



Capacity Remuneration Mechanism (CRM)

2026/27 T-4 Auction, Volumes Information Note

SEM-23-089

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1. Introduction

This paper is a summary of the decisions made by the SEM Committee in determining the volumes procured for the 2026/27 T-4 auction, and the factors which the SEM Committee took into account in making those decisions.

The note aims to improve transparency in volume setting, in line with the EY Review of the Performance of the SEM Capacity Remuneration Mechanism (see SEM-22-054a), which recommended that there be better “explanation of process by which GCS¹ forecasts are translated to Target Volume to procure”. This Information Note focuses on the process within a given auction, as distinct from the GCS forecasts themselves. The GCS, and longer-term forecasting processes which signal to the market the longer-term capacity requirements, are currently undergoing significant change in order to align them to the new European National Resource Adequacy Assessment methodology.

This note explains, at a high-level, the adjustments proposed by the TSOs, and the SEM Committee’s rationale for their approved volume adjustments to be applied for the 2026/2027 T-4 Auction.

The paper also draws investors’ attention to short circuit issues that have been identified by the TSOs around the Greater Dublin area. The overall effect of the short circuit issues, and the likely time taken to remedy them, is that it is unlikely that any further net additional capacity will be sought in the Greater Dublin area in the next few years, and the TSOs are also highlighting these limitations so they are known to investors before they make their own investment decisions.

The 2026/27 T-4 auction resulted in the procurement of 7,204 derated MW (MW_d) of capacity. The auction contracted 1,519MW_d of New Capacity, of which 1,124MW_d was gas turbine capacity, 220MW_d was new interconnector capacity, 105MW_d was new storage capacity and 69MW_d was new DSU capacity. Two of the new gas

¹ Generation Capacity Statement

turbines, totaling around 380MW_d, are planned to be low carbon units, running on sustainable biofuel (Hydrotreated Vegetable Oil, or HVO)².

In total, the CRM auctions to date have contracted a total of nearly 5,660MW_d of new capacity contracts, of which around 3,600MW_d is new gas fired capacity, with approximately 2,700MW_d of new capacity in Ireland and 900MW_d in Northern Ireland.

The 7,204MW_d contracted in the 2026/27 T-4 is in addition to the 2,814MW_d of multi-year capacity contracted for 2026/27 in previous auctions, bringing the total contracted capacity for 2026/27 to 10,018MW_d. With 781MW_d of non-participating wind and solar capacity, this means that the total detailed capacity available, if all of the new capacity delivers, will be circa 10,800MW_d. Available capacity will be about 3,300MW_d more than the TSOs' published initial Capacity Requirement of 7,495MW_d, and more than the TSOs' forecast peak demand³ of 8,280MW in 2026 and 8,420MW in 2027.

The key reason why contracted capacity is significantly greater than the TSOs' published⁴ Capacity Requirement, is that the TSOs have recommended a range of adjustments to the initial Capacity Requirement, totaling nearly 3,500MW_d. The SEM Committee has accepted the majority, but not all of those recommended adjustments.

This remainder of this paper is structured as follows:

- Section 2: Describes how the process for setting volumes has evolved since the inception of the current CRM, with the TSOs' proposed adjustments now adding on nearly 50% of volume to the initial Capacity Requirement, the initial Capacity Requirement being calculated using the methodology developed by the TSOs and approved by the RAs;

² <https://www.sse.com/news-and-views/2023/04/sse-thermal-secures-10-year-contracts-for-two-new-low-carbon-power-stations-in-ireland/>

³ Based on the median forecast of the TER Peak taken from the EirGrid / SONI 2022 Generation Capacity Statement (GCS)

⁴ See the Initial Auction Information Pack (IAIP) and Final Auction Information Pack (FAIP) for the 20226/27 T-4 auction

