION trial will apply the USEF roles model exactly with this purpose: to further gain practical experience and insights on which actions could be formalised and integrated into all flexibility transactions.



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Q5 Market Design - Operating regimes

Q5a: Do you think that there is a need to create transparency on network limitations that restrict the free trade of flexibility services by market participants? (Yes, No, Don't know)

Q5b: If yes, do you think that USEF's Operating Regimes are a feasible solution for this issue? (Yes, No, Don't know, N/A)

Q5c: Do you think that clear rules should be defined to regulate when DSOs move from one state to the other? (Yes, No, Don't know)

Please provide the basis for your answers.

This question sought industry's views on the concept of USEF's operating regimes. One respondent did not answer our question, suggesting this topic should be reviewed alongside work undertaken in the ENA ON project.

Key Statistics

The figures below outline the high support for the transparency on network limitations and the use of operating regimes in the flexibility markets. The majority (58%) of stakeholders believe that USEF's operating regimes are feasible, 25% of the stakeholders are not sure about USEF recommendations, while only one respondent was negative (Figure 13). Two thirds of the stakeholders believe that clear rules should regulate DSOs' movements (Figure 14).

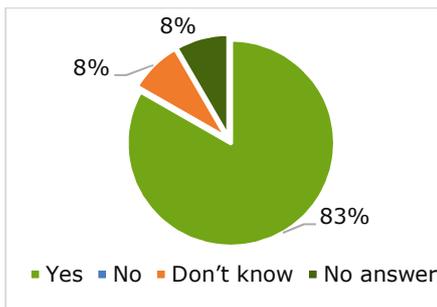


Figure 12: Do we need transparency on network limitations?

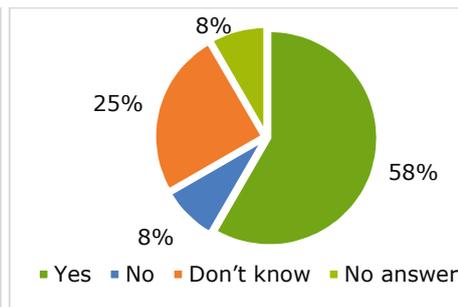


Figure 13: Are USEF's operating regimes feasible?

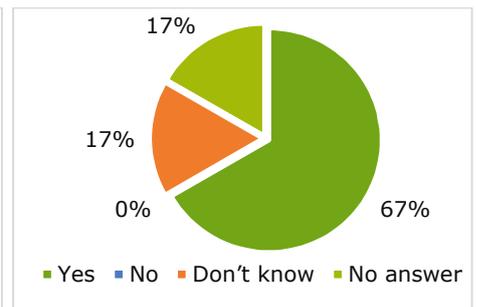


Figure 14: Do we need clear rules on DSOs movements between regimes?



Key Messages:

- Respondents agreed that transparency on network limitations would facilitate decision making for market participants, provide essential information to flexibility providers and improve forecasting abilities for aggregators and other flexibility providers.
- Around 60% of the stakeholders welcomed USEF's approach to operating regimes. A few stakeholders indicated that other solutions or processes could be also available, although they did not provide more detailed recommendations.
- Responses varied on whether rules should regulate DSOs move from one state to the other. Although 67% of the stakeholders acknowledge the benefits of USEF's recommendation, detailed responses varied with the background of each stakeholder. Stakeholders that are not in the utilities/system operator industry recognise the value of these rules, highlighting that we need transparency when system operators overrule the market and that the merit order should focus on market solutions where this is possible.
- Some respondents who were supportive of USEF's recommendation, placed emphasis on the need to define the rules and the states of USEF's operating regimes and clarify the role of Active Network Management (ANM) within these operating states.

Observations & Recommendations

This question received several views and recommendations on the need and use of operating regimes, some of which are provided below.

- Some stakeholders would like to have further details on USEF's traffic light system and its rules to understand how they can be implemented in GB context.
- Other responses suggested that the rules of the operating regimes should be transparent and closely monitored to avoid gaming in the flexibility markets, which aligns with USEF principles around transparency (quote below).
- One respondent considers that there is no need for two zones operating in the free flexibility market (i.e. the USEF "Green" and "Yellow" regimes could be merged into one regime). This aligns with USEF's position that when the yellow regime is fully operational, this becomes a Business As Usual (BAU) regime and could easily be considered part of the "normal conditions." The same respondent also mentioned that processes at transmission level already provide solutions to managing network limitations in free flexibility markets.

"Their operation needs to be monitored to ensure that there is no gaming of the system by either flexibility providers (e.g. providing high forecasts of demand) or network [companies] (e.g. invoking orange regimes to avoid paying for flex)."

"...as long as there is transparency and some sort of oversight/ scrutiny regarding thresholds allowing the DSO to move to orange or red."



Next Steps

USEF’s operating regimes are recognised on a conceptual level and can help structure the discussion around network limitations, but more effort is required to apply these in GB context. The ESO has already developed processes which can facilitate this discussion and therefore the system operators should mutually explore the way forward. It would be beneficial to continue discussions with key stakeholders, such as the ESO and the DNOs, on the practicalities of applying USEF operating regimes in GB flexibility markets, including network capacities, flexibility service providers’ capabilities, merit order of flexibility activation. These discussions will further inform the USEF implementation plan in GB, although Project FUSION will have to consider whether operating regimes can be feasibly tested in its trial.

Q6 Market Design - Information exchange

Q6a: Do you think that further coordination of flexibility deployment between suppliers/aggregators and the ESO/DSOs is needed to facilitate efficient and reliable flexibility markets? (Yes, No, Don’t know)

Q6b: If yes, do you agree that information exchange (i.e. D-programs) between suppliers/aggregators and ESO/DSOs, concerning flexibility contracts and flexibility activations, limited to congested areas, should be mandatory? (Yes, No, Don’t know, N/A)

Please provide the basis for your answers.

This question sought feedback on potential coordination and communication processes between flexibility market participants and system operators as well as to test USEF’s recommendation on D-programs.

Key Statistics

Figure 15 shows that vast majority (92%) of respondents supported further coordination of flexibility deployment and information exchange between the system operators and the suppliers and aggregators.

Figure 16 shows that two thirds of the stakeholders believe that we should mandate information exchange, as recommended by USEF D-programmes. Two respondents were not supportive of D-programmes and one stakeholder provided an inconclusive answer (“Don’t know”).

One respondent did not provide a response to either question, but suggested that this topic should be reviewed alongside work undertaken in the ENA ON project.

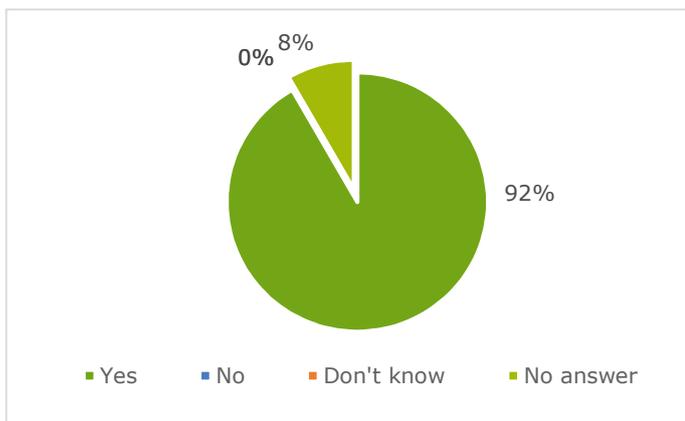


Figure 15: Do we need further coordination between system operators and suppliers/aggregators?

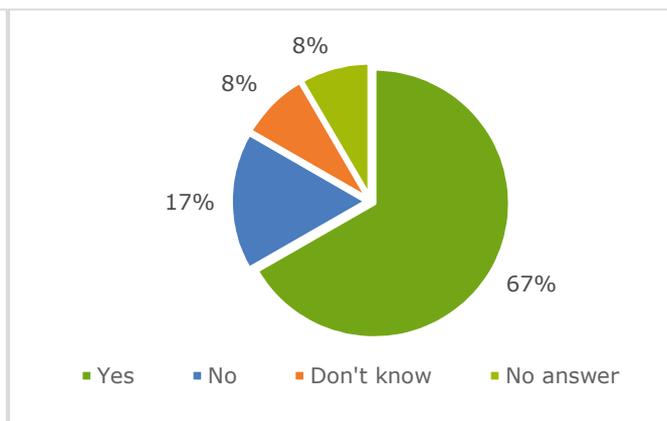


Figure 16: Should we mandate information exchange, i.e. USEF D-programmes?



