Summary of Consultation Responses to Options for Decarbonisation of the existing CRM design (SEM-25-070)

SEM-26-036

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EXECUTIVE SUMMARY

The Options for Decarbonisation of the existing CRM design consultation (SEM-25-070) proposed a range of measures, including the introduction of a "Green Bonus" or a "Green Scalar", enhanced emissions reporting and verification requirements, and a Decarbonisation Declaration. It also invited views on alternative or complementary pathways for achieving decarbonisation.

A total of 17 stakeholders responded to the consultation, with one of the 17 submitting a confidential response. Overall, respondents recognised the importance of supporting decarbonisation within the CRM, but raised concerns regarding the feasibility, effectiveness, and proportionality of implementing new measures within the remaining lifetime of the existing CRM. Views on the Green Bonus were generally not supportive, with many respondents considering that a one-year contract extension would be insufficient to drive material decarbonisation or investment, particularly given the late stage of the current CRM and the uncertainty surrounding key design parameters. Concerns were also raised in relation to the proposed CO_2 thresholds and the appropriateness of requiring hydrogen-readiness at a 30% blend level. The Green Scalar was viewed more favourably by most respondents, particularly for its ability to scale incentives with emissions intensity and provide a more immediate and targeted signal. However, support was typically conditional on clear calibration and robust design to avoid unintended impacts on auction outcomes and costs to consumers. Several respondents questioned whether the Green Scalar could be implemented effectively within the existing CRM timeframe and suggested that its full potential may be better realised as part of the CRM State aid notification.

Respondents were also asked whether they agreed with the proposal to publish, on an annual basis, CO_2 emissions data submitted at qualification and any relevant ex-post verified emissions data for capacity receiving CRM payments. In response, several respondents supported increased transparency, noting that publication could improve visibility of emissions outcomes, support evaluation of decarbonisation measures, and inform future CRM policy development. However, support was frequently conditional on the protection of commercially sensitive information and on robust, auditable measurement and verification processes.

Respondents had mixed views regarding the Decarbonisation Declaration. Several respondents considered the proposed declaration to be of limited effectiveness, arguing that emissions outcomes depend on external factors such as dispatch, fuel availability, infrastructure development, and policy decisions, which are largely outside the control of generators. Respondents also expressed concern about requiring Director-level sign-off on long-term commitments, particularly where outcomes cannot be independently delivered.

A recurring theme across responses was the limited remaining timeframe and the extent to which meaningful investment or operational changes can realistically be delivered before 2028 when the existing CRM approval expires.

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1. Introduction

In December 2025, the SEM Committee launched a consultation on Options for Decarbonisation of the existing CRM design (SEM-25-070). The consultation proposed a range of measures, including the introduction of a "Green Bonus" or a "Green Scalar", enhanced emissions reporting and verification requirements, and a Decarbonisation Declaration. It also invited views on alternative or complementary pathways for achieving decarbonisation.

1.1 Background

The SEM Committee considered the alignment of the current CRM with the updated State aid guidelines, the Climate, Energy and Environmental Aid Guidelines (CEEAG)[1] and subsequently, committed to an action to consult on policy measures to further the decarbonisation of the SEM CRM and aid compliance with the CEEAG.

The consultation, SEM-25-070 and associated assessment on options for decarbonisation of the existing CRM within the lifetime of the current design by AFRY, sought industry feedback on decarbonisation measures that the SEM Committee could consider for the existing CRM design. It builds on the SEM Committee's decision to introduce Intermediate Length Contracts (ILCs) and forms part of a larger programme of work regarding the development of the CRM and upcoming State aid application.

This paper summaries responses by stakeholders to the consultation, all of which have been used to inform proposed design options for the next iteration of the Capacity Remuneration Mechanism (CRM 2.0) being considered under SEM-26-037.

1.2 Structure of Paper

This paper is structured as follows:

- Section 2 lists the respondents to the consultation.
- Section 3 outlines the "Green Bonus" proposal and offers a summary of consultation responses.

[1] EUR-Lex - 52022XC0218(03) - EN - EUR-Lex.

- Section 4 outlines the “Green Scalar” proposal and offers a summary of consultation responses.
- Section 5 outlines the questions pertaining to both Green Scalar and Green Bonus and offers a summary of consultation responses.
- Section 6 outlines the Emissions Reporting proposal and offers a summary of consultation responses.
- Section 7 outlines the Decarbonisation Declaration proposal and offers a summary of consultation responses.
- Section 8 outlines Suggested Alternative Pathways.

