



Response by Energia Group to SEM
Committee Consultation Paper SEM-21-069

System Services Future Arrangements High Level
Design Consultation

21 October 2021

Executive Summary

Energia Group is heavily invested in the successful delivery of a well-functioning set of future arrangements for system services and recognises the complexity of the challenge in designing future arrangements that must deliver:

1. decarbonisation targets of up to 80% RES-E by 2030; and
2. do so whilst maintaining security of supply

The current direction of travel is overly focused on compliance and short-term cost minimisation and risks a system service 'supply crunch'. It is imperative that important lessons be drawn from the experience of the capacity market which has sent inefficient exit signals (through a combination of overzealous bidding restrictions, a failure to recognise locational value and a tendency to understate capacity requirements) and has failed to secure adequate generation resulting in the need for out of market contracts and procurement of emergency generation to maintain security of supply.

Our main comments on the market design for system services are that:

- I-SEM faces particular challenges in the design of system services markets and therefore a more sophisticated design will be necessary in the I-SEM context than in many other jurisdictions;
- Short term auctions, can be used to provide efficient dispatch but will not deliver the required long term investment to reach the decarbonisation goals;
- The market will need to send efficient investment signals in order to ensure that the all-island market meets decarbonisation targets. To minimise costs to consumers, those signals will need to include market-wide longer or medium-term contracts, open to all capacity and service providers (both existing and new)¹;
- The all-island market also has a long history of market power mitigation mechanisms in part due to the dominance of a single player in the market since its inception. In general, and in the context of system services markets in particular, it is essential that any market power mitigation mechanism does not undermine revenue adequacy for existing and needed plant;
- Given the continued need for gas plant to 2030 and beyond and the risk of inefficient exit due to policy decisions, poor implementation and market uncertainty, any system services arrangements must send efficient signals for retention of existing plant;
- The market design must reward plant for the locational value of their capacity, particularly due to the relative absence of locational signals in the capacity and energy markets; and
- Given the information available at present, it is not possible to provide definitive recommendations on a high level market design that will lead to efficient outcomes. In order to deliver an efficient design, stakeholders will need time

¹ As noted at the industry workshop on 7th October 2021 by EirGrid, as a prudent system operator it does not intend to have a scarcity of system services on any given day which means the scope for scarcity pricing is limited. This underlines the need for longer term contracting as part of efficient investment signals and the need for those long-term contracts to be open to all plant.

to comment on more detailed information and worked examples. Further detail and consultation is therefore required.

The success or failure of the new arrangements will be contingent upon whether or not the volume of the services procured (including the right services in the right location) are sufficient to ensure the running of the electricity system with an SNSP limit approaching 100%. This fundamental objective will only be achieved however if these arrangements build on the lessons learned from the design of the capacity market by:

1. Ensuring the requirements for system services products and volumes are accurately and transparently published by the TSO for current and future periods of up to 10 years. In addition, since the TSO is the sole purchaser of these services, transparency and clarity of procurement behaviour, including treatment of services mandated by grid code is critical (Transparency of service requirements).
2. Offering firm access in order to avoid distorting dispatch and exposing plant to non-transparent decision-making or unhedgeable risk, (Transparent firm access)
3. Providing locational incentives, ideally through quantity-based mechanisms that allow location-specific prices, with locational scalars a second best. (Locational incentives)
4. Paying constrained on plant a price which at a minimum covers their bid and offers the prospect of inframarginal rent to provide signals for locational and flexible investments (Efficient constrained price)
5. Facilitate adequate levels of secondary trading to support efficient reallocation of obligations to deliver whilst minimising the cost impact of penalties on consumers (Tradeable risk)
6. Providing long-term investment signals through non-discriminatory contracts open to all relevant providers (both existing and new) which are carefully designed with sufficient lead times to avoid distorting short term markets (Congruous investment incentives).

The design of these arrangements must also recognise that any stranding of investments already made will send very strong signals on the risk of investment in Ireland and Northern Ireland and will deter further investment, raising the cost of capital and potentially compromising security of supply in the process.

Once again, we would urge the SEM Committee to draw from the lessons of the capacity market and avoid making the same mistakes by prioritising the long-term procurement of adequate capacity and system services over short term concerns in relation to market power and cost minimisation. Adherence to the above six principles and further stakeholder engagement will help ensure that the design of these future arrangements delivers long term value for consumers. Additionally, the choice of funding arrangement must not encumber efficient price signals in the market that encourage power consumption during periods of high renewable output, nor create a risk that might prove to be unhedgeable for all but the largest electricity suppliers.

Many of the key conclusions above, particularly those relating to market design, are drawn from the NERA slides appended to this response that were presented to the

RAs in the bilateral meetings helpfully facilitated as part of the consultation process, we look forward to further constructive engagement during the design process.

A summary of Energia Group's positions in relation to the specific proposals in the Consultation Paper is provided in the table below for completeness.

Table 1: Summary of Energia Group's Position on the Proposals in the Consultation Paper

#	Issue	RA Position	Energia Group Position
1.	Registration Process	Option 2 - Rolling Application Process	Agree - Support Rolling Application Process
2.	Qualification Trial Process (QTP)	Maintain QTP with increased formality	Agree – Support this proposal
3.	Governance of rules changes	Option 2 - System Services Code Panel	Agree - Support formation of Code Panel to oversee change
4.	Distribution Network Interactions	Provide 3 options for participants to comment on	Support Option 3 – TSO led approach
5.	Funding Arrangements	Option 3 - Defined period supplier-based charge	Strongly disagree – support Annual Supplier Based charges (Option 2 in Consultation Paper)
6.	Auction Design	Option 1 – Ex Ante Post DAM	Inconclusive – whilst preferable to have ex-ante auction Post DAM (Option 1) rather than pre DAM (Option 2), given lack of visibility on products, volumes, commitment obligations etc. it is impossible to be definitive on whether ex-ante auctions will provide best design (including whether it will be preferable to ex-post Option 3). Further detail and consultation is therefore necessary.
7.	Volumes	A combination of annual reports on long-term requirements, frequent report of short-term requirements and daily forecasts required for auctions	Agree - improved publication and transparency around volumes is required with emphasis on the importance of timely, accurate and detailed information over a timeframe of 10 years ahead.
8.	Secondary Trading	Inconclusive – consider deferring as part of the detailed design	Requirement for this from Day 1 will depend on a number of market design issues including commitment obligations and payment of providers who are either constrained on/off (i.e., providers constrained on should be paid higher of their bid price or clearing price for the service).
9.	Commitment Obligations	Fixed one-off penalty applying in trading period and reliability scalar to reflect the providers reliability in previous trading periods.	Penalties associated with non-delivery should be proportionate and efficient.
10.	Scalars	Retain existing scalars except Temporal Scarcity Scalar	Inconclusive – it is unclear how scalars are proposed to work in the context of auctions. However, Energia Group strongly supports the locational value of services being realisable.
11.	Imperfections and Firm Access	Inconclusive – seeks views on whether to have a firm/non-firm access approach to the market.	Do not support the principle of non-firm access whereby TSOs can limit participation of providers in an auction. This process will have clear negative impacts for investment signals.
12.	Products and Layered Procurement	Layered Procurement (combination of short-term auctions, mid-term procurement and long-term fixed contract procurement) should offer balance between stimulating investment in	Strongly support the need for longer term contracting of all DS3 products to supplement short-term auctions with all such long term contracting available for all providers and which is contestable on an equitable basis. However, there is a lack of clarity as to how short-term and long-term markets will interact and if long-term contracts will be

		service provision where required and enabling competition to drive down price of servicing where the market is competitive.	available to all providers (we believe they must be). Alternatives to the proposed layered procurement approach include long-term contract with remuneration for providers of ancillary services with smaller short-term revenue fluctuation to enable the most efficient utilisation/delivery of services or CfDs between long term markets and short term reserve markets to facilitate efficient scheduling / dispatch in the short term.
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1 Introduction

This response is submitted by Energia Group which incorporates the individual businesses of Energia, PPB and Power NI. Energia Group has already invested heavily in the all-island market through its portfolio of renewable and flexible generation assets and expects to add up to a further 1.5 Gigawatts of renewable generation to the grid over the next 10 years whilst also investing substantially in energy storage, solar and other emerging technologies to enhance the flexibility of the system. We fully anticipate the continued need for both generation and battery storage assets to serve demand growth, provide essential grid services, maintain security of supply, and support the growth of renewables. In this regard, we welcome the opportunity to respond to the SEM Committee's Consultation Paper (SEM-21-069) on System Services Future Arrangements High Level Design (the "Consultation Paper").

