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# **Energy Storage Ireland Response to the System Services Future Arrangements Scoping Paper**

Submitted on 2<sup>nd</sup> October 2020

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## Executive Summary

Energy Storage Ireland (ESI) is a representative body for those interested and active in the development of energy storage in Ireland and Northern Ireland.

We work together to promote the benefits of energy storage to decarbonising Ireland's energy system and engage with policy makers to support and facilitate the development of energy storage on the island.

Energy storage will play a significant role in facilitating higher levels of renewable generation on the power system and in helping to achieve national renewable electricity targets. As such, it is essential that the System Services framework supports investment in new zero-carbon technologies such as storage.

In general, we believe that the issues at stake here are extremely complex and require significant further engagement and consideration in order to put in place an optimal set of enduring arrangements.

We believe the timelines set out to put in place a framework in advance of 2023 are extremely ambitious and the process to develop a decision and implementation plan should not be rushed without sufficient discussion and industry oversight.

There is considerable risk that pushing through a framework in this timeframe will not deliver the investment in new capability needed to support our 2030 renewable electricity targets.

We believe the objective of the future System Services project needs to be adjusted to include national decarbonisation and renewable energy policy aims as a central goal, rather than solely focusing on delivering a competitive framework. We have included proposed wording for the objective under Question 3 in this regard.

We have also proposed two additional assessment criteria which we believe are vital to ensuring the success of this project. These are as follows:

- Decarbonisation - We believe that a key metric of success for this framework should be that the system can run on up to 100% renewables with all System Services coming from zero-carbon sources at any one time. We believe this is a necessary step in order for the system to deliver 70% RES-E by 2030 in the most efficient manner.
- Investment Certainty - Adequate investment signals are needed for new build providers of zero-carbon system services that will be required to support a system with up to 95%+ SNSP.

We discuss these proposals in detail in our response to Question 3.

To facilitate the overall objective we believe a transition period between the current and future arrangements is needed. This will allow appropriate time for considered development of the enduring System Service arrangements. We believe this transition period can still deliver new

investment that is required to meet the changing needs of the system. The approach to introducing new services can be incremental with new auction frameworks trialled alongside existing arrangements.

The Regulators have the scope to extend the current arrangements by two periods of up to 18 months each. We believe this should be an option considered to allow time to transition to the enduring arrangements and for the System Operators and industry to develop and learn new processes. We believe this can be progressed in parallel with options for Fixed Contract arrangements where new capability is needed on the system with an appropriate lead time for development. This would reduce the immediate uncertainty faced by investors and if combined with a budgetary glide path for DS3, that reflects the need for increasing SNSP limits, would help reduce the revenue risk faced by investors. This is a prudent approach that seeks to mitigate the risk of stalling critical infrastructure investment, while allowing the TSOs and the Regulators to maintain appropriate controls on expenditure, while the new and enduring System Services market is carefully designed and efficiently delivered.

In relation to the questions posed, we have offered our initial views but at this stage it is difficult to comment with certainty on many of the questions without further engagement and details of an actual auction design proposal. This highlights the need for a considered process that allows time for detailed stakeholder engagement and review of options. Therefore, our views are subject to further detail being made available throughout the process of developing this System Services framework.

## Introduction

Energy Storage Ireland (ESI) is an industry representative association comprised of members who are active in the development of energy storage in Ireland and Northern Ireland. Our aims are to promote the benefits of energy storage in meeting our future decarbonisation goals and to work with policy makers in facilitating the development of energy storage on the island of Ireland. We have over 35 members representing many areas of the energy storage supply chain.

We would like to thank the SEM Committee for the opportunity to provide feedback on the System Services Future Arrangements Scoping Paper.

Energy storage will play an essential role in facilitating the higher levels of renewable generation on the power system required to achieve national renewable electricity targets. The flexibility of storage systems and their ability to contribute to the energy, capacity and system services markets allows them to deliver a wide range of benefits to end consumers such as wholesale energy price reductions, reduced CO2 emissions and flexible system support services to help manage the grid with higher levels of renewables.

In the following sections we set our responses to the questions posed in the scoping paper.

## Background to the Scoping Paper

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

There are some key additional legislation and policy references which should be considered as guidance for the project:

Current legislation underpinning decarbonisation in Ireland is the Climate Action and Low Carbon Development Act 2015. However, we wish to highlight that the recent Programme for Government makes the following commitment:

*"We are committed to an average 7% per annum reduction in overall greenhouse gas emissions from 2021 to 2030 (a 51% reduction over the decade) and to achieving net zero emissions by 2050. The 2050 target will be set in law by the Climate Action Bill, which will be introduced in the Dáil within the first 100 days of government, alongside a newly established Climate Action Council."*

Since the Climate Action Bill is imminent, it is prudent work on the basis of the policy target of 7% per annum reduction in greenhouse gas emissions for the purposes of this framework design.

In addition, in Northern Ireland the future Energy Strategy is currently in development, but the Minister for the Economy has recently committed to a minimum 70% RES-E target by 2030.<sup>1</sup>

Finally, the EU Green Deal lays the policy basis for climate action out to 2050:

*"Further decarbonising the energy system is critical to reach climate objectives in 2030 and 2050. The production and use of energy across economic sectors account for more than 75% of the EU's greenhouse gas emissions. Energy efficiency must be prioritised. A power sector must be developed that is based largely on renewable sources, complemented by the rapid phasing out of coal and decarbonising gas"*

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

ESI supports an active DSO role in the provision of services from the distribution system and strong TSO/DSO cooperation in general in maximising the flexibility of the electricity system. Enabling the DSO as an active procurer of System Services will help unlock new service provision from technologies such as behind the meter storage and demand side response. We would emphasise that this requires step changes in many existing DSO business areas and therefore we highlight the importance of DSO resourcing and new systems in order to be able to deliver these changes.

