



NETWORKS



SEMC CONSULTATION ON SYSTEM SERVICES FUTURE ARRANGEMENTS

ESB Networks Response

9th October 2020

1. Introduction

The energy industry is undergoing significant transformation, to meet the needs of climate mitigation and adaptation, as set out in policies and legislation. Building on the sustained commitment made to decarbonising electricity generation in the single electricity market over the past two decades, by 2030 objectives of 70% renewable electricity and to decarbonise the heat and transport sectors through the electrification of heat and transport are being targeted.

ESB Networks is fully committed to the delivery of our collective decarbonisation and renewable energy targets. The introduction of system services arrangements at both transmission and distribution level will be central to this. Well-designed system services arrangements should seek to maximise the degree to which low carbon generation can be matched by low carbon demand, in a secure, and efficient manner.

ESB Networks welcomes the opportunity to respond to this important consultation to “System Services Future Arrangements”. We have structured our response by

- firstly giving an overview of the role of ESB Networks
- then providing an overview of our key messages on the consultation
- responding sequentially to the questions set out in the consultation paper
- providing ESB Networks’ core proposal with respect to this consultation process, in response to Question 2.

2. Role of ESB Networks

ESB Networks works to meet the needs of all electricity customers, providing universal affordable access to the electricity system, and delivering and managing the performance of a system of almost 155,000 km of overhead networks; 23,000 km of underground cables; 640 high voltage substations; significant amounts of connected generation, including 4.75 GW of renewable generation connected to the distribution and transmission systems; 2.3 million demand customers; and now several thousand “active customers” – domestic premises with microgeneration, a rapidly increasing number.

3. Key messages

In considering this consultation, ESB Networks has been guided by two core principles, namely:

- For the DSO to maximise the participation of new and existing technologies on the distribution system, including citizens, communities, farms and industry, in future system services arrangements, so as to deliver the best value for customers, in cooperation with the TSO;
- To protect all distribution system users, by ensuring the continued safe and reliable operation of the system in accordance with DSO licence duties;

Enabling a system services market design that serves all stakeholders is paramount. Both local and whole system operations over the coming decade will become increasingly complex, and system services will play a central role in a secure and economic system operation. This will be delivered increasingly by providers who are not providers today – distributed demand, generation communities and new technologies. ESB Networks' role as DSO, of coordination and cooperation with the TSO and market participants, will be pivotal to achieving a market design that supports active participation of new technologies, investor certainty and delivering best value for the customer.

ESB Networks' role as DSO in the design and operation of system services will be essential to reducing barriers to entry for smaller and newer technologies and customers. It is essential that their participation is built into the design and operations of system services from the earliest possible point. The right level of local management is critical to enabling smaller providers and new technologies on the distribution system to participate on a level footing in a market which is not currently designed to account for the local conditions in which these smaller participants operate.

Our input to this consultation relates to how market design for system services arising out of the Future Arrangements can deliver this. The proposal set out in this document has been developed to enable and maximise the participation of distribution connected demand and generation in system services, based on the above principles. It seeks to deliver a solution in which network management can complement market operation, to fulfil central requirements in terms of liquidity, investor certainty and alignment with the Clean Energy Package and Electricity Balancing Guideline Network Code.

4. ESB Networks' Response to Questions

Question 1

Are there additional requirements in EU legislation or national policy that should be considered as key guidance for the project?

ESB Networks considers it critical that the Future Arrangements process delivers a system services design which supports our collective ability to meet decarbonisation and renewable energy targets, by playing a key role in facilitating increased renewables onto the grid. ESB Networks' particular focus in this response is on enabling the active participation in new technologies or new market participants – including distributed renewables, communities and citizens, farms and industry – to contribute to this.

Careful consideration of the relevant legislative framework has been taken when developing ESB Networks proposal as set out in this document, and when considering the scope of this Future Arrangements Process, including

- the Internal Market Directive 2019/944 of the Clean Energy Package
- the Internal Market Regulation 2019/943 of the Clean Energy Package
- the System Operational Guideline 2017/1485 of the EU Network Codes
- the Energy Balancing Guideline 2017/2195 of the EU Network Codes

The Clean Energy Package¹ outlines various requirements for the DSO. These include firstly, the DSO's responsibility for operating, maintaining and developing under economic conditions a secure, reliable and efficient electricity distribution system with due regard for the environment and energy efficiency². ESB Networks' response to this document has been guided by this responsibility (as reflected in its DSO licence) in particular, and by the provisions of European legislation³ with regard to enabling distribution connected users, including in particular demand response through aggregation and energy communities participate in all markets, working in cooperation with the TSO, regulatory authorities and industry. This includes, in particular, responsibilities with regard to the development of technical requirements and specifications, and information exchange.