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Key Messages:

- A clear majority of the responses (92%) agreed with the need for further coordination between the system operators, aggregators and suppliers. Stakeholders focused on the need for information exchange to prevent conflicts between system operators, suggesting that visibility of available flexibility and transparency on their actions would be required.
- Most respondents (67%) agreed with mandating USEF's D-programmes. Nevertheless, stakeholders raised concerns regarding reliability and accuracy of data, the risk of creating additional complexity for aggregators, and DSO's authority to reject D-programmes. One aggregator highlighted also that it is important to clarify the consequences for the aggregator in case of deviations from the D-programmes.
- Stakeholders who did not support mandating D-programmes placed emphasis on additional barriers for aggregators to enter the market, and on the lack of incentives, which are required so that system operators, aggregators and suppliers exchange this information. One stakeholder recommended that independent flexibility marketplaces would be responsible for the coordination of information exchange.

Observations & Recommendations

A few observations highlighted that it would be important to facilitate the process of exchanging information for the aggregators, so that they do not face additional burden when accessing flexibility markets nor the risk of inaccurate forecasts (bottom left quote).

Several stakeholders placed emphasis on the need for visibility and transparency in the flexibility processes.

In addition, we provide the below quotes that highlight stakeholders' concerns that DSOs might reject the D-programmes (top right quote). These views are in line with USEF in that USEF does not propose that DSOs can decline or reject D-programmes.

"Resolution of these conflicts should happen on the basis of publicly known rules [...] It is not desirable that flexibility be procured by the ESO and DSOs through siloed, bilateral tendering processes with co-ordination between ESO and DSO happening in private."

"If a DSO can reject a D-program it could impact transactions that have taken place profitably on the wholesale day-ahead market. We do not believe that the DSO should be able to invalidate this trade".

[...] "The DSO is then able to reject that aggregators contracted flexibility. Whilst it is important to ensure aggregator contracts do not threaten the distribution network, this approach is not desirable."

"To achieve higher forecasting accuracy, an aggregator would need a greater diversity value – either increasing breadth (number of assets) or depth (types of assets) of the portfolio which could be used to offset deviations from the plan."

"Coordination frameworks will need to pay particular attention to timings of information exchange on close to real time instructions."



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Next Steps

The majority of respondents support further coordination and exchange of information between system operators, aggregators and suppliers. There was also broad support for USEF D-programmes.

Therefore, the USEF implementation plan will include concrete actions on how to implement D-programmes in the Project FUSION trial and inform long-term discussions for further application in GB context. As part of the USEF GB implementation plan, we will consider how we can facilitate processes for aggregators so that D-programmes do not create extra complexity. We will also clarify details associated with the timeline of D-programmes submission during the operational phase. Further discussion with industry stakeholders will inform this process to ensure visibility and transparency across all phases of flexibility transactions.

Q7 Market Design - Flexibility Platforms

Q7a: Would you consider that it is beneficial to have a standard interface between (1) flexibility service providers and flexibility platforms; and (2) TSO/DSO platforms and third-party commercial platforms? (Yes, No, Don't know)

Q7b: What could be the possible scope of this standardisation?

Please provide the basis for your answer.

This question sought views on data interfaces in flexibility markets: the interface between flexibility service providers and platforms and the interface between system operators' platforms and commercial platforms.

Key Statistics

Figure 17 illustrates that only one stakeholder was not in favour of standardisation of the platforms' interface, questioning whether one solution could fit all platforms and market participants.

Figure 18 shows a range of responses around the scope of standardisation as well as how many stakeholders mentioned each of the options. Standardisation of data and data flows were mentioned most often by respondents, followed by standardisation of flexibility transactions, contractual arrangements and market rules. One respondent considered that the scope should include anything related to flexibility services, while another one recommended that USEF APIs would be a good starting point. Two stakeholders did not answer at all. Responses classified as "Other" indicate answers which did not provide a view on the scope of standardisation, but observations associated with the scope (see Observations & Recommendations).

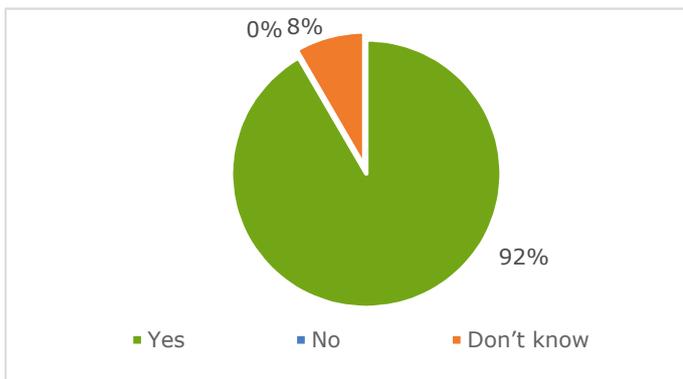


Figure 17: Should we standardise interface of platforms?

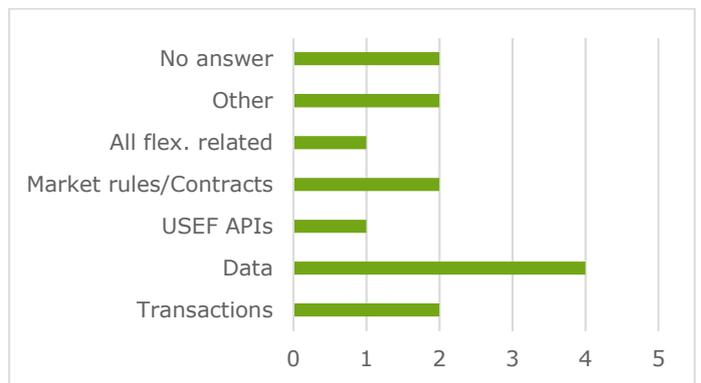


Figure 18: What is the scope of the standardisation?²

² Note that some stakeholders provided more than one answer and therefore the sum of the responses is larger than twelve.



Key Messages:

- 92% of the respondents support standardisation of interfaces between market participants, although most responses did not differentiate between the two types of interface referred to in the question. Arguments in favour of standardisation included that standardisation would simplify interactions, increase market liquidity and lower entry barriers for aggregators
- Stakeholders provided various views on the scope of the standardisation. Standardisation of data and data flows were most supported, followed by standardisation of flexibility transactions, contractual arrangements and market rules. One respondent suggested that standardisation should be undertaken by independent flexibility marketplaces.

Observations & Recommendations

The quotes below capture recommendations from stakeholders that the standardisation of platforms interface should align with the maturity of the market and should consider existing processes (see top quotes below). One response added that in any standardisation process should be a balance between innovation, standardisation and customer services. USEF welcomes this approach since USEF itself aims to facilitate innovative solutions and market designs that are fit for purpose.

One stakeholder highlighted that a standard protocol on information sharing would reduce the cost to operate flexibility markets, while another respondent suggested that standardisation of interfaces in flexibility markets should be undertaken by independent flexibility marketplaces.

“Standardisation relating to market rules and other more substantive processes should only occur after the market has had time to propose different approaches and has set clear directions on what should be standardised and what should not.”

“When specifying the formats for the data transfer, designers should be mindful of existing and familiar flows to reduce cost and time of implementation, parallels can be drawn with the submission of Energy Contract Volume Notifications (ECVNs) and Metered Volume Reallocation Notices (MVRNs).”

“A standard protocol will facilitate the sharing of information and reduce the costs to serve and open up the flexibility markets, making them more liquid.”

“We see this function being undertaken by independent marketplaces.”

Next Steps

We will consider how the Project FUSION trial and the required platforms will align with existing interfaces between (1) flexibility service providers and flexibility platforms; and (2) TSO/DSO platforms and third-party commercial platforms. We consider that standardisation will occur in steps as the market evolves. We expect there to be a platform within the Project FUSION trial that will interact with market parties. This platform will be USEF compliant and trialled in the GB context. Based on the outcomes of the trial, Project FUSION will provide useful insights and lessons for the implementation of such an interface in a future flexibility market.