Energia Group recognises the complexity of the challenge in designing future arrangements for System Services that must both deliver:

1. decarbonisation targets of up to 80% RES-E by 2030; and
2. do so whilst maintaining security of supply.

This will be a difficult and intricate design process that must carefully consider and take into account a number of important issues, some of which have been raised in the Consultation Paper and some which have not.

The High Level Design is a crucial stage of the process for establishing clear principles that will help avoid the shortcomings of the Capacity Market which has sent inefficient exit signals and has failed to secure adequate capacity resulting in the need for out of market contracts and procurement of emergency generation to maintain security of supply. If future arrangements for system services are flawed in their design and / or implementation, there will be no time to rectify this and government decarbonisation targets will be unachievable which in turn represents the greatest risk to the "Consumer Value" criterion identified by the RAs.

The remainder of this response is organised as follows. Section 2 provides our overarching comments on key issues that should be considered when making any decisions on the High Level Design, whilst Section 3 responds to the specific questions in the Consultation Paper.

Appended to this response are NERA slides presented to the RAs in bilateral meetings helpfully facilitated as part of the consultation process. We look forward to further constructive engagement with the RAs as well as the TSOs and DSOs during the DS3 design and implementation process.

2 Overarching Comments

Energia Group is heavily invested in the successful delivery of a well-functioning set of future arrangements for system services designed to facilitate renewable targets whilst ensuring security of supply and will continue to engage constructively to contribute to that success. In this regard, we have concerns about the current direction of travel which is overly focused on compliance and short term cost minimisation. Our main comments on the market design for system services are that:

- I-SEM faces particular challenges in the design of system services markets and therefore a more sophisticated design will be necessary in the I-SEM context than in many other jurisdictions;
- Short term auctions, can be used to provide efficient dispatch but will not deliver the required long term investment to reach the decarbonisation goals;
- The market will need to send efficient investment signals in order to ensure that the all-island market meets decarbonisation targets. To minimise costs to consumers, those signals will need to include market-wide longer or medium-term contracts, open to all capacity (both existing and new);
- The all-island market also has a long history of market power mitigation mechanisms in part due to the dominance of a single player in the market since its inception. In general, and in the context of system services markets in particular, it is essential that any market power mitigation mechanism does not undermine revenue adequacy for existing and needed plant;
- Given the continued need for gas plant to 2030 and beyond and the risk of inefficient exit due to policy decisions, poor implementation and market uncertainty, any system services arrangements must send efficient signals for retention of existing plant;
- The market design must reward plant for the locational value of their capacity, particularly due to the relative absence of locational signals in the capacity and energy markets; and
- Given the information available at present, it is not possible to provide definitive recommendations on precise market designs that will lead to efficient outcomes. In order to deliver an efficient design, stakeholders will need time to comment on more detailed information and worked examples. Any eventual design should be driven by consumers' needs, rather than the operating constraints of existing IT systems.

We develop these comments further in sections 2.2 and 2.8 below.

2.1 Key Principles of this response

Building on the points we have raised in section 2, Energia Group believes there are 6 key principles that should be adhered to in the design of the system service arrangements, that build upon the lessons learned from the design of the capacity market.

1. Ensuring the requirements for system services products and volumes are accurately and transparently published by the TSO for current and future periods of up to 10 years. In addition, since the TSO is the sole purchaser of these services, transparency and clarity of procurement behaviour, including

treatment of services mandated by grid code is critical (Transparency of service requirements).

2. Offering firm access in order to avoid distorting dispatch and exposing plant to non-transparent decision-making or unhedgeable risk, (Transparent firm access)
3. Providing locational incentives, ideally through quantity-based mechanisms that allow location-specific prices, with locational scalars a second best. (Locational incentives)
4. Paying constrained on plant a price which at a minimum covers their bid and offers the prospect of inframarginal rent to provide signals for locational and flexible investments (Efficient constrained price)
5. Facilitate adequate levels of secondary trading to support efficient reallocation of obligations to deliver whilst minimising the cost impact of penalties on consumers (Tradeable risk)
6. Providing long-term investment signals through non-discriminatory contracts open to all relevant providers (both existing and new) which are carefully designed with sufficient lead times to avoid distorting short term markets (Congruous temporal incentives).

These principles form the backbone of our response to both the remainder of this section and section 3, which contains Energia's response to the specific consultation questions.

2.2 I-SEM Faces Particular Challenges and Requires Complex System Services Markets

The power system of Ireland and Northern Ireland differs from other European countries as it is a highly constrained, small, synchronously isolated power system with ultra-high renewable targets (which have recently increased from 70% to 80% by 2030² in Ireland) for a small synchronous system. The nature of constraints on the system are complex and interacting ranging from those generally not locational (short term reserves) to those which are strongly locational (voltage control, network limitations, stability issues). This in turn creates the requirement for a complex structure of inter-related System Service products. The generation sources that are required to provide these System Service products to meet the decarbonisation target of 80% renewable electricity are dependent on revenue adequacy from a combination of energy, capacity and system service markets. At the same time, there is broad consensus across numerous studies³ that significant levels of gas fired generation will be required in the all-island power system in 2030 to provide generation and system services at times of system stress or low wind (the continued reliance on conventional generation has been

² As per the National Development Plan 2021-2030, published 4th October 2021 by the Department of Public Expenditure and Reform: [200358_a36dd274-736c-4d04-8879-b158e8b95029.pdf](https://www.dper.gov.ie/en/200358_a36dd274-736c-4d04-8879-b158e8b95029.pdf)

³ See Baringa 70by30 report for IWEA, "A 70% Renewable Electricity Vision for Ireland in 2030", October 2018; ENTSO-E TYNDP 2020, "TYNDP 2020 Scenario Report – Final Report", June 2020; SONI "Tomorrow's Energy Scenarios Northern Ireland 2020", July 2020; EirGrid "Tomorrow's Energy Scenarios 2019 Consultation Ireland - Planning our Energy Future", June 2019; and European Commissions EU SysFlex WP2, D2.4 report – "Technical Shortfalls for Pan European Power System with High Levels of Renewable Generation", April 2020

demonstrated during the low-wind periods experienced this summer/autumn). The design of these arrangements therefore needs to be cognisant of the need to provide sufficient revenue streams between the wholesale, capacity and future system services market, for conventional generators.

In order to provide the System Services required to meet decarbonisation targets of 80 per cent by 2030 and maintain security of supply, the market must therefore:

- address the fundamental challenge of accommodating increased intermittent and renewable capacity;
- Provide efficient incentives for retaining existing capacity; and
- incentivise investment in new capacity.

It is within this context that we make the following further overarching comments.

2.3 Intended Market Power Mitigation Must Not Undermine Revenue Adequacy For Needed Plant

The Consultation Paper states that market power will be covered during the Detailed Design Phase and so, ostensibly, is not within scope of the HLD. However, perceived market power issues and the need for restrictive mitigation measures have been highlighted by the RAs in the Consultation Paper and the associated workshop on 15 September 2021.

At the workshop, the RAs expressed the view that no constrained on providers should receive even the clearing price in the auction for system services otherwise they will not be incentivised to offer into the auction competitively. The RAs' position does not meet its statutory duties to promote competition, secure financeability and promote security of supply because:

- (1) That a provider does not clear in auction for system services indicates that it is unwilling to supply at the clearing price for that service. Providers who bid competitively would therefore be forced to provide the service for below the cost of provision if they were not paid at least their bid. Forcing provision below cost is not pro-competitive.
- (2) That a provider is constrained on does not necessarily imply that it has locational market power. In those circumstances, there is no reason to suppose that it is not bidding cost reflectively and the attempt to mitigate market power by not remunerating auction losers therefore has distortionary effects on competition. If the RAs believe that material locational market power exists, it is incumbent on them to address it with a targeted response that minimises competitive distortions.
- (3) Threatening to pay providers nothing for the provision of the service if they do not clear in the auction distorts competition. It incentivises providers to bid their capacity in at any price rather than a cost-reflective price. The approach may result in clearing prices below the costs of some providers providing services and will result in weakly lower prices for all plant, which reduces the economic signal to invest in and provide system services.

Although no firm decision will be made on market power mitigation within the scope of this Consultation Paper, "local" market power appears to be an underlying concern for the RAs' and there is a significant risk that future measures taken will deny the ability of required system service and capacity providers from recovering their total

costs under future system service arrangements. Specifically, that bids/ prices in DS3 auctions will be heavily regulated at the RAs' view of short run marginal costs.