- Section 3: Describes the respective duties and roles of the TSOs and the SEM Committee. The TSOs' primary focus is to ensure security of supply considerations are maintained through adequate transmission capacity and system reliability, whereas the SEM Committee needs to strike an appropriate balance between security of supply and cost to consumers. It is the role of the TSOs to advise, and the SEM Committee to decide, and to make the difficult judgement calls to achieve this balance;
- Section 4: Contains a summary of the adjustments proposed by the TSOs for the 2026/27 T-4 auction, and the volumes approved by the SEM Committee;
- Section 5: Explains there are short circuit issues identified by the TSOs around the Greater Dublin area, which means that it is unlikely that net additional capacity can be efficiently procured over the next few years;
- Section 6: Highlights the unprecedented level of work that needs to be undertaken to deliver the capacity that the CRM has successfully contracted, particularly at a time when a high volume of new renewables capacity is also being targeted. This section highlights the delivery risks and how these risks may constrain the build and connection of new thermal capacity, a risk also factored into volume decisions;
- Section 7: Sets out how the process is expected to evolve in the next few years, including:
 - Changes to volume setting for the next T-1 and T-4 auctions (for 2023/24 and 2027/28), with the move to the new ISAC2 methodology and assumptions;
 - The planned implementation of a Panel of Technical Experts, in line with the recommendations of the EY Review;
 - The longer-term move to the adoption of the European Commission's National Resource Adequacy Assessment (NRAA) approach to calculating capacity requirements, expected in 2024.

The future changes discussed in Section 7, particularly the move to the NRAA, are expected to lead to quite significant changes in the models, approach and processes

used to calculate volume requirements. They should lead to a significant reduction in post-modelling volume adjustments of the type discussed in Section 4.

2. Current process for setting auction volume requirements

Prior to each auction, the TSOs calculate the minimum volumes required⁵, using established methodologies and assumptions which have been consulted upon and approved by the SEM Committee.

The TSOs also advise on whether there are constraints on the transmission system, which limit power flows between regions to the extent that it is necessary to procure minimum volumes in specified zones, known as Locational Constraint Capacity Areas (LCCAs).

An initial Capacity Requirement⁶ recommendation is submitted by the TSOs to the SEM Committee just over 6 months in advance of the auction. The initial Capacity Requirement is based on demand forecasts set out in the TSOs' latest Generation Capacity Statement (GCS). The SEM Committee approves the initial Capacity Requirement and the definition of the LCCA areas at the time it approves the Initial Auction Information Pack (IAIP), approximately 25 weeks in advance of the auction.

In most auctions, the TSOs have identified transmission constraints between Ireland and Northern Ireland, and between Greater Dublin and the "rest of Ireland". This has resulted in Northern Ireland, Greater Dublin and "rest of Ireland" being identified as separate LCCAs.

In the first CRM auction, the transitional auction for 2018/19 held in December 2017, the volume requirements were calculated based on the results of the TSOs' original capacity methodology (sometimes referred to as ISAC1)⁷, which was publicly consulted on and approved by the SEM Committee. Over the course of a number of auctions, the TSOs have identified that the original ISAC1 methodology has certain

⁵ The TSOs calculate the All-Island Capacity Requirement and the Locational Capacity Constraint Required Quantities for each Locational Constraint Capacity Area (LCCA) for approval by the SEM Committee

⁶ For the All-Island requirement

⁷ With an appropriate deduction for intermittent solar and wind output which was providing capacity, but chose not to participate in the auction