Q8 DSO Flexibility Transactions - DSO flexibility procurement

Q8: Do you agree with USEF’s recommendation to allow free bids in a DSO congestion management product, even when DSOs requirements are met by the existing availability contracts? (Yes, No, Don’t know)

Please provide the basis for your answer.

This question sought industry’s views on short-term flexibility procurement through free bids, as recommended by USEF.

Key Statistics

Figure 19 shows that 67% of the stakeholders support the concept of short-term flexibility procurement and none of the stakeholders was opposed to this recommendation.

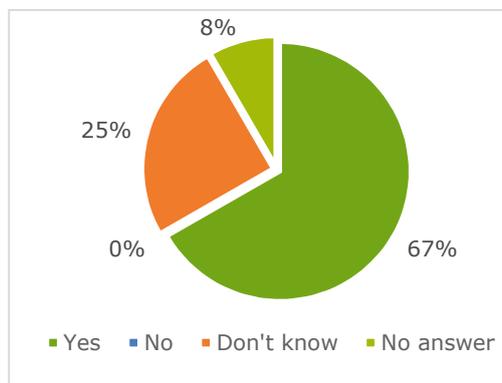


Figure 19: Should we allow free bids in DSO congestion management products?

Key Messages:

- Two thirds of the stakeholders acknowledge the potential value of “free” bids. Those in favour of USEF’s recommendation highlighted that “free” bids will increase competition, liquidity of flexibility markets, efficient procurement of services and will create further benefits to the consumers.
- Responses that said “Don’t know” (25%) flagged concerns about the reliability of flexibility services procured short-term, the risk of undermining long-term contracted flexibility services, and more generally recommended that further analysis be undertaken to understand the benefits of this recommendation. Stakeholders recommended that the effectiveness of “free” bids could increase by having transparent auctions instead of bilateral agreements, and differentiating long-term and short-term contracts through clear definition and products.



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Observations & Recommendations

We received a wide range of responses and recommendations on the topic of short-term flexibility procurement. One response recommended that processes should align with European Balancing Guidelines (EBGL), while other respondents were more concerned about reliability of flexibility at distribution level as well as pricing arrangements and the merit order of short-term and long-term contracts procurement.

One stakeholder highlighted that the regulatory direction is towards whole-systems pricing, which is in line with USEF's principles.

"The clear and required regulatory direction of flexibility markets is towards whole-systems pricing that is efficient and drives innovation and investment in flexibility where it is needed."

"It is likely that free bids would need to be considerably lower than existing utilisation payments under the contracts as the DSO may already have committed to availability/ reservation payments."

"There would also need to be continued long-term availability contracts establishing a reserve of procured flexible resource to be used if the daily market does not deliver a solution at lower cost."

Next Steps

Most stakeholders concur with the potential benefits of "free" bids and therefore the industry should continue discussions on product definition, requirements, timeline and pricing arrangements taking these views into account.

We will consider stakeholders' observations and recommendations in the development of the USEF GB implementation plan and explore the testing of short-term flexibility procurement on Project FUSION trial, to gain further practical insight into its application in GB. If Project FUSION trials short-term flexibility procurement, we will ensure that "free" bids are in line with existing national and international regulation and initiatives (i.e. ENA Open Networks project) so USEF's recommendations do not create risks for the delivery of efficient congestion management service.



Q9 DSO Flexibility Transactions - DSO flexibility products & processes

Q9a: Do you agree that a common mechanism for all DSOs and the ESO to procure flexibility and interact with the market would be beneficial? (Yes, No, Don't know)

If yes, would you consider the USEF approach to be suitable for providing this mechanism? (Yes, No, Don't know, N/A)

Q9b: If you agree with that consistent processes and standardisation would be beneficial, which elements of the flexibility transactions processes and interactions should be standardised?

Q9c: Do you consider it beneficial for GB processes to align with European processes for DSO flexibility mechanisms? (Yes, No, Don't know)

Please provide the basis for your answer.

These questions sought to capture stakeholders' considerations for standardising flexibility products and processes and particularly views on the Market Coordination Mechanism (MCM), a key component of the USEF framework.

Key Statistics

Figure 20 reflects that most (75%) stakeholders recognise the need for a common mechanism, while others responded that further clarity and details of the scope and the limits of this coordination would be required to answer the question.

Figure 21 shows that 42% of the stakeholders consider the USEF MCM a feasible solution for GB industry. Those who answered "don't know" stated that they would like more details on the USEF MCM. A quarter of the stakeholders did not provide a response to this question. Notably, no stakeholders considered USEF's approach to be unfeasible.

The responses further indicate (Figure 22) that most (58%) respondents agree with the merits of GB and European processes alignment. The remaining stakeholders did not provide a (conclusive) response on this question.

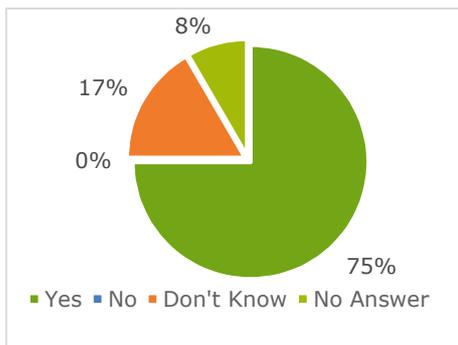


Figure 20: Do we need common mechanism for all system operators?

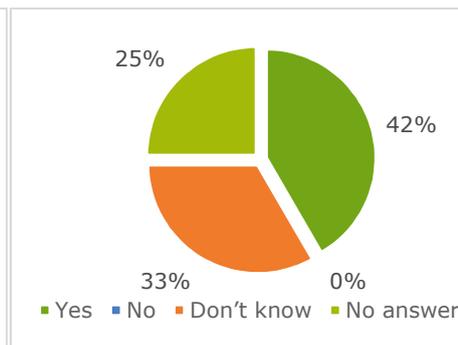


Figure 21: Is USEF's MCM feasible?

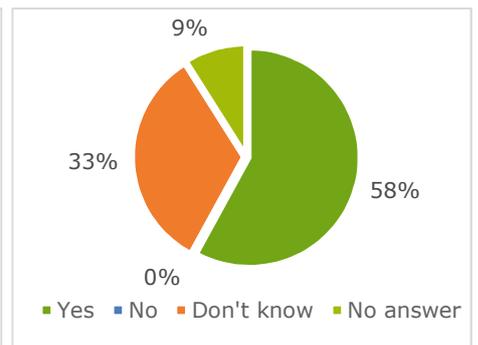


Figure 22: Should GB flex. processes align with Europe?



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Key Messages:

- Most stakeholders consider that a common mechanism for all DSOs and the ESO to procure flexibility and interact with the market would be beneficial and critical to ensure consistency across the market and lower entry barriers for flexibility service providers.
- Several (42%) of the stakeholders supported USEF's recommendation to implement the MCM. Some stakeholders would like more details on the MCM to determine whether it is suitable in the GB context.
- Respondents put forward various elements that should be standardised, with settlement processes being proposed most often. Other responses suggested the standardisation of measurement, validation, operation, contracts, communication, data and terminology.
- Some stakeholders did not provide conclusive answers on this topic, suggesting that they may not consider a common coordination mechanism for local markets to be essential at this stage.
- Although most stakeholders (58%) would like to see alignment between GB and European processes, some are sceptical of the benefits and the practicalities of such alignment.

Observations & Recommendations

Views and recommendations from the industry focused on how we should use existing national and international processes for the development of a common market coordination mechanism.

- One stakeholder, who was supportive of USEF MCM, suggested that existing national and international processes should also be considered for the standardisation of coordination (quote on the right). To that end, USEF has been designed to be well aligned with current processes and fits on top of existing markets.
- Other respondents highlighted that any coordination should not limit DNOs to only using current mechanisms used by the ESO. (quote on the left)
- Another stakeholder recommended that any coordination and standardisation should adopt the Energy Data Taskforce principles.
- Responses highlighted that alignment with European markets might not be practical for DSO products due to their locational element and that any solution needs to be flexible and adjustable to local requirements. It is worth mentioning that USEF has already acknowledged these considerations and it has been designed so that it can be implemented in various ways (through parametrized product descriptions) and under various business models, according to the local market and business needs.