¹ in particular Regulation EC 2019/943 and Directive 2019/944/EU

² Art. 31 (1) of 2019/944.

³ In particular Articles 16, 17 (2), 17 (5), 31 (9), and 40 (5) of Directive 2019/944/EU

The Clean Energy Package sets out clear responsibilities in respect of the development of products and services for the secure and efficient operation of the distribution system, the procurement of system services on a transparent, objective, non-discriminatory and a market basis as applicable, whilst also accounting for the relevant technical characteristics⁴. In addition, the national regulatory authority has responsibility for enabling and incentivising the DSO in its development and procurement of local system flexibility services as part of distribution system operation⁵.

ESB Networks is committed to the introduction of system services on the distribution system and has mobilised an initiative to deliver this, however based on a review of the relevant legislation and the role of the SEM Committee in this consultation, ESB Networks believes that this Future Arrangements process

- addresses system services needed to meet transmission system needs, including the participation of distribution system customers' participation and the role of the DSO in enabling this;
- does not address distribution system services, which would warrant a separate process;
- Notwithstanding this, we consider that the frameworks for system services for transmission and distribution respectively can each be designed in a manner which would enable separate but operationally compatible arrangements.

ESB Networks is supportive of this approach.

As relates to transmission system services, in order to make distribution system users' participation in such services possible, in a secure manner and without causing harm or damage to the system, the DSO must be at the heart of designing and operating the new arrangements. This requirement is reflected in the EU legislation⁶, including the provisions referenced above, and applies both to qualification and operational processes. As DSO, ESB Networks is committed to playing the central role that is necessary. Care will be needed in market / services design, and this must be underpinned by operational coordination between DSO and TSO, and the right pace of investment in operational control systems capabilities. This process is underway, with programmes established in both DSO and TSO organisations to support this process, and close collaboration ongoing between the DSO and TSO in this regard. The availability of funding to deliver this investment, to be provided for through the PR5 process, will play a critical role in determining the pace and effectiveness of the technological solutions which can be delivered.

⁴ Art. 31 (6) - (8) of 2019/944

⁵ Art. 32 (1) – (2) of 2019/944

⁶ for example, Art. 31 (1) of 2019/944

ESB Networks is committed to releasing services from the distribution system, to the greatest degree possible. To do this, distribution system users' participation must be supported as an integrated aspect of distribution system operation. This is because distribution system design is far sparser, and offers far less redundancy, than transmission system design. This means that the actions of one household, farm or business on the distribution system can quite easily affect the power quality their neighbours receive, and in the absence of local system management, the collective activities of a small number of households in a locality can result in loss of supply within their community. With little or no headroom provided for in network design at the local level, localised optimisation is needed to maximise distribution system users' access to the system services market, and some level of constraint is inevitable. The right of the DSO to constrain participating units is provided for in the System Operation Guideline⁷, with respect to both qualification and activation processes, and would not result in any obligation of compensation by the DSO. In the interests of maximising the potential for delivery of services by distribution connected customers, the proposal set out in this response (see further below) would minimise the degree to which this arises, and seeks to provide market participants on the distribution system with the certainty they need, to develop and grow their system services activities.

Question 2

What should the role of DSOs be in development of the new arrangements?

General Role of the DSO in the Future Arrangements Process

The current arrangements were developed from the perspective of the transmission system (as was appropriate at that time) and thus meet the needs of larger, transmission connected services providers. Future system services arrangements will need to be developed to reflect the needs and capabilities of distribution system users, as well as the underlying needs and activities of the homes and businesses on the distribution system in the same locality as system services providers. We are committed to ensuring that this does not remain the case in future system services arrangements.

If the current model for distribution system users' participation were retained, the volume of services which can be delivered from the distribution system will necessarily remain lower than it could otherwise be and in our view, this would not be compatible with the intention or requirements of the legislation which provide for a level playing field for market participants., including distribution system connected

⁷ Article 182 (4) and (5) of 2017/1485

participants, as set out in the Energy Balancing Guideline⁸. Additionally, to enable effective value stacking, and the most economic whole system solutions, into the future, distribution system services arrangements and transmission system services arrangements would need to be compatible. To achieve this in long term, it needs to be a design consideration from the outset.