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<sup>1</sup> <https://www.newsletter.co.uk/news/environment/my-vision-renewable-energy-sector-northern-ireland-2984852>

The DSO is also likely to play a very important role in the development and procurement of new services such as congestion products. Reactive power is another area where there is significant existing service potential on the distribution system that cannot currently be accessed or remunerated. This is an area that needs to be addressed as soon as possible.

We would also highlight the need for close collaboration between the DSOs and TSOs in using the same flexibility to potentially support either the distribution network or the transmission system. A useful principle to include from the beginning of any development and design of more localised congestion and/or other DSO services, is the ability for storage providers to stack services and revenues and provide to both TSO/DSO without being locked into an 'either or' contractual framework.

This means consideration must be given to the interactions between TSO/DSO requirements and times when these might conflict for a provider offering services to both SOs (e.g. when the DSO wants more generation whereas the TSO needs less).

It is also imperative that DSO connected units be allowed to compete fairly and equally with TSO connected units for all services to maximise competition and deliver the best value to the end consumer.

Although there has been some successful establishment and growth in 'DSO Flexibility' products in GB, which do allow providers to offer both DSO and TSO services; there have also been examples where conflicts have not been considered (e.g. Active Network management connection schemes), and led to situations where DSO actions can currently conflict with system-level balancing market activities.

Additional examples of TSO/DSO collaboration in the procurement of localised flexibility products exist in countries such as Germany.<sup>2</sup> These are examples that can be learned from in the development of the enduring framework.

### **3) Should any further assessment criteria be included in this workstream?**

#### **Objective**

We believe the objective of the new framework needs to be amended to include decarbonisation as a central goal, in line with national energy policies and the strategies of the Regulatory Authorities and the System Operators in Ireland and Northern Ireland. Putting in place a procurement framework should be a means to achieve this rather than the end goal in itself. Ensuring the secure operation of the electricity system with higher levels of non-synchronous generation can also be expanded upon to include specific targets regarding achieving 95%+ SNSP (an essential enabler for 70% RES-E) and minimising the carbon emissions

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<sup>2</sup> <https://www.ewe.com/en/media/press-releases/2018/02/enera-project-ewe-and-epex-spot-to-create-local-market-platform-to-relieve-grid-congestions-ewe-ag>

from the provision of System Services. The objective should also follow SMART principles of being specific, measurable, achievable, realistic and, timely.

With these points in mind, we propose the following amended objective:

*“To deliver an **economically efficient competitive** framework for the procurement of System Services to support Ireland's 2030 target of 70% Renewable Electricity and the equivalent Northern Ireland target, that ensures secure operation of the electricity system with higher levels of non-synchronous generation (and at a minimum to facilitate operation of the system at 95%+ SNSP) while seeking to minimise the carbon emissions associated with the provision of these System Services and limit the curtailment of renewable generation to 5%.”*

In parallel with this we strongly recommend that the TSOs should be required to measure and report on energy market and non-energy market emissions as part of the existing quarterly dispatch down reports. The TSOs often position units away from the energy market schedule in order to meet system service requirements. These are known as non-energy actions. The recommendation is for the TSOs to model electricity system CO2 emissions to compare energy market emissions and actual electricity generation emissions to calculate the non-energy market emissions contribution. Or in other words, the emissions solely related to actions that are required to ensure the electricity system remains stable. As new low carbon system service and other flexible technologies come on the system it will be important to track and measure how these are being utilised and their impact on power sector emissions. Right now this is not being measured and so it cannot be managed.

### **Assessment Criteria**

We believe that the assessment criteria included in the consultation are inadequate and need to be updated. In general, the focus appears to be heavily weighted towards compliance with EU requirements rather than national and EU policy goals regarding decarbonisation. We note that EU legislation does afford some flexibility to member states which we think Ireland should seek to avail of where necessary. We recommend updating the assessment criteria to include the following:

***Decarbonisation: All System Services should be provided from zero-carbon sources where possible.***

We believe that a key metric of success for this framework should be that the system can run on up to 100% renewables with all system services coming from zero-carbon sources at any one time. We believe this is a necessary step in order for the system to deliver 70% RES-E by 2030 in the most efficient manner.