It is important to recognise that if views of 'missing money', as reflected in capacity auction bids and / or offer caps⁴ do not align with system service revenues permissible (for market power mitigation reasons) under future arrangements, this could undermine revenue adequacy and put security of supply at risk. The new DS3 arrangements are due to come into effect in March 2024, by which time T-4 Capacity Auctions out to 2028/29 will have already taken place. This means that bidding into these auctions by participants will have included (and in some cases artificially reduced by imposed offer caps to take account of) assumed DS3 revenues. Those DS3 revenues may no longer reflect likely DS3 revenues, depending on the outcome of the DS3 market design and / or market power mitigation measures.

In addition, battery storage investments which have already been made and which are heavily de-rated in the CRM rely primarily on DS3 revenues. Whilst investors will have made those investment decisions under the basis of the regulated tariff arrangements, they will fully expect and rely upon a coherent market design under competitive arrangements that will not deny cost recovery and afford a reasonable rate of return for efficient investments. Any stranding of asset investments already made will send very strong signals on the risk of investment in Ireland and Northern Ireland and will deter further investment, raising the cost of capital in the process.

2.4 Delivering Security of Supply Will Require a Market Which Prevents Inefficient Exit

Given the above concerns around potential market power mitigation measures and revenue adequacy, the market will only deliver security of supply if the market design guards against the risk of inefficient exit. As highlighted in the recent letter of consent⁵ from Minister Ryan to CRU on emergency measures to protect security of supply, the CRU has "*under Regulation 28(1) of S.I. 60 of 2005, the duty of monitoring the security of supply of electricity, and further under Regulation 28(5) the CRU shall take such measures it considers necessary to protect security of supply*". As noted in the letter, given the CRU's statutory responsibility in relation to security of supply the Minister states that it is incumbent on CRU "*to consider how such a situation [risk to security of supply] has arisen and how you will ensure it does not occur again in the future*".

Against this backdrop, the move to 80% renewables by 2030 and then beyond that target requires the RAs to take on the extremely challenging task of anticipating how system security can be maintained when conventional units make up a smaller proportion of the delivered energy. The continued reliance on conventional generation out to 2030 (as noted in section 2.2) is also reflected in the recent CRU publication "Security of Electricity Supply – Programme of Actions"⁶ which highlights the intention to procure 2000MW of gas-fired generation to help ensure security of supply in the medium to long-term. The Programme of Actions also confirms that "Gas-fired

⁴ Existing capacity is restricted by the Existing Capacity Price Cap (ECPC) for which the Best New Entrant (BNE) deducts assumed Inframarginal Rent (IMR) and DS3 revenues. The Unit Specific Price Cap (USPC) process similarly deducts assumed IMR and DS3 revenues calculated by the RAs.

⁵ [CRU21087-Consent-from-Minister-Ryan-to-CRU-on-emergency-measures.pdf](#)

⁶ [CRU21115-Security-of-Electricity-Supply—Programme-of-Actions.pdf](#)

generation will remain a critical enabler of the decarbonisation of the electricity system in 2030 and beyond, particularly as we accelerate the decarbonisation of the natural gas network”.

Accordingly, the consensus view is that the all-island power system will need to continue to rely on conventional generation for at least the next decade. Future arrangements for system services will need to ensure conventional generation secures adequate revenues through a combination of the three markets i.e., energy, capacity and system services. In the absence of such arrangements, plant will seek to exit market arrangements prematurely with the knock-on effect on security of supply. Whilst the final design of short-term procurement remains open, ensuring it does not cause the premature departure of existing generation and technologies by limiting cost recovery is critical to the success of the future DS3 arrangements.

We assume the layered approach to procurement referenced in the Consultation Paper is not intended to make longer-term contracts only available for new investment as to do so would unduly discriminate against existing providers and heighten the risk of insufficient revenue adequacy and premature exit of required generation as outlined above. Combined with potential bidding rules in short term auction which prevent recovery of fixed / sunk costs and deny revenue adequacy for existing plant, the risk of inefficient exit is further exacerbated and heightens the threat to security of supply.

2.5 The Market Will Need to Provide Efficient Investment Signals to Meet Decarbonisation Targets

As stated in the Consultation Paper, the investment in System Services needed to reach 2030 decarbonisation targets will be of a much greater scale than was needed to achieve 2020 targets. Yet there is little focus or detail in the paper on how the necessary investment can be achieved. 2030 decarbonisation targets of up to 80% RES-E require SNSP approaching 100%. Targets of this magnitude will require new zero carbon providers of DS3 services as well as traditional dispatchable generation assets referenced above given that services will be required across the full range of SNSP outcomes from zero to approaching 100%. Successful delivery of this new provision will rely on hugely significant levels of new capital spending from investors.

Delivering investment in new capacity requires investor confidence and efficient investment signals to be a fundamental part of the future design. The RAs appear to have given some consideration to investment signals with reference to “layered procurement” and long-term contracting as set out in the Consultation Paper. However, Energia Group have concerns that this is a peripheral consideration rather than a fundamental feature of the market and as a consequence will not provide the clarity and certainty required.

The Consultation Paper could be read that long-term contracting may only be available to new investments. Such an error must be avoided as it will only serve to undermine investments that have already been made thereby crystallising regulatory risk that will deter new investment. All but the most naïve investor in entrant plant will understand that although they are entrants now, they will be incumbents in the future and discriminatory treatment of existing plant will deter entry by increasing perceived regulatory risk. Consumers will ultimately have to pay the high price of entry in which increased regulatory risk results.

Instead, when considering efficient investment signals the future arrangements must ensure that longer term contracting is available for all providers and is contestable on an equitable basis. As noted at the industry workshop on 7th October 2021 by EirGrid, as a prudent system operator it does not intend to have a scarcity of system services on any given day which means the scope for scarcity pricing is limited. This underlines the need for longer term contracting as part of efficient investment signals and the need for those long-term contracts to be open to all plant. In the absence of long-term contracts being open to all plant, existing capacity may only face (deliberately) oversupplied short-term markets organised by EirGrid. The clearing prices in short term markets deliberately constructed to avoid scarcity will not provide a signal for existing plant to retain their capacity because, by construction, they will not make a material contribution to their fixed costs (including risk capital).

This all points to ensuring as much flexibility as possible is incorporated into the future arrangements to ensure sufficient investment is achieved to deliver the decarbonisation targets. The European legislation that the future arrangements are seeking to comply with allow for such flexibility, and as flagged up in the previous Scoping Paper, in that they only require market-based procurement to be “on a short-term basis *to the extent possible, and where economically efficient*”.⁷ We strongly recommend that the RAs avail of such flexibility in the small and uniquely challenging island system that prevails in Ireland, to allow for efficient investment signals to arise from the future arrangements and help ensure that decarbonisation targets are met and security of supply is maintained.

2.6 Sending Locational Signals is Critical to Procuring the Services that Consumers Actually Need

The Consultation Paper sets out the RAs’ view that locational scarcity scalars should continue to apply under future arrangements for system services as this will help incentivise provision of services where they have most value to the system. Energia Group strongly supports the concept of recognising locational value so that locationally important units can monetise their locational value. The energy and capacity markets do not attribute meaningful locational value to critically important generation. It is therefore particularly critical that locational value is correctly signalled through the system services market.

Recognising locational value has a fundamental role to play in terms of providing locational signals to both new and existing generators and also to incentivise efficient network investment. This is consistent with the European Commission’s understanding in the State aid decision that I-SEM market reforms would afford additional revenues to plant behind constraints: “The Commission underlines the importance of implementing market reforms, in particular in the ancillary services market, that reward the locational value of plants...”⁸

However, locational scalars may not be the most efficient method of sending a locational signal as intended in order to incentivise provision of services where they have the most value to the system. Locational scalars provide a fixed additional unit of value for locationally-important plant. Over the long term, locational scalars provide

⁷ Pg 3, System Services Future Arrangements Scoping Paper, SEM-20-044

⁸ Recital 158, State Aid No.SA.44464 (2017/N) – Irish Capacity Mechanism, 24.11.2017

additional remuneration for plant in the efficient locations on the grid. However, in the short term, locational scalars could distort dispatch because the value of locational services changes in real time. More generally, economic theory would suggest that a quantity-based instrument is likely to provide a more efficient signal for locational investment: the TSOs are likely to be able to estimate the required locational quantities of system services more accurately than the locational price that would be necessary to induce the efficient quantity of entry.⁹ As a result, a quantity-based instrument such as markets with nested demand curves that reflect the locational demand for system services and importantly allowing location-specific prices is likely to be the more efficient solution.

