Response by Energia to SEM-23-047

Review of Administered Scarcity Pricing

22 September 2023

Executive Summary

The premise of consultation paper SEM-23-047 is that recalibrating the Administered Scarcity Pricing (ASP) mechanism such that it is more likely to trigger will increase generator reliability. Energia disagrees with this premise. Generators already have multiple incentives to be reliable and available, including the opportunity to earn revenue in the SEM. No substantial evidence has been provided in the consultation paper, or any of the preceding supporting papers, to demonstrate how recalibrating the ASP will increase unit availability in the SEM.

Ireland's serious security of supply position and projected capacity adequacy shortfalls are the result of the failure of the CRM to procure and deliver sufficient capacity, not the result of any perceived failure of the ASP mechanism to incentivise reliability for existing units. Raising the risk of generators being liable for uncovered RO difference charges, without reflecting this cost in the CRM bid caps or providing a pathway for generators to invest in major refurbishment and upgrade works, is more likely to lead to inefficient exit than improved reliability.

Increasing the probability of ASP triggering is likely to lead to significant unintended consequences. In the first instance, generators will have to be able to bid their additional costs into the CRM, which will ultimately raise the costs of CRM auctions, or if not permitted will increase the likelihood of inefficient exit. Secondly, raising prices in the BM through ASP triggering will unnecessarily increase the costs that consumers pay for electricity with no corresponding benefit. Thirdly, changing the risks in the capacity market in capacity years for which auctions have already concluded will highlight regulatory risk which will undermine investor confidence in the SEM at a time when significant investment is required over the next few years if Ireland for capacity adequacy and to meet climate targets.

Energia has concerns with all of the options proposed in the consultation paper. Energia believes that in each case, insufficient analysis has been provided to properly assess the forward-looking impact and costs of the proposed options. Energia is concerned that the proposals are not future-proofed for Ireland's rapidly changing electricity system.

Option 1 does not account for the contribution to reserve scarcity of "Interruptible Load", the quantity of which is forecast to increase in the future as more and longer-duration storage units come online. Making changes to account for the contribution of interruptible load to short-term reserve would make Option 1 more logical. Option 2a would raise prices across the island at times when there is no reserve scarcity in large parts of the SEM, and inefficiently tries to reflect constraints in the unconstrained energy markets. Option 2b proposes an excessively high multiple for increasing the reserve requirement without any supporting analysis, which would lead to increased prices at times where there is no reserve scarcity.

Energia's view is that ASP should not be recalibrated without strong evidence of the benefit of any proposed recalibration, and detailed, forward-looking analysis to assess the impact of such a recalibration and the risks of unintended consequence. Failure to do so would worsen Ireland's serious security of supply situation and not be in the interests of consumers.

If the RAs do decide to recalibrate ASP, then in Energia's view:

- Options 2a and 2b and not suitable, for the reasons set out in this response;

- Option 1 is the “least-worst” option, but requires minimum modifications as follows:
    - The actual contribution of “Interruptible Load” to Short Term Reserve should be included in the ASP calculation (the limits on their duration can be reflected by applying an appropriate scalar and the methodology for doing so should be consulted upon with participants););
    - Changes should apply to only to future auctions, and not to historical auctions as providers have not been able to price in the additional risk;
    - Pricing parameters for future CRM auctions would need to be adjusted to allow participants to bid in their increased risks.

1 Introduction

Energia welcomes the opportunity to respond to the Administered Scarcity Pricing (ASP) Review. Energia has been an active participant in the Capacity Remuneration Mechanism (CRM) since inception. Energia responded to the consultation paper that initially proposed the establishment of the ASP mechanism in the I-SEM (SEM-15-044), the May 2021 Discussion Paper and Call for Evidence on Scarcity Pricing and Demand Response (SEM-21-042), and the EY Review in November 2022 (SEM-22-054A).

This consultation response will firstly set out our position as to why adjusting the ASP mechanism will not lead to greater reliability in the SEM, and why the proposed recalibration is likely to do more harm than good for all market participants and consumers. This response will then consider the details of each of the options presented in the consultation paper.