The Baringa “Store, Respond and Save Report”<sup>3</sup> demonstrated that, already today, we could avoid 700,000 tonnes of CO2 emissions by transitioning to zero-carbon services. The avoided

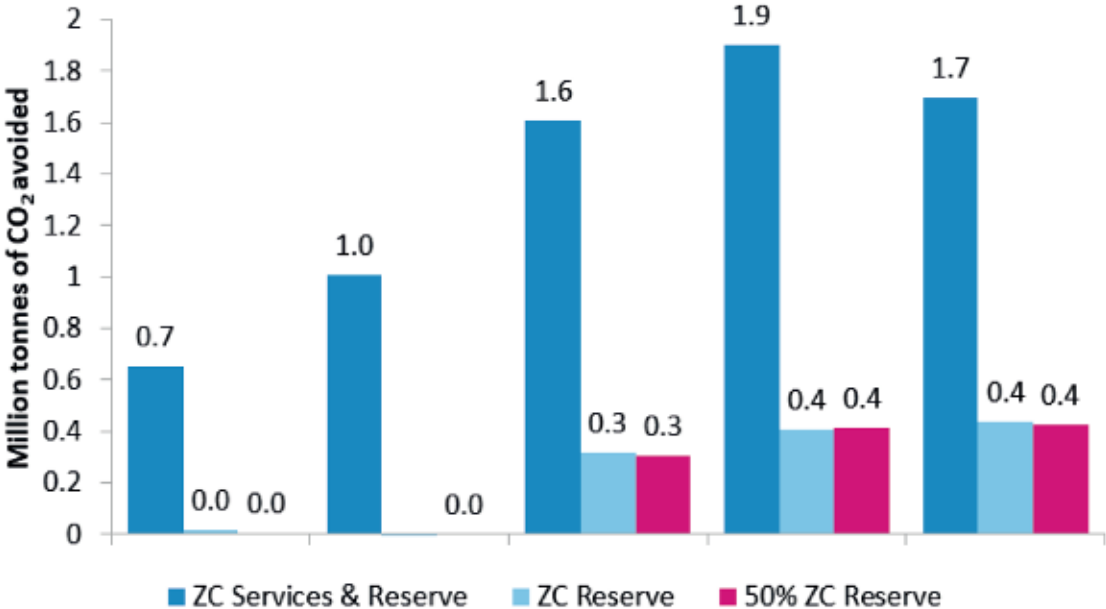
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<sup>3</sup> <https://www.energystorageireland.com/wp-content/uploads/2020/02/Energy-Storage-Ireland-Baringa-Store-Respond-Save-Report.pdf>

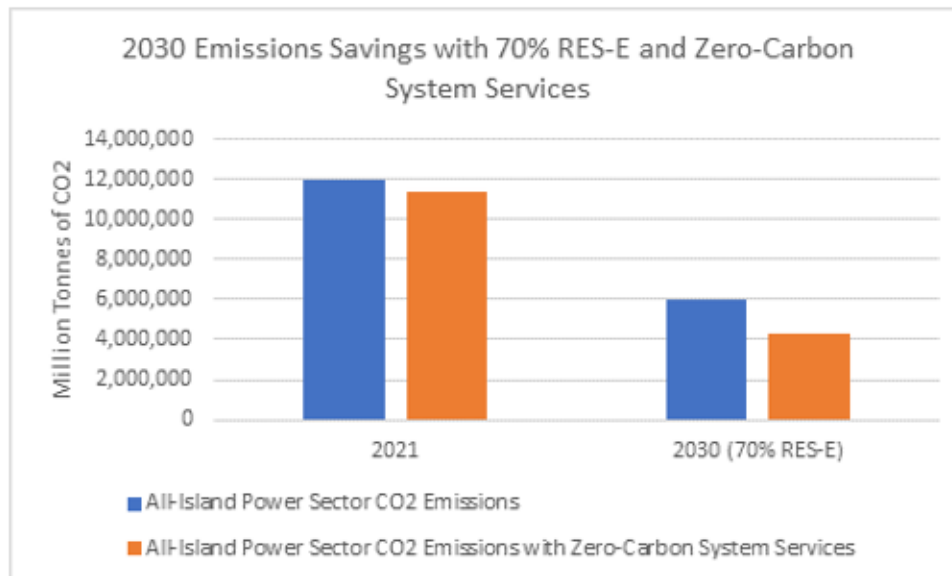


emissions tally increases to close to 2 million tonnes per annum in 2030. The technologies exist today to move to a zero-carbon System Services system and this framework should facilitate that transition.

**Figure 4 Annual avoided SEM CO<sub>2</sub> emissions from zero-carbon system services**



Assuming an all-island 70% RES-E target by 2030, this would mean that transitioning to zero-carbon System Services has the potential to reduce total power sector emissions by one third. In other words, System Services should be looked at as part of the decarbonisation agenda rather than simply a means to facilitate increased renewable generation or to maintain system security.



### ***Investment Certainty : Adequate entry signals for new build providers of zero-carbon System Services***

Adequate investment certainty formed a key principle of the original DS3 System Service high-level design<sup>4</sup>. The zero-carbon reserve market in Ireland (primarily delivered by battery technology and Demand Side Units) was seeded by the fixed-term auction procurement framework, backed up by the presence of a regulated-price tariff procurement regime of shorter term and higher uncertainty. These frameworks have been successful in delivering new-build zero-carbon providing units which is probably adequate for the needs of the 2020 system. But the system will need more new-build zero-carbon service providers well in advance of 2030 for reserves and other services such as inertia, reactive power and future services such as congestion management. These units will require an adequate level of certainty to invest and deliver when they are needed. It is important to note that it is not enough to deliver a decision on a long-term daily auction framework linked to some future volume forecast. Any such market will need to be up and running for a period for investors to get adequate understanding of the price risk. In advance of that, new-build units will need an alternative framework to invest.

Long-term contracts or a form of long-term price certainty are a traditional and widespread means of delivering new investment (e.g. RESS and Capacity market auctions). ESI's view is that locking out new investment will very likely result in an outcome which is not 'economically efficient', particularly where this new investment is needed to support a 2030 system and brings significant additional consumer value in terms of facilitating integration of renewable generation and lowering emissions.

