Energia Response to SEM-25-070

Options for Decarbonisation of the existing CRM design

27 February 2026

Executive Summary

Energia welcomes the work undertaken by the Regulatory Authorities (RAs) and AFRY on measures to further decarbonise the CRM. Energia agrees with much of AFRY's approach to assessing the decarbonisation options, particularly the principles that obligations to decarbonise are not appropriate, and that derating factors should not be amended to reflect carbon intensity. Energia's view is that it is important that these principles are continued into the Phase 2 work on the new State aid approval.

Energia fully agrees with AFRY's assessment that the incentivisation approach to decarbonisation is superior to the "stick" approach based on obligations. As well as being supported by international evidence, Energia notes that the recent experience of the SEM is that when a new mechanism to support refurbishment, in the form of Intermediate Length Contracts (ILC), was introduced it was met with enthusiastic uptake and will result in improved efficiency across the fleet of existing capacity and a reduced need to lock-in new gas capacity.

In terms of de-rating factors, Energia fully agrees with AFRY that the purpose of de-rating factors is to capture the adequacy contribution of each technology that participates in the CRM, and that any attempt to alter de-rating factors to promote decarbonisation would likely lead to an over-estimation of the reliability of procured capacity that would need to be corrected at a later stage at significant cost to the consumer.

With regards to the two principal measures proposed in the consultation paper, Energia is of the opinion that neither should be implemented within the timeframe of the existing State aid approval. To assess how these measures could incentivise decarbonisation in practice would require further detailed consultation on the technical parameters, such as the appropriate emissions thresholds, that is unlikely to be feasible to conclude within the timeframe of the remaining auctions under the existing State aid approval.

Energia's view is that the Phase 1 work undertaken by AFRY has been useful in setting out the measures that are to be considered to promote further CRM compliance with CEEAG. Given that either of the principal measures requires detailed consideration and consultation to ensure that it is effective, and that if either measure is implemented it is likely to persist as part of the revised CRM following the new State aid approval, it would make more sense to further consider these options as part of the Phase 2 work.

Energia looks forward to further collaboration with the RAs and all other relevant stakeholder with regards to the new State aid approval for the CRM. As per the most recent Volumes Information Note for the T-4 28/29 auction (SEM-25-019), the existing CRM design has performed well in terms of procuring new capacity across various technology types and securing the refurbishment of existing capacity.

Any proposed changes to the CRM to support security of supply, decarbonisation, or other objectives, should be carefully considered and the subject of detailed analysis and further consultation. Experienced market participants, such as Energia, are well placed to advise on the potential impact and implementation considerations for any proposed changes. Energia looks forward to continuing to work with the RAs in this manner ahead of the requirement for State aid approval in 2028.

Introduction

Energia welcomes the opportunity to respond to this important consultation on options for decarbonisation of the existing CRM design. Energia has participated in auctions since the inception of the CRM, and has experience of qualifying and delivering Existing, Refurbished and New Capacity across different technology types.

Energia has harnessed its internal expertise to provide a detailed response to this consultation paper and will continue to do so in engaging with the RAs ahead of the new State aid approval for the CRM in 2028. Energia is grateful to the RAs for granting an extension to the consultation response deadline to allow participants, such as Energia, to prepare a thorough and considered response on this important matter.

This consultation response answers each of the questions set out in the consultation paper in turn. Energia is open to engaging further the RAs on any aspect of its response.

Consultation Questions Regarding the Green Bonus

1. Would the Green Bonus create an incentive that market participants can respond to within the timeframe of the remaining auctions under the existing CRM?

Energia's view is that it would be difficult for market participants to respond to incentives created by the Green Bonus within the timeframe of the remaining auctions under the existing CRM.

To respond to an incentive a market participant would need access to the details of the Green Bonus. As elaborated upon in response to Question 2, the parameters of the Green Bonus require detailed consideration for them to be genuinely effective in incentivising decarbonisation.

The details of the Green Bonus would have to be known by a participant at the qualification stage of a CRM auction. It is at the qualification stage that the Qualification Data set out in Appendix D of the Capacity Market Code has to be submitted, including in the case of an ILC a description of the repowering or refurbishment works to be undertaken and Total Project Spend.