2 ASP and Generator Reliability

2.1 Premise of the Proposals in SEM-23-047

The consultation paper cites the principal function of ASP as incentivising reliability. The design of the ASP is such that it should only trigger when there is reserve scarcity in the system, thus incentivising unit availability at the point that it is most needed. The paper cites the failure of the ASP to trigger at any point since 2018, including during periods of tight margin and system alerts, as evidence that it is not contributing to system security. According to the paper, the ultimate cost lies with the consumer, as the failure of the ASP to incentivise reliability may lead to the need to procure more capacity to meet reliability standards.

The consultation paper also cites the 2022 EY review of the CRM, that concluded that the ASP mechanism had not been calibrated effectively to ensure increased price volatility at times of stress. The review proposed recalibrating the ASP function so that BM pricing "better reflects market scarcity and causes a higher frequency of periods with prices above the RO strike price".

2.2 Reliability in the SEM

It is striking that neither this consultation paper nor the EY Review cited any evidence of a widespread issue of generator reliability in the SEM. In our response to the EY Review, we presented evidence to show that the availability of gas-powered generators, which contribute the majority of Ireland's capacity, had not significantly deteriorated since the establishment of I-SEM and was not a major contributing factor to the deterioration of Ireland's security of supply position. It was a significant shortcoming of the EY Review that the authors did not seek to engage with industry during the review period.

Generators already have significant incentives to be reliable and available. In addition to the risks of uncovered RO difference charges, generators need to be reliable and available to be able to earn revenues in the energy and the system services markets. The process of being unavailable and coming back from outages is expensive, in addition to the opportunity cost of not being able to participate in the markets. Furthermore, unit unreliability ultimately leads to a decrease in de-rating factors, which ultimately leads to a reduction in the CRM payments that existing generators receive.

It is not clear from the consultation paper how the reform of the ASP mechanism will lead to greater reliability in the SEM. The paper states that unit unreliability ultimately may cost the consumer more through the need to procure greater capacity. However, as set out above, no compelling evidence is provided to show that a lack of incentives for units to be reliable has been a major contributing factor to increased system scarcity, or how making changes to the ASP would increase reliability in the context that generators are already incentivised to be reliable. It is fundamental that before SEMC makes significant changes to the I-SEM, thorough analysis has been undertaken to evidence the expected benefit of such a change. In our view, this is not the case for the proposed changes to ASP.

2.3 Root Causes of Adequacy Scarcity in the SEM

The consultation paper explicitly acknowledges that it does not appear that the SEM suffers from a reserve scarcity issue, but that there is a well-documented adequacy issue, and that the two may not be suitable proxies for each other.

All of the evidence, including from the SOs, shows that the root cause of the adequacy scarcity issue is the failure to procure and deliver sufficient capacity to replace decommissioning plants and to meet growing demand. No evidence has been presented to show that the current serious security of supply situation is a result of the failure of the ASP mechanism to trigger since 2018.

A coherent case based on real-world evidence has not been made to show how recalibrating the ASP such that it triggers more frequently would improve reliability in the SEM. The consultation paper briefly cites examples of scarcity pricing in other jurisdictions with very different systems for the remuneration and regulation of electricity, and some related academic work, but does not relate them back to the Irish system and the immediate problems of capacity adequacy and security of supply.

3 Issues with making changes to the ASP

The previous section described how no case has been made in any of the relevant papers to set out the positive impact that a more frequent triggering of the ASP would have on consumers. In addition to the lack of a positive impact of a proposed recalibration of ASP, there are several risks of unintended consequences that could actually have a negative impact on generator reliability, security of supply, and costs for consumers.

3.1 Unrecoverable Costs for Generators

For generators that hold CRM contracts, a recalibration of the ASP increases the risk of uncovered RO Difference Charges. These additional costs have to be factored in by generators seeking to manage their risk and achieve a reasonable return on investment. The Stop-Loss Limits are sufficient only to cap total losses, not to ensure that generators can cover their costs in the CRM to account for the “Missing Money” problem.