<sup>4</sup> <https://www.semcommittee.com/sites/semcommittee.com/files/media-files/SEM-14-108%20DS3%20System%20Services%20Decision%20Paper.pdf>

We would also like to highlight the importance of clarity on future volume requirements for System Services to help developers ensure they are developing the right project in the right place at the right time. We see value in the concept of a System Service forecast statement containing elements of location and volume forecasting for System Services as well as indication of definition and timing for any new System Services that may be required. This is a similar principle to that which is carried out in GB where both near-term and long-term signalling for service volumes and service requirements are frequently published by National Grid.<sup>5</sup>

We do note however that scarcity signals or long-term volume forecasts do not adequately address revenue risk, something which is difficult to predict or invest in under short-term auction arrangements.

Timely investment in System Services is required to ensure emission reduction targets in both Ireland and Northern Ireland can be achieved. The issue for investors under the current DS3 market arrangements however is revenue risk. In the absence of volume controls and guaranteed budget increases, investment will result in lower market pricing, and therefore reduced returns. The market is also a monopsony – i.e. the TSOs act as the sole buyer of services - and therefore affords little opportunity for product differentiation – i.e. there are limited mechanisms to protect market share as the provision of services increases. Investment under the current DS3 arrangements is therefore subject to significant risk that manifests in a myriad of forms, including system SNRP levels, budget caps and wider regulatory risk. Over time these market dynamics, which are outside the control of the investor, are likely to significantly erode investor confidence in the market.

The introduction of daily auctions for System Services will not address these issues for new investment, even with the introduction of scarcity pricing, and especially if there are regulated price caps. Short term daily products do not deliver any more revenue certainty than the tariff regime, and, in fact, potentially offer less, while scarcity pricing, by definition, only out-turns when insufficient investment in required services occurs. If sufficient investment in service provision is secured scarcity pricing will not be paid to investors. If the scarcity price is administered it is subject to regulatory risk, while implementation of regulated price caps removes a guarantee to market participants that they can extract required scarcity rents from the market. From the perspective of the customer, if scarcity prices are paid then the market has failed to deliver the required services, while on the other hand the absence of price caps would leave consumers open to the potential abuse of market power. The accepted way to address these issues is to implement longer-term fixed price contracting mechanisms to underwrite capital intensive new investments. These mechanisms provide revenue/cost certainty to both sellers and buyers and offer protection to investors and customers from the

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<sup>5</sup> <https://www.nationalgrideso.com/industry-information/balancing-services/frequency-response-services/firm-frequency-response-ffr?market-information>

vagaries of market risk. This is why the current capacity market in I-SEM offers a 10 year fixed price contract, despite there being a regulated scarcity pricing mechanism.

In an evolving technological landscape ESI recognises the need for flexibility in procurement approach. While we acknowledge the TSOs' concerns around locking in long-term contracts and the risk of over-paying we see that this needs to be balanced against the need to deliver volume in a timely manner. We believe the combined approach of fixed-contracts for some volume with more flexible procurement mechanisms is worth considering. Underinvestment in System Services over the long term will result in high levels of renewable curtailment, stall investment in renewable technologies, and is likely to cost the consumer substantially more than the cost of over investment in any given technology in the short term, particularly flexible, versatile technologies such as battery storage. Furthermore, these short-term risks can at least partly be mitigated by the TSOs via their procurement process – e.g. timing, product requirements, volumes each contracting round, etc.

In theory long-term contracting mechanisms can be separated from underlying market arrangements, providing there is certainty on the products or services required over the duration of the contract. In practice however the underlying market arrangements are likely to determine the costs and financial risks of delivering upon contractual obligations, and therefore cannot be ignored. ESI therefore recommends a workstream is set up to investigate these issues and to provide options for further consultation based on previously successful investment support mechanisms, such as REFIT, RESS and the Capacity market.

Further to this, we would ask the SEMC to consider the high-level principles which were adopted as part of the original DS3 System Service design and ensure that the relevant principles are also central to this future arrangement design. In particular, we wish to highlight the following principles from SEM-14-108 (emphasis added):

*“In arriving at its decision on system services, the SEM Committee has been conscious of each of these key demands. Accordingly, the SEM Committee has built a decision framework which it believes achieves the following:*

...

*Provide **certainty to new providers** of system services that the defined procurement framework delivers a mechanism against which significant investments can be financed;*

...

*Ensure that Article 16 of Directive 2009/EC/28 is being effectively implemented (duty to minimise curtailment of renewable electricity);*

*Provide assurance to consumers that savings in the cost of wholesale electricity, which can be delivered through higher levels of renewables on the electricity system, can be harnessed for the benefit of consumers;”*

and

*“117)The SEM Committee has decided that long term contracts will be made available for new investment in system services. This section sets out various aspects of the SEM Committee’s decision with regard to contractual arrangements.*

*118) The SEM Committee has also decided that to provide a level of investor certainty for new projects take or pay contracts should be made available where capital investment is required. Take or pay contracts will not be available for existing capability*

*119) Additionally the SEM committee acknowledge that any new investment may require a lead-in period, therefore contracts should be made available taking into account the potential lead-in period.”*

It can be seen that certainty for new investment was very much a core consideration of the high-level design and we believe the same principles should apply in the development of this framework.