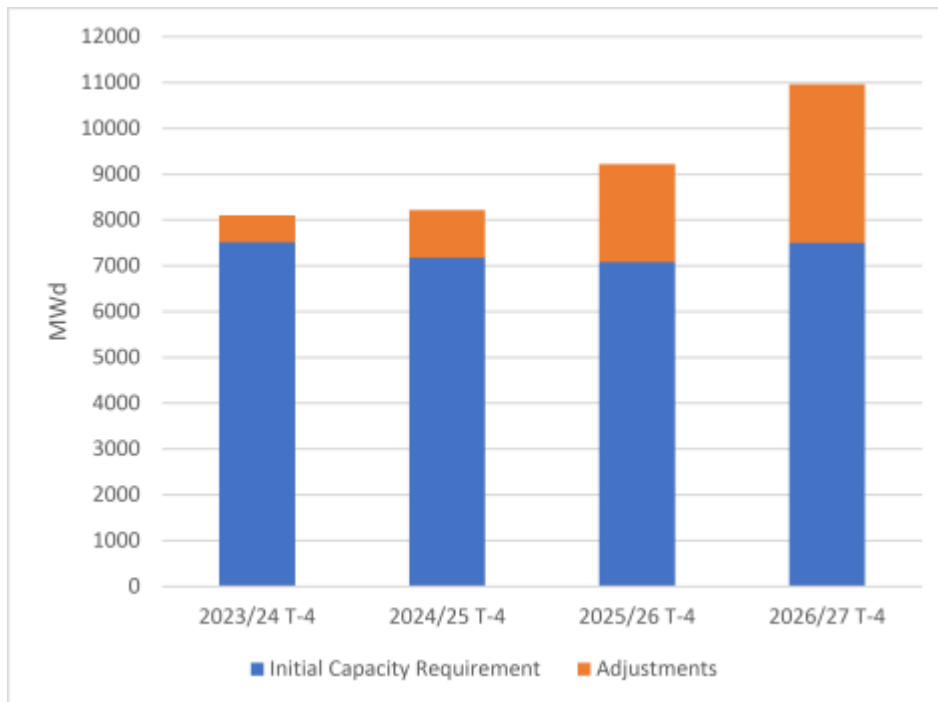
limitations. Across recent auctions, the TSOs have recommended an increasing number of volume adjustments to the volumes calculated using the ISAC1 methodology to compensate for the limitations of ISAC1. These adjustments have not been publicly consulted on.

The TSO typically provide their recommended volume adjustments to the SEM Committee a few weeks prior to the SEM Committee meeting, which makes the key volume decision immediately prior to the auction in question.

At the time of the 2023/24 T-4 auction, held in March 2020, the TSOs proposed three different types of adjustments totaling 585 derated MW (MW_d) in addition to the initial Capacity Requirement of 7,510 MW_d. By the time of the 2026/27 T-4 auction in March 2023, the number of adjustments proposed by the TSOs had increased to eleven, totaling 3,466MW_d., in addition to the initial Capacity Requirement of 7,495 MW_d.

As shown in *Figure 1*, the TSOs' estimate of the initial capacity requirement was 7,495MW_d in 2026/27, slightly lower than the estimate of 7,510MW_d in 2023/24, despite projected demand growth. However, the 3,466MW_d of proposed adjustments were around 46% of the 2026/27 T-4 modelled initial capacity requirement, so the TSOs recommended procurement of nearly 11,000MW_d of volume in total. By contrast, in the 2023/24 T-4 auction, adjustments accounted for only around 8% on top of the TSOs' modelled initial capacity requirement.

Figure 1: TSOs' recommended all-island volume adjustments by T-4 auction, MWd



The SEM Committee then has a relatively short period of time to evaluate the TSOs' recommended adjustments and make the volume decisions. Typically, the SEM Committee has approved many, but not all of the TSOs' recommended adjustments. The adjustments are then reflected in the key volume parameters which are published in the Final Auction Information Pack (FAIP). The key volume parameters are the auction demand curve, and the minimum quantities required in each LCCA.

The EY report highlights the fact that there is limited transparency in how the TSOs' demand forecasts are translated into the key volume parameters for the auction, including how the TSOs calculate their adjustments, and why the SEM Committee decides to accept some of the adjustment recommendations, but not others.

3. Roles of the SEM Committee and the TSOs

The TSOs are responsible for a safe, secure and reliable supply of electricity. Whilst the TSOs have economic obligations⁸, their primary focus is ensuring security of supply.

The TSOs are responsible for calculating the capacity requirements and advising the SEM Committee on volumes to be procured. It was originally envisaged that the calculation of capacity requirements would be largely formulaic, with the TSO models applying the methodology which had been consulted and approved by the SEM Committee. However, over the years, the adjustments to the modelled initial Capacity Requirement have grown substantially, to the extent that the TSOs proposed adding nearly 3,500MW_d in adjustments to the 2026/27 T-4 auction, i.e., nearly 50% additional to the modelled initial Capacity Requirement.