Under the current CRM design of restrictive price caps on existing capacity, it is not possible for generators to accurately reflect their risks in their CRM bids, and this issue would be exacerbated by the proposed changes in ASP. The increased risks to generators of uncovered RO Difference Charges are not factored into the Net CONE calculation used to set the price caps. Nor should generators have to be reliant on the

possibility that the increase in costs might be recognised by the RAs through the USPC mechanism for future auctions (as they haven't been thus far, as discussed below). If the risks of uncovered difference charges are increased by the recalibration of ASP, price caps will have to be increased to reflect this, which will increase costs to consumers without a commensurate benefit in terms of greater reliability.

Should an existing generator plan to invest in refurbishing their capacity to improve reliability, they are extremely limited in their ability to do so through not being able to win multi-year contracts for refurbishment (as they can in GB, an example cited in the consultation paper) at a price that actually reflects the costs of refurbishment. To raise the costs for generators in the CRM without increasing price caps to account for those additional costs and adequately incentivising refurbishment will only further the risk of inefficient exit. It could lead to the continued deterioration of Ireland's security of supply position with an increased reliance on short-term emergency generation.

3.2 Additional Costs for Consumers

In addition to the costs identified in Section 3.1, raising prices in the BM at times when there is no genuine reserve scarcity in the market will increase prices and imperfection charges in the energy market for consumers without any tangible security of supply benefit. Higher wholesale market prices are recognised explicitly in the EY Review as one of the disadvantages of the proposal to recalibrate the ASP mechanism.

Prices above the RO Strike Price are covered by the hedge in the RO Difference Charge. However, as recognised in the paper, there is a "hole in hedge" problem whereby there are insufficient difference payments to cover pricing events that requires a socialisation fund to repay suppliers, which is ultimately funded by consumers.

While the balance of the socialisation fund may be high currently, in the event that the ASP triggers more frequently it is unlikely to remain high without requiring further top-up by consumers. Ultimately, this returns to the risk that consumers will end up paying for higher prices as a result of recalibrating the ASP, without the intended benefits of improved reliability.

3.3 Application to Existing CRM Contracts

Section 3.1 covered the risks inherent in not allowing generators to bid in their increased costs from a recalibration of ASP to CRM auctions. A significant additional issue is that generators that already hold CRM contracts for future capacity years would not have been able to bid in their actual risks for those auctions if any proposed changes to the ASP were implemented for those capacity years. This includes generators that may have included these risks in their USPC applications, but had those costs rejected by the RAs.

The CMC objectives include a requirement to promote competition and transparency in the operation of the SEM. Changing the risks inherent in contracts after the auction process has concluded is not consistent with either of these objectives. To do so would not only be unfair but would highlight regulatory risk in SEM which will inevitably damage investor confidence in the CRM precisely at the time when additional investment is most needed to meet capacity requirements. Furthermore, it will increase the perception of regulatory risk across the Irish energy market, making it harder to attract the investment required to meet climate targets.

4 Appraisal of Options in the Paper

The previous sections have covered why recalibrating the ASP would not have the desired impact of improving reliability, and would actually be counter-productive for the operation of the SEM. This section will consider each of the options presented in the paper specifically.

The annexes in the paper that modelled the various options between March and June in 2023, and for the nine system alerts in 2021 and 2022, did not set out the time periods in each example during which ASP would have been triggered. On that basis, it was difficult for generators to assess how the various options would actually have affected the BM prices historically during these periods.

It is also worth noting that as Ireland's security of supply position continues to worsen due to the failure to procure and deliver sufficient capacity, the historical examples may underestimate how often ASP would be likely to trigger under the various options. This would increase the impact of the risks outlined in section three of this response, specifically the costs for consumers, and the risk of inefficient exit for generators.

4.1 Future Proofing

The overall context for the proposed changes to the ASP in addition to Ireland's serious security of supply situation is one of immense change to the system in order to achieve government climate targets. Shaping Our Electricity Future (SOEF) v1.1 from July 2023 set out the scale of the change required to meet the climate goals. The ambition is for a radically decarbonised system with 80% renewable generation, SNSP levels up to 95%, and significantly greater interconnection.