## Propose Overall Approach

### 4) Is the general approach to the Project appropriate and complete?

The general approach should seek to ensure sufficient volumes or system services are procured in a timely and economically efficient manner while also facilitating the transition to zero-carbon system service provision. This will require the incentivisation or new-build zero-carbon providers of System Services over the course of the next decade.

#### Need for Transitional Arrangements

RAs' timelines for development of the enduring framework:

- Q3 2020 - Scoping paper
- Q1 2021 - Detailed consultation
- Q2 2021 - RA decision
- Q3 2021 - RAs/TSOs to develop implementation plan for decision

At the future arrangements workshop on 26<sup>th</sup> August, the TSOs expressed considerable concern with these timelines and noted that a decision will need to be made by end of Q1 2021 at the latest in order to have time to put in place the post 2023 framework.

We believe the RAs' timelines to be very ambitious given the amount of detail and work that is still required and, with a view to the TSOs' concerns with the proposed timelines, we believe there is a need for clarity as soon as possible on the transition arrangements for existing contracts and suitable bespoke arrangements to move other System Services to zero-carbon sources.

In the absence of clarity with a clear roadmap for a transition to an enduring framework this will significantly hinder new investment. Rushing through a flawed set of long-term arrangements to meet the 2023 timeline is also not a good solution and all options should be on the table, including an extension to the current arrangements to mitigate the impact of this occurring.

It is worthy to note that there has also been considerable re-design and development of system services in GB, under National Grid ESO's 'System Needs and Product Strategy' (SNaPS) programme.<sup>6</sup> This programme has sought to incrementally re-design and introduce new system service products to ensure they better reflect the needs of a future system, increase accessibility and enable better use of new technologies and sources of flexibility. The program strategy was originally outlined in 2017 and envisaged a two-year work programme (which is

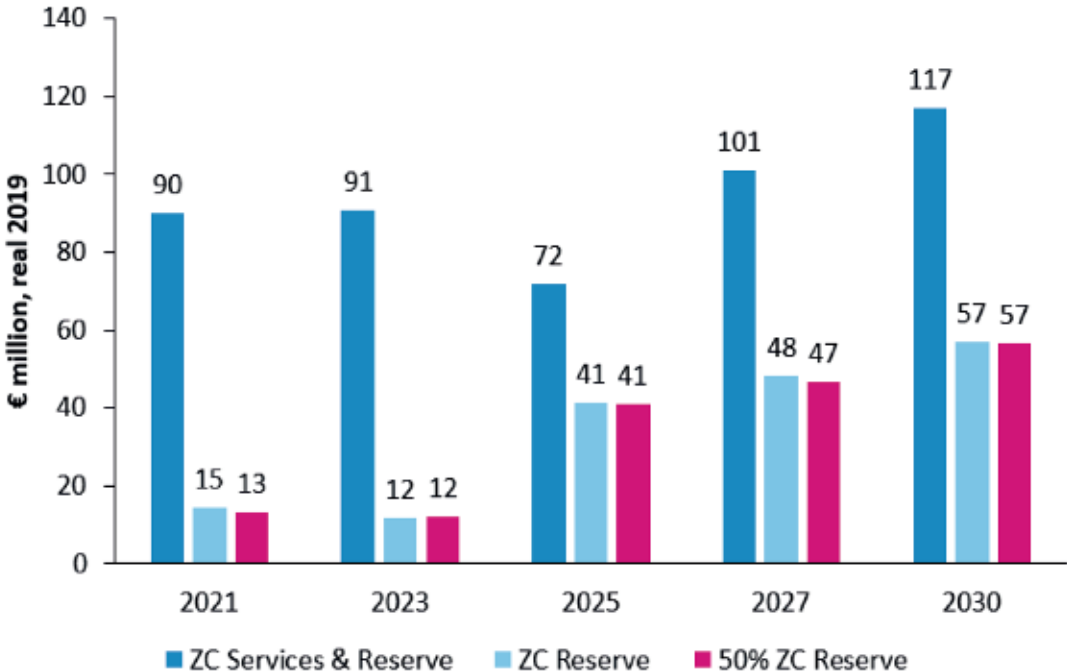
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<sup>6</sup> [https://www.nationalgrideso.com/sites/eso/files/documents/Summary\\_SNaPS\\_Consultation\\_vFinal.pdf](https://www.nationalgrideso.com/sites/eso/files/documents/Summary_SNaPS_Consultation_vFinal.pdf)

still ongoing). The approach to introducing new services has typically been incremental, for example with new auction frameworks trialled alongside existing arrangements. These trials procure limited volumes from providers willing to participate. Crucially, existing arrangements for procuring System Services continue to operate in parallel, until learnings from the trials are evaluated and re-implemented. This has allowed the TSO to be more agile and learn from practical implementation of new systems & frameworks, working with providers to get designs and systems working correctly before introducing more widely to the whole market. It is strongly suggested to replicate a similar approach, given the scale of changes anticipated.