As per all of the options set out in consultation paper SEM-26-003 on the timings for the upcoming CRM auctions, the next CRM auction after T-4 29/30 is due to take place in Q1 2027. As per the indicative timeframe set out in Appendix C of the CMC, the application qualification date is typically 21-weeks in advance of the auction although in reality it is often longer. For example, for the T-4 29/30 auction, the qualification deadline was 29 weeks in advance of the Auction Run Start date.

This means that to participate in the next auction following the T-4 29/30, in Q1 2027, a participant will need an application ready to submit around the end of Q3 of this year.

Given that a decision on this consultation is not expected until Q2 2026 at the earliest, and that thereafter the RAs would need to develop and consult on the necessary CMC modification proposals, it is difficult to see how the details of the Green Bonus could

be in place to allow market participants time to respond to the incentive prior to the next T-4 auction after the T-4 29/30 auction.

This is primarily because none of the details of how a Green Bonus would be introduced, including a proposed emissions threshold or other parameters, have been set out in detail for consideration by market participants. As Energia will elaborate upon in response to Question 2, these are not necessarily simple parameters to set to maximise the incentive in a way that fulfils the purpose of decarbonisation.

For comparison, when ILCs were introduced, the relevant decision paper (SEM-24-035) was published in May 2024. Participants had one month from the publication of the decision paper to qualify for the T-4 28/29 auction at which ILCs were introduced.

However, SEM-24-035 was published six months after the release of a detailed consultation paper (SEM-23-093) in which the technical parameters proposed to apply to ILCs (including the level of investment thresholds and appropriate contract lengths) had been set out in detail. Energia's view is that the proposals on decarbonisation measures are not at the same stage of development to allow for implementation for the next T-4 auction in Q1 2027.

These timescales are without considering the implications of AFRY's view, expressed in their report, that either of the principal measures proposed would require separate State aid approval.

Finally, once the details of the changes were decided upon, participants considering an ILC for the next auction would need a period of time to adjust any refurbishment plans in order to respond to the incentives created, including discussions with OEMs and internal investment approval, prior to qualifying those bids for the relevant auction.

It is for these reasons that Energia's view is that the Green Bonus will not create an incentive that market participants can respond to within the timeframe of the remaining auctions under the existing CRM.

2. Where should the CO2 emissions threshold be set to incentivise higher efficiency gas plant as well as lower carbon technologies? Please provide appropriate evidence and rationale to support.

The measurement of emissions limits as per EU 2019/943 is set at a single spot level of 550g/kWh to determine eligibility to receive capacity payments. However, the appropriateness of utilising the same metric set at a lower level to determine eligibility for the Green Bonus (or the Green Scalar) is questionable. Some of the potential issues are described below, and are set out through a worked example in Annex A of this response.

As per the 2019 ACER methodology, emissions intensity is calculated based on a unit operating at nominal capacity, defined as the "maximum continuous net active power which a generation unit can produce and feed into the network". It should be noted that on the European system, thermal plants are more likely to run more often at their nominal capacity, compared to the small, high SNSP Irish system, where thermal units will run more often closer to mingen to meet operational constraints than they would in Europe.

This nominal capacity will not reflect the actual running of a procured thermal unit which will increasingly be more likely to run closer to minimum generation ("mingen") to satisfy operational requirements. It is Energia's view that the outcome from using the emissions intensity at full output as the threshold for the Green Bonus may be higher emissions than could have been delivered through better targeted metrics.

For example, two competing CCGTs may have very close efficiencies and hence g/kWh emissions factor at full output, but the most efficient at full output may be less efficient than the other unit at part load due to it having higher fixed energy requirements. Hence in terms of emissions, the wrong unit may be being incentivised through the Green Bonus.

To add further nuance, even if the units had similar efficiency/emissions factors at part load, the mingen levels are also a key consideration for the emissions output of thermal capacity during the energy transition.

It is possible that for two units where one has a lower emissions intensity than the other at full output, that unit with the lower emissions intensity that is incentivised by the Green Bonus could also have a higher mingen. This would not be the best outcome from a decarbonisation perspective as selecting the unit with the higher mingen could lead to more dispatch down of renewables and higher overall emissions.

To achieve the most efficient and cost-effective outcomes for consumers, the incentives for the Green Bonus need to be carefully devised with time taken to ensure that the incentives actually support decarbonisation at least cost for consumers.