Whereas the modelling of the initial Capacity Requirement is based on agreed methodologies, underpinned by engineering and economic principles, many of the adjustments proposed by the TSOs require the exercise of judgement. The size of the adjustments proposed depends on the level of risk the TSOs choose to take relating to the adjustments. For example:

- Will the average reliability of the generation fleet continue to decline, once new capacity replaces older units?
- What proportion of the 3,600MW_d of new gas fired capacity which has been contracted and is in the delivery pipeline will deliver on time, what proportion will deliver late, and what proportion will fail to deliver? The 3,600MW_d represents about 50% of the existing thermal generation fleet. Whilst the TSOs and the RAs have set up monitoring programmes, the amount of new capacity in the delivery pipeline is unprecedented, as are circumstances

⁸ For instance:

- Under Condition 12 of its EirGrid's System Operator Licence it has a requirement to procure "assets, services and Ancillary Services from the most economical sources available to it having regard to the quantity and nature of the assets, services and Ancillary Services required to enable it to discharge its obligations"
- Under Condition 23A(g) of the SONI licence, SONI is required "(g) through the development of the Capacity Market, to promote the short-term and long-term interests of consumers of electricity with respect to price, quality, reliability, and security of supply of electricity across the Island of Ireland"

around delivery (e.g., energy transition impacts, Ukraine War, post-covid supply chain disruptions). The need to replace high emissions plants and data centre-driven demand growth is placing unprecedented strain on the industry, and there is no relevant historical parallel on which to base assumptions.

- Will DSUs' average availability be better in a scarcity event than their average availability, and will DSUs' availability improve when energy market changes are implemented to remunerate them for their demand reduction?

Additionally, it is necessary to make a judgement about how risks diversify. For instance, it may be prudent to procure an additional 500MW_d to cover for the reasonable worst-case if Risk A materialises and it may be prudent to procure an additional 400MW_d to cover the reasonable worst-case if Risk B materialises. However, is it excessively conservative to procure 900MW_d to cover the eventuality that both Risk A and Risk B occur within the same year? It depends on the extent to which the risks are correlated. If the same underlying event causes Risk A and Risk B, then they are highly correlated and risks diversify little, if at all. Then it may be prudent to procure 900MW_d to cover the combination of risks. However, if totally different and uncorrelated low probability events cause Risk A and Risk B to materialise, it may be unlikely that Risk A and Risk B will arise in the same year. With most of the risks considered, there is relatively limited data on correlation of risk, and judgement calls need to be made on how risks diversify, and how they translate into an appropriate amount of adjustment to add to the modelled initial capacity requirement. For instance, the risks that drive non-delivery of particular units in Ireland and Northern Ireland have some common root causes (e.g., global inflation partly caused by the Ukraine war, global post-covid supply chain disruptions) and other diverse causes (e.g., local planning regulations, financial circumstances of any given project developer). Clearly the risks associated with non-delivery of different projects are neither perfectly correlated nor perfectly uncorrelated, and there is little relevant evidence base on which to estimate the degree to which risks are correlated.

The TSOs, as prudent operators whose primary focus is security of supply, tend to take a conservative approach with respect to risk diversification and other key assumptions. For instance, in recommending adjustments to the initial capacity requirement, the TSOs take an additive approach, which implicitly assumes that risks

are perfectly correlated, and it is necessary to procure additional capacity as insurance to cover the eventuality that all reasonable worst cases materialise simultaneously.

Furthermore, the TSOs have imperfect information over future SEM Committee policy interventions and how they will impact capacity requirements or capacity delivery. For instance, at the time the TSOs were making their recommendations on adjustments, they had no visibility of the decisions that the SEM Committee was going to make with regard to indexation of contracts awarded in the 2024/25 T-3 auction, and the 2025/26 T-4 auction, and to what extent the policy intervention will mitigate risks.