2. Consultation Respondents

A total of 17 stakeholders responded to the SEM-25-070 consultation, with one of the 17 marking their response as confidential. The non-confidential responses summarised in this document are from:

1. Beyond Fossil Fuels (BFF)
2. Bord Gáis Energy (BGE)
3. BnM
4. Captured Carbon
5. Demand Response Association of Ireland (DRAI)
6. EirGrid and SONI (SOs)
7. Electricity Association of Ireland (EAI)
8. Energia
9. Energy Storage Ireland (ESI)
10. EP UK Investments (EPUKI)
11. ESB Generation and Trading (ESB GT)
12. Federation of Energy Response Aggregators (FERA)
13. Gas Networks Ireland (GNI)
14. iPower Flexible Energy (iPower)
15. Mutual Energy Limited (Mutual Energy)
16. SSE

3. Green Bonus

The consultation proposed a Green Bonus mechanism under the existing CRM; whereby eligible Capacity Market Units would receive an additional year of contract duration if they met defined “green” criteria. The objective would be to provide greater long-term revenue certainty, potentially improving access to lower-cost financing and enabling eligible units to bid more competitively in CRM auctions.

Under the SEM Committee’s proposal, the Green Bonus would be available to both ILC and new capacity and would apply to units that (i) meet a tighter-than-legislative CO_2 emissions intensity threshold and (ii) for gas units, demonstrate blended hydrogen-readiness up to 30% by volume. Participants were asked whether the Green Bonus would be effective within the timeframe of the remaining CRM auctions, whether a one-year extension is appropriate, where the CO_2 threshold should be set, and whether the proposed hydrogen-readiness definition is suitable.

3.1 Effectiveness within remaining CRM Timeframe

Respondents were consistently of the view that the timeframe of the existing CRM was too short to allow investors to respond to the Green Bonus. It was widely noted that meaningful decarbonisation actions require multi-year planning horizons.

Several respondents stated that participants would not have enough time to respond within the remaining auctions, particularly given that Green Bonus parameters are not fully developed and that additional State aid approval may be required. This was seen as further compressing timelines and increasing uncertainty.

Respondents also emphasised that refurbishment plans and investment decisions are typically made well in advance, and that the short lead time before upcoming auctions prevents participants from adjusting plans in response to the Green Bonus. As a result, respondents concluded that within the remaining CRM auctions, the Green Bonus would not be able to provide a meaningful incentive to respond.

3.2 Additional Contract Duration of the Green Bonus

Respondents expressed a range of views on whether a one-year additional contract duration would be an appropriate investment incentive. Overall, the predominant view amongst respondents was that a single-year extension is unlikely to influence

investment decisions or deliver meaningful decarbonisation within the remaining CRM timeframe. A subset of respondents considered one year potentially appropriate, but only under specific conditions.

Respondents who considered the one year bonus insufficient stated that the incentive was too weak to influence refurbishment or new-build investment. These respondents highlighted that capital-intensive upgrades require long lead times, significant upfront costs, and revenue certainty beyond a single additional year. ESB GT expressed the view that within the limited remaining CRM lifetime, a one-year extension was not considered sufficient to materially shift investment decisions or unlock meaningful decarbonisation outcomes in practice. EAI noted that uncertainty around delay-related extensions could further reduce the value of the Green Bonus.

Some respondents suggested that an alternative duration bonus, of two to five years, would constitute a meaningful investment signal. Longer durations were seen as necessary for materially improving bankability and investment certainty, particularly for projects requiring significant capital expenditure. EPUKI additionally noted that the effectiveness of longer extensions would depend on supportive design features, such as indexation and reliable mechanisms to address delay-related uncertainty. It was also suggested that such changes should be considered as part of the wider CRM review and State aid process.

A subset of respondents considered that a one year extension could be appropriate, viewing this as a balance between offering a meaningful incentive and avoiding over-incentivisation. However, this support was conditional, with concerns raised about interactions with other auction rules and the potential for unintended disadvantages if those interactions were not clarified in advance. It was also noted that a one year extension may be appropriate where it is clearly linked to verifiable, near-term decarbonisation actions deliverable within the remaining auction windows.

3.3 CO_2 Threshold

Respondents expressed a wide range of views on where the CO_2 emissions threshold should be set and how it should be designed. While there was agreement amongst respondents that the threshold would support decarbonisation, several respondents

emphasised that any threshold to be set must be underpinned by analysis and careful design to avoid unintended outcomes.

A majority of respondents highlighted considerations to be taken into account when setting the CO_2 threshold, emphasising that any new limit to be set must be supported by modelling demonstrating feasibility, both for industry participants and for system-level emissions outcomes. The SOs further highlighted that the set threshold should promote decarbonisation without undermining system flexibility or reliability. BGE stated that it would not be possible to incentivise both higher-efficiency gas plant and low-carbon technologies effectively using a single emissions threshold, suggesting that multiple thresholds would be required for such an approach to work.

Some respondents also believed that the CO_2 threshold should not be set below the legislative 550gCO_2/kWh, stating that doing so would unfairly disadvantage existing gas-fired plant. ESB GT further noted that, although such units may have higher emissions intensity, they often operate at low load factors, resulting in relatively low annual emissions. Lowering the threshold was therefore considered inappropriate without deeper analysis.