A key aspect for the locational signal to work as intended (and indeed for the future arrangements themselves), is to understand how out-of-merit actions in system services markets will operate and how generators will be compensated for those actions. To be efficient, out of merit actions must provide incentives to locate in areas where system services are particularly necessary. In this regard it is critical that those units which are constrained on also get to avail of the locational signal (whether it be a scalar or nested market approach). In the event of a locational scalar approach being adopted, Energia Group regards the payment of the scalar on the basis of market position only (which it is currently applied under regulated tariff arrangements) as counter-intuitive, on the basis that it does not provide incentive for the provision of system services in locations where they are most needed. The intent behind the locational signal is to incentivise provision of services where they have most value to the system and this will only be achieved if they reflect the additional value of the system services in that location (and also recognise the additional costs for locating there). In the event that generators may not regularly have market positions, the effect of the locational signal is effectively removed and renders the entire process as pointless. This applies to both existing generators and any potential new generator seeking to locate in the constrained area as the opportunity to recover and reflect the additional costs of locating there will be removed.

2.7 The Process Must be Transparent and Driven by the Needs of the Electricity System to Deliver an Efficient Design

As widely discussed at the workshops during the consultation period, the Consultation Paper is high level in its nature and provides limited detail on a number of issues raised within. This includes the absence of worked examples (even at a high conceptual level) as to how the options presented in the paper could work in practice. As a result of this, whilst seeking to engage with the Consultation Paper in as meaningful and constructive a manner as possible, our responses to some of the questions below will be heavily caveated as there simply is not the level of detail required to make a fully informed consideration or recommendation.

Another concern to raise in relation to the process is that of system limitation and its influence in driving the detailed design. This issue was experienced in the implementation of the new SEM energy markets in 2018 whereby a number of elements of the final design that were implemented were shaped by what systems were capable of delivering. We strongly recommend that decisions are made on

⁹ The classic economic paper on this topic is: Weitzman, M.L. "Prices Versus Quantities", Review of Economic Studies.

delivering the most efficient arrangements and not restricted at an early stage regarding concerns over the ability of the systems to deliver these arrangements.

In respect of this we would support calls from wider industry (e.g., EAI) that the RAs continue to engage formally with market participants after this consultation closes and ahead of any decisions being published. We would also request that the RAs maintain the flexibility to revisit or review any of the decisions coming out of this Consultation Paper where possible if it is deemed that they will lead to flaws in the future arrangements once more detail is added at the detailed design phase of the process.

2.8 Funding Arrangements

Energia Group notes the SEMC's preference for a funding arrangement that retains the principle of applying charges through each trading period on the grounds that applying the charges collectively at a given period is a more equitable approach when compared to smearing the forecast costs over the year. As the SEMC notes however, System Services costs are likely to be highest during periods of high wind output when wholesale prices are lower.

The fact that wind output is negatively correlated to wholesale prices is an efficient economic signal on the grounds that it encourages electricity demand to respond to electricity supply, rather than the other way around. Key to maximising the output from renewable resources, is to create price signals that encourage demand to respond to periods where renewable output is greatest.

Energia Group would therefore be concerned at the prospect of a customer charge that would in effect be diametrically opposed to wholesale prices, dampening price signals for end consumers. Even with advanced metering infrastructure and dynamic tariffs, research suggests that domestic consumers consumption patterns are quite sticky. The creation of a price signal would undoubtedly further inhibit efforts to engage customers to make the necessary changes to their consumption behaviour. Customers are also unlikely to have the facility to optimise their consumption response regarding two contrasting price signals (wholesale prices and System Services trading period charges), so it is unlikely that the creation of such a charge, while perhaps cost reflective, would result in an efficient response on behalf of the end consumer. In short, such a charge would only cause confusion, inhibit desirable price signals elsewhere in the market and undermine consumers ability to participate fully in the energy market, a key goal of the Clean Energy Package.

3 Response to Specific Consultation Questions

Where applicable, our response to specific questions below draw from the NERA presentations appended to this response.

3.1 Objective and Assessment Criteria

3.1.1 Do stakeholders consider that the commitment to putting these arrangements in place on an enduring basis, at least to 2030, represents sufficient certainty of process?

The future arrangements for system services are due to come into effect in May 2024. Currently investors face huge uncertainty regarding the system services market from both potential reduced tariffs under the current tariff arrangements for certain products

to stay within the out-dated budget cap and the lack of visibility on how future arrangements will potentially work post 2024 given the high-level nature and lack of detail in the Consultation Paper. In this regard, the principles underpinning the future arrangements must in particular be enduring and once the detailed design of the future arrangements have been established and implemented on the back of these principles, this should be with a view to having them in place on an enduring basis beyond 2030. Failing an enduring scheme, a minimum duration of 15 years would be acceptable. Such longevity is required to provide visibility to investors so that informed investment decisions can be made that will hold and be applicable over a reasonable time period.

3.2 Governance Arrangements

3.2.1 What are stakeholders views on the options and recommendations presented for qualification/registration? Are there further options that may be considered?

Energia Group agrees with the proposal in the Consultation that Option 2 – a rolling application process is the preferred option in respect of qualification and registration moving forward. A rolling registration process will provide service providers with open access and allows them control over determining their timeline for market entry. It will also serve to stagger testing which should realise a benefit in avoiding a rush and congestion before a specified gate closure. We also note the intention for the process to take a maximum of 90 days from date of application to the TSO's qualification decision – whilst a streamlined process is to be welcomed it should be cautioned that the testing process can be a time-consuming part of the qualification process and at times, a 90 day window to complete the process from start to finish may prove difficult. As such a commitment is required from the TSO to achieve testing within the timeline, with clear requirements from providers as to what is needed prior to the 90 day period commencing.

3.2.2 What are stakeholders views on the proposed formalisation of the QTP?

Energia Group supports the proposals to formalise the Qualification Trial Process (QTP) as set out in the Consultation Paper. In proposing to issue an initial call for evidence to allow for all of industry (including new technologies) to input into the design of the trial and then publicly consult on a TSO designed trial before seeking final approval from SEM Committee provides more visibility, transparency and flexibility into the process. This change would be a welcome move that we fully support.

3.2.3 What are stakeholders views in terms of the introduction of a single System Services Code?

At present, there is a collection of documents which set the rules and procedures for System Services. This is an overly complex mechanism which makes it difficult to oversee and facilitate change. Proposals to combine these documents into a single System Services Code would be a welcome development. Further to this, we note that in the Trading and Settlement Code (TSC) there is a dispute mechanism which allows parties to the code to raise disputes if they do not believe that the code has been complied with or the objectives of the code have been met and which can be brought to an independent Dispute Resolution Board (DRB) if necessary for a final decision on

whether a dispute is to be upheld or not. Energia Group recommends that an equivalent dispute mechanism is incorporated within the proposed single System Services Code as this provides all parties to the code with recourse to independent adjudication on matters under dispute.

3.2.4 What are stakeholders views on the options in terms of governance of rules changes?

Energia Group supports the proposal in the Consultation Paper to introduce a System Services Code Panel to oversee the governance of the single System Services Code document. This option provides a better outcome for market participants as it allows either the RAs, TSOs or market participants to bring forward a modification and should therefore facilitate a much more transparent and fair process.

Although the selection and terms of reference for panel members is outside the scope of this Consultation Paper, it is worth noting that the Consultation Paper states that *“Any member of the panel could propose a modification for consideration by the Panel”*. In line with the TSC and Capacity Market Code (CMC) this should be widened so that any party to the code, whether they have been included on the panel or not, is free to submit a modification proposal for consideration.

3.2.5 Do stakeholders have views on the potential to amalgamate different Panel meetings?

Whilst there is merit in investigating the amalgamation of different Panel meetings in an effort to streamline and co-ordinate activities where possible, and with a view to help ensure different markets operate effectively together, a clear demarcation between different panels would be needed. Practical matters such as aligning the voting processes and rights for different panels would also have to be considered. On balance it would appear to be more practical for amalgamation of a System Service Code panel with other panel meetings to be considered as a Day 2 issue with an initial focus on the establishment of a System Service Code panel that will deal exclusively with any amendments/modifications to the code as required at the outset of the new arrangements.

3.2.6 What are stakeholders views on the funding arrangement proposals?

Condensed Response

- Suppliers will have little choice but to pass through costs to consumers
- Consumers will incur additional charges for consuming during low price, high wind output periods, blunting incentives to shift load
- Placing a requirement on suppliers to price such a dynamic cost will require significant alterations to billing systems
- Likely to consolidate market power in the retail supply market as the new charge will create a portfolio advantage in favour of larger suppliers.