In terms of use of the Green Bonus in other EU markets, as noted in this consultation paper in Poland where the Green Bonus is in operation the emissions threshold could be set below the current maximum for participation in capacity markets (550g/kWh) but at a level that should be easily attainable by any modern and efficient CCGT at nominal output (450g/kWh), as the context is a system with a high proportion of coal plants. Clearly, a similar scenario is not applicable for the CRM.

Energia's view is that a separate consultation would need to be undertaken to determine an appropriate set of parameters for the Green Bonus or Green Scalar, were they to be introduced, that would most effectively incentivise decarbonisation in the CRM. This would be better incorporated as part of the wider CRM Development Programme under Phase 2 of AFRY's work.

3. Is one year the appropriate additional contract duration?

One year appears to be the appropriate additional contract duration in terms of aligning extensions with capacity years, and for providing a meaningful incentive while reducing the risk of over-incentivising for a mechanism whose benefits are at this stage unknown and hypothetical.

Energia notes that the RAs intend to imminently implement modification CMC_07_24 on the Treatment of Capacity Contracts of Varying Duration in Constrained Auction Solution. This modification seeks to account for the introduction of 5-year contracts for refurbishment and retain the principle as per the existing State aid approval that shorter duration contracts are prioritised in capacity auctions for the purposes of meeting the Locational Capacity Constraint (LCC) requirements.

As per the approved legal drafting published by SEMC on the 23rd of February, CMC_07_24 is to be implemented by multiplying the bid price of exempt capacity offers by their offered capacity duration. If a unit that is eligible for the green bonus has their additional year reflected in their offered capacity duration at auction stage, then this will put it at a disadvantage in the auction compared to units without the Green Bonus.

Energia's view is that to align with the principle that shorter duration contracts get preference in meeting LCCs, a unit eligible for a Green Bonus should get a lower priority in meeting LCC requirements to a similar project that is not in receipt of a Green Bonus. It is important that this principle is maintained to align with existing State aid approval. However, it would simultaneously deter applicants from being incentivised by a Green Bonus if it made them less likely to clear in the CRM auction.

The interaction of the Green Bonus and CMC_07_24, and more general compliance with the underlying principle of giving preference to shorter duration contracts in the constrained auction, would need to be clarified by the RAs prior to implementation.

4. Is the definition of blended hydrogen-readiness appropriate i.e. that the unit must incorporate combustion equipment that is capable of burning a blend of up to 30% hydrogen? Should a higher/lower percentage blend be applied for the blended hydrogen-readiness definition?

Energia agrees with SEMC that any level of hydrogen-readiness to be set in support of the Green Bonus should be based on the expected potential composition of gas in the natural gas transmission system in the 2030s. This makes sense as while incentivising refurbishment to meet such a level in the short-term may reduce or avoid the need for additional refurbishment in the future, it also makes sense to incentivise hydrogen readiness close to the time of hydrogen blends being on the system, as the benefits of doing the refurbishment later is that the costs of such refurbishment are likely to have fallen in line with technological advancements and efficiency improvements.

From the literature referenced in the SEMC consultation paper, it is not clear how the figure of 30% has been selected to align with what is likely to be in the SEM network in the short-medium term. Specifically:

- The referenced January 2025 Hydrogen Acceptability Study from National Gas Transmission found general capability for applications at 20% blending levels.
- The Department for Economy (NI) consultation only references the 2023 UK position of supporting blending of up to 20%.
- The Irish Government's National Hydrogen Strategy only references blends of up to 20% as being the level beyond which many end user appliances would have difficulty operating under.
- The UK July 2025 consultation only refers to the previous consultation's position of blending up to 20%.

Furthermore, other recent publications provide further evidence that hydrogen blends in the Irish system are unlikely to approach 30% in the 2030s. Specifically:

- The Sustainable Energy Authority of Ireland's February 2025 report on "Forecasts of Plausible Rates of Generation Technology Deployment 2024-2040" found that most expert participants were of the view that there would be a low level of hydrogen blends into the extant gas networks up to 2040 via IC1, starting at around 1% in the early to mid-2030s and not likely to exceed 5% volumetric blend.
- The only reference to hydrogen in the International Energy Agency's December 2025 Powering Ireland's Energy Future report is to state that its deployment is highly uncertain.

From the studies available, it seems unlikely that power generation will be the most efficient use of the volume of hydrogen that is initially produced at scale, and it may be more appropriate that early hydrogen production is utilised primarily in hard-to-abate sectors.