BFF and DRAI supported a tighter emissions threshold in order to enable decarbonisation. DRAI suggested a level of 100gCO_2/kWh. BFF argued that thresholds should be set such that gas plants cannot access them.

3.4 Hydrogen Readiness Criteria

A majority of respondents considered the proposed 30% hydrogen blend requirement to be inappropriate at this time. Key concerns centred on the uncertainty of hydrogen availability, which depends on upstream production, gas network development, and policy decisions both domestically and in other jurisdictions. Respondents also noted that committing to a 30% blend could require substantial investment that may ultimately not be utilised due to limited availability of hydrogen. Several respondents suggested that hydrogen readiness should instead be incentivised once national hydrogen strategies, blending decisions, and network regimes are more developed and aligned.

ESB GT emphasised that OEM confirmation of the hydrogen readiness capability is essential, but may not be available retrospectively, even where equipment could technically accommodate some level of blending. Alignment with national hydrogen strategies and realistic network timelines was highlighted as necessary. Similarly, Energia noted that a 30% blending requirement would be unrealistic given that Irish gas blends would likely be far lower in 2030s. They also cautioned against picking a technological winner (hydrogen vs CCUS) and suggest that if hydrogen-readiness is included, it should be set well below 30% or reconsidered entirely. BGE stated that it would be incorrect to award a green bonus based on the potential for a generator to burn a 30% blend of hydrogen without a binding obligation, adding that there is a risk of rewarding plants based on potential, resulting in increased CRM costs without an associated material decrease in carbon emissions. SSE stated that 20% blends are more feasible than 30% and still would require major upgrades and outages.

GNI stated that 30% hydrogen blending in the gas network is unlikely, with expected blends being around 5% in the early 2030s. They added that while generators may technically accept higher blends, a hydrogen blend requirement of 30% would require on-site hydrogen supply. They also added that the Green Bonus should balance recognition of hydrogen-readiness with clear, near-term pathways for renewable gas use, including biomethane, that are available now.

BFF further cautioned that reliance on partial hydrogen-readiness requirements could run counter to Ireland's Hydrogen Strategy, creating confusion, inefficiency, and misaligned investment signals. They also pointed out that broader EU law principles; precaution, energy-efficiency-first, and legal certainty, caution against promoting unclear or partial hydrogen-readiness standards.

4. Green Scalar

The consultation proposed a Green Scalar mechanism, as an alternative to the Green Bonus. The Green Scalar would be a multiplier applied to the Capacity Payment Price of successful units, with a value linked to carbon emissions intensity. The aim would be to provide a more nuanced and forward-looking incentive for lower-carbon capacity than the Green Bonus. The Green Scalar parameters would be published in advance of the auctions, which would allow participants to reflect the scalar's impact in their

bids. Under the proposal, a scalar of 1 would apply at the legislative 550g CO_2/kWh threshold, and increase as emissions intensity fell, potentially through either a continuous or stepwise function. Respondents were invited to comment on whether the Green Scalar could create a useful incentive within the lifetime of the remaining CRM, what CO_2 thresholds should apply, and whether the scalar should be designed as a continuous or stepwise function.

4.1 Effectiveness within remaining CRM Timeframe

A majority of respondents believed that the Green Scalar could provide a strong incentive within the current CRM timeframe. These respondents argued that, by linking capacity payments to emissions intensity, the Green Scalar could incentivise participation from low-carbon technologies and reward ongoing emissions reductions within current auction timelines. It was suggested that the scalar could provide a continuous mechanism that delivers operational and investment signals more effectively than a one-off bonus. Respondents also considered that a scalar could provide a stronger and more immediate incentive by increasing revenues from the start of a contract and reach a broader set of units. However, this support was conditional on clear calibration, defined scalar values, transparent eligibility criteria, and clarity on how the mechanism would interact with auction bidding, price caps, and contract structures.

Some respondents questioned the extent to which these benefits could be realised in practice within the remaining CRM timeframe. FERA noted that while a Green Scalar could reward marginal emissions improvements, the short remaining timeframe and the high proportion of already contracted capacity would constrain its effectiveness. FERA also highlighted potential design complexity and State aid risks, which could weaken any resulting investment signal. Similarly, iPower considered that, even if well designed, the Green Scalar is unlikely to materially influence investment decisions or operational behaviour within the limited timeframe to 2028, citing the high level of contracted capacity and similarities to the Green Bonus in terms of limited ability on the part of investors to respond.

Some respondents expressed uncertainty on the effectiveness of the Green Scalar, stating that key design details would need to be clarified to consider the full

implications of the mechanism. BGE raised concerns that designing a Green Scalar capable of driving decarbonisation without significant unintended consequences would be challenging. Identified risks included higher auction costs, windfall gains for existing units, and reliance on subjective regulatory judgements. While alternative scalar shapes could mitigate some of these effects, BGE stated that additional constraints – such as investment-based eligibility thresholds – would likely be required. ESB GT further noted that the mechanism could materially influence bidding behaviour and clearing prices, requiring careful calibration to avoid unintended consequences, and concluded that the Green Scalar would be more appropriately considered under the next CRM framework rather than the current one.