Processes for distribution system users' participation should be introduced in a manner designed from the outset to achieve these objectives in the long term, while enabling significant progress towards distribution system users' participation in the short term. To achieve this:

- the DSO must have a central role in the development of procurement arrangements ;
- the DSO must have a central role in the delivery of procurement and qualification processes ; and
- the DSO must have the central role in the development and delivery of operational rules and protocols as they relate to the participation of distribution connected participants.

To develop these arrangements without an appropriate involvement of the DSO will almost certainly result in the development of arrangements which fail to enable the effective participation of distribution system users by failing to appropriately reflect the local conditions in which these participants operate. An approach which lacks the appropriate involvement of the DSO would not provide a level playing field for these users (as mandated in the Energy Balancing Guideline) and would likely require retrospective changes to address local system security issues arising and/or account for barriers created to distribution system users' participation.

It is critical that operational tools and policies are developed to complement system services arrangements. As the DSO is responsible for operational policies and tools as relate to activities on the distribution system, it is thus critical that the DSO plays a central role in the development of the arrangements. Again, this is fully recognised in the EU legislation.

The impact of new technologies and increased onset of renewables onto the system will require the DSO to become actively involved in transforming the current market and operational arrangements. As such, the proposal set out below has tried to appreciate various stakeholders needs. We have outlined a proposal which creates a market based competitive based framework, one which continues with the fixed availability contracts issued to aggregators (options are being considered how contract issuance may work) which then feeds volume into the auction design for the TSO.

⁸ Recital 8 of the Energy Balancing Guideline, which sets out the need for adequate competition based on a level-playing field between market participants, including demand-response aggregators and assets located at the distribution level.

DSO proposed arrangements, to maximise participation of distribution connected users

The following proposal has been developed by the DSO, with due regard for the relevant legislation and with the core objective of maximising the potential for distribution system users' participation, both in the shorter term, and on an enduring basis.

- A. Distribution system users would be prequalified by the TSO as transmission system service providers⁹, in a market-based manner, based on technical and commercial parameters determined by the SEMC.
- B. ESB Networks would provide information required of it (by market participants or by the TSO) to support this pre-qualification process. (This could include an indication of the likely degree of constraint of each distribution connected service provider).
- C. In a day ahead timeframe, the DSO would communicate the aggregate volume of services which could be delivered (in each relevant time-window, and for each system service) to the TSO;
- D. In a day ahead time frame, the TSO would operate its system services market processes, and subsequently communicate to the DSO the aggregate volume per service it is seeking to secure from the distribution system.
- E. The DSO would then run an optimisation algorithm which identifies the distribution connected assets to deliver these volumes, in the most economic manner, accounting for prices bid to the TSO or any other form of price based market parameters, and forecast underlying distribution system customers' activities, their effect on local network conditions and potential remedial actions. (This optimisation will deliver the outcome most closely aligned with a fully price based market, so as to ensure a consistent competitive outcome to the extent possible while accounting for underlying activity and thermal / voltage conditions, on the local system);
- F. The DSO would dispatch distribution connected assets as required, based on this optimisation and/or any distribution or transmission driven changes in dispatch requirements arising over the period up to and including real-time.

The approach above can readily be adapted, up front or over time, to provide for additional or different requirements. For example, where transmission system services involve a locational requirement, the DSO can readily provide for a locational element to the steps above. (It should be noted that with the

⁹ this could involve qualification for participation in services auctions, or alternatively could involve contracting with participants, pending the SEMC's decision regarding the form of market based competition to be adopted.

proposal above adopted, introducing a locational element would result in little or no incremental cost or complexity. This is because unlike TSO activities with respect to system services, which may be locational by exception, DSO activities with respect to system services are inherently and universally locational).

With regard to of the method of compensating distribution system users delivering these services, ESB Networks notes that this is a matter for the SEMC. However, we also note that distribution system users and representatives have indicated the need for availability contracts or other, similar arrangements, which offer a higher degree of certainty. ESB Networks recognises the importance of taking steps to encourage and cultivate the participation of new kinds of services provider. As such, we note that if availability contracts were to be made available to distribution connected service providers, this could readily be supported within the operational proposal set out above.