Encouraging electricity demand to respond to electricity supply, rather than the other way around is among the greatest challenges to decarbonising the electricity system. Periods of high renewable output generally depress wholesale electricity prices, providing a price signal to customers to consume greater quantities of electricity when renewable power is abundant and reduce consumption at times when power is not. As consumers become more active participants within the market, it is essential that

an unfettered price signal remains for customers to consume electricity when renewable output is highest, to minimise the costs of renewable deployment.

If this price signal is interfered with, Energia would be concerned that it would negatively impact on customer investments in storage and load shifting technologies. In contrast to wholesale prices, DS3 costs are likely to be highest when the proportion of renewable electricity being generated on the system is greatest. The SEMC's preferred option of a trading period supplier based charge, favoured on the grounds of cost-reflectivity, would seek to create a potentially punitive charge that would act contrary to the existing price signal in the market. Such a proposal seems therefore at odds with the overall goal of decarbonising the system.

Energia Group notes also that the SEMC has acknowledged the dearth of hedging products available to suppliers in order to manage such a charge on behalf of its customers. The SEMC must therefore be aware that suppliers will have little choice but to apply this charge to final customers on a strict pass through basis. Strict pass-through of DS3 charges, if achievable, may represent cost-reflective charging. However, we do not believe this is in consumers' interests. The benefit of cost-reflective charging that sends the "right economic signal" is that it motivates an efficient response from consumers. Sending the "right economic signal" for the costs of DS3 services would have no economic benefits if the vast majority of consumers in the market have no means of responding to such a charge by modifying their consumption behaviour. Energia Group notes also that even were it technically possible for all customers to be capable of responding to such a price signal (e.g., with advanced metering infrastructure), either on a per trading period basis or a daily basis, Energia Group does not believe customers could feasibly refer to both wholesale prices and DS3 costs before making consumption decisions.

A further point Energia Group wishes to make is the complexity of applying such a charge to final customers on the part of suppliers. The SEMC must be aware that suppliers will have little choice but either to (1) apply this charge to final customers on a strict pass-through basis hour-by-hour or (2) bear a costly and unhedgeable risk in its contracts with customers.

As for the latter case, bearing a costly and unhedgeable risk in contracts with customers would require suppliers to hold material risk capital. The cost of that capital would need to be passed through to consumers and ultimately result in higher prices for consumers, without any discernible offsetting benefit given the lack of likely response to the economic signal from charging for DS3 services.

That being said, few except larger suppliers, will have the means of holding such material risk capital, precluding the majority from hedging such a cost and thus obliging them to pass this cost through directly to their customers. It will be complicated for suppliers to continually match the prevailing DS3 levy cost to each of their customer's consumption, either on a per trading period basis or on a daily basis. Significant resources would need to be directed to updating supplier billing systems in order to cost-reflectively bill such a charge. Additionally, it will take a considerable effort to educate customers on the fluctuating nature of the charge and how best to try and avoid such a cost in future (even if for the vast majority of non-half hourly settled customers, they will have no such ability). In summation, it becomes evident that such a charge would have negative implications for retail market competition, in addition to consumer welfare.

In relation to the other point that the SEMC raised in favour of such an approach, namely the fact that a non-yearly tariff avoids the potential for large swings in tariffs between tariff years, Energia Group considers that there are numerous steps that can be taken in relation to the design of the charge that can avoid such swings. One example would be to over-forecast DS3 amounts in year 1 and maintain a buffer of revenues in subsequent years in order to smooth the trajectory of the DS3 cost item. DS3 costs are expected to increase year on year in line with the SNSP limit, it is therefore important that final customers appreciate that the levy amount will increase year on year in line with the growing ability of the system to accommodate more renewables.

The need for both long term and short term auctions, in line with principle 5 (Congruous investment incentives) of this response, should also be a consideration when designing the supplier charge. Long-term auction costs could more easily be captured in an annual supplier charge, alongside a forecast of outturn costs for short term markets. Attempting to recover long term auctions costs via trading period based charges alone would create numerous difficulties that would likely undermine the cost reflectivity of the charge.

3.2.7 What level of involvement should the DSO/DNO have in the governance process?

We believe the arrangements should be TSO led and they should be the point of contact/engagement with service providers. Ultimately, the TSOs are procuring these services and we believe the approach should broadly remain the same as today.

However, for DSO/DNO connected sites there should be a defined involvement of the DSO/DNO in the governance of the system services that have an impact on the DSO/DNO network. This defined involvement should include an outlined agreement within the DS3 contractual documentation that clarifies the DSO/DNO responsibilities alongside the TSO responsibilities, obligations and associated penalties, for one or both parties to ensure the optimal management of these specific associated services.

If the aforementioned agreement or definition cannot be progressed, a demarcation arrangement of responsibilities and obligations should be outlined between the DSO/DNO and TSO that allows for full co-operation in maximising and optimising the DSO/DNO associated products within the DS3 arrangements, managed fully by the TSO. Within this demarcation should be defined the governance handover of the process and service provision to the TSO from the DSO, and the associated technical responsibilities of the DSO to support the TSO on technical implementation of system service dependencies such as the nodal controller project and/or DS3 specific signalling requirements.

To date there have been barriers in service providers tendering for DS3 services at distributed connected sites due to undefined responsibilities and agreements between the TSOs and DSO/DNOs. On such example is the nodal controller projects which have a dependency on allowing a DSO connected site to tender for the SSRP DS3 product. This project should allow contracting of wind farms for SSRP provision however due un-defined agreements between TSOs and DSOs, wind farms are unable to contract for the SSRP DS3 product. Moving toward 2030 will require an improvement in the co-operation between TSOs and DSOs to ensure that all system services can be availed of to the system operators to ensure the lowest carbon impact, security of supply and benefit to the consumer.

The obligation should be on the TSO and DSO to work together and ensure a seamless process for providers.

3.2.8 How should the interactions with distribution connected parties be governed?

It is imperative that distribution connected service providers are able to participate fully in the future arrangements and provide the full range of services possible. To simplify the process for service providers we believe market/availability information for both transmission and distribution connected providers should be provided by the TSO, via the TSO/DSO interface, to service providers.

As above within our response to Question 8, governance should be provided by the contracted parties and the included dependencies of those contracts. Co-operation between the DSO and TSO is a dependency on both achieving and maintaining service provision at a distribution connected site. The existing TSO DS3 governance arrangements are suitable for distribution connected sites, however the DSO/DNO should be involved in any associated specifications that differ due to the distribution connection characteristics, either by means of the defined DSO/DNO agreement mentioned in our question 8 response, or the demarcation of responsibilities

3.2.9 Are there any further considerations for the High Level Design of the Governance Arrangements?

No further comments on this question.

3.3 Auction Design

Among the many principles of the Clean Energy Package pertaining to the design of auctions, the SEMC has highlighted the need for marginal priced (based on demand and supply interaction), non-discriminatory, transparent auctions with free price formation.

In relation to the marginal pricing principle, an optimal DS3 design solution would entail nested markets and pay-as-clear auctions for constrained on plant, a point we discuss further in section 3.4. In relation to non-discriminatory and transparent auctions, this implies that all contract types should be open to new and existing plant and that the rules pertaining to constrained off plant are suitably transparent to increase investor certainty, this is expanded upon in section 3.4.5. Lastly in relation to the principle of free price formation, it is essential that bids are not constrained on the basis of an ex-ante view of marginal costs, otherwise location based signals are not realised, developed further in section 3.4.4.

Building on the explicit CEP principles mentioned above, additional requirements of efficient market designs that would need to be used in any appraisal of alternative designs are that:

- a) Risk is allocated efficiently and can be mitigated by market participants
- b) Incentives for efficient investment are provided alongside incentives to retain capacity where efficient, and
- c) Locational signals reflect system need. (as confirmed by the European Commission's state aid decision on the Irish Capacity Mechanism, paragraphs 157-8)

Principle a) entails that the design of any penalties associated with non-delivery are proportionate and efficient and that, where practicable, a secondary market is available to reallocate risk. Principle b) is achieved by ensuring that long term contracts are in place but by design do not undermine price signals for short term provision of system services. While principle c) once again re-affirms the need to ensure that locational signals are not inhibited by a lack of free price formation.

It follows therefore, that the following 5 key principles should underpin the design of DS3 auctions in order to adhere to both CEP principles and the principles of efficient market design

1. To offer firm access in order to avoid distorting dispatch and exposing plant to non-transparent decision-making or unhedgeable risk, (Transparent firm access)
2. To provide location based incentives, ideally through quantity based mechanisms. (Locational incentives)
3. To Pay constrained on plant a price which covers at least their bid and offers the prospect of inframarginal rent to provide signals for locational and flexible investments (Efficient constrained price)
4. Allow for secondary trading to support efficient reallocation of obligations to deliver whilst minimising the cost impact of penalties on consumers (Tradeable risk)
5. Provide long-term investment signals through non-discriminatory contracts open to all relevant providers which are carefully designed to avoid distorting short term markets (Congruous temporal incentives).