In this context, Energia has identified two significant issues that the paper does not address:

4.1.1 Lack of Conventional Units on Load

In line with climate targets, the SOs are planning to reduce the number of conventional units that are required to be synchronised to maintain system stability. The consequence of this policy is that in the event of unexpected scarcity, there will be fewer dispatchable generating units on load that can provide energy to the market at short-notice. Having been off for a considerable period of time in a heavily renewables-based market, these units are likely to have significant start-up times and costs.

It should be the responsibility of the TSO to anticipate scarcity events where possible and ensure that generators are dispatched in sufficient time to contribute to security of supply. With their whole-system view, the TSOs are in a much better position than individual generators to anticipate potential scarcity events, and should be responsible for mobilising available resources in a timely and coordinated manner, so that their contribution can be maximised during the scarcity event`.

Where a generator is not able to contribute during a scarcity event because it has not been dispatched in sufficient time by the TSO, it should not be punished with uncovered RO Difference Charges. If a generator is expected to anticipate scarcity events by remaining on-load more often even though it is likely to be needed less frequently for energy or system services, the considerable costs of doing so will have to be priced in to the CRM contract. As discussed in section 3.3, for capacity years for which auctions have already concluded, generators have been denied the ability to include such costs in their bids, and it would be unfair to recalibrate the ASP to change

the risk. Furthermore, increasing the need for generators to be on load in case of scarcity pricing is likely to result in greater curtailment of wind in the future than would otherwise be the case.

4.1.2 Increased Largest Single Infeed

In addition to the reduction of the number of conventional units that are required to be online for system security, from 2026 the Largest Single Infeed (LSI) into the SEM is expected to increase to 700MW with the introduction of the Celtic Interconnector.

It is worth noting that under the status-quo, the Operating Reserve Requirement Quantity (qORR) will increase once the Celtic Interconnector is live, increasing the probability of ASP triggering. This is something for the RAs to consider with regards to how often ASP can be expected to trigger without any changes to the current calculation, in the context of heightened security of supply risk, increased renewables, and an increased LSI.

4.2 Option 1

Option 1 proposes to remove Tertiary Operating Reserve 2 (TOR2) from the Short-Term Reserve Quantity (qSTR). There is some rationale to removing reserve of less than 20 minutes from the qSTR calculation as they by definition provide less reserve than Replacement Reserve. However, Option 1 proposes to remove "Interruptible Load", which includes batteries, from the calculation of qSTR entirely. It would be more logical to apply a weighting factor to Interruptible Load rather than to remove it from Replacement Reserve entirely as per the proposal.

Interruptible load, including batteries, can significantly contribute to reserve requirements, particularly if all of the interruptible load is not dispatched simultaneously. It would be possible for the ASP trigger to recognise the contribution of interruptible load – for example, if a one-hour battery's contribution is measured next to four hours of replacement reserve, then its capacity could be scaled at 25%. The proposal in the paper, to remove interruptible load from Replacement Reserve in the qSTR, treats all interruptible load as homogenous and assumes that it cannot make a significant contribution to providing energy, neither of which is true.

Using a scalar would better reflect the limitations of interruptible load, while at the same time recognising its contribution to reserve scarcity. This is particularly important as SOEF v1.1 highlights the scale of the expected increase in storage, including Long Duration Energy Storage, to 2030 and beyond in Ireland. To ensure that Option 1 is future-proofed, it would be important to make provision for the contribution of interruptible load, including batteries. The same logic would apply for Demand Side Units, if these are included in interruptible load as implied by the paper.

As outlined above, Energia does not see any benefit from changes to the ASP mechanism. If, notwithstanding that view, the RAs were to proceed to implement Option 1 , then as a minimum, a scalar should be introduced to reflect the contribution of interruptible load to reserve scarcity. Any such appropriate scalar should be determined through further consultation with participants and be accompanied by a transparent methodology.

4.3 Option 2a

Option 2a would lead to inefficient and illogical outcomes in the unconstrainted SEM and should not be contemplated. Option 2a attempts to recognise the impact of constraints on the system by triggering ASP in the event that the relevant threshold is met on either side of the border. Under Option 2a, prices in the Balancing Market would rise for consumers across the island of Ireland even though in many instances for large parts of the island there would be no scarcity.

