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Options for Decarbonisation of the existing CRM design  
(SEM-25-070)

SEM Committee

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Consultation Response

27 February 2026

BnM warmly welcomes the opportunity to provide industry feedback to the SEM's consultation on the proposals to decarbonise the Capacity Remuneration Mechanism.

In the journey to a net zero power system, it is fundamental the CRM sends the appropriate investment signals towards incentivising lower carbon emitting, flexible, transitional gas generating technologies. The capacity market and emergency arrangements have in the past 5 years delivered a number of, rapid build, higher carbon, dispatchable assets to essentially ensure security of supply at higher than necessary cost to the consumer. The proposed decarbonisation mechanisms in combination with prudent use of derating factors and realistic auctions timelines have the potential to deliver more cost effective, lower carbon, renewables 'enabling' generation.

Developers have been unable to build lower carbon emitting gas generator assets as the capacity market has been unfavourable, instead incentivising the fast build, less efficient, higher carbon gas generating units. The ability to secure funding<sup>1</sup> to finance a CCGT relies on revenue certainty from the CRM and in the absence of the necessary parameters, in combination with unrealistic auction timelines has resulted in limited development of only OCGT's.

Funders, in looking for revenue certainty across Energy, System Services and Capacity – look to Capacity in the first instance to underpin revenue streams and funding decisions – in turn contributing to Security of supply & Consumer benefit

We welcome this paper in that it works towards a path to Net Zero by 2050 as well as its ambition to introduce positive measures potentially from CY\_30\_31, ie, immediately after the upcoming T-4 auction in March 2026. However, we consider CY\_30\_31 a little ambitious and **suggest that timing around a T-4.5 or T-4.75 for CY 32\_33 – which would have auction timing Q1 2028 or Q4 2027 would give sufficient time to fine tune these proposals.**

Our response is in **three parts**:

1) **PART A** – High Level Design Points – Decarbonisation & New Capacity

2) **PART B** – High Level Response to this Decarbonisation Consultation

Main points/recommendations:

- i) Under the Green Bonus: - Extension should be for 2 years (option)
- ii) Under the Green Scalar: - Need for Annual recalibration of Green Scalar
- iii) Both the Green Bonus coincident with the Green Scalar are necessary
- iv) Other Measures: Extension of the Longstop, without Contract erosion
- v) Emissions Data Publication: Support – but with any additional costs not for the developer
- vi) Decarbonisation Declaration from Bidders: not appropriate for Directors to sign documentation outside of their control

3) **PART C** – Direct Responses to Decarbonisation Consultation Questions

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<sup>1</sup> We consciously differentiate between developers and funders.

## 1) PART A – High Level Design Points – Decarbonisation & New Capacity

Before discussing our feedback to the Consultation proposals we make some high-level design points directly related to Decarbonisation:

A) Fundamental to delivering New Capacity is **ensuring that the Auction Price Cap is sufficiently high**. There has been a significant ramping upwards of Capex costs due to rising world-wide demand for generators driven by the growth in AI, as well as to local policy<sup>2</sup> (eg, requiring datacentres to have their own on-site or proximate generation equipment scaled to match their MIC), which is not reflected in the static and dated current BNE which underpins the Auction Price Cap calculation. This Supply Chain issue needs to be reflected in appropriately higher auction price caps. Current values severely threaten the business case for New projects, significantly reducing investor/developer appetite for strong dispatchable generation projects which are capable of being delivered – and essential to provide Security of Supply, the journey to Net Zero decarbonisation and benefit to the Consumer. Supply chain issues are exacerbated by Ireland’s relative geographic isolation vs mainland EU and US.

B) **High efficiency decarbonisation needs to be recognised**. Current New flexible CCGTs have an OEM stated guaranteed availability of 95% over a 10 year period, and yet are derated in the CRM to circa 70%. **It is counter-productive that lower carbon Technologies enabling the renewables transition in the Path to Net Zero are disadvantaged**.

We welcome that SEMC, in a July 2025 Decision paper<sup>3</sup>, says it intends to explore possible changes to the derating factor methodology, which could include unit-specific derating factors, and is engaging with the SOs to better understand the impact of any such change.

C) Lead times for Auctions at even 3.75 years are too short; Units, such as CCGT, as well as other **Technologies which are capable of delivering Decarbonisation at scale require lead-times of the order of 5 years**. We welcome the related live consultation<sup>4</sup> on the Timing of Auctions and recognise scope for a T-4.75 for CY 32\_33 from a Q4 2027 auction.

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<sup>2</sup> In Ireland, the recent CRU Decision on New Electricity Connection Policy for Data Centres requires datacentres to have their own on-site or proximate generation equipment scaled to match their MIC – putting increasing pressure on supplies and supply channels – inevitably leading to increased cost as well as uncontrollable delays to the participant.

<sup>3</sup> SEM-25-035; July 2025; ref: CMC\_02\_25 – SEPARATE DE-RATING FACTOR FOR NEW VS. EXISTING CAPACITY

<sup>4</sup> SEM-25-070; December 2025\_Options for the Timing of Upcoming Capacity Auctions

BnM strongly recognises the importance of SEM 23-101<sup>5</sup> “The Supplementary Decision paper on Combined Modifications” – the ‘Umbrella Delay Decision’, and we urge consideration of how to make its provisions more bankable.

We also believe that there is merit in exploring how the CRM Exception Application current Provisions could be broadened to include for timeline extensions for projects of scale, having specific value to the grid and consumer, which do not fit into the ‘one size fits all’ approach – where for instance Gas and Grid timelines for complex projects could be factored. Examples of Specific values to the Consumer are – providing Supply Security and/or providing the Pathway to Net Zero.