4.2 CO_2 Threshold

Respondents expressed a wide range of views on the appropriate CO_2 thresholds for the Green Scalar. Proposals differed in terms of where thresholds should be set, how they should scale with emissions intensity, and which technologies should be eligible to benefit.

BGE stated that the Green Scalar should only exceed 1 for new capacity and only below the emissions level of an efficient baseline CCGT (~375gCO_2/kWh), ensuring that incentives reward genuine reductions rather than anything below the 550g CO_2/kWh market limit. Multiple thresholds could be used to create a progressively steeper curve, depending on what behaviours or technologies are intended to be incentivised.

BnM proposed that CO_2 emission thresholds should scale from below 550g CO_2/kWh down to sub-zero levels for hydrogen/CCUS/renewables. Annual updates should be given to reward incremental decarbonisation and provide stable investment signals.

DRAI recommended that the Green Scalar should be a linear scalar from 225 g/kWh down to 0g/kWh

iPower suggested that CO_2 thresholds should be anchored at the 550g CO_2/kWh legal limit, with progressively higher uplifts applied as emissions intensity decreases. These respondents supported the use of clear and realistic emissions bands, with some expressing a preference for stepwise designs on the basis that they are simpler, more

transparent, and easier for participants to model. Uplifts should apply only where emissions improvements are verifiable.

ESI stated that a Green Scalar that increases from 1 at 550g CO_2/kWh to a materially higher value at or near zero emissions could significantly enhance the revenue certainty for storage assets and send a meaningful long-term signal to investors.

BFF stated that only non-fossil fuel technologies should benefit from the Green Scalar provisions, implying that thresholds should be set such that fossil-fuelled capacity would not qualify.

Some respondents highlighted that selecting appropriate thresholds would be complex, particularly across different technologies, and needed further consideration. The SOs noted that the CO_2 thresholds should drive genuine, deliverable decarbonisation while avoiding unintended impacts on flexibility or reliability, adding that they should be based on realistic technology pathways and verifiable evidence. Energia stated that applying a uniform scalar to “clean” technologies could result in deadweight loss with unclear consumer benefit, and that the approach may not work consistently for technologies such as storage or demand-side units. They also noted that threshold considerations for the Green Scalar mirror those for the Green Bonus and require careful modelling.

4.3 Linear v/s Stepwise Function

The majority of respondents expressed a preference for a continuous function for the Green Scalar. It was believed that a continuous function better reflects incremental improvements in emissions performance, avoids artificial cliffs or step changes, and provides smoother and more predictable investment signals. It was also noted that a continuous approach recognizes small CO_2 improvements annually over long contract durations and avoids clustering of investment behaviour around threshold boundaries. The SOs acknowledged that a continuous design may be more complex to implement, but considered this complexity justified by improved alignment with actual emissions reductions. ESI further emphasised that the specific design parameters such as the slope, upper bound, and functional form are at least as important as the choice between continuous or stepwise structures. Additional comments suggested alternative or hybrid approaches. EPUKI proposed that at least initially, rather than a

continuous or stepped function there should be a single carbon intensity threshold and a single scalar for all units below it, citing risk of unintended consequences by over-incentivising storage and demand side technologies. Captured Carbon considered negative scalar values above certain emissions thresholds to reduce incentives for higher-emitting technologies. BGE suggested a graduated continuous curve.

Separately, a subset of respondents preferred a stepwise Green Scalar, citing simplicity, transparency, and ease of modelling as key advantages. FERA argued that a stepwise design is easier to finance, reduces disputes over minor measurement differences, and provides greater regulatory certainty in the near term. GNI suggested that a stepwise structure aligns better with progressive scaling of biomethane supply and could serve as a practical interim approach before more refined designs are introduced in future CRM auctions.

A small subset of respondents expressed conditional or mixed views. They noted that while a continuous function could reward incremental improvements, a stepwise approach might better target specific decarbonisation objectives in some cases. ESB GT and EAI emphasised that major uncertainties around how the Green Scalar would operate across different technologies make it difficult to reach a firm conclusion at this stage. EAI further expressed concern that under the current proposal, 1 year contracts would be recalibrating (improving) their Green Scalar annually, 5 year ILCs would be locked into doing so only every 5 years, and New Capacity would be put at a significant competitive disadvantage by only being able to have their reducing carbon emissions recalibrated after 10 years.

5. Questions pertaining to both Green Bonus and Green Scalar

5.1 Preference for Green Bonus or Green Scalar

Respondents expressed differing views on whether the Green Scalar or the Green Bonus would be more effective within the timeframe of the remaining auctions under the existing CRM, with a preference for the Green Scalar emerging. Views broadly reflected trade-offs between simplicity and speed of delivery on the one hand, and incentive strength and decarbonisation impact on the other.