However, if the TSOs' approach to the minimum requirements results in more capacity being procured than is required to meet the security standard, consumers, rather than the TSOs, bear the financial consequences.

The SEM Committee⁹ is the decision-making authority for all Single Electricity Market (SEM) matters, covering both Ireland and Northern Ireland.

The principal objective of the SEM Committee is to protect the interests of consumers of electricity wherever appropriate by promoting effective competition between persons engaged in, or in commercial activities connected with, the sale or purchase of electricity through the SEM¹⁰. In pursuing this objective, the SEM Committee is required to have regard (amongst other things) to the need to ensure that all reasonable demands for electricity in Ireland and Northern Ireland are met.

When making decisions on volumes to be procured, the SEM Committee has to balance the All-Island consumers' interests in having access to low-cost energy against Security of Supply risks. Following the move to the competitive CRM auctions, the cost of capacity payments fell to €333m in 2018/19, equivalent to about

⁹ Established in 2007 following the introduction of the SEM, legislation required the establishment of SEM governance in the form of a SEM Committee, and consist of three representatives from the Commission for Regulation of Utilities (CRU) in Ireland and three representatives of the Utility Regulator (UR) of Northern Ireland along with an independent and a deputy independent member.

¹⁰ <https://www.semcommittee.com/about-us#:~:text=The%20principal%20objective%20of%20the,of%20electricity%20through%20the%20SEM.>

€36 p.a. for the average household. By 2022/23 the cost of capacity payments had risen to €395m, largely due to the need to meet growing non-residential demand, and the cost per average household remained broadly constant at around €37 per year. However, the cost per average household is projected to rise significantly in the coming years, to €51 in 2024/25 and €56 in 2025/26. This estimate is prior to the T-1 auctions for these years, which can be expected to add to the cost.

As explained below, the SEM Committee allowed the majority of the TSOs' proposed 3,466MW_d of all-island adjustments, although it took a different view regarding risk diversification in some areas. The SEM Committee approved:

- 1,599MW_d of adjustments in L1:2 (rest of) Ireland, which is around 70% of the 2,268MW_d recommended by the TSOs, a difference of 670MW_d; and
- 856MW_d of adjustments in Northern Ireland, which is over 90% of the 923MW_d recommended by the TSOs, a difference of 67MW_d;

After the auction, the SEM Committee has modelled the effect of its decisions on consumer bills. The consumer bill for the T-4 auction was €698m, which, added to the cost of the multi-year capacity procured for 2026/27 in prior year auctions, brings the consumer bill to €1.07bn (should all capacity be delivered), equal to around €88 per year for the average household.

The SEM Committee has taken a balanced approach when approving adjustments to CRM auction volumes. On the one hand, if adjustments are too conservative, they run the risk of further increasing consumers' capacity bills. On the other hand, the SEM Committee is also aware that if a higher-than-expected number of risks materialise, then the cost / MW_d / year of remedial actions could be significantly greater than the cost of procuring more capacity via T-4 auctions.

When procuring capacity at a regional level, the SEM Committee also needs to bear in mind that capacity procured for locational reasons in Ireland is borne in part by consumers in Northern Ireland, and capacity procured for locational reasons in Northern Ireland is borne in part by consumers in Ireland. Therefore, the SEM Committee has to give careful consideration to adjustments which are targeted at achieving a policy objective in one jurisdiction only via the CRM. For instance, where the SEM Committee approves the Transmission Outage Planning adjustment in

Ireland, to support the Government of Ireland’s renewables targets, consumers in Northern Ireland bear a share of the costs.