"This should not limit the DSOs to using the current mechanisms used by ESO to procure flexibility, rather that the platforms should have a level of standardisation around the main services, data exchanges etc."

"USEF approach is suitable, but not the only approach. Standardisation can be based on existing processes used by the ESO for current procurement of flex. services. (least impact on market participants, compatible with processes for participating in international markets - TERRE/MARI)."



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Next Steps

Respondents generally agreed on the need for a coordination mechanism across all market parties, however they would like further clarity on the details underpinning the USEF MCM. The MCM will be tested in the Project FUSION trial, which will inform further discussions with industry on the practicalities of applying USEF coordination mechanisms in GB. In addition, we will ensure that when implementing USEF MCM, we also seek to reflect existing and future initiatives, such as the plans put forward by the Energy Data Taskforce. As part of post-trial knowledge dissemination, we will share the outcomes with key stakeholders such as the ESO, the DSOs and ELEXON, and provide insights on whether this is a feasible solution for the GB flexibility market.

Q10 Market Access Requirements - Aggregator implementation models

Q10a: Do you consider that aggregators should have balance responsibility for the flexibility they operate in all flexibility markets and products? (Yes, No, Don't know)
 If not, which products may deviate from this principle?
 Q10b: Do you agree that the open supply position of the supplier should be corrected through defined mechanisms? (Yes, No, Don't know)
 Please provide the basis for your answer.

This question sought industry's views on balance responsibility in flexibility products as well as on the revision of open supply positions, to understand whether stakeholders' views align with the principles of USEF framework and which aggregator implementation models are suitable for use in GB.

Key Statistics

Figure 23 shows that half of the respondents consider that aggregators should bear balance responsibility for the flexibility that they activate and one third of them are inconclusive as to whether aggregators should have balance responsibility for the flexibility they operate. Two stakeholders provided no answer to this question.

Figure 24 shows that stakeholders answered mostly positively (58%) on the question on revising the open position of the supplier, although 25% of respondents stated they did not know the answer. No objections have been raised. Two stakeholders did not this question.

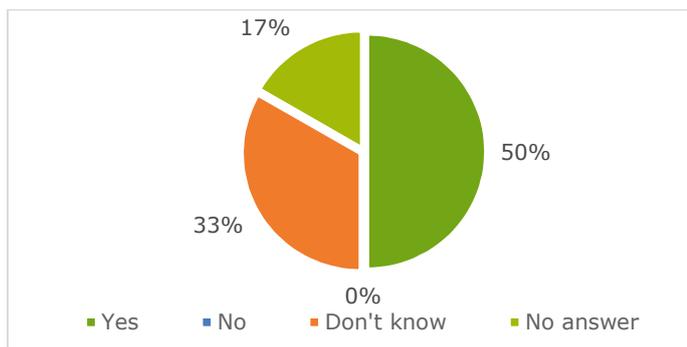


Figure 23: Should aggregators have balance responsibility?

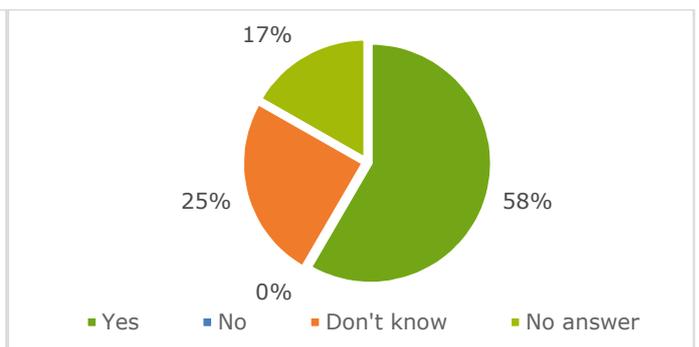


Figure 24: Should suppliers' open position be corrected?



Key Messages:

- Half of the stakeholders provided an inconclusive answer or did not answer at all on whether aggregators should have balance responsibility. This high rate of neutral answers may be reflective of the pace of industry discussions and rate of progress on this topic to date.
- Most stakeholders who did not provide a clear answer are supportive of P344 modification regarding Virtual Lead Parties' (VLPs) responsibility and suggested that balance responsibility is dependent on the flexibility product and DSO's ability to re-dispatch flexibility.
- The majority (58%) of the respondents consider that revising supplier's position should generally be facilitated in the market. Some respondents consider that the mechanisms for this are already in place and that the upcoming P344 modification will ensure that suppliers are fairly treated.

Observations & Recommendations

We received several observations that the GB market is not yet mature enough for the industry to answer questions related to aggregator implementation models. Some stakeholders recommended that various criteria should be considered when implementing proposals on aggregators' balance responsibility and revision of open supply position (e.g. cost for implementation, volumes of flexibility), while one stakeholder explicitly mentioned that several models could be applied to rebalance congestion management actions.

"Any resource activation will impact balance responsibility. There are several models possible for rebalancing a congestion management activation. The parameters of the situation vary and we see across Europe different approaches."

"This [*aggregators' balance responsibility*] may not be necessary when volumes are small during early market formation, but essential as markets mature to ensure that system costs are appropriately allocated."

[*Yes on the supply position*] "on the assumption that the costs incurred by suppliers as a result of flexibility service operations is significantly more than the cost of operating a corrective regime."

Next Steps

The inconclusiveness of responses on aggregators' balance responsibility and the revision of the open supply position suggests that further discussions across the wider energy industry are required. We acknowledge that significant progress has been made through the upcoming P344 modification as well as Project TERRE, however further steps should consider how this progress can be applied to all flexibility markets and products (e.g. DSO congestion management services).

To explore different options, USEF has developed seven models (Aggregator Implementation Models (AIMs)) that describe existing or potential future arrangements between the aggregator and other market participants. USEF has developed the AIMs in an effort to answer questions around balance responsibility, open supply position and contractual arrangements between the aggregators and the suppliers. USEF AIMs could therefore be a good starting point for future industry discussions as well as for implementation in the Project FUSION trial.



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Q11 Market Access Requirements - Re-dispatch responsibility

Q11: Who should be responsible for the re-dispatch in a DSO congestion management product? Please select among the options a, b, c, d, e, none of the above.

Please provide the basis for your answer.

This question solicited industry’s views on how we can neutralise the impact on the overall system balance of a flexibility activation in the form of a congestion management product. This topic is linked to the aggregator implementation models (Q10) and it will therefore be informed by future arrangements on aggregators’ balance responsibility and suppliers’ open position.

In the consultation, we asked stakeholders to provide feedback on the following re-dispatch options:

- a) The DSO performs the re-dispatch and the DSO should buy re-dispatch simultaneously with the flexibility activation (“congestion spread”)
- b) The DSO performs the re-dispatch with no restrictions on when the DSO should buy energy for re-dispatch
- c) The ESO performs the re-dispatch for the cumulative DSO/ESO flexibility activations
- d) The aggregator or the Constraints Management Service Provider (CMSP) performs the re-dispatch, implying that the DSO purchases a service rather than energy. This option requires a Transfer of Energy (ToE) between the aggregator and the supplier.
- e) The supplier performs the re-dispatch, implying that the DSO purchases a service rather than energy. This option does not require a ToE.

Key Statistics

The figure below shows that respondents considered the ESO as the most suitable to perform the re-dispatch, followed by the Aggregator/CMSP and the DSO. One third of the stakeholders did not provide an answer, and one stakeholder stated it did not know the answer. None of the stakeholders believes that the supplier should perform the re-dispatch. One stakeholder believes that all solutions are valid.