If the SEMC is not minded to adopt fixed contracting arrangements of this manner, we note that other compensation and settlement arrangements could also be supported within the proposal set out above. For example, service providers could be compensated based on TSO auction outcomes, based on dispatch, based on a combination of these to account for variances between initial auction outcomes and ultimate dispatch arrangements. Though any of these constructs could be provided for, ESB Networks notes that the simplest and most certain from the perspective of market participants is likely to be fixed contract arrangements. We also note that it would be possible to construct efficient and market based fixed contract arrangements.

With regard to the proposal set out above, it offers greater potential for participation of distribution system users in transmission system service than any other alternative approach. Alternative approaches include for example pre-constraint of distribution system users' bids prior to TSO auction, post-constraint of distribution system users' volumes cleared in TSO auctions, or the provision of indicative levels of constraint in different areas of the distribution system. However these alternatives would result in higher levels of constraint of distribution system participants / assets. This is because the degree to which any individual distribution connected asset is constrained will be a function of other local assets' dispatch. By determining dispatch arrangements based on a co-optimisation of network conditions *and* the price of each asset (as bid to and potentially cleared by the TSO), the minimum possible constraint (and thus maximum participation) of distribution system users will be delivered.

Further benefits of the proposed approach include:

- it delivers the greatest level of certainty to distribution connected service providers, by providing for the lowest level of constraint;

- it delivers the greatest potential services resource, and the greatest level of certainty to the TSO, by allowing for the DSO to potentially redispatch to the volume sought by the TSO, if changes in distribution system conditions arise;
- it provides for transitional arrangements which can be implemented relatively quickly, as it relies on distribution system control capabilities which are available today and can be implemented on an incremental basis as required;
- it readily provides for progressive increases in the degree of operational accuracy, and risk, that can reasonably be adopted on the distribution system, with a view to further reducing constraint levels over time;
- it readily provides for separate but operationally compatible distribution system services arrangements over the coming years, offering greater potential for efficient system operation and a liquid services market, delivering value both for customers and market participants.

ESB Networks' key concerns regarding alternative approaches (as set out above) include:

- that they would result in less efficient outcomes, and lower liquidity in system services markets;
- that they may not meet the principles set out in European legislation with regard to providing a level playing field for distribution system participants;
- that they would increase barriers to entry for new technologies and system services providers to the market;
- that they would require substantially more complex operational coordination;
- that based on a preliminary assessment, they would likely require more substantial systems investments;
- that they would not readily provide for operationally compatible distribution system services arrangements over time.

Question 3

Should any further assessment criteria be included in this workstream?

ESB Networks notes that of the criteria sets out by the SEMC, it considers the most critical to be:

- **Simplicity, and adaptability** – ultimately, it is critical at this time that arrangements are introduced which offer the simplicity, transparency and adaptability needed to seed the development of a secure, liquid and efficient system services market. Additionally, ESB Networks notes that distribution system users may be more likely to include smaller participants, and potentially community based participants. These participants will tend to rely to a greater degree than larger participants, on simple and transparent arrangements, which persistently seek to reduce entry barriers. Over the coming decade, far more small and distributed participants must be able to participate on an equal footing with larger participants to the greatest degree possible.
- **Accuracy and Consumer Value** – the core principle of ESB Networks' proposal as set out above is that it would provide for the most accurate alignment of services procured with system need, and the maximum potential for distribution connected service providers to meet this need. The alternatives which ESB Networks has considered, or discussed with other respondents to this consultation, would not achieve these objectives to the same degree.

Question 4

Is the general approach to the Project appropriate and complete?

For the general approach to be appropriate and complete, it will be necessary for the SEMC to consciously and persistently assess proposals from the perspective of all service providers, including those on the distribution system, and to consider how the infrastructure on which they are operating can be used to complement and support their activities in the delivery of system services. To achieve this, the SEMC will likely require substantially greater participation by the DSO than has ever previously been sought or involved in a system services process. We consider this critical to delivering value for all electricity customers, both those consuming, paying for and benefitting from system services, and those delivering them.