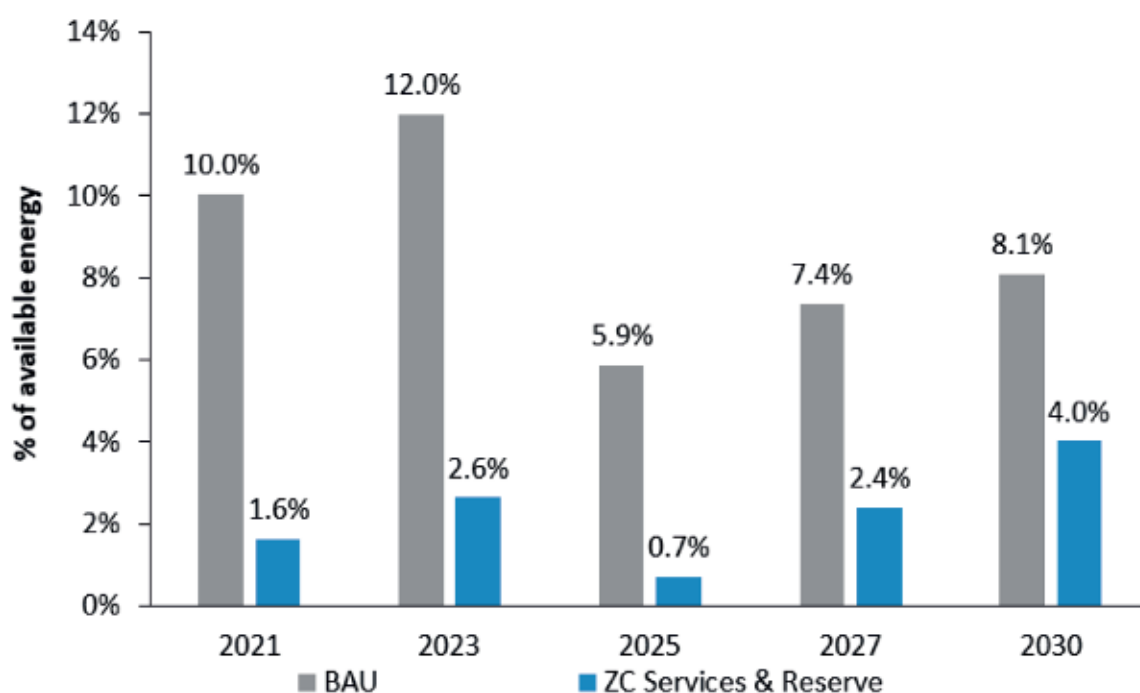
The future arrangements must do more than simply deliver the required volume of system services by 2030. The reason for this is that, as estimated in the Baringa Store, Respond and Save report, already today the consumer would benefit to the tune of €90 million per annum if the system were transitioned to one where zero-carbon sources can meet all System Service requirements at any one time. This value increases to €117 million per annum by 2030 as shown below. That is because the System Operators would no longer have to constrain on conventional plant and pay the associated fuel costs for them to provide these services.

**Figure 2 Annual operational cost savings generated by using zero-carbon technologies to meet reserve and system services**



In addition to cost savings, the early transition to zero-carbon System Services will have a huge impact on renewable curtailment as shown below. The Business as Usual (BAU) scenario refers to the baseline scenario where system operational constraints out to 2030 continue to be met by mainly conventional fossil fuel generators.

**Figure 7 Projected renewable curtailment levels under modelled scenarios**



In summary the benefits demonstrated across cost to consumer, avoided renewable curtailment and avoided emissions which zero-carbon System Services deliver means that this future framework must drive the transition to a zero-carbon System Service capable system as soon as possible.

Investment in new technologies, such as storage, is required to increase zero-carbon provision of System Services and minimise the curtailment of renewable generation. This will help to create wider market conditions conducive to delivering substantial future investment in renewable technologies at the lowest cost to the consumer. Within this context the current uncertainty regarding the future evolution of the System Service market risks a hiatus in required investment. It is therefore essential that a stable bridging framework is put in place for the DS3 market to help support investor confidence and to reduce revenue risk.

It would be easy to underestimate the work that will be involved in delivering a new market design for System Services and unwise to try to rush through its delivery. Such an approach is likely to de facto result in reduced regulatory oversight and industry consultation during the design process, increasing the risk of sub-optimal design and reduced investor confidence.

Given the unprecedented changes ongoing in electricity production it is in the clear interests of all parties that the design of the new all-island System Services market is fit for purpose. As a minimum this means it must deliver the significant investment by new service providers that is required, deliver long-term value for electricity consumers while maintaining inherent flexibility to facilitate continued compliance with evolving European requirements. Achieving these ends is not an easy task and requires significant levels of engagement across all



stakeholders. Circumventing such engagement to expediate the design and delivery process would impose substantial, unwarranted risk on electricity customers.

There is significant value therefore in a transition period to allow appropriate time for considered development of the enduring System Service arrangements. We believe this transition period can still deliver new investment that is required to meet the changing needs of the system. As noted, the approach to introducing new services can be incremental with new auction frameworks trialled alongside existing arrangements. The Regulators have the scope to extend the current arrangements by two periods of up to 18 months each. We believe this should be an option considered to allow time to transition to the enduring arrangements and for the SOs and industry to develop and learn new processes. We believe this can be progressed in parallel with options for Fixed Contract arrangements where new capability is needed on the system with an appropriate lead time. This would reduce the immediate uncertainty faced by investors and if combined with a budgetary glide path for DS3 would help reduce the revenue risk faced by investors. This is a prudent approach that seeks to mitigate the risk of stalling critical infrastructure investment, while allowing the TSOs and the Regulators to maintain appropriate controls on expenditure, while the new and enduring System Services market is carefully designed and efficiently delivered.