4. Volume decisions for 2026/27 T-4 auction

In February 2023, the TSOs submitted recommendations to the SEM Committee for the following adjustments to the all-island Capacity Requirement and LCCA required quantities for the 2026/27 T-4 auction:

- Nine different “post-modelling” adjustments to increase the amount of capacity sought in order to account for limitations in the ISAC1 approach and/or input assumptions, totaling 2,317 MW_d at all-island level;
- A further 1,149MW_d of adjustments at all-island level, to increase the amount of capacity sought to reflect the risk of non-delivery of contracted new capacity. This includes an expectation that a proportion of the 2,819MW_d of the capacity awarded in previous auctions will not be commissioned in time for 2026/27, and an expectation that some of the capacity to be awarded in the 2026/27 T-4 will not be commissioned in time either; and
- A proposed adjustment to the All-Island demand curve in the range 800MW_d to 1,000MW_d to reduce the amount of capacity potentially cleared in the Greater Dublin area¹¹, which could not be connected, or used, because of potential short circuit levels identified by the TSOs in the Greater Dublin area.

As shown in [Figure 2](#), the SEM Committee decided to approve some, but not all of the TSOs’ recommendations, with changes highlighted in blue.

¹¹ In the unconstrained auction

Figure 2: Summary of TSO recommended adjustments and SEM Committee approved volumes

	TSO Recommended				SEM Committee Approved			
	All Island	Level 1			All Island	Level 1		
		L1:1 Northern Ireland	L1:2 Ireland (Rest of Ireland)	L1:3 Greater Dublin		L1:1 Northern Ireland	L1:2 Ireland (Rest of Ireland)	L1:3 Greater Dublin
Initial Capacity Requirement	7,495	1,727	4,115	2,100	7,495	1,727	4,115	2,100
Non-participating wind and solar	-781	-225	-556	0	-781	-225	-556	0
Adjusted ISAC Requirement	6,714	1,502	3,559	2,100	6,714	1,502	3,559	2,100
Post modelling adjustments	2,317	507	1,785	118	1,416	556	1,099	118
Non-delivery adjustments	1,149	416	483	250	0	0	0	0
Diversified Risk Adjustment					800	300	500	250
Gross Auction Requirement after Adjustments	10,180	2,425	5,827	2,468	8,930	2,358	5,158	2,468
Previous Awarded Capacity	-2,814	-932	-1,146	-736	-2,814	-932	-1,146	-736
TSO demand curve adjustments	-1,000				-1,000			
Net Auction Requirement	6,367	1,493	4,681	1,732	5,117	1,426	4,012	1,732

The SEM Committee approved:

- A total of 1,416MW_d of “post-modelling” adjustments to the all-island requirement, although the sum of the adjustments accepted at LCCA level was greater at 1,772MW_d, and it is the sum of LCCA adjustments which is likely to drive total volumes procured. The SEM Committee also took into account a further 350MW_d of one of the categories of “post-modelling” adjustments, the Transmission Outage Planning (TOPs) adjustment, when calculating the “diversified risk adjustment”, which diversified risk across a range of risk categories, and LCCAs;
- A total of 800 MW_d of diversified risk adjustment, which took into account diversification of TOPs risk and non-delivery risks at all island level. The sum of the LCCA diversified risk adjustments is 1,050MW_d, and it is this value which is likely to drive total volumes procured. The SEM Committee’s decision with regard to the diversified risk adjustment took into account other elements of the overall approach to volume setting, which are relatively conservative, such as the use of the Least Worst Regrets methodology which selected a demand forecast approximately 300MW in excess of the median forecast, and the decision *not* to withhold 2% of volumes (approximately 150MW_d) for DSUs from this T-4 to a T-1 for 2026/27 (as has been done in a number of previous auctions);

- An All-Island demand curve adjustment of 1,000MW_d, i.e., at the upper end of the TSOs' proposed range,

5. Greater Dublin constraints

The TSOs have identified a safety issue in regard to short circuit levels within the Greater Dublin network which mean that EirGrid can connect little or no net additional generation capacity in the Greater Dublin area, over and above what has been contracted in the CRM auctions to date.

The TSOs have advised that it should be possible to connect the approximately 736MW_d of New Capacity in Greater Dublin which has been awarded in the 2022/23 T-4, 2023/24 T-4, 2024/25 T-4 and T-3 and 2025/26 T-4.