Nor is it clear that hydrogen will be the primary vehicle in the future for the full decarbonisation of thermal. In the future, if technology such as carbon capture and storage becomes more economical than hydrogen, then early investment in hydrogen capability could become wasted. It is therefore not clear that it is of benefit to consumers for SEMC to pick winners in this way via the CRM, and it could be argued that specifically incentivising hydrogen readiness is a step away from the technology neutrality that is a feature of the CRM.

On this basis, Energia would question the value of implementing a hydrogen-readiness level as part of the requirement for the Green Bonus, and if one were to be implemented, that it be set at a substantially lower level than 30%.

Consultation Questions Regarding the Geen Scalar

5. Would the Green Scalar create an incentive that market participants could respond to within the timeframe of the remaining auctions under the existing CRM?

Energia's view is that, similar to the issues with implementing the Green Bonus in time for auctions after the T-4 29/30 auction, the Green Scalar option is insufficiently developed to realistically create an incentive that market participants could respond to within the timeframe of the remaining auctions under the existing CRM.

6. What are the appropriate CO2 emissions thresholds that should apply for the Green Scalar? Please provide appropriate evidence and rationale to support.

The same issues as set out in Energia's response to Question 2 of this consultation paper regarding choosing the appropriate emissions thresholds and setting them at the right level for the Green Bonus apply also to the Green Scalar.

Energia notes that the AFRY paper states that the emissions intensity functions that would define the Green Scalar could be tailored to particular technologies. It is not

clear to Energia how the Green Scalar would operate for technologies where direct emissions from generation are zero (e.g. storage) or where the level of emissions depends on the specific arrangements for the individual sites that comprise the unit in question (e.g. DSUs).

In the case of storage, it is not clear how an emissions threshold to inform an emissions intensity function could be set to differentiate between different units. Similarly, a function that differentiated between DSUs would not only require an assessment of a DSU's relative emissions intensity at qualification, but assumedly an ongoing assessment of their emissions intensity to account for any changes in the composition of the demand sites that comprise that DSU.

It could be the case that the Green Scalar applies the same scalar to all units within technology classes such as DSUs or Storage, and this in effect benefits all units within these "clean" technology classes by enabling them to bid lower and be more competitive in the CRM auctions. It could also be argued by increasing the final capacity price the units receive, this helps develop the technology class as a whole by providing more financial support through the CRM.

However, in addition to this being at odds with AFRY's stated purpose in the report of primarily focusing on existing units that will be the primary emitters of emissions to 2050, it also raises the question of how significant deadweight loss would be avoided. Specifically, there would be no way of knowing whether the scalar applied on the capacity payment price of certain technology classes had any incentivising impact on them participating in the CRM, and the risk therefore would be that extra money was being awarded via the CRM without any particular benefit to consumers.

7. Should the Green Scalar be a continuous or stepwise function?

While a continuous function may in theory incentivise incremental decarbonisation, a non-linear stepwise function may be more appropriate in targeting the incentive at thermal generation without an ILC, as increases in the scalar could cease beyond levels that could be realistically achieved by CCGTs.

However, due to the lack of clarity regarding how a Green Scalar would work in practice, particularly in terms of how it would be set for different technology types, it is difficult to give a definitive answer to this question.

Consultation Questions Relevant to Both the Green Scalar and Green Bonus

8. Which of these two options – the Green Scalar or the Green Bonus – do respondents consider is likely to be more effective within the timeframe of the remaining auctions under the existing CRM?

Energia's view is that neither option is likely to be effective within the timeframe of the remaining auctions under the existing CRM.

As set out in our response to Question 1, Energia does not believe either option is at the stage of development in terms of the detailed design where it could be implemented as an effective incentive mechanism prior to the auction after the T-4 29/30 auction scheduled for Q1 2027.

Targeting implementation at the remaining auctions under the existing CRM would in Energia's view increase the risk of erroneous design or implementation, and as a result either a failure to achieve the decarbonisation aims as intended, an outcome which promotes capacity that would increase emissions (see response to Question 2 and Annex A), or leads to additional costs to consumers for no tangible benefit.

Energia's view is that the RAs should further develop and consult upon these options as part of the CRM Development Programme ahead of the 2028 State aid renewal. This would provide the RAs with more time to prepare and consult upon the detailed design of any chosen mechanism such that it is likely to be effective and sustain into the longer-term.