Adherence to these five principles underpins our response to both the Auction and Market design section.

3.3.1 What are stakeholders views on the Auction Design options and SEMC Recommendation?

Condensed Response

- More information would need to be available to appraise auction designs in detail.
- Options 1 and 3 could both provide the basis for workable models and should be taken forward and further developed, in conjunction with longer term contracting to provide efficient investment incentives.
- Option 2 is undesirable because it creates additional risks for generators by increasing their balancing market exposure and will therefore increase costs to consumers.

Critiquing each of the 3 options proposed in light of the five principles Energia outlined in section 2.1 above, Energia finds the following:

Option 1, Post DAM Auction

A deeply liquid secondary trading market is a pre-requisite to adhere to the principle of tradeable risk. Absent such a market, auction bids will be unduly influenced by the perceptions of the risk exposure in the shape of penalties for non-delivery. No market participant is blessed with perfect foresight and thus pricing such a risk will be

imperfect, culminating in a scenario where either auction prices are higher (reflecting the additional risk) or auction prices remain the same due to an under-appreciation of the additional risk, but successful participants struggle to make the necessary service available when called. Remembering that the primary goal of an auction is to ensure sufficient services are procured, not simply that auction prices are as low as possible, it is important to learn from the failings of the CRM by ensuring that auction prices represent the actual price of delivery and are not speculative.

Renewable units might be particularly exposed to positions they subsequently cannot deliver under this option, due to changes in forecast, constraint or curtailment. Given that there is an explicit requirement for renewables to provide 80% of generation in ROI and at least 70% in NI by 2030, a design that would in effect penalise renewable participation, possibly to the point of precluding prudent renewable operators from bidding into DS3 auctions, does not seem ideal but is at least preferable over Option 2 discussed below.

Option 2, Pre-DAM Auction

Much like option 1, a deeply liquid secondary trading market is a pre-requisite for such an option. The timing of Option 2 creates an additional risk of non-delivery, by virtue of exposure to balancing market risk. This risk is in addition to the delivery risks cited above in our response to Option 1 (forecast, constraint and curtailment risk), which would again be more acute for renewable generators. As such Energia Group would not propose option 2 as a viable option.

Option 3: Ex-Post Balancing Market Solution

Energia Group notes the SEMC's comments in relation to option 3, specifically that option 3 does not align as closely with European legislation as the other two options. Given that the benefit of option 3 is that it better accommodates the impact of constraints, Energia Group believes that there is potential for an option 3 type solution. Energia Group further notes that a level of flexibility exists with respect to adherence to European legislation and as such option 3 should not be ruled out solely on this basis. Indeed, EU Legislation does not provide a definition of what a market-based allocation mechanism is, hence there is no explicit clear requirement for pre-balancing market auctions.

The difficulty associated with creating a sufficiently liquid secondary trading market, also increases the potential for an option 3 type solution. The need for careful consideration of the interplay between auction timing, secondary trading and commitment obligations is a point we discuss further in sections 3.4.2 and 3.4.3.

As with all options presented in the Consultation Paper however the limited nature of the information provided makes it difficult to fully weigh the strengths and weaknesses of each option fully. There is a clear risk that the choice of any single option at this stage risks locking in a potentially unpalatable solution for the final design.

3.3.2 Are there any further considerations in terms of the Auction Design options?

Condensed Response

- Layered procurement needs to be a consideration of daily market auction design.

As Energia will outline in the following section, the need for a layered procurement of system services contracts, i.e., both long and short term, should be a consideration in relation to the decision as to which of the three options (Post DAM Auction, Pre-DAM Auction and Ex-Post Balancing Market Solution) to pursue.

3.4 Market Design

As per our comments in section 2.1, Energia Group's response to this section are underpinned by the necessity to incorporate the 5 key principles into the overall market design of DS3 future arrangements. Namely, Transparent firm access, Locational incentives, Efficient constrained prices, Tradeable risk and Congruous investment incentives.

3.4.1 What information is required to get a full view of the volumes requirements for System Services?

The RAs have outlined their concern over the level of information provided by TSOs in regard to volumes required for system services to date. In response to this they propose in the Consultation Paper that the TSOs provide annual reports on the long term system services requirements, in addition to frequent publication of shorter term forecast requirements and daily volumes which will be required for the purposes of the auctions. Energia Group shares the concerns of the RAs in respect of the level of information provided for volumes of system services in the market to date and stress the need for this to be hugely improved moving forward. We disagree with the comments made by the TSO at the industry workshop on 7th October that the information required in respect of system service volumes is all contained in published documents and can easily be accessed by the market. Much more formalised and transparent reporting is required to meet the needs of the industry. In order to facilitate this improvement Energia Group makes the following recommendations:

- The forecasting of long-term volumes has to have a reasonable time span (10 years) and should be updated on an annual basis whilst any short-term and daily volume forecasts will have to be on a granularity that is compatible with any auction design that is implemented (e.g., will half hourly forecasts be available if required);
- The accuracy and quality of the volume forecasts provided by the TSOs have to be incentivised to ensure they provide the best information possible to the market and minimise forecast error. This should include specific volumes in constrained locations and incorporate a review of performance;
- The volume forecast should also be explicit regarding products (e.g., defining what they need per product and any new products that may be required) as well as locational requirements;
- The methodology used to calculate the forecast volumes should also be transparent and publicly available so that market participants have clarity of understanding in relation to the inputs used in formulating each of the forecasts;
- For the purposes of clarity, the forecasts should not allow for any withheld volumes (e.g., Anything in the forecast volumes should be total and absolute and include what is mandated under the grid code).

3.4.2 What are stakeholders' views on the development of Secondary Trading of System Services?

As outlined in section 3.33.3.1 of our response, careful consideration of the interplay between auction timing, secondary trading and commitment obligations is needed to ensure that auction results reflect deliverable capacity. Referring back to the three auction design options discussed in section 3.3.1, if there is a sufficiently liquid secondary trading market for system services, this would make a Post DAM auction timing (Option 1), much more palatable for participants that have a higher exposure to volume risk.

Renewable generators, whose output within day is either difficult to forecast or is more at the mercy of constraint and/or curtailment than conventional generators, would be much more confident competing in DS3 auctions, if they had a subsequent opportunity to exit their position due to an unforeseen change in information ex-post the auction. Note however that renewable generators' appetite to participate in the auction would also be heavily influenced by the cost associated with non-delivery and whatever commitment obligation is in place. Energia Group must once again stress that an overall market design that effectively precludes renewables participation risks the achievement of 2030 renewables and decarbonisation targets, given that up to 80% of generation will be provided by renewable electricity per annum, and is likely to increase costs to consumers by excluding potential market participants.

A sufficiently deep and liquid secondary trading market will however be extremely challenging to implement. Energia Group in particular recognises that there is somewhat of a chicken and egg problem in relation to ensuring secondary market liquidity. If for example, market participants have a perception that insufficient opportunities will be open to them to refine their positions ex-post the auction, this will likely result in unduly conservative auction bidding (i.e., committing less than the full volume of capacity that is likely to be available to provide the service). In that sense, the perception of a lack of liquidity can become somewhat of a self-fulfilling prophecy, whereby

- a) Generators less exposed to volume risk, dominate DS3 auction volumes.
- b) Such generators then typically require less of an opportunity to refine their positions than renewable generators and thus there is only shallow secondary trading of DS3 products.
- c) Renewable generators seeing only a shallow secondary trading, perceive a lack of liquidity in the market and thus continue to bid conservatively into DS3 auctions.

Secondary trading is therefore key to ensuring sufficient auction participation to promote robust competition in addition to providing a route to market for renewable generation. The extent to which there is secondary trading in the market for DS3 services will therefore influence the final cost to consumers, particularly if penalties for non-delivery are high (a point we discuss further in section 3.4.3).

A layered approach to system services procurement might well also serve to increase secondary trading volumes, by virtue of having a greater pot of potential service providers waiting in the wings. We discuss this further in section 3.4.5

Lastly, if it becomes apparent that a sufficient level of secondary trading will always be lacking, it is important that this reality is considered in the context of choosing:

- a) Which of the three Auction Design options should be pursued, (option 3 is less dependent on secondary trading) and,
- b) The nature of commitment obligation (higher penalties for non-delivery will serve only to reduce auction participation and increase prices to consumers).