ESB GT considered the Green Scalar to have greater long-term and strategic potential despite higher deliverability risks. While acknowledging uncertainties around State aid approval and the fact that the concept is untested in European capacity markets, ESB GT did not consider the Green Bonus to provide a meaningful decarbonisation incentive due to its short contract duration. ESB GT therefore viewed the Green Scalar as more effective overall, particularly beyond the immediate timeframe.

While arguing that neither SEM Committee proposal is optimal compared to their own suggestion of a “Linked Green Capacity Auction” (explained in more detail below), BGE considered the Green Scalar more effective than the Green Bonus within the lifetime of the remaining auctions. The Green Bonus was viewed as increasing costs without incentivising emissions reductions, whereas the scalar could be effective if carefully designed, including with an investment rate threshold.

EAI considered the Green Scalar potentially more effective because it scales incentives proportionally, rather than relying on a single threshold and fixed duration. This preference was conditional on parameter transparency and sufficiently strong incentives, and contingent on avoiding unintended disadvantages for longer-term contracts.

Mutual Energy argued that the Green Scalar would create a stronger and more targeted incentive than the Green Bonus, as it scales directly with emissions intensity rather than relying on a single eligibility threshold. They highlighted its potential to incentivise deeper emissions reductions and fuel switching (e.g. biomethane), albeit with caution around unintended system-wide impacts.

A subset of respondents considered the Green Bonus to be more effective, stating that the Green Bonus would be simpler to design and implement as well as having precedent in other European markets, therefore involving lower regulatory and State aid risk. However, some of these respondents acknowledged that the Green Scalar has stronger strategic advantages and could deliver longer-term behavioural change if adequately developed. FERA considered that, given the small number of remaining auctions and limited scope for meaningful participant response, the Green Bonus was more likely to deliver timely, practical impact. iPower similarly stated that, within the

remaining timeframe, the Green Bonus was more likely to be effective due to its relative simplicity and certainty for investors.

BnM and GNI considered that both the Green Scalar and the Green Bonus should be implemented. The Green Bonus was seen as setting a unit-specific emissions benchmark, while the Green Scalar rewards progressive emissions reductions over time. BnM stated that the Green Bonus alone, particularly with a one-year extension, does not provide a sufficient investment signal, especially for capital-intensive CCGT capacity.

Energia stated that neither the Green Scalar nor the Green Bonus was likely to be effective within the timeframe of the remaining CRM auctions. Energia argued that both options lack sufficient design maturity and that premature implementation risks erroneous outcomes, including higher emissions or unnecessary consumer costs could occur. They recommended further development and consultation as part of the CRM Development Programme ahead of the 2028 State aid renewal.

5.2 Technologies that would benefit from the Green Bonus or Green Scalar

Several respondents identified demand flexibility as one of the technologies most capable of benefiting from the Green Scalar within the specified timeframe. DRAI noted that demand flexibility is unlikely to qualify for long-term contracts and therefore would not materially benefit from the Green Bonus, whereas a Green Scalar could provide a more direct incentive. They also suggested the potential scale of demand flexibility could be in the order of 500 MW.

A number of respondents highlighted storage technologies as likely beneficiaries of either the Green Bonus or Green Scalar within the specified timeframe, particularly given relatively short delivery times. DRAI highlighted behind-the-meter batteries as likely beneficiaries of the Green Scalar, with the potential for several thousand MW to be delivered within the required timeline due to fewer planning and grid connection constraints. Energia noted that storage projects can, in practice, be developed in less than two years once consents are in place, although there is a risk of significant deadweight loss if additional remuneration is awarded to projects that would have proceeded regardless. Batteries were also identified as among the fastest technologies to deliver, although grid connection timelines may ultimately constrain

delivery across all technologies. Respondents also sought clarity on how storage and long-duration energy storage, including pumped hydro, would be treated under emissions-based incentives, given that these technologies do not produce direct emissions but can contribute to system-wide emissions reductions.

Many respondents identified gas-fired generation as a key technology that could benefit, particularly through refurbishment, efficiency upgrades, and fuel switching rather than new build. BnM noted that CCGTs and OCGTs could benefit from the Green Scalar and Green Bonus if the mechanism were to reward progressive reductions in emissions over the contract duration, reflecting improvements in efficiency, use of renewable gases such as hydrogen or biomethane, and potential future CCUS deployment. Existing gas turbines were stated to be capable of accepting biomethane or up to 5% hydrogen without modification, with higher hydrogen blends possible following combustion and infrastructure upgrades. Energia additionally highlighted that CCGT refurbishments can generally be delivered within a four-year timeframe, whereas new CCGT developments typically require substantially longer and are unlikely to respond within the specified period unless already well advanced. FERA stated that, within delivery years around 2030–33, existing gas plants undertaking moderate refurbishment works could realistically respond within one to three years, whereas new build projects typically would require three to five years or more.