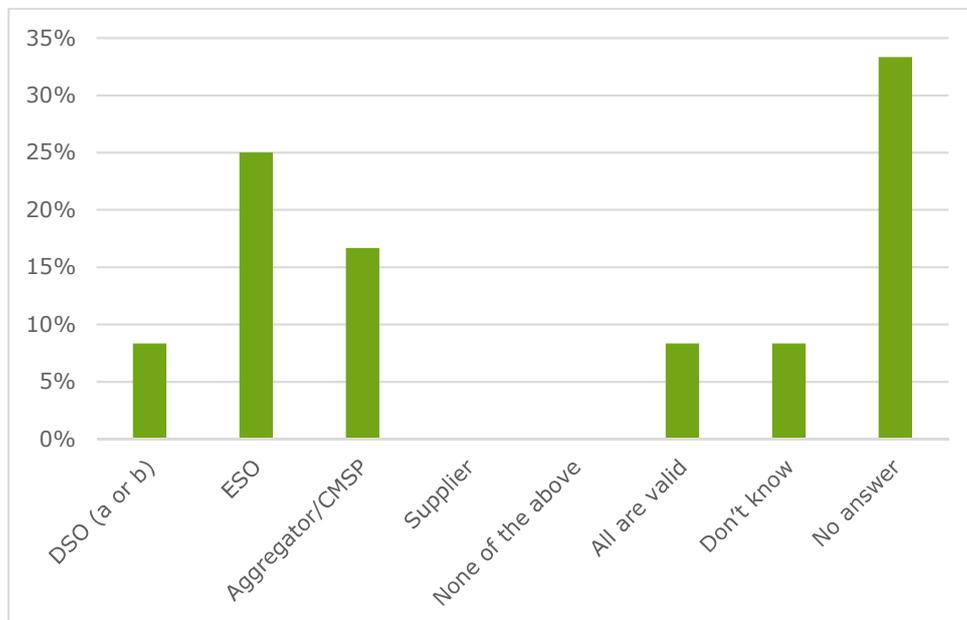


Figure 25: Who should perform the re-dispatch?



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Key Messages:

- Responses to this question varied with 33% of the stakeholders not answering the question.
- Of the respondents who provided a conclusive answer, most suggested that the ESO should be responsible for re-dispatch, on the basis of its current role to maintain system's balance as well as the inherent prioritisation of national system over local system balance.
- One stakeholder suggested that the DSO could also be suitable to perform re-dispatch, whilst two respondents recommended the aggregator or the constraint management service provider (CMSP).
- Another response highlighted that in case that option b (DSO performing the re-dispatch with no time-restrictions) should contribute to lower costs compared to the other options. It also recommended that the DSO should compensate the supplier for any additional costs occurred due to re-dispatch.

Observations & Recommendations

Some respondents provided further observations on their answer which we highlight in this section. One stakeholder, for example, suggested that re-dispatch by DSOs would increase both the administrative burden of coordination and complexity in cases when DSO needs to act in areas outside their network and would require that DSOs have "visibility of true impacts on the wider system."

Another respondent highlighted that in GB DSOs are not allowed to purchase energy and therefore options d and e would not be acceptable, insofar as these options require that DSOs buy energy to perform the re-dispatch. Yet another stakeholder described a communication process and data flow from the DNOs to the ESO to facilitate the ESO performing the re-dispatch (see quote below).

..." each DNO increasing or decreasing DER output to manage their constraints, then these feeding through to the ESO via GSP flow change forecasts, demand forecast changes etc., so that it can factor in the impact on overall market length (as well as Transmission network issues) to derive the optimal outcome nationally."

Next Steps

Stakeholders' feedback did not provide clear direction on which re-dispatch mechanism would be suitable for GB flexibility markets. Based on these responses, we consider there is a need for further discussion among GB energy industry stakeholders to identify the benefits, consequences and feasibility of the re-dispatch options.

For the Project FUSION trial, we will take into account stakeholders' recommendations and we will consider testing a USEF re-dispatch mechanism depending on the relevant AIM adopted in the trial as well as on the DSO product design and requirements. The outcome of the trial will provide the basis for further discussion on this topic in GB context.



Q12 Market Access Requirements - Flexibility value stacking

Q12a: Do you agree that dynamic pooling in flexibility services should be supported? (Yes, No, Don't know)

Q12b: If yes, please indicate products and services where dynamic pooling should be possible (i.e. balancing, congestion management, wholesale, capacity market).

Please provide the basis for your answer.

This question introduced the concept of dynamic pooling in the GB context and sought stakeholders' views on whether it could be applied in GB flexibility markets and under which circumstances.

Key Statistics

Figure 26 illustrates that two thirds of the respondents acknowledged the benefits of dynamic pooling, while none of the respondents was against this option.

Figure 27 summarises the limited responses that we received with regard to products and services that could be suitable for dynamic pooling, with 58% of respondents not providing any recommendations. Of those who answered, the majority consider that dynamic pooling could be suitable for all products.

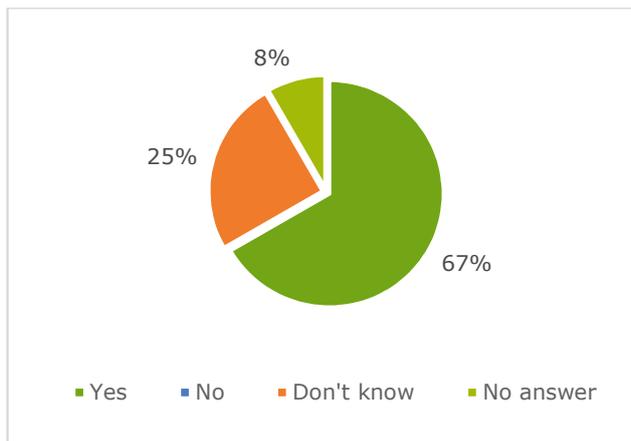


Figure 26: Should dynamic pooling be supported?

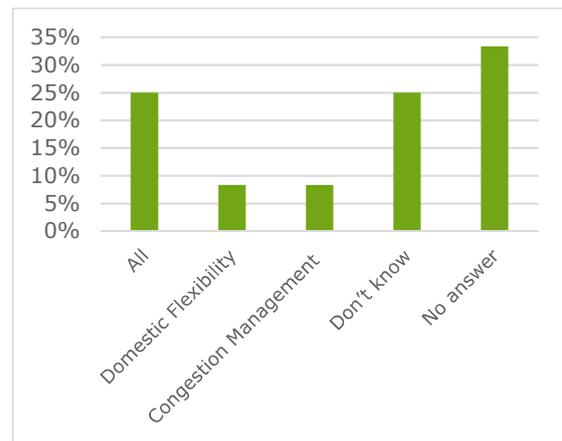


Figure 27: Which products are suitable for dynamic pooling?



Key Messages:

- Stakeholders (67%) were generally supportive of dynamic pooling and acknowledged the benefits of it, such as maximising revenue opportunities, increasing competition, lowering costs for consumers and increasing the system's reliability.
- Three respondents suggested that further assessment and considerations are required to understand the benefits, risks and practicalities of dynamic pooling and whether it should be applied to all products. Particularly one stakeholder recommended that further assessment on the unintended sequences of dynamic pooling should inform this decision.
- One stakeholder recommended that this question should be answered once flexibility markets are more mature.
- Responses on which products are suitable for dynamic pooling were limited to all products, congestion management and domestic flexibility services.

Observations & Recommendations

Stakeholders' views and recommendations focused on the risk of unintended consequences of dynamic pooling and how to mitigate them. For instance, one respondent recommended that it is important to define at which point dynamic pooling of an asset may not be possible, while another stakeholder recommended the use of thresholds for dynamic pooling volumes.

"If a conflict exists in delivering for multiple markets or services, these conflicts should be specifically identified and mitigating actions introduced, including disallowing revenue stacking where necessary."

"The issue is the volume of services that are provided by aggregators using dynamic pooling. If this is a significant volume then managing conflict becomes very difficult because none of the details of services to be provided is known until very near real-time. It may be useful to perform some market modelling to determine whether there is a threshold where the volume of services that are dispatched against unknown assets becomes problematic in terms of conflict avoidance."

Next Steps

The responses indicate that the industry is supportive of dynamic pooling, although this is a comparatively new concept for GB markets. We acknowledge the need for further clarification of the requirements and benefits of dynamic pooling and therefore consider that testing dynamic pooling in Project FUSION trial could provide a good evidence base on the benefits, risks and associated complexities. Project FUSION insights will inform further discussions with the industry and the ENA ON project to determine the applicability of dynamic pooling to GB products and services.



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Q13 Market Access Requirements - Sub-metering arrangements

Q13a: Should sub-metering be allowed in all markets and products, including wholesale market and DSO constraint management service? (Yes, No, Don't know)

If not, please indicate products and services where sub-metering should be possible and cost-effective.