**D) Non-Delivery of Projects – getting the Demand curve right**

Experience shows that actual Capacity delivered falls well short of capacity volumes which were successful at auction. It is vital that the Auctions calculate the appropriate volumes taking non-delivery into account. We note that in the just published All Island Resource Adequacy Assessment 2026–2035 that the ‘Secure assessment’ indicates ‘the system remains outside of standard with a deficit of around 200 MW increasing to over 400 MW in 2034’. We are somewhat surprised that this perceived volume gap is so low – and encourage, notwithstanding current procedures, that due consideration is given to all projects which will terminate. We note to date the heavy reliance on Temporary Emergency Generation – and are conscious of its heavy cost to the Consumer.

**E) Ageing Fleet – Need for Longer Term Focus – New Capacity vs ILCs**

The system will become increasingly reliant on enduring New Capacity (more efficient) to provide sustained Supply Security for the longer term, rather than ILCs which provide volume for only the medium term. It is essential that there is not over-reliance on ILCs and **that New Capacity is not disadvantaged in competing for an RO**. This is called out in the IEA’s Powering Irelands Energy Future Report, Dec ’25 – around CRM Reform and the changing role of backup capacity – which will rely on New Capacity due to the ageing fleet.

**F) Larger Decarbonisation Generation of Scale – Lumpiness issue**

We highlight in auction solving that it is very difficult for a ‘lumpy’ project of scale, which has the potential to deliver decarbonisation at scale, to succeed at auction. This is an inherent weakness in auction design, which inherently **puts a Large New Capacity at a disadvantage**.

**G) Visibility of Future Auction Schedule – for Multiple Auctions**

This would lead to more successful (efficient/effective) auction outcomes as developers would have more time to plan and prepare all aspects including funding.

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<sup>5</sup> SEM 23-101 Decision on Supplementary Consultation Paper on modified and combined Modifications to Facilitate Delivery of Capacity (the Umbrella Modification)

## 2) PART B – High Level Response to this Decarbonisation Consultation

With regard to Design proposals within **THIS consultation** we **propose some immediate assessment / design criteria:**

- To **avoid New Capacity continuing to be at a competitive disadvantage** from 1 year and 5 year Intermediate Length contracts automatically taking priority over 10 Year New Capacity contracts
- Ensuring Auction Volume Adequacy
- Getting the Design parameters right

### Regarding the Consultation proposals:

#### i) Under the Green Bonus: - Extension should be for 2 years (option)

The proposal to add lead-time for project delivery for low carbon projects is very positive. The need for adequate lead-times for project delivery is well recognised and we welcome the associated concurrent consultation on same<sup>6</sup>. Under the Green Bonus proposals there would be an addition of 1 year at the end of the 10 year RO for New Capacity. While we welcome the concept, we believe that to be meaningful that this **should be an addition of 2 years** (option)– relating to the time value of money. Under the BNE the WACC is 7%. The value of cashflows in year 11 at this discount rate = 0.45, ie just 45% of what they would be in year 1.

Secondly, while the system is not Hydrogen ready, we commend the initiative towards Gas units in recognising that there needs to be a pathway for high levels of Hydrogen, given its likely future prevalence in the gas network.

#### ii) Under the Green Scalar: - Need for Annual recalibration of Green Scalar

Although untested at EU & for State Aids, this measure directly targets decarbonisation, recognising high efficiency technologies such as CCGT which are essential to support the journey to Net Zero. **This proposal currently puts New Capacity at a competitive disadvantage and could be improved by ensuring equal treatment across contract durations, 1 yr, 5yr, 10yr** whereby the decreasing CO<sub>2</sub> emissions of the unit over the contract would be reflected annually. **To do otherwise would competitively disadvantage New Capacity.** For instance, comparing an ILC vs New Capacity – where in both cases the units are equally successful in Decarbonising – the New Capacity Green scalar will be anchored for 10 years at Year 0 value and will not be rewarded

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<sup>6</sup> SEM-26-003; January 2026 Options for the Timing of Upcoming Capacity Auctions

for successfully decarbonising. In contrast, over a 10 year period, the ILC will have the opportunity to improve its scalar annually after its 5 year term. Likewise, both New Capacity and ILCs will each be disadvantaged vs Existing capacity which can be incentivised for decarbonising on an annual basis. The solution is to recalibrate the Green scalar annually.

**iii) Both the Green Bonus coincident with the Green Scalar are necessary.**

BnM believes that both the **Green Scalar & Green Bonus** are necessary to fully recognise the contribution of lower carbon producing, flexible generating assets – in the journey towards Net Zero.

We see opportunity for the **Green Bonus** to set the unit specific benchmark of carbon emissions. And the **Green scalar** to reward the progressive annual beneficial reduction in emissions over the project duration.

This mitigates the issue regarding New Capacity being disadvantaged - **reviewing the decarbonisation scalar on an annual basis** – thereby providing the proper incentive for incremental decarbonisation.

**iv) Other Measures:**

We believe that **Extension of the Longstop, without Contract erosion**, should be considered, particularly for complex infrastructural gas fuelled projects which involve gas and grid connection – recognising that natural gas will be displaced, transitioning to Renewable Gas in the path to Net Zero.

An issue with Extension of the Longstop in the AFRY Options document is Contract Erosion. To address this, we propose that either the contract is extended first off, rather than being eroded – or that the contract extension is linked in with the additional 2 year extension which, as mentioned above, we propose is appropriate