Some respondents identified renewable and zero carbon generation technologies as potential beneficiaries, although delivery within the specified timeframe was often constrained by planning and grid connection timelines. Renewable electricity technologies (including wind and solar where not already supported by subsidy contracts) and geothermal generation were noted as technologies that should in principle be eligible to benefit. However, EPUKI emphasised that development timeframes are typically driven by planning approval and grid connection rather than construction, with indicative timelines of 12–24 months for planning approval and a further 18–30 months for grid connection offers in Ireland. While it was acknowledged that some projects might reach operation by around 2030 with sufficient incentives, it was also stated that many projects may not be completed until later in the 2030s due to these constraints.

Views on interconnection were more limited and cautious. BGE listed interconnectors among the technologies that could theoretically benefit, depending on the final design of the incentives. Energia noted that interconnector projects currently under consideration are pursuing cap-and-floor revenue arrangements, meaning that Green Bonus or Green Scalar incentives are unlikely to be material drivers of investment decisions. Energia also highlighted that interconnectors typically have long development timelines, often approaching a decade, and raised questions about how incentives would apply to foreign participants and explicit participation arrangements. Clarification was also sought on whether interconnectors that indirectly reduce system emissions would be eligible for such incentives.

5.3 Commercial running patterns for each Technology

Several respondents commented on expected commercial running patterns and flexibility, although a number noted that outcomes are highly dependent on future market rules and the detailed design of incentives.

Thermal Generation: Energia noted that modelling indicates thermal plants are expected to experience reduced commercial running over time as renewable capacity is built out and operational constraints reduce. However, thermal generation is expected to continue to play an important role in meeting demand during periods of system stress, including low renewable or “Dunkelflaute” events. Energia also highlighted that thermal units intending to operate on alternative fuels such as biomass or HVO may face flexibility constraints linked to fuel availability, particularly following prolonged operation during security of supply events. Other respondents noted that, with effective implementation of decarbonisation incentives, lower carbon thermal assets are likely to be well-placed in the merit order, although certain gas turbine technologies may have some restrictions on turn down which will be on a case-by-case basis.

Some respondents described existing CCGTs as typically operating as baseload or mid-merit plant in the SEM, with flexibility dependent on plant design and age. While newer units can ramp reasonably well, they remain constrained by minimum stable generation levels, start-up times, maintenance requirements, and fuel costs. OCGTs and other peaking gas units were described as operating for relatively few hours per year, primarily during system stress events. These units were characterised as highly

flexible in terms of fast start and ramping capability, but with commercial viability heavily reliant on capacity market revenues rather than energy market income due to higher running costs and emissions intensity.

Interconnectors: Energia stated that interconnectors are expected to continue operating primarily based on price differentials between connected markets. However, their flexibility may be constrained by system operational limits, the ability of the system to safely operate at full import or export, the willingness of neighbouring system operators to facilitate flow reversals, and the potential for unilateral system operator actions during security of supply events.

Storage Technologies: Energia noted that the commercial running patterns and flexibility of storage, particularly long-duration energy storage, will depend in part on the development of future support schemes, the establishment of an enduring scheduling and dispatch solution, and any revisions to firm access policy. Other respondents described battery storage as typically operating in short-duration cycles, charging during lower-price periods and discharging during peak-price or system-stress periods. While storage was characterised as highly flexible with rapid response capability and no minimum generation constraints, respondents also highlighted limitations related to energy duration, state-of-charge constraints, and asset degradation.

DSUs: Demand-side response was described by multiple respondents as typically being activated during periods of peak demand or system stress. Energia noted that the commercial running of DSUs depends on further changes to market and system arrangements to better integrate DSUs into the core SEM markets and highlighted that DSUs have historically exhibited poor availability in the CRM. iPower emphasised that pure demand reduction (“turn off”) is inherently highly flexible, capable of rapid deployment, and produces zero operational emissions. It was also noted that on-site generation within demand-side portfolios can provide reliable, dispatchable support, and where certified carbon-neutral HVO fuel is used, may offer a practical low-carbon flexibility solution.

Finally, some respondents made broader observations across technologies. The SOs noted that expected running patterns and contributions to system adequacy vary

across the technologies that may benefit, such as high-efficiency gas plant, pumped storage, long-duration storage, and zero-carbon generation. GNI noted that gas-fired generation using renewable gases such as biomethane is expected to continue operating primarily in a flexible, system-support role, providing fast start capability, low minimum load and rapid ramping as renewable penetration increases.

5.4 Emissions Verification Process

Respondents expressed differing views on how emissions should be verified for the Green Bonus and Green Scalar, with no clear consensus.