Energia Group notes also EirGrid's comments at the DS3 workshop on 7th October, outlining that a prudent system operator, will not procure anything less than the correct amount of services through long term contracts. As a result, EirGrid expects that no consistent "scarcity price" will emerge to signal the need for replacement short term capacity and/or new investment. If no consistent price signal emerges from daily auctions, capacity that is unsuccessful in obtaining a long contract is unlikely to remain in the market for DS3 services and may be said to be receiving an exit signal if it cannot obtain sufficient revenue from either the wholesale or capacity market. This implies two things:

- a) Eirgrid need to be fully confident of the amount of reserve capacity ex-ante, if unsuccessful long term applications are likely to exit the market,

but more relevant to this section:

- b) Volumes in the secondary trading market will most likely be limited to long term contractees, frequently deployed short term generators and renewables, particularly those with support.

On a given day when the demand for system services is high and perhaps a large generator is offline, it is likely that the number of remaining participants in the secondary trading market will be limited. Participants wishing to trade out of an obligation will therefore likely encounter difficulty, especially if there is a locational aspect to the service they are providing.

3.4.3 What are stakeholders' views on the proposals regarding Commitment Obligations and Scalars?

Commitment Obligations

In responding to this particular consultation question Energia Group wishes to draw together a number of points raised elsewhere in this response, including the need to:

1. design of any commitment obligations to heed the relevant principles we outlined in section 2.1 namely, transparent firm access, locational incentives, efficient constrained price and tradeable risk
2. consider the actual level of secondary trading that is deliverable before deciding upon any disincentives for non-delivery, and
3. make long-term contracts available to all market participants on a non-discriminatory basis, in addition to short term auctions and the need to ensure the presence of long term contracts does not distort competition in short term auctions and vice versa.

All generators will have periods of outages or unavailability for a number of reasons including necessary maintenance, trips, constraints and curtailment. Plants that are on outage or become unavailable will therefore need the opportunity to trade out of an obligation to provide system services, in the same way that renewable or non-firm generators may need to refine their positions between the final DS3 auction and

delivery, unless of course option 3 of an ex-post balancing market solution is pursued for the auction.

As stated previously, key to reducing final costs to consumers and encouraging liquidity in any secondary market is a proportionate and transparent commitment obligation. Theoretically, any “penalty” for non-delivery by a generator should reflect the cost of the next best alternative in the market and should thus represent a market derived cost, rather than an arbitrarily created penalty.

A concern Energia Group would have is that if the penalty for non-delivery is inefficiently high, even with a broadly functioning secondary market, the penalty would set the price of trading out of a position and not the cost of the next best alternative. As an example, buyers of capacity in the secondary market will be aware after the DS3 auction, that the penalty associated with non-delivery, exceeds the cost to the participant seeking to exit their position at what would have been the next best alternative’s price. Buyers, especially those in specific locations, can therefore extract greater inframarginal rent, by bidding at prices greater than the next best alternative, leading to a buyers’ market situation. Much like the points we raised in section 3.4.3 before, the ramifications of the commitment obligation creating a buyers market will be

- a) A reduction in bid volumes of renewable auction participants, owing to a reluctance to take a position that might not be deliverable ex-post due to unforeseeable circumstances, and
- b) Higher auction prices due to a lack of competition, and
- c) Lower secondary trading liquidity, as conventional plant dominate auctions and require less of an ability to alter their market position compared to renewable generators.

Consideration needs also be given to how a commitment obligation works for recipients of long-term contracts, who may be incapable of delivering all or a proportion of their obligation on a given delivery date. Much like the points we have raised in relation to short term auction commitment obligations, any penalty that is arbitrarily high will distort auction bidding in the first instance, with undesirable consequences for market liquidity and cost minimisation for final consumers. Long term commitment obligations need to be designed so that recipients have some entitlement to a period of unavailability at minimal cost, to reflect the need to conduct maintenance and/or adhere to safety requirements. The commitment obligation should therefore contain some level of a tolerance informed on the basis of what is considered reasonable annual running hours for the average plant clearing the long term auction.

Scalars

The Consultation Paper proposes to retain three of the scalars that are currently used under the tariff-based arrangements (performance scalar, a product scalar and a locational scarcity scalar) but to no longer retain the temporal scarcity scalar. However, it is unclear how these scalars will work in practice in the context of an auction based procurement method and no detail or worked examples have been provided to give clarity or understanding to industry on this e.g., different service providers will have different performance scalars or product scalars on FFR whereby different trigger and trajectories and faster response times all change the value for FFR - it is difficult to envisage how this will be incorporated and valued within an auction mechanism. In addition, there is no information provided on whether or how the scalars will interact with any of the medium or long term procurement of system

services. In the absence of any detailed information, it is difficult to give informed opinions on the proposed retention of scalars.

However, there are two key points under this area that Energia Group wish to comment on:

First, in relation to the proposal to retain locational scarcity scalars, as set out in our overarching comments we agree that a locational signal is required to ensure that the locational value of services is being reflected and it will incentivise the provision of services where they have the most value to the system. Locational scalars however may not be the most appropriate method of sending a locational signal as intended. We recommend consideration is given to alternative signals such as nested markets and location-specific prices which are likely to be the more efficient solution and help ensure a feasible dispatch as they are a quantity-based instrument (to help solve a quantity-based problem). Locational scalars are a second-best solution which distort dispatch when the locational value of system services is higher or lower than the scalar but at least provide some investment signal for constrained areas. However, regardless of the method used to provide the locational signal, for it to be efficient, out of merit actions must provide incentives to locate in areas where system services are particularly necessary. In this regard it is critical that those units which are constrained on also get to avail of the locational signal.

Second, in respect of the proposal to remove the temporal scarcity scalar, the rationale provided is that auction prices will reflect the relative scarcity of services under current system conditions and thus the temporal scarcity scalar is no longer considered necessary. However, the temporal scarcity scalar is designed to reflect the value of system services when they are most needed on the system i.e., at higher levels of SNSP. The future arrangement mechanisms therefore must ensure that this principle is retained so that the value of services is reflected at times when the system required them the most - this is key to ensuring the objectives of meeting the decarbonisation targets and maintain security of supply are met. This signal needs to continue to be sent even when 100% SNSP is achieved both in order for system running (e.g., for units providing energy to instead provide reserve) and also to ensure continued recovery of investment costs that were incurred to achieve this. This in turn requires there to be no artificial regulatory price cap restricting the price of services from reflecting their true value, including bidding restrictions which prevent free price formation.

3.4.4 Do Stakeholders have views on the introduction of the concept of Firm Access to the System Services market?

Firm access is a common feature of energy market designs globally partly based on liquidity and competition concerns and partly on missing markets and transactions costs associated with separately contracting transmission. The benefits of a firm access regime include:

- the incentive for generators to bid cost reflectively rather than distort dispatch by bidding arbitrarily low prices behind constraints in order to be selected as in-merit plant. Providing generators with incentives to bid cost-reflectively reduces costs to consumers in the long-run by minimising the inefficiency of dispatch and providing a transparent (locational) signal for new investment; and

- the ability to sign longer-term contracts for delivery of services, which supports new investment, prevents inefficient exit and lowers the cost of capital for market participants. In the absence of firm access, signatories to long term contracts would be exposed to the risk of emerging transmission constraints and being constrained off without compensation. The inability to hedge that risk would deter entry and raise costs to consumers.
- building liquidity in the secondary market by ensuring a wider pool of market participants can trade a common product.

Moreover, in the absence of firm access, the overall market suffers from a lack of transparency which can undermine signals for new investment. This lack of transparency is particularly acute when there is a diverse range of potential reasons why plants can be constrained off ex-post the auction, making it difficult to ascertain what specific set of circumstances will lead to instances of plants being constrained off. Any locational signal that might emanate from such an auction is opaque and all plant are exposed to an unhedgeable risk of being constrained off by the TSO without compensation. The risk and perceived risk resulting from that lack of transparency feeds into the costs of new entry and the costs of remaining on the system and thus deters entry, encourages exit and increases prices faced by consumers.

The NERA slides dated 5th October 2021 appended to this response contrast the treatment of plants with firm access in a theoretical model (option 1) with option 2 wherein non-firm access is employed. The conclusion from these models is that non-firm access is superficially attractive, in that it in the short term it reduces prices paid to non-delivering plants. However, this is ultimately to the detriment of long term signals for investment, alongside creating distortions in both bidding and dispatch. More specifically non-firm access distorts incentives to bid cost-reflectively, may pollute market prices with congestion rent (depending on how prices are set) and exposes all plant to non-transparent decision making by the TSO about the form and extent of constraints.