9. What technologies could be expected to benefit from the Green Bonus or the Green Scalar in the specified timeframe? a. For each technology referred to, what is the associated scale of and timeframe for investment for an existing or a new plant?

Energia has focused its response to this question on the four technologies that comprised more than 90% of successful capacity at the most recent T-4 28/29 CRM auction: thermal, interconnectors, storage and DSUs.

As per Energia's previous responses, Energia does not believe any technologies are in a position to materially benefit in the specified timeframes. Energia has still considered whether theoretically these technologies could benefit from the Green Bonus or the Green Scalar, on the assumption that any option introduced at this stage would persist as part of the post-2028 CRM framework.

Thermal

Thermal units without an ILC are identified by AFRY as the primary source of "decarbonisation potential" for the remainder of the existing CRM. As Energia has set out in response to previous questions, the extent to which thermal technology could benefit from the incentives identified would depend on the details of those incentives.

Gas CCGTs can be refurbished within a four-year time horizon subject to commercial agreements with OEMs, supply chains, and outage planning. Typically, new CCGTs that have been successful in CRM auctions have taken substantially longer to deliver (if they can be delivered at all) than a four-year time horizon. The costs of such delivery are set out in the Best New Entrant Net Cone paper from 2023 (SEM-23-016), and EAI's response to the original consultation paper.

In addition, non-fossil thermal such as units primarily run on biomass or Hydrotreated Vegetable Oil (HVO) could also benefit from a Green Scalar or Green Bonus. However, unless these units are also connected to the gas network, there is a limit to the extent that these units may be able to be relied upon during a security of supply

event due to the uncertain availability of their primary fuel. It is also the case that while the generating emissions of such units may be zero, the overall decarbonisation impact depends on how, and from where, the fuel is grown and sourced.

Interconnection

It is unclear that interconnection would receive any benefit from the Green Scalar or the Green Bonus in the case that it were eligible. The interconnectors currently under consideration for development (MARES and LirIC) have applied for 25-year cap and floor revenue arrangements, and therefore the additional incentives offered by the Green Scalar or Green Bonus are unlikely to be a significant factor in their development.

For Celtic and any future interconnection with Europe, as per SEM-25-071 participation across these interconnectors is required to be explicit, and therefore there would be no direct incentive effect on the development of such interconnection. How the Green Bonus and Green Scalar would apply, if at all, to foreign participants is a further matter for consideration.

Interconnectors typically have development timelines that can span close to a decade as they seek the relevant approvals and support mechanisms.

Storage

Storage technology could theoretically benefit from either option in the paper. However, as discussed in response to Question 8, it is difficult to understand how a Green Scalar or Green Bonus could distinguish between the relative emissions of different storage projects. Storage technology does not generate any emissions directly, and any indirect emissions are dependent on the composition of generation on the system at the time of charging (which is typically high-renewable as storage is incentivised to charge at times of low wholesale prices).

As discussed in response to Question 8, by increasing the total remuneration received from the CRM (either through an additional year contract or increasing the capacity payment price), either incentive could make the CRM a more viable route to market for new storage projects. However, there would be risk of significant deadweight loss through providing additional remuneration to projects that may have entered the market anyway without additional incentive.

Storage projects can be developed by experienced developers in less than two years once the relative consents have been received. The typical costs are set out in the most recent BNE decision paper.

Demand Side Units

As discussed in response to Question 8, in theory DSUs could benefit from the Green Scalar and Green Bonus, but this would require verification of the ongoing emissions intensity of each DSU.

The AFRY paper notes that a full review and optimisation of market arrangements for DSUs is not feasible within the timeframes of the existing CRM. There is therefore a risk that the introduction of a Green Scalar or Green Bonus could incentivise additional DSUs to enter the capacity market prior to the market being able to realise the potential value from them. This would be a suboptimal outcome, particularly were it to contribute to the inefficient exit of existing technologies that can be better relied upon to be available.

10. What is the expected commercial running pattern for each technology and are there constraints on its flexibility?

Thermal

All modelling shows that thermal plants are expected to experience reduced commercial running in the future as, (i) Ireland and Northern Ireland build out new renewable capacity including offshore wind and, (ii) operational constraints are reduced. Thermal will continue to play an important role in meeting increased demand requirements, particularly during Dunkelflaute events.