### **Cost Benefit Analysis**

It is crucial that SEMC considers the full cost-benefit analysis for the provision of System Services, in particular in comparing zero-carbon sources of System Services to provision from conventional fossil fuel generators.

This analysis must adequately address the overall value that programmes such as DS3 can deliver in terms of fossil fuel production cost savings, avoided emissions and lower renewable deployment costs due to reduced curtailment. These benefits must be considered when weighing up the costs of investing in System Services and other programmes that increase the flexibility of the system to manage increasing RES-E. For instance, the EU-SysFlex study *'Financial Implications of High Levels of Renewables on the European Power System'*<sup>7</sup> estimates that the value of System Services, due to avoided production costs and avoided cost of carbon, is over €750 million per annum in EirGrid's Low Carbon Living scenario (the only scenario that meets 70% RES-E). The study also argues that the true value is likely much higher as there are many other externalities that are not easily captured.

The TSOs have confirmed that they will shortly appoint a consultant to independently assess this estimated benefit.

This feeds into the topic of the DS3 budget cap (currently set to €235m per annum). This cap was put in place to reach 2020 targets. It must now be revised in order to ensure that we can

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<sup>7</sup> [https://eu-sysflex.com/wp-content/uploads/2020/05/Task\\_2.5-Deliverable-Report\\_for\\_Submission.pdf](https://eu-sysflex.com/wp-content/uploads/2020/05/Task_2.5-Deliverable-Report_for_Submission.pdf)

achieve our 2030 targets. The SysFlex work shows the benefit of reaching that target and what is now needed is a glide path increase in the System Services budget from 2020 to 2030, reflecting SNSP increases and service needs, similar to what was put in place leading up to 2020.

The approach must also recognise that timing is key in delivering a successful framework as we have already outlined.

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

We support market-based (i.e. short-term) procurement of System Services where sufficient volumes of zero-carbon service providers have built out to provide adequate competition for meaningful market-based procurement. This is not the case for any System Service today. While it is possible that there will be sufficient volume of zero-carbon reserve providers (i.e. batteries and DSUs) built out over the next 1-2 years for current requirements, this may not be the case when reserve requirements increase with the connection of the Celtic interconnector, anticipated in 2025/26.

For other System Services there are inadequate or non-existent zero-carbon options connected to the grid today i.e. inertia and reactive power. In the future there will be also new requirements for localised services such as congestion management.

In order to deliver zero-carbon alternatives for these services at sufficient volumes to facilitate a working market-based system, a level of investment certainty must be provided to those units to allow them to build out first. This reinforces the need for a transition period from where we are now to a future where there is the potential to move to wider short term market based procurement.

**6) 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?**

Localised services such as reactive power and congestion management may not be suitable as they are locational in nature and it is possible there will be insufficient competition in a market-based (i.e. short-term auction) approach. We believe the same principle applies to services such as inertia where there is no existing zero-carbon capability connected to the grid. However, we recognise this may vary depending on the nature of the service and the specific area.

These services, or a proportion of these services, lend themselves to fixed-term competitive tender arrangements where possible that can support new investment and ensure value for consumers.

There is also the issue regarding short-term auction-based procurement where new build zero-carbon providers are competing against incumbent conventional generators that have no investment costs to be repaid. This would disadvantage new build assets and could lead to issues of market power or reduced consumer value through limited competition.

By using a transitional glidepath as advocated previously it will be possible to recognise issues in terms of market power and mitigate them without compromising the delivery of the desired arrangements.

## Market Based Arrangements

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

The existing Qualification Trial Process is an appropriate mechanism for testing the potential of new service technologies to provide services or existing technologies to provide additional services.

At a provider level, a market-based registration process may be appropriate for existing providers, but we reiterate our comments in relation for the need for investment certainty and appropriate development lead times to facilitate new build investment.

For instance, for new build assets there currently exists substantial risk on the timing of the energisation, commissioning and testing of projects under the bi-annual six-monthly DS3 procurement gate framework. This is an area where we believe the existing procurement framework could be improved and flexibility introduced to facilitate the development of new build assets to reduce this risk. We have written to EirGrid/SONI on this previously and have responded to the recent SO consultation on COVID-19 mitigation options highlighting the need for additional flexibility for new build investment.<sup>8</sup>

### **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?**

It is apparent that the TSOs want to maintain control over the technical aspects of System Services but a move to greater industry involvement via mechanisms similar to how the Grid Code and the energy and capacity markets are managed may be more appropriate i.e. the Grid Code Review Panel and Mods Committee structure.

It is a material risk to projects that the TSOs can alter service conditions during a contract that have financial implications for projects. This has already occurred in relation to updates to the Protocol Document which defines key technical parameters of the DS3 contracts.

Recently, the TSOs have issued two battery implementation notes which indicate how the grid codes should be interpreted with respect to batteries in Ireland and Northern Ireland. However, the respective grid code review panels have not yet proposed changes to accommodate this new technology. The implementation notes are helpful indications of the TSOs' intended direction of travel. However, they have also proposed detailed changes to the specification of frequency response with respect to battery energy storage providers. The need to provide

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<sup>8</sup> <https://www.energystorageireland.com/download/esi-response-to-eirgrid-soni-consultation-on-mitigation-options-for-covid-19-impacts-and-ds3-contracting/?wpdmdl=499&refresh=5f7475793d2161601467769>

prompt guidance is understood and the guidance is appreciated but this should not circumvent the regular governance and industry scrutiny of proposed grid code modifications which should be progressed as soon as is practicable to provide certainty to all parties and the opportunity for changes to be properly scrutinised.