Q13b: In the case of independent aggregation, should sub-metering also be used as input for the quantification of the Transfer of Energy, which, in turn, will impact wholesale settlement? (Yes, No, Don't know, N/A)

Q13c: Who should be responsible for the validation of sub-metering data?

Please provide the basis for your answers.

This question sought feedback on the applicability of sub-metering in GB context, so that we get more insights of associated benefits and complexities of sub-metering arrangements.

Key Statistics

Figure 28 illustrates that there is strong support for sub-metering from the industry, with more than 80% of stakeholders in favour of allowing sub-metering, and none of the respondents against it.

Figure 29 shows that half of the stakeholders did not provide a conclusive view on the Transfer of Energy (ToE) question, which may reflect that this is a challenging topic that requires further discussion, clarification and expertise to be answered. One third of the respondents is in favour of the use of sub-metering as an input for the Transfer of Energy.

Figure 30 shows that 17% of the responses were inconclusive ("Don't know") on who should be responsible for performing the validation of sub-metering data, while one third of the stakeholders did not provide any answer. 17% of the stakeholders recommended ELEXON. Each of the answers the "aggregator", the "asset installer", an "independent party" and "no need for validation" received support of a single stakeholder.

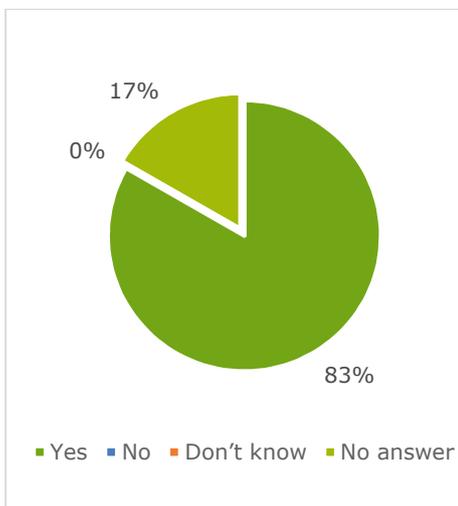


Figure 28: Should sub-metering be allowed in all markets and products?

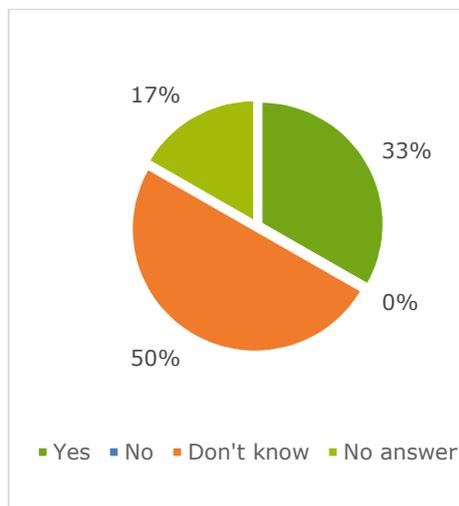


Figure 29: Should sub-metering be used as input for ToE?

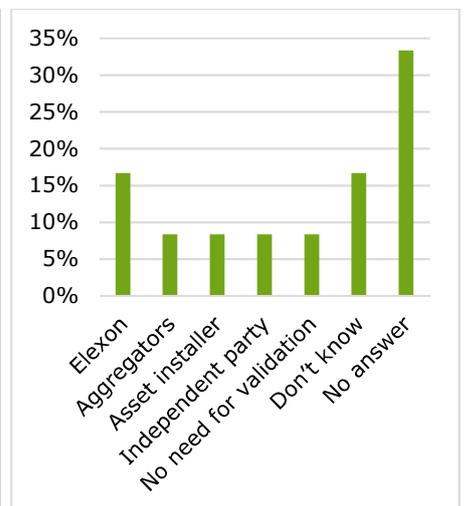


Figure 30: Who should be responsible for the validation of sub-metering data?



Key Messages:

- The vast majority of stakeholders support the use of sub-metering in all markets and products. One respondent mentioned that sub-metering would be particularly useful for congestion management due to product's requirements for granular data.
- Several stakeholders referred to the P375 and P376 BSC modifications, as these modifications are associated with the sub-metering arrangements and the transfer of energy. Most of them did not provide a conclusive answer to our second question but recommended coordinating activities with existing initiatives such as the BSC modifications or the ENA ON.
- We received 5 responses on the question regarding the responsibility for validating the sub-metering data. One stakeholder recommended that the asset installer should be responsible for that, while a few others recommended the aggregators or an independent party for this role. 17% of the responses recommended that ELEXON should manage the process and the rules for sub-metering validation as part of the BSC.
- Three stakeholders questioned whether there is need for an independent body for sub-metering validation and/or recommended that the most cost-efficient option should be taken forward.

Observations & Recommendations

Observations from our stakeholders focused on the validation process and the use of sub-metering for ToE quantification. One stakeholder recommended that the use of sub-metering for ToE quantification should be cost-effective and time-efficient, otherwise forecast values could also provide a solution. (top left)

Another stakeholder highlighted that independent validation might not be required, while one respondent recommendation regular audits of the validating body to ensure transparency.

The quotes below also show recommendations related to ELEXON's and the BSC role in the validation process.

"We are unsure of whether it is necessary to have actual or forecast values for ToE quantification. It seems reasonable to use actual data, but it all depends upon the costs for provision of metering and communications to extract the data in whatever timescales are necessary."

"No preference, so long as the process is open and agreed and the validating body is subject to audit regularly or if a specific request is raised."

"We do not see the need for any independent validation of sub-metering data, as this would be onerous and not cost-efficient."

"As part of the proposed P375 solution, ELEXON will develop and manage a new Code of Practice for 'Asset Meters' that can be used behind a Boundary Point."

"ELEXON should set the rules for the validation of sub metering and include them in a BSCP. ELEXON should be responsible for overseeing the data integrity of sub metering data and the party providing the data should validate that it is accurate."



Next Steps

Stakeholders widely supported USEF’s recommendation on sub-metering arrangements. We acknowledge that any change related to sub-metering in wholesale energy markets and ToE will require consensus across the industry and changes in the Balancing and Settlement Code (BSC), and therefore further work will be required.

We will consider testing sub-metering in the Project FUSION trial to gain practical experience on the benefits and complexity of using sub-metering for measurement, validation, baselining and settlement of flexibility in a DSO congestion management product. The Project FUSION trial will focus on congestion management processes and therefore any testing of sub-metering will not inform imbalance settlement and wholesale processes.

Q14 Privacy and Cyber Security - Congestion point publication

Q14a: Is the publication of congestion points using connection identifiers in line with GDPR requirements on security and privacy? (Yes, No, Don’t know)

Q14b: If not, what alternative can be used to capture locational information of congestion points and their associated substations (postcodes, GPS coordinates, streets, etc.)?

Please provide the basis for your answer.

This question sought the industry’s opinion on the level of data and information that can be published in the Common Reference (congestion points repository) and on its alignment with GDPR requirements.

Key Statistics

Figure 31 shows that one third of the stakeholders consider that the publication of congestion points using connection identifiers is in line with GDPR, while 17% of them believe that this would be in breach of GDPR requirements. Half of our stakeholders did not provide a conclusive answer or an answer at all to this question.

Figure 32 shows that only 25% of the stakeholders provided recommendations on alternative solutions for capturing locational information, including network monitoring and following processes that are already in place.

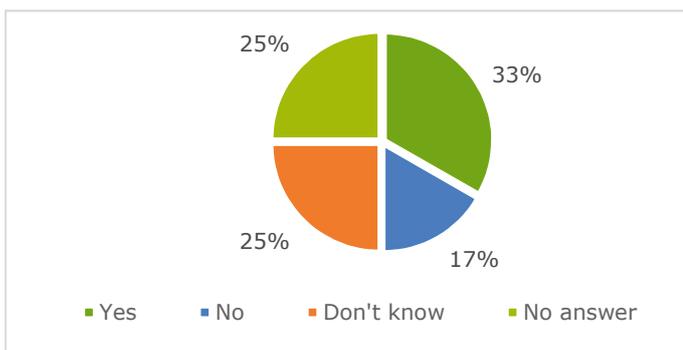


Figure 31: Is congestion point publication in line with GDPR?