BGE favoured rigorous verification through existing EPA and ETS-aligned processes, with emissions compliance enforced against qualification commitments and non-compliance addressed through downward pro-rating of awards. BGE also highlighted challenges for interconnectors in estimating emissions intensity and proposed a conservative, ex-post adjustment approach, noting that interconnectors should not be assumed to have zero emissions.

BnM supported real-time emissions verification based on fuel input and electrical output, with remote monitoring by the system operator where required. Energia suggested that emissions limits for individual units be set out in their environmental licenses, with compliance reports submitted on an annual basis. They also added that existing SEM-20-036 rules guide emissions verification, but ex-post checks would require major changes to the CMC and TSC.

Some respondents preferred the idea of verification at Qualification and Substantial Completion rather than annual verification, citing the risk of penalizing units dispatched at lower efficiency points for system reasons. EPUKI cautioned against verification processes that depend on third parties, particularly where the gas network is not equipped to deliver the required blend and blend testing is therefore not possible at Substantial Completion. They suggested assuming compliance until testing can be undertaken, building on existing Clean Energy Package verification processes.

FERA and iPower supported ex-post verification for delivery years, including annual reporting of fuel use and output, with iPower emphasising the need for robust certification and accounting for mixed or carbon-neutral fuels. GNI suggested building

on existing gas quality, certification and traceability systems to ensure emissions reductions are auditable while minimizing administrative burden.

6. Emissions Reporting

The consultation outlined a proposal to extend transparency by publishing, on an annual basis, the CO_2 emissions data submitted at qualification and any relevant ex-post verified data for capacity receiving payments. The intention was to improve transparency on the emissions contribution of Capacity Market Units, support assessment of decarbonisation measures already introduced, and inform future CRM policy development. Respondents were asked whether they agreed with the proposal to publish this emissions data.

Several respondents supported the proposal, stating that publishing qualification and ex-post emissions data would improve transparency, support policy evaluation, and build confidence in the effectiveness of green incentives. These respondents emphasized the value of visibility in assessing whether incentives are delivering intended decarbonisation outcomes and improving the overall transparency of the Capacity Market. However, respondents noted that the publication of emissions information should be conditional on the protection of commercially sensitive information. ESI further noted that the overall impact of this measure on decarbonisation is likely to be limited relative to the choice and design of the principal decarbonisation mechanism.

Some respondents conditionally supported publishing emissions data but highlighted the need for robust measurement methods, auditing standards, and data assurance processes. GNI emphasised that reporting should accurately reflect renewable gas use and verified fossil-CO_2 reductions so that incentives function as intended. Energia reflected that actual emissions depend on system operator dispatch. Any sanctions for non-compliance must be clearly defined.

EPUKI expressed reservation, particularly in relation to publishing unit-level emissions data. Concerns included the potential impact on commercial competitiveness and the risk that capacity market data, when published without energy market context, could misrepresent a unit's actual contribution to meeting demand and to overall system emissions.

7. Decarbonisation Declaration

The consultation proposed introducing a Decarbonisation Declaration requirement for new and ILC fossil-fuel capacity seeking multi-year CRM contracts. The intention was to ensure that successful participants formally acknowledge their role in decarbonisation and set out how their capacity will transition over time. Under the proposal, applicants would be required at qualification to submit a Director's declaration, and an accompanying decarbonisation plan, including an indicative timeline to reach net zero by 2050, with updated plans required for longer-term contracts. Respondents were invited to comment on the likely effectiveness of the Decarbonisation Declaration and whether its proposed content is sufficient or should be expanded, for example through feasibility studies or interim targets.

7.1 Effectiveness of the Declaration

A number of respondents considered the Decarbonisation Declaration to be insufficient. These respondents argued that the declaration would lack practical impact because emissions outcomes depend heavily on external factors such as dispatch decisions, fuel availability, infrastructure, and policy developments that are outside the control of generators. As a result, commitments made through a declaration could not be delivered independently, limiting both enforceability and effectiveness. Some respondents also opposed the proposal on the basis that it is not enforceable, arguing that actual emissions compliance should instead be embedded directly within decarbonisation design rather than through a declaratory mechanism. Additionally, several respondents raised concerns that requiring Director-level sign-off, particularly on long-term net zero commitments, is inappropriate. These respondents argued that Directors cannot commit to outcomes that depend on factors outside their control and that such declarations place disproportionate responsibility on generators.

Separately, some respondents considered that the declaration could improve transparency and forward planning, rather than directly delivering decarbonisation outcomes. However, this view was conditional on rigorous review, meaningful follow-up, and active accountability mechanisms. Without enforcement, monitoring, and reporting, these respondents considered the declaration's impact would be limited. iPower noted that a similar declaration requirement already applies to capacity awarded ILCs.

Some respondents believed the measure would be more effective in the longer term. Captured Carbon noted that such measures may be more appropriate when new units participating in CRM auctions hold capacity awards extending to 2050, whereas their impact in the current context is likely to be limited.