Currently priority dispatch units are not required to submit FPNs, but are already actively involved in the provision of reserve services. Whilst non-priority dispatch renewables may be required to submit FPNs, this has not yet been defined. Consequently, the risk of putting undue burdens and barriers to entry on participants need to be considered.

3.4.5 Do stakeholders have views on layered procurement of System Services? What approach could be taken to support this?

Energia shares the SEMC's view that a short-term approach to DS3 contracting alone, would result in an inability to deliver the required investment and thus an overall failure to accommodate increasing levels of SNSP and the achievement of government RES-E targets. Energia is concerned that the RAs have not explicitly excluded the possibility that the proposed layered procurement approach is available only to new entrant plant. Awarding long-term contracts only to new entrants effectively ring-fences a proportion of system services to be provided by new capacity alone. Reducing competition from existing plant who may be lower cost than new entrants will increase overall costs to consumers.

In a truly competitive market, whenever the market anticipated a long term shortage and an extended period of high marginal costs, existing capacity would be able to secure a long term contract at high prices. Such high priced contracts would be competitive and efficient, and would offer useful signals for investment and retention of existing plant by offering more secure opportunities for cost recovery. Such opportunities are just as important for existing capacity as for new capacity. After all, today's "existing capacity" was "new capacity" at some time in the past and was built and financed on the understanding that it will have an opportunity to recover its total costs (including the cost of capital) via market outcomes. The risk associated with failing to provide sufficient opportunities for existing capacity is that it may receive inefficient exit signals, causing it to be closed down prematurely, with associated ramifications for security of supply and imposing on consumers the need to contract with potentially more expensive entrant plant.

There is no sound basis for distinguishing in the treatment of existing and new capacity: both are capacity, and existing capacity was new capacity when it was built. Energia Group is conscious that to have due regard to the requirement that existing capacity must be capable of being financed throughout its lifetime, regardless of when it was built is among the statutory duties of the RAs. This means that the rules devised should ensure that existing capacity is not precluded from earning revenues that it might otherwise be capable of earning but for an arbitrary restriction. Recognising the need for both Long-term contracts and in order to meet the CEP's requirements of non-discrimination and for economic efficiency, Energia considers it efficient that longer-term contracts should be open to both new and existing plant.

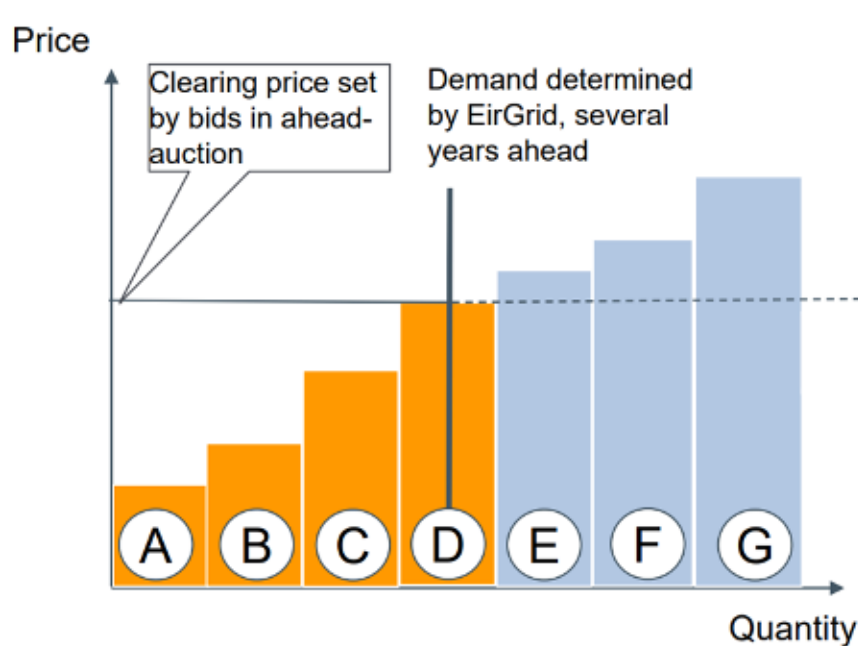
It is likewise important however that long-term contracts (even when designed to be non-discriminatory and open to all relevant providers) are designed in such a way as to avoid distorting short term markets, particularly if long-term markets are not universal across all DS3 products.

As a potential solution that achieves all of the above criteria Energia is proposing that long term contracts are allocated on the basis of an obligation to be available to provide system services through long-term auctions (for instance a year ahead), or via an equivalent financial contract such as CFD which would incentivise being available to provide system services.

Short-term auctions would continue to determine the merit order on the day, but long term contracts would have the effect of ensuring sufficient price signals are in place to supplement those emanating from the short term auctions.

In the diagrams below, drawing from the NERA slides, we provide an example of how CFDs against short-term auctions could be combined with either the SEMC's proposed layered approach or a market-wide scheme. Any CFD would require careful design to ensure it balanced risks and obligations for participating companies and minimised costs for consumers of procuring system services.

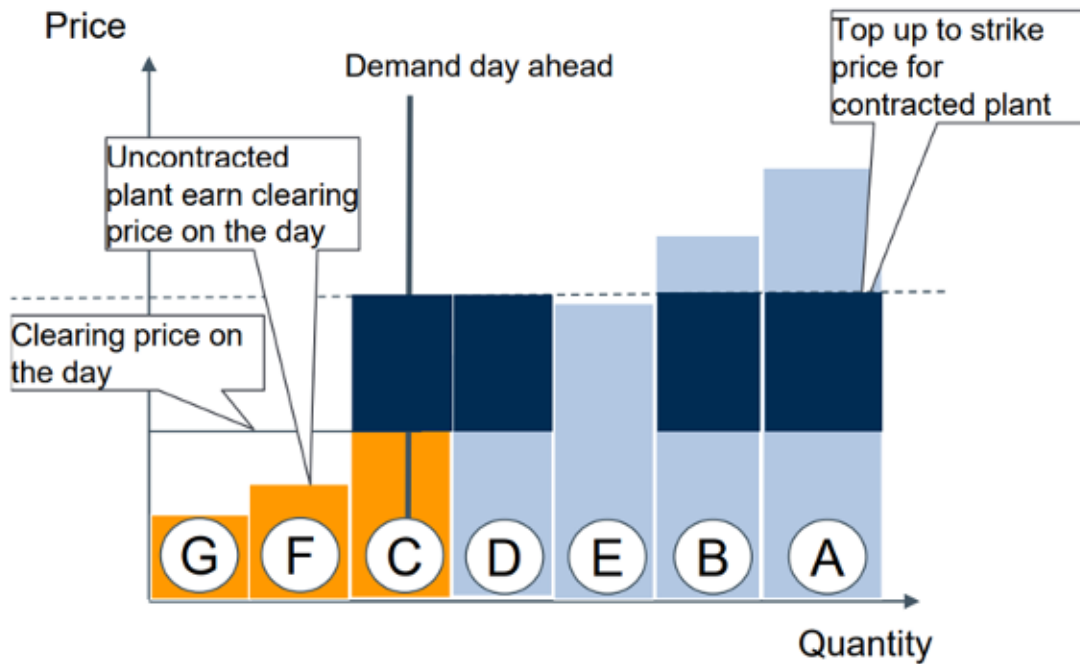
In Stage 1: An ahead market for system services (shown in the diagram below) sets service strike prices based on anticipated costs, providing a long term signal for the marginal cost of providing the service. In the example shown, plant A to G compete for system services contracts by offering the bids shown on the diagram. Plant A to D are awarded CFDs ahead of time.



In stage 2: The short-term market (shown in the diagram below) for system services determines the merit order on the day. Plants without a pre-agreed strike price for providing services would be capable of entering the short term market and obtaining the clearing price on the day. On the day demand is somewhat lower than in the ahead auction and plants G, F and C are in merit to provide system services. Of the plant in merit, only C was awarded a CFD in the first auction and F and G were not. Plants G, F and C all receive the short-term market clearing price given by C's bid in the short term market. Plant C will be topped up to the level of the strike price set in the first auction (shown in dark blue). Plant A, B and D will also receive the difference between the strike price set in the ahead auction and the clearing price on the day. In the case of these plant, they will not provide system services on the day because their cost of providing the service is above the clearing price for the service in the short term auction.

As a result, the CFD would allow plant A, B and D to hedge their system services revenue ahead of time through the ahead auction, which provides a clear investment signal (or signal to retain capacity) and reduces the cost of capital to the benefit of consumers.

Stage 2: Short-term market for system services determines merit order on the day



3.4.6 Are there any further considerations in terms of Market Design?

No further comments on this question.