Example of how this apply to the elements of the process set out in the SEMC's consultation paper include for example:

- **development of a competitive framework** – to develop an effective competitive framework, and secure liquid competition within it, it will be critical that the framework has been consciously designed to maximise the entry and participation of new providers, on the distribution system. This can be achieved if the operational processes implementing the competitive framework are developed hand in hand with the DSO and TSO, to account for distribution system operations and conditions, and are implemented alongside developments in the DSO's operational systems, to ensure their timely and effective introduction.
- **Assessing the potential range of providers, and the likely levels of market power** – more complex and prevalent market power considerations arise with respect to system services provision from the distribution system. The electrical location of providers on the distribution system, and their electrical location relative to each other, can materially influence the degree to which different providers are capable of participating in services. If the SEMC is seeking to assess market power or the range of providers, it is critical that it not rely on assumptions provided by parties other than the DSO, who cannot accurately assess distribution system conditions or the impact of operational policies, practices and risk management.

Finally, ESB Networks considers it an important aspect of this process that the SEMC considers that auctions may not be the only market based approach. Though auctions can readily be supported within the proposal above, we expect that the needs of distribution connected users – who are typically smaller, and newer entrants to the system service markets – would be supported better within a transitional approach which involves other forms of market based compensation, including fixed contracts awarded through competitive tender. The SEMC may consider this, in light of the relative complexity and certainty of different arrangements, market participants' readiness and the barriers that could arise. We note that various industry representatives have signalled that stepping directly to auction-based processes may be detrimental to their revenue certainty and long-term planning. In the context of delivering long term value for customers, we consider it important that this process considers how best to cultivate the participation of new technologies and service providers.

Question 5, 6

For which products is a market based approach appropriate? What sort of market based approach is most appropriate?

For which products is a market based approach not appropriate? Why is a market based approach not appropriate for these products? Will an alternative approach be more economically efficient? What sort of alternative approach should be considered?

The SEMC is best placed to determine which products are appropriate for market based procurement, and ESB Networks will support and enable its decision in this regard as required. This may involve delivering technical assessments, information and the development of processes implementing the SEMC's decision.

As outlined above, the process proposed by ESB Networks would support a range of different kinds of market based approach. As set out above, ESB Networks' welcomes the SEMC having noted that market based approaches can include a range of different competitive approaches, as reflects the relevant legislation. .

Where market based approaches are pursued, it may be important to consider the range of market based approaches which can be adopted. Competitively awarded fixed availability contracts, for example, may provide smaller and less mature providers with the revenue certainty needed to enter and grow in the system services market. This may prove important in developing a sustainably liquid system services market into the future, as the need for system services grows, and the ability of conventional providers to deliver services may decline over time.

Ultimately, ESB Networks notes that the process set out in response to Question 2 is designed with a view to maximising liquidity as can be delivered by distribution system participants, and thus supporting market based approaches.

Question 7

Do stakeholders believe the current qualification process, is the most efficient approach? Do stakeholders have any alternative proposals?

The current qualification processes were developed at a time when system services provision was primarily on the transmission system, and thus inevitably fall far short of what is required to enable the effective participation of distribution system users. These processes require revision, to ensure

essential DSO requirements are designed into these processes, including planning, resourcing and communication of these processes, if full and effective participation of distribution system users is intended.

We note that the proposal outlined above would involve prequalification of providers delivering service from the distribution system. At a minimum, qualification processes must provide for:

- registration of service providers and each distribution connected asset involved in service delivery with the DSO, and confirmation of this as a pre-requisite to qualification;
- securing confirmation as a pre-requisite to qualification that each distribution connected asset involved in service delivery meets the operational requirements set out by the DSO, working with the TSO and in consultation with industry .

Furthermore, to maximise the alignment between what is cleared in TSO auctions, and what is ultimately dispatched on the distribution system, it would be prudent that the TSO seek a "usability" indicative assessment from the DSO, when pre-qualifying service providers with distribution connected assets. ESB Networks is working closely with the TSO to understand their requirements and consider how best they can be delivered.

Finally, ESB Networks notes that the greater the degree to which the DSO is involved in the qualification of distribution connected service providers, the more readily processes for new and emerging technologies can be streamlined and aligned with the processes which will in future apply for the provision of distribution system services also. We believe this will be an important aspect of providing for increased levels of participation in all markets.

Question 8

What are stakeholder views on the overall current governance arrangements including the contractual principles, the Protocol Document and the market ruleset? Should these be modified into an overall protocol document which captures all of the rules for providing and procuring System Services with increased regulatory oversight?