7.2 Proposed Content of the Declaration

EPUKI and Energia expressed their views that the declaration would be ineffective and that adding further requirements would increase administrative burden without delivering decarbonisation benefits. These respondents opposed expanding the declaration on the grounds that it would raise compliance costs and obligations without leading to tangible decarbonisation outcomes.

FERA and iPower suggested that additional elements such as feasibility assessments, interim milestones, or checkpoints may help, but only if requirements remain proportionate and reflect current uncertainties.

GNI stated that any added requirements should remain high-level and flexible given evolving renewable gas supply and policy. Greater emphasis on emissions performance in security of supply assessments would help reward lower carbon technologies, and declarations should outline clear pathways for biomethane use where relevant.

BnM stated that any declaration should reflect incremental, feasible steps and OEM-backed studies, not impose obligations outside developers' control. Network operators should inform renewable gas blending trajectories, and CCUS readiness should be monitored over time.

The SOs stated that, to be effective, the declaration should include measurable commitments, along with a clear process for assessing progress against them. They considered that adding elements such as feasibility studies or interim targets could strengthen the declaration, provided expectations are clear and aligned with evolving technology pathways and policy frameworks.

8. Suggested Alternate Pathways

Respondents were asked to consider whether any additional measures either discussed in the accompanying AFRY Assessment Report or not identified by AFRY should be explored further by the SEM Committee to support decarbonisation.

ESB GT stated that the Green Scalar warranted further consideration as part of the longer-term CRM development process. They stated that the scalar's ability to differentiate between technologies along a variety of emissions intensities offers a more nuanced and flexible approach than threshold-based measures and believed that it could play an important role in enabling a more sophisticated, performance-based incentive framework over the longer term.

BGE proposed a "Linked Green Capacity Auction" as an alternative to the measures proposed by AFRY. BGE stated that the proposed Linked Green Capacity Auction would operate as a ring-fenced mechanism alongside the main capacity auction, preserving overall capacity adequacy while allowing regulators to finely control the decarbonisation signal through defined volumes, price caps, demand curves, and eligibility criteria. By isolating green procurement, the approach avoids distortion of the main auction and provides cost certainty, enabling higher-cost green capacity to be supported through longer, asset-aligned contract durations that improve revenue certainty, lower bids, and deliver better value for consumers. The design would maintain technology neutrality in the main auction, apply objective regulator-defined green qualification criteria within the green auction, and avoid windfall gains by targeting support toward capacity that best aligns with system decarbonisation needs.

BnM believe that extension of the longstop date should be considered, particularly for complex infrastructural gas projects which involve both gas and electricity grid connections, recognising that natural gas will be displaced, transitioning to renewable gas in the path to net zero. To address contract erosion, BnM proposed that either the contract is extended first off, rather than being eroded, or that the contract extension is linked in with an additional 2 year (in place of the proposed 1 year) extension under the Green Bonus.

EPUKI supported greater transparency and greater frequency around the BNE process, asking that the models and calculations underpinning the BNE methodology

should be made publicly available. This would mean that participants can reliably forecast the direction of travel associated with the BNE, supporting long-term investment in both reliable and low-carbon technologies.

iPower considered that several additional measures identified in AFRY's longlist, as well as some complementary measures, merit further examination, distinguishing between those implementable within the remaining lifetime of the existing CRM to 2028 and those better suited to longer-term reform post-2028. In the near term, iPower highlighted targeted recovery of CRM costs to incentivise demand response and strengthened emissions validation and monitoring (through extension of ex-post verification requirements to any unit benefitting from green incentives), and a cautiously controlled extension of long-stop periods for clearly defined low-carbon capacity. For longer-term CRM reform, iPower stated that consideration should be given to minimum volume targets for non-fossil flexibility, derating factor reform and deeper integration of demand-side response through improved alignment with EU market design reforms. They emphasised that demand-side resources and measures such as MEC sharing can deliver durable decarbonisation while avoiding unintended bias toward thermal generation.

BFF argued that, to meet the national 80% renewables target, Ireland should phase out fossil gas plant payments under the capacity mechanism and redirect support toward clean, fossil-free options such as long-duration storage, renewables, energy efficiency, batteries, flexibility (excluding on-site fossil generation), and interconnectors. They called for an explicit gas exit plan, including removing gas plants from the market-based capacity mechanism and assessing consumer cost savings from reducing gas plant market power, while cautioning against over-reliance on hydrogen-to-power due to risks of fossil fuel lock-in, higher costs, and delivery delays.

The SOs highlighted that the location of a project can impact the system wide emissions associated with that project, and that consideration could be given to inclusion of location as a criterion. While this may make for a more complex implementation, the benefits of a low carbon locational signal may result in reduced carbon emissions sooner due to more efficient use of the transmission and distribution system (e.g. reduced constrained operation of renewable generation).