For thermal plants that are intending to run on an alternative fuel source such as biomass or HVO their flexibility may be constrained by the availability of their chosen fuel, particularly after periods of prolonged operation in a security of supply crisis.

Interconnectors

Interconnectors will continue to primarily flow according to the price differentials between the connected markets. System constraints will limit the flexibility of interconnectors in terms of whether the system can safely operate with each specific interconnector at full import or export. Constraints on their flexibility also include the willingness of corresponding System Operators to accept SO-SO trades to reverse the flows of an interconnector when desired, and the potential for unilateral SO actions during a security of supply event.

Storage

The commercial running patterns and flexibility of storage, particularly Long Duration Energy Storage (LDES), will in part be determined by any future support scheme that is developed by the SOs, an enduring solution to scheduling and dispatch, and any revision to Firm Access policy.

DSUs

DSU's commercial running is dependent on market and system changes to further integrate them into the core I-SEM markets. DSUs have thus far had very poor availability in the CRM.

11. What verification process should apply to ensure compliance with the emissions thresholds for either measure?

SEM-20-036 sets out the technical guidance for determining CO2 emissions for compliance with the Clean Energy Package emissions requirements. The guidance recommends that units seeking to qualify for a capacity auction should provide an emissions value based on the most recent three calendar years of historic data.

However, SEM-20-036 states that ex-post validation of emissions after qualification would require "more substantive changes" to the CMC or TSC, including with regards to how to treat a unit which qualifies and later fails verification.

The emissions limits for individual units will be set out in their environmental licences, with compliance reports submitted on an annual basis. At the Huntstown plants, a Continuous Emissions Monitoring System is in operation, with all emissions monitored

in the control room. Energia also reports the cumulative Scope 1 emissions from its Huntstown electricity generation as part of our Responsible Business Report, though this is only in terms of the combined total absolute emissions of both plants rather than emissions intensity.

Regarding hydrogen readiness, it is not clear how the actual level of hydrogen readiness can be tested. While guarantees can be provided by OEMs, there is currently insufficient hydrogen (or blended hydrogen) on the island of Ireland to subject units to testing of their actual hydrogen readiness. Without appropriate testing arrangements in place, it may be premature to include hydrogen-readiness as a parameter that determines length of contract in a capacity auction.

As raised in response to previous questions, the calculation and verification of the emissions of other technologies such as storage or DSUs is more difficult.

The AFRY report states that the RAs have engaged with the TSOs on a review of emission assessment, validation and reporting. It would be useful for market participants to have sight of the results of this review and be able to respond, prior to any verification processes being established.

Consultation Questions Relating to Supplementary Measures

12. Do you agree with the proposal to publish the carbon emissions data submitted at qualification by successful units, and where relevant, ex-post data provided by successful units?

As per our response to Question 11, Energia already voluntarily publishes its aggregate emissions data for the Huntstown electricity generation plants as part of its Responsible Business Report. Furthermore, Energia's CO2 emissions from its Huntstown generation are independently verified as part of the EU Emissions Trading Scheme with annual emissions published by the EU (on the Union Registry public website).

Clearly, the level of actual emissions from a plant will be in large part the result of how often that plant is dispatched by the SOs, and therefore it is not clear what further publication of actual emissions data would achieve.

The publication of emissions intensity data would depend on the ex-post measurement of emissions intensity, as discussed in response to Question 11. Energia does not oppose the publication of this data in principle subject to reasonable administrative effort (as cited in the AFRY report). The sanction for failing to comply with emissions requirements ex-post would need to be clarified.

13. How effective do respondents consider the proposed "Decarbonisation Declaration" would be?

Energia does not consider that the proposed "Decarbonisation Declaration" would be effective as it is set out in the AFRY report.

Energia will already be subject to the mandatory sustainability and ESG reporting obligations set out in EU law via the Corporate Sustainability Reporting Directive (CSRD) from 2029. It is not clear how adding a layer of separate reporting requirements via the CRM would be effective.

The requirement to acknowledge non-exemption from legislation and current or future objectives does not seem likely to meaningfully change the incentives on a participant but may require legal review as to how the inclusion of such a statement in a signed declaration could be interpreted in the future.

The requirement to study technical and economic feasibility of reducing greenhouse gas emissions and a greenhouse gas emissions reduction plan to reach net-zero by 2050 is similarly likely to increase administrative burden and legal risk without meaningfully incentivising a change in behaviour.