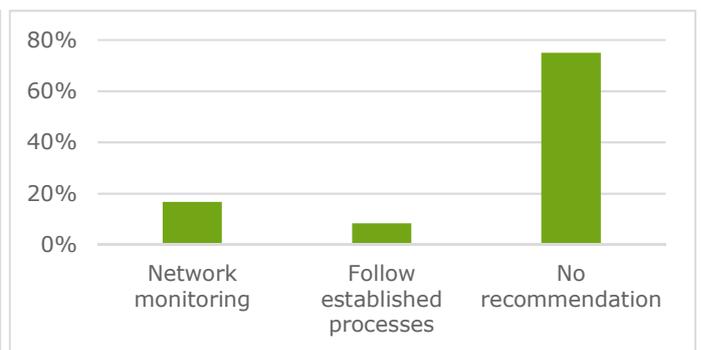


Figure 32: Alternatives for recording location information



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Key Messages:

- Responses varied on whether publication of connections identifiers is in line with GDPR, with a low response rate. One third of the respondents considers that there is no GDPR breach as long as data does not include personal information and/or includes only the Meter Point Administration Number (MPAN), on the grounds that MPANs are not easily related to customers' names and addresses.
- Three responses suggest that it will be challenging to publish information of small assets, small businesses and households without breaching GDPR.
- Some stakeholders recommended that consent from the customers should be required so that there are no GDPR-related issues.
- Only 25% of the stakeholders provided an alternative solution for capturing location information. Some suggested enhanced network monitoring by the DNO/DSOs or use of network data plans that aggregates the data. One respondent mentioned that postcode accuracy is limited based on their own experience.

Observations & Recommendations

Stakeholders placed emphasis on the level and type of information which will be published in the congestion points repository in order to ensure GDPR compliance. A number of stakeholders indicated that information varies with the level of connection to the grid. For example, one respondent suggested that individual organisations could potentially be identified at every voltage level in the future, while others suggested that there is a risk of non-compliance with GDPR only at Low Voltage (LV) congestion points.

“MPANs are not easily related to customer addresses or names by third parties”
“If there are very few LV congestion points and related connections information this would also reduce the risk.”

Next Steps

In developing a congestion point repository (USEF's Common Reference) for GB implementation, we will consider in detail the type of information that should be included to deliver the purpose of the repository, taking into account GDPR requirements and recommendations received. The Project FUSION trial will consider implementing the Common Reference, for which GDPR compliance is mandatory, as well as consider the requirement to obtain consumers' consent to publish relevant information.



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4 Conclusions

4.1 Summary of responses

Figure 35 provides an overview of respondents' support for USEF recommendations as well as the level of complexity to discuss and implement the recommendations in the GB context. The assessment of the complexity level reflects a combination of stakeholders' views, previous experience from implementing USEF in European countries, potentially required regulatory changes, observations from current GB initiatives exploring similar changes as well as the number of stakeholders that will be involved in, and affected by, the change.

The size of the bubble represents the number of responses received in each question, indicating that all questions received substantial and similar response levels.

Recommendations with high support from the industry and low complexity (upper right quadrant) can be considered "quick wins" for USEF implementation in GB. In general, USEF recommendations received high support with on average 67% to 92% of the stakeholders agreeing with USEF in their written responses.

The level of support was lower for specialist concepts with which individual stakeholders may be less familiar, such as the role of the Constraint Management Service Provider (CMSP).

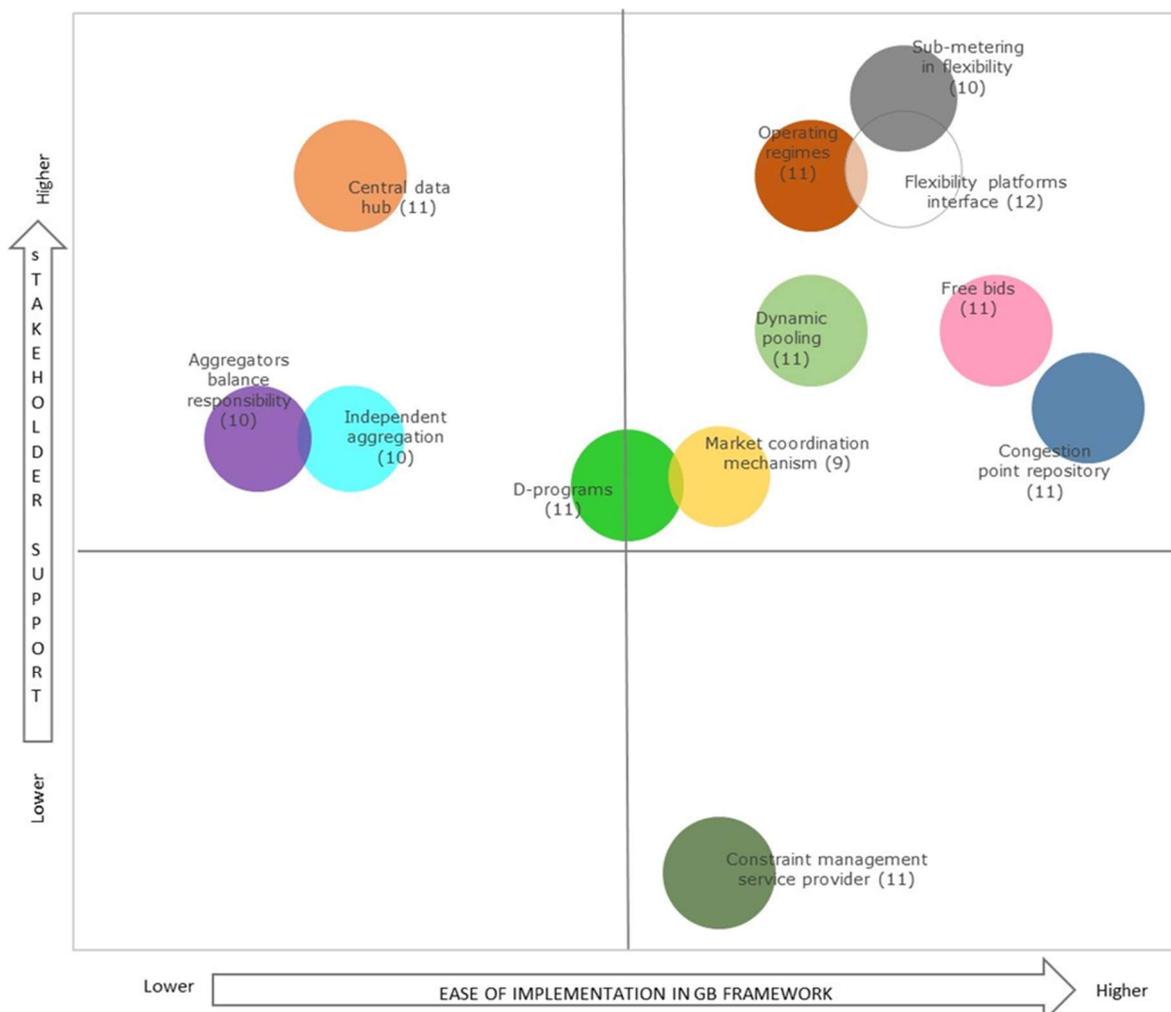


Figure 33: USEF Recommendations; stakeholders' support and ease of implementation (no. of responses included in the brackets)



4.2 Main Outcomes

Following our analysis and review of the consultation responses, we consider the main outcomes and next steps to be as follows:

All questions were deemed highly relevant by the respondents, when implementing flexibility mechanisms in the GB market and regulatory framework.

In this consultation, our focus was to test the most relevant and innovative elements of USEF in the context of the GB market. We did not seek to test whether the USEF model as a whole should be implemented, since we need to gain further experience through the Project FUSION trial. Moreover, although we have made available various documents for reference, we did not expect our respondents to study the full detail of the USEF framework in order to provide views and feedback on all USEF processes and mechanisms. Finally, we acknowledge that the framework will need some customisation to fit in the GB framework, as indicated in our Due Diligence report.