ESB Networks' only comment with regard to governance arrangements, protocol document and market ruleset is that these must be modified to:

- provide for the participation of distribution connected resources, in an effective manner. This includes modification to reflect qualification, operational and activation processes involving the DSO;
- ensure they take efficient approaches and avoid additional costs and duplication by taking into consideration the underlying distribution system requirements and standards. For example, if for underlying operational reasons the DSO requires specific telemetry or controllability for distribution system users, then opportunities to leverage these should be sought when establishing the protocols and requirements applying to those users in system services provision.

Question 9

Should System Services continue to be funded through network tariffs? Are there views on any alternative arrangements?

ESB Networks does not have a specific proposal in this regard at this time, but would welcome the opportunity to engage once specific proposals are under development. As a general principle, ESB Networks would urge that care is taken to avoid unnecessary levels of price volatility or financial risk as relate to system operation and market operation. Finally, we note that to the extent that any element of system services funding may at some point relate to distribution system operator activities, no funding is currently provided for through network tariffs and thus funding arrangements would need to be developed.

Question 10

Should all services be procured through a single daily auction framework or should bespoke arrangements be developed for the separate products?

ESB Networks notes if steps can be taken to ensure a high degree of alignment between the procurement and operation of different services, with care to ensure simplicity and transparency, this is likely to support more sustainable and efficient arrangements, which can be reasonably quickly, and cost effectively adapted over time. This has informed the development of ESB Networks' proposal, which is designed with a view to supporting compatible arrangements for different services, and for potential future services.

Question 11

What are stakeholders' views on the timing of auctions?

With regard to the timing of auctions, ESB Networks notes that the closer these are held to real time operation, the greater the degree of certainty in forecast system conditions when determining the ultimate dispatch of different providers / assets. However ESB Networks' overarching concern is that whatever decision is made with regard to timing is made working closely with the DSO, to ensure that operational systems can be delivered to meet these requirements, in time for the introduction of the future system services arrangements going live.

Question 12

Do stakeholders have any proposals on how best to ensure commitment obligations are met?

ESB Networks does not have any proposal in this regard at this point in time. However, in principles:

- prequalification processes will have an important role in ensuring that commitment obligations are set appropriately in the first place, to increase the probability that they can be met;
- the proposal set out in response to Question 2 is designed to substantially reduce the risk that commitment obligations could not be met due to local network conditions;
- when measuring whether commitment obligations have been met, opportunities should be taken to leverage telemetry etc required for underlying distribution system operational reasons, to avoid duplication and unnecessary costs.

Question 13

What are the significant interactions within potential System Services product markets and between Systems Services markets and the energy and capacity markets? How should issues arising be addressed?

Though ESB Networks cannot speak to the range of interactions arising, ESB Networks notes that from the perspective of local system impacts and interactions, the same considerations will apply to distribution system users' participation in all relevant markets. As such, ESB Networks urges that processes introduced to support each of these are aligned closely, and that the same care is taken to

account for the support required from the DSO to enable secure and effective participation of distribution connected users.

Question 14

Do stakeholders have further views or proposals in relation to auction design?

ESB Networks core proposal in this regard is as set out in response to Question 2. The proposal made has been designed to:

- provide a level playing field for distribution system users' participation in system services, in a manner that reflects local system security and underlying usage;
- maximise the role and participation of new and existing technologies in future system services arrangements, so as to deliver the best value for customers;
- protect all distribution system users, by ensuring its continued safe and reliable operation; deliver the greatest possible level of certainty to distribution connected service providers, by providing for the lowest possible level of constraint
- deliver the greatest potential resource, and the greatest level of certainty to the TSO, by allowing for the DSO to potentially redispatch to the volume sought by the TSO, if changes in distribution system conditions arise;
- provide for transitional arrangements which can be implemented relatively quickly, as it relies on distribution system control capabilities which are available today and can be implemented on an incremental basis as required;
- readily provide for progressive increases in the degree of operational accuracy, and risk, that can reasonably be adopted on the distribution system, with a view to further reducing constraint levels over time;
- readily provide for separate but operationally compatible distribution system services arrangements over the coming years, offering greater potential for efficient system operation and a liquid services market, delivering value both for customers and market participants.

ESB Networks is committed to the introduction of system services arrangements which enable distributed generation, demand, storage, and communities, to participate fully and effectively, and would welcome further engagement on all aspects of its response and of the Future Arrangements process.