In addition, the TSOs advised that an additional 250MW_d of capacity could be procured in the 2026/27 T-4 auction to cover non-delivery risks related to the 736MW_d of already awarded capacity, which would be replacing expected non-delivery rather than being net additional capacity. However, it would not be economically efficient to connect net additional capacity in the Greater Dublin area, until such time as short circuit risks can be alleviated.

The TSOs advise that the route to easing the constraint on net additional capacity is to upgrade the transmission network in Dublin. The TSOs advise that these changes may take them a number of years to deliver, and that there may be limited scope for any net additional capacity in Greater Dublin in the 2020s as a result¹².

When developing their investment plans, investors are encouraged to bear in mind the constraints that limitations in the network's ability to accommodate net additional capacity in Greater Dublin and note that the TSOs are highlighting these limitations so they are known to investors before they make their own investment decisions.

New capacity seeking multi-year contracts could still be awarded a contract in Greater Dublin, but only if it out-competes existing capacity.. EirGrid's Transmission Development Plan (TDP) lists the committed projects and projects under

¹² EirGrid's Transmission Development Plan (TDP) lists the committed projects and projects under development for the enhancement of the Irish transmission network over the coming ten years.

development for the enhancement of the Irish transmission network over the coming ten years.

6. Capacity delivery and challenges

The electricity and gas systems of Ireland and Northern Ireland are facing an unprecedented level of change to replace high emissions plants, connect new renewables and storage and make other changes required to deliver decarbonisation. The CRM is a key component of the transition and is needed to deliver storage capacity and “keep the lights on” on the road to net zero. The CRM, as currently designed, will not, on its own, deliver the path to net zero. However, in the short term, the CRM will help significantly reduce carbon emissions whilst maintaining security of supply, by replacing old high emissions coal, oil and peat units with storage capacity, DSUs and lower emissions gas-fired units.

The 2026/27 T-4 auction delivered 1,519MW_d of New Capacity, of which 1,124MW_d was gas turbine capacity, 220MW_d was new interconnector capacity, 105MW_d was new storage capacity and 69MW_d was new DSU capacity. Two of the gas turbines, totaling around 380MW_d, are planned to be low carbon units running on sustainable biofuel (Hydrotreated Vegetable Oil (or HVO)).

In total, the CRM auctions to date have contracted a total of nearly 5,660MW_d of new capacity contracts, of which around 3,600MW_d is new gas fired capacity, with approximately 2,700MW_d of new capacity in Ireland and 900MW_d in Northern Ireland.

Building and connecting all the new CRM capacity to electricity and gas networks in contracted timeframes represents a large and unprecedented challenge to the electricity and gas industry in Ireland and Northern Ireland. The magnitude of the challenge is heightened by the fact that the industry also needs to build and connect up to 6,260MW of onshore and offshore renewables capacity in Ireland following the recent RESS-1, RESS-2 and ORESS auctions. Overall, EirGrid / SONI expect to connect around 11-12GW¹³ of renewables across Ireland and Northern Ireland within the next ten years.

¹³ The 2022 Generation Capacity Statement forecasts an additional 11,460 MW of wind and solar capacity across Ireland and NI between the end of 2022 and end of 2031

The SEM Committee recognises that delivering on these challenges will place unprecedented strain on scarce resources, including appropriately skilled engineers and building contractors, which may be a finite resource which constrains the rate at which new thermal and renewables capacity can be connected. Whilst these challenges and risks may be hard to quantify, the SEM Committee recognises the risk and factored this consideration qualitatively into its volume decisions. Contracting more capacity will not necessarily improve security of supply, if the capacity is competing for scarce resource, and if it makes existing contracted capacity more difficult to deliver.

7. Future Changes

Capacity Remuneration Mechanisms continue to develop and evolve, and the need for this to happen is reflected in the various reviews that have been carried out of the SEM CRM, including the EY Report, which was consulted on by the SEM Committee.