Irrespective of the answers provided, respondents agreed that the questions raised need to be answered, in order to achieve well-functioning flexibility mechanisms in the GB market. As next steps we will: seek to facilitate and/or continue discussions with the industry where recommended by stakeholders; undertake further analytical work on changes required for a USEF-compliant implementation in the GB context; and where possible, underpin these discussions with insights gained from the Project FUSION trial.

The majority of the proposed innovative elements gained high support from the respondents.

Proposals such as a standardised way of communicating on congestion issues, the use of sub-metering and dynamic pooling in all organised markets and products, gained high support. Some of these topics are still under development in the current GB regulatory framework and some are being explored by other industry initiatives, such as the ENA ON project. We will therefore align our activities with industry initiatives and consider testing the proposed solutions in the Project FUSION trial to deliver wider learnings for GB energy stakeholders and consumers.

Several elements gained support on a conceptual level, but respondents indicated that more analysis, discussion and/or proof is needed to assess which of USEF's options are fit-for-purpose.

Some innovative elements (e.g. independent aggregation in wholesale markets, balancing responsibility for aggregators and re-dispatch options) received inconclusive answers, with respondents wanting to explore the proposals further in conjunction with the general direction of the market. For these elements, further work and discussions among GB energy industry stakeholders are recommended to explore the practicalities, risks and benefits of different options for implementation. Including such elements in the USEF trial may prove to be valuable, although should be balanced with the possibility that the GB market may move an alternative direction.

It is important to state that on these topics, USEF provides a full range of options. Although it may be challenging to test these options during the Project FUSION trial, we believe a USEF-compliant implementation (as will be demonstrated in Project FUSION) will fit well with, and add value to, the GB market.

One element presented a varied and inconclusive response from stakeholders.

The recommendation to define a separate role for a *Constraint Management Service Provider (CMSP)* received a varied response. This is observed due to a lack of awareness of the innovative elements of USEF. We will reconsider the impact of this outcome for the Project FUSION trial; however, even if Project FUSION opts for a fully USEF-compliant trial, and leaves this role intact, the risk of adverse effects is low.

As some stakeholders have observed, the responsibilities of the CMSP could easily be joined with those of another role, should this be the outcome of the GB discussion on the potential role of the CMSP.



Appendix – Glossary

Aggregator³	A service provider that contracts, monitors, aggregates, dispatches and remunerates flexible assets at the customer side.
Aggregator Implementation Model (AIM)³	USEF term that describes the relation of the aggregator with the supplier and the Balance Responsible Party (BRP). It covers relevant aspects of aggregation implementation, such as contractual arrangements, imbalance responsibility and transfer of energy.
Balance Responsible Party (BRP)	A market participant or its chosen representative who is responsible for balancing electricity supply and demand of its portfolio in each settlement period.
Balancing Service Provider (BSP)	A market participant who provides energy volumes to the TSO for the purposes of balancing the total system. In GB, this role is usually undertaken by aggregators, suppliers or customers directly connected to the transmission network.
Balancing Settlement Code (BSC)	The Balancing and Settlement Code (BSC) is a legal document which defines the rules and governance for the balancing mechanism and imbalance settlement processes of electricity in Great Britain. The BSC is administered by ELEXON, the Balancing and Settlement Code Company.
Capacity Market (CM)	A mechanism designed to increase security of electricity supply by encouraging investment in reliable sources of capacity.
Common Reference Operator (CRO)³	In USEF, the CRO is responsible for operating the Common Reference. USEF defines the Common Reference as a repository which contains information about connections and congestions points in the network.
Congestion Management¹	The avoidance of the thermal overload of system components by reducing peak loads. The conventional solution to thermal overload is grid reinforcement (e.g. cables, transformers). Congestion management may defer or even avoid the necessity of grid investments.
Constraint Management Service Provider (CMSP)³	A provider of constraint management services to a DSO or the TSO. This is a USEF role and is not currently used in GB.
Demand-Side Flexibility (DSF)	According to USEF, DSF is flexibility at the customer side, which includes flexible load, generation and on-site storage. DSF is provided “behind-the meter” or “behind the connection”. National Grid’s DSF definition encompasses the same elements as USEF, however, it also includes storage and generation “for export”. This report uses DSF as per USEF’s definition.
Demand-Side Response (DSR)	The change in electricity demand in response to a signal, through load shifting, on-site generation and/or use of storage.
Distribution and Connection Use of System Agreement (DCUSA)	The multi-party contract between licensed electricity distributors, suppliers and generators in GB concerned with the use of the electricity distribution system.

³ USEF terminology



Distribution Network Operator (DNO)	Company licensed to distribute electricity in GB.
Distribution System Operator (DSO)	As defined in DIRECTIVE 2009/72/EC: A natural or legal entity responsible for operating, ensuring the maintenance of and, if necessary, developing the distribution system in a given area and, where applicable, its interconnections with other systems and for ensuring the long-term ability of the system to meet reasonable demands for the distribution of electricity.
Energy Networks Association (ENA)	The industry association for operators of gas and electricity transmission and distribution networks in the UK and Ireland.
Flexibility Service Provider (FSP)³	Market participant offering services using flexible resources.
Flexibility Value Chain (FVC)	The potential of demand-side flexibility to create value to multiple participants through several markets and in the form of different products and services.
Flexibility	Ability of an asset or a site to purposely deviate from a planned or normal generation or consumption pattern.
Independent aggregation³	Situation where a customer has an agreement with an aggregator to dispatch and market (parts of) its flexibility, whereas this aggregator operates without the consent from or a contract with the electricity supplier of the customer.
Independent Aggregator	A market party who performs the role of Aggregator and is not affiliated to a supplier or any other market participant.
Prosumer³	This role refers to end-users who only consume energy, end-users who both consume and produce energy, as well as end-users that only generate (including on-site storage).
Supplier	The role of the Supplier is to source and supply energy to end-users, to manage (hedge) delivery and imbalance risks, and to invoice its customers for energy.
Transfer of Energy (ToE)³	USEF term for a wholesale electricity transaction between the Supplier and the Aggregator, triggered by a Demand Response activation by the Aggregator on the retail side, restoring the energy balance of both the Aggregator and the Supplier (and their BRPs).
Transmission System Operator (TSO)	A physical or legal entity responsible for operating, ensuring the maintenance of and, if necessary, developing the transmission system in a given area and, where applicable, its interconnections with other systems, and for ensuring the long-term ability of the system to meet reasonable demands for the transmission of electricity. In GB, the party responsible for the system balance and operability is the Electricity System Operator (ESO), National Grid ESO. Separate parties, the electricity Transmission Owners (TOs), are responsible for investing, building and maintaining their electricity transmission network. This report uses the term TSO when referring to USEF processes and the term when referring to GB processes.



Appendix – Respondents

We provide below a list of the stakeholders that participated in the USEF consultation.

Stakeholder	Industry
Centrica	Energy and Services Company
Citizens Advice	Consumer Protection Party
Electricity North West (ENW)	DNO
ELEXON	Balancing and Settlement Code Administrator
Energy UK	Industry Group
EPEX	Market operator
Hitachi	Response was provided from a point of view of an aggregator.
National Grid ESO	ESO
PassivSystems	Technology Solutions provider
Piclo	Platform operator
Western Power Distribution	Distribution Network Operator (DNO)
Confidential Response	Technology Solutions Provider



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Appendix – Statistics on the written responses

Question	Total responses	Yes	No	Don't know
Q1a	10	6	0	4
Q1b	9	N/A	N/A	N/A
Q2a	11	8	1	2
Q2b	11	3	6	2
Q3a	11	10		1
Q3b	11	3	5	3
Q4a	11	3	2	6
Q4b	7	N/A	N/A	N/A
Q5a	11	10		1
Q5b	11	7	1	3
Q5c	10	8		2
Q6a	11	11		
Q6b	11	8	2	1
Q7a	12	11		1
Q7b	10			3
Q8	11	8		3
Q9a1	11	9		2
Q9a2	9	5		4
Q9b	8	N/A	N/A	N/A
Q9c	11	7		4
Q10a	10	6		4
Q10b	10	7		3
Q11	8	N/A	N/A	N/A
Q12a	11	8		3
Q12b	8	N/A	N/A	N/A
Q13a	10	10		
Q13b	10	4		6
Q13c	8	N/A	N/A	N/A
Q14a	9	4	2	3
Q14b	3	N/A	N/A	N/A



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