The concerns regarding future-proofing apply particularly to Option 2a – in a scenario where only a very small number of generators are required to be synchronised in either jurisdiction, a trigger that is based on one jurisdiction only is liable to trigger excessively relative to the actual scarcity. Nor is Option 2a future-proofed if the cross-border constraints are much reduced by the North-South interconnectors, as projected in SOEF v1.1.

In the historical modelling annexes in the paper, Option 2a is the option that triggers most frequently. If there are particular security of supply concerns in the coming years either side of the border, the frequency of ASP triggering would be even greater than historically modelled. As outlined in the previous sections of this paper, this would have significant negative consequences for all participants in the SEM, and ultimately on consumers.

4.4 Option 2b

Option 2b, as currently proposed, would also lead to highly inefficient outcomes in the SEM and should not be contemplated. Option 2b proposes to increase the qORR by a multiple of two to reflect all-island constraints. At no point in the paper do SEMC justify how they have arrived at the multiple of two to reflect all-island constraints. The multiple is arbitrary and seems excessively high, both of which are unacceptable in a calculation that will be used to set energy prices for generators and consumers across Ireland. Any multiple to be applied under Option 2b would have to be based on an analysis of the underlying constraints on the system and how they might impact available capacity at times of scarcity.

In addition to the above, the problems of future-proofing identified for Option 2a also apply to Option 2b, in that it will quickly become dated if the constraints are resolved as they are expected to be by the TSOs. There is no information on whether the multiple would be periodically re-assessed and how this process would work. The issue with the increase in qORR from the expected increase in the LSI is particularly pronounced for Option 2b, as the impact of this would be doubled under the current proposal.

5 Conclusion

Energia is opposed to the proposal in the consultation paper to recalibrate the ASP mechanism. No evidence has been presented in this consultation paper or any of the relevant preceding papers to show that there are insufficient incentives for generators to be reliable, or that increasing the frequency with which ASP triggers will improve reliability. Energia has expanded upon why recalibrating ASP such that it triggers more frequently would far more likely have negative consequences by raising costs for generators without the ability to recover those costs, undermining the confidence of

investors in the I-SEM, and raising costs for consumers through higher prices in the energy markets and the costs of the CRM.

The analysis conducted by the RAs of the options for recalibration is insufficient and incomplete. The RAs should model the potential future impact, including the time periods during which ASP will be triggered, for all of the proposed options and the option of maintaining the status quo. This would give a more accurate view of the impact of the proposed options as Ireland's electricity system changes rapidly.

Energia is not supportive of any of the options in the paper. Option 1 recognises that TOR2 contributes less to reserve scarcity than replacement reserve, but it is disproportionate to remove the contribution of interruptible load entirely. Option 2a would raise prices for all consumers at times when there is no scarcity in large parts of the island. Option 2b does not provide any justification for the multiple used to raise the qORR.

Energia is of the view that ASP should not be recalibrated, and that no compelling evidence whatsoever has been presented to support the theory that to do so would improve generator reliability.

If SEMC decide to proceed with recalibrating ASP, Option 1 should be modified as outlined in the paper such that the actual contribution of Interruptible Load to reserves is accounted for in the calculation, and the methodology for doing so should be consulted upon with participants. Any changes should only apply to capacity years for which auctions have not already taken place. For future CRM auctions, the bid caps must reflect any increased costs to generators, as failure to do so would increase the risk of inefficient exit.

If the RAs do decide to recalibrate ASP, then in Energia's view:

- Options 2a and 2b and not suitable, for the reasons set out in this response;
- Option 1 is the "least-worst" option, but requires minimum modifications as follows:
    - The actual contribution of "Interruptible Load" to Short Term Reserve should be included in the ASP calculation (the limits on their duration can be reflected by applying an appropriate scalar and the methodology for doing so should be consulted upon with participants);
    - Changes should apply to only to future auctions, and not to historical auctions as providers have not been able to price in the additional risk;
    - Pricing parameters for future CRM auctions would need to be adjusted to allow participants to bid in their increased risks.