In part, the ability of existing thermal generators to reach net-zero will likely depend on the availability of zero emissions fuel in the gas network and/or the development of carbon capture technology to the point of economic, commercial and technical feasibility. These developments are highly uncertain and are not factors that are within the control of individual participants.

This is acknowledged by AFRY in their report as their rationale as to why it is not proposing to obligate decarbonisation through the CRM. AFRY states that "the lack of certainty on technology and infrastructure readiness makes it challenging for existing plants to commit to full-scale decarbonisation (e.g. H2 or CCUS)". Energia agrees with this statement, however, the decarbonisation declaration proposes to commit participants to a plan to fully decarbonise by 2050.

Also in the report, AFRY comments on the Decarbonisation Declarations that "it is not apparent what the impact of this commitment will be in practice, and what the consequences would be of it not being met, particularly due to circumstances outside of the participant's control e.g. insufficient supply of low carbon fuel, or lack of necessary infrastructure or of supporting policies". Energia agrees with this statement.

Energia notes that further decarbonisation of thermal units is a live issue in the Irish context, with the Irish government currently considering options regarding the development of Carbon Capture, Utilisation and Storage following a series of workshops with industry held across 2025. This is another reason as to why the options in the paper may be better implemented in line with the renewed State aid approval in 2028.

14. Is the proposed content of the "Decarbonisation Declaration" sufficient? Could other elements be included e.g. feasibility study, interim targets?

As per our response to Question 13, Energia's view is that a Decarbonisation Declaration is unlikely to meaningfully add to the existing and forthcoming reporting requirements, nor incentivise decarbonisation in the CRM, and instead could increase administrative burden and legal risk for participants.

15. Do you consider that any of the other measures discussed in the accompanying AFRY Assessment

Report, or any measures to achieve decarbonisation that not identified by AFRY, should be considered further by the SEM Committee? If so, please state clearly if your view relates to the timeframe of the present workstream (lifetime of the existing CRM) or longer-term CRM development. If so, please provide supporting evidence.

Energia's view is that none of the other measures identified by AFRY would be implementable or appropriate in the timeframe of the existing CRM. Energia would welcome further detailed consultation on any other measures that were to be considered as part of the longer-term CRM development in Phase 2 of AFRY's work.

Annex A – Green Bonus and Scalar Emissions Intensity Threshold Example

In this example, three hypothetical new CCGTs are seeking to qualify for a T-4 CRM auction. Their relative outputs and efficiencies are set out below. These figures have been sense-checked to actual SEM generator data to ensure feasibility.

Unit	Nominal Output (MW)	MinGen (MW)	Emissions Intensity (gCO2/kWh) at Nominal Output	Emissions Intensity (gCO2/kWh) at MinGen	Total Hourly Emissions at MinGen (kg CO2)
CCGT A	340	120	380	520	62,400
CCGT B	400	120	370	530	63,600
CCGT C	450	160	360	460	73,600

Green Bonus

The Green Bonus emissions intensity level is set at less than or equal to 360 gCO2/kWh.

In this example, units B and C have an emissions intensity at nominal output that is greater than the Green Bonus threshold and are therefore not eligible for the Green Bonus. Unit C has an emissions intensity at nominal output that is less than or equal to the threshold and is therefore eligible for the Green Bonus.

Unit C can therefore spread their costs over an additional year, giving it an advantage over Unit A and Unit B in the auction and making it more likely that it will clear.

However, Unit C has a higher mingen than either Unit A or Unit B. If in reality the new CCGTs are likely to run closer to their minimum generation than at their nominal output, then Unit C will emit more emissions than had Unit A or Unit B cleared in the CRM instead. Furthermore, the higher mingen means that more renewable generation will be dispatched down than had Unit A or Unit B cleared.

Green Scalar

If the Green Scalar is selected using an incremental function, then the unit with the lowest emissions intensity will receive the greatest benefit. In this example, that unit is Unit C, the largest unit with the lowest emissions intensity. This leads to the same issue as outlined in the Green Bonus example above.

However, comparing just Unit A and Unit B, the Green Scalar should provide a greater award to Unit B as it has the lower emissions intensity at nominal output. However, due to differences in the technical composition of the plants, Unit B actually has a higher emissions intensity than Unit A at mingen. Therefore, when the units are running at mingen or part-load, the plant that has been incentivised by the Green Scalar is actually emitting more than the alternative.