7.1 Improvements in models and input data

In December 2022, the SEM Committee approved the new ISAC2 methodology developed by the TSOs and consulted upon (SEM-22-097), including some changes to input assumptions to the volume calculations, which would have the effect of mitigating the limitations of the ISAC1 approach and therefore reducing the number of adjustments required. Derating factors and the Capacity Requirement are fixed at the time the IAIP is approved, so the volumes and derating factors for the 2026/27 T-4 auction were still based on the ISAC1 methodology. However, the differences between the original ISAC1 and the new ISAC2 methodology were reflected in the TSOs' proposed adjustments, which partly accounted for the large number and volume of adjustments.

ISAC2 is to be implemented from the 2023/24 T-1 auction in July 2023, and derating factors and capacity requirements for the 2023/24 T-1, the 2027/28 T-4 and all subsequent auctions will be calculated using ISAC2 - until the National Resource Adequacy Assessment (NRAA) approach is adopted (see Section 7.3).

The adoption of the ISAC2 approach is expected to lead to a reduction in the number and volume of “post-modelling adjustments”, but the number and volume (in MW_d

terms) of adjustments is still likely to be material. Furthermore, these adjustments are still likely to be based on judgement, both with respect to the magnitude of individual risks and how they correlate with each other. As a result, it is likely that the SEM Committee will continue to have to make judgement calls as to how to achieve the optimum balance for the consumer between cost and security of supply.

7.2 Panel of Technical Experts

EY were engaged to review the performance of the SEM Capacity Remuneration Mechanism (CRM), which was subject to a consultation process, with outcomes noted in Paper SEM-23-036. As part of this review, EY assessed the design of the CRM for any improvements that could be made in order to ensure sufficient procurement of capacity and prepared a report (see SEM-22-054a), which included recommendations that could be implemented to improve the performance of the CRM.

One of the key recommendations is to promote greater transparency of the target setting through a panel of technical experts (PTE) assessment of TSO volume recommendations, with their findings published, and an explanation of the process by which GCS forecasts are translated to the Target Volume to procure in capacity auctions.

The SEM Committee has accepted this recommendation (see SEM-23-036), and plans to implement the PTE. The SEM Committee plans to consult on the PTE's terms of reference in Q4 2023.

7.3 Move to NRAA approach

The capacity requirements for the SEM are currently calculated based upon an approach known as convolution. Both ISAC1 and ISAC2 are based on convolution approaches, and have a number of inadequacies, particularly in terms of modelling a power system with increasing levels of intermittent renewable generation, storage and interconnection.

The EC's Clean Energy Package introduced requirements for a new methodology to assess both national and European resource adequacy. In the future, the European Resource Adequacy Assessment (ERAA) may be used by Member States to justify the need for a capacity mechanism. While ACER approved the ERAA methodology

in October 2020, it did not approve the ERAA results for 2021 or 2022. The intention is for the ERAA to be fully implemented by 2024, which will have significant implications for how the capacity requirements will be calculated¹⁴.

Until the new NRAA, in line with the requirements of the Clean Energy Package, is introduced, the existing convolution-based national resource adequacy assessment remains the basis for adequacy analysis and to support national security of supply aid measures under State aid rules. ACER has encouraged all Member States and their designated bodies responsible for NRAAs to ensure compliance with the ERAA methodology.

The TSOs are currently developing the new NRAA methodology for both Ireland and Northern Ireland. Once this methodology has been implemented, it will be used to calculate the capacity requirements for Ireland, Northern Ireland and the SEM as a whole, and derating factors for auctions. The TSOs' Generation Capacity Statement (GCS) will also be based on the new NRAA methodology.

Once the NRAA has been adopted by the TSOs, it should further reduce the scope for "post-modelling" adjustments and non-delivery adjustments, and hence the requirement to make judgement calls in setting volume requirements.

The SEM Committee expects that the new NRAA approach will be reflected in the GCS in 2024, and in auctions which take place soon thereafter.

¹⁴ Article 24(1) of the Recast Electricity Regulation (2019/943) sets out that the NRAA should be based on the ERAA methodology and thus must apply probabilistic calculations, include economic assessment and consider all resources, including energy storage and interconnection.