Greater industry involvement and collaboration with the TSOs and RAs in the review process is therefore necessary.

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

As outlined, the most important consideration is that system services are adequately funded. A move to a supplier-based charge, similar to imperfections, may be more appropriate however as it is possible that some service providers will be paying for system services via UoS which leads to circularity in terms of revenues and charges.

This is something that must also be considered as part of the wider network tariff discussions for storage expected to start later in 2020 / 21.

## Auction Design

At this stage it is difficult to comment with certainty on any of the questions posed in this section without further engagement and details of an actual auction design proposal. This highlights the need for a considered process that allows time for detailed stakeholder engagement and review of options. Therefore, our views are subject to further detail being made available throughout the process of developing this System Services framework.

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

As per our response to Questions 5 and 6 we believe that a short-term auction may be appropriate where sufficient volumes of zero-carbon system service providers have built out to ensure adequate competition in these auctions. We have provided our views in Question 3 in relation to the need for investment certainty and it is our view that bespoke arrangements will be needed to incentivise new-build where sufficient volumes of zero-carbon service providers are not available.

### **11) What are stakeholders' views on the timing of auctions?**

This is a complex area that requires much further engagement and review of potential options. As regards short-term or daily auctions, we believe there are considerations for various different service providers that must be taken into account in terms of service availability and commitment obligations. It may not be the case that a single approach either in advance of or after the ex-ante energy market timeframe will suit all providers, therefore a potential approach with volumes procured at different stages may be more appropriate to accommodate all service providers.

Regarding longer-term auction frameworks such as Fixed Contracts it is important that sufficient lead-time for new development is allowed so that providers can deliver services on the system when they are needed. This requires advanced signalling from the TSOs in terms of future service needs.

### **12) Do stakeholders have any proposals on how best to ensure commitment obligations are met?**

We think the performance scalar mechanism in the current DS3 framework works well and should be maintained but also reviewed as the framework develops to ensure it remains useful, on the assumption that these mechanisms have sufficient oversight and are consulted on with industry.

For longer term procurement mechanisms such as Fixed Contracts, there exists the capability to put in place bonds and performance milestones to help guarantee service delivery. Commitment obligations for availability also exist under the current Fixed Contracts

arrangements but these can be adjusted to introduce more flexibility for assets in potential future procurement rounds. We believe these options should be developed with industry for further Fixed Contract arrangements.

**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?**

This is a complex question and only emphasises the need for considered thinking, significant industry engagement and stakeholder collaboration to put in place an effective set of enduring arrangements. The enduring design needs to be cognisant of potential risks and interactions under the existing energy market and this requires a step by step approach to ensure we do not put in place a sub-optimal set of arrangements that does not properly consider these important interactions.

Noting this complexity we would emphasise the need for a transition period so that unforeseen, and at this stage possible unforeseeable, consequences can be identified and mitigated without damaging or compromising the ultimate aim of the arrangements.

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

No comments at this stage.

## Fixed Contract Arrangements

### **15) Do stakeholders believe there would be benefit in maintaining the Fixed Contract Arrangements for future procurement runs?**

We believe there is benefit in maintaining the fixed contract arrangements in order to provide a bridging mechanism from the existing DS3 framework to the future framework. We acknowledge the need to ensure the market is not over-heating but believe this needs to be considered in line with the requirement to incentivise new-build zero-carbon service providers at certain times.

For instance, the TSOs must be cognisant of future system needs and put in place adequate contracting frameworks ahead of time to ensure investment can deliver for when it is needed. The existing fixed contracts arrangements have been successful at incentivising new build providers to meet 2020 system needs. Even though the framework was not in place on time to deliver new build assets for 2020 it still provides useful lessons to learn from and a framework that can be adapted to meet system needs on the path to 2030.

As noted, we believe options for flexibility as regards availability commitments and provider requirements should be developed and consulted on with industry for further Fixed Contract arrangements to ensure that assets can maximise revenue opportunities while providing valuable services to the system when needed.



## Additional Considerations

### **16) Do stakeholders have views on the list of additional considerations above? Are there any further issues to consider?**

We have already outlined our views on the additional assessment criteria that we believe are necessary.

### **17) What are stakeholders' views on the potential existence of, and options for mitigation of, market power?**

The current asymmetry of information must be removed, with greater transparency on the level, type and location of the provision of current System Services alongside the anticipated future requirements. Until there is clarity on what is being procured, from whom and when it is not possible to confirm whether or to what extent market power is an issue, both in terms of uncompetitive pricing but also future availability.

In general, this points to the need for more transparency in the current and future arrangements as regards ongoing reporting on the volumes of service procured on a provider/technology basis as well as monthly expenditure outturns. This is something that was mandated under the existing DS3 framework but has not been delivered.

## Conclusion

In conclusion we would like to thank the SEM Committee for offering the opportunity to provide feedback on the Future Arrangements Scoping Paper.

We believe there is significant work needed to put in place a framework that will deliver the capability the system needs to manage SNSP levels of up to 95%+.

We have highlighted a revised objective and additional assessment criteria in relation to decarbonisation and investment certainty that we believe must be addressed under this framework.

We also believe a transition period consisting of a variety of approaches as outlined can deliver the services needed on the path to 2030 while allowing time to put in place the optimal set of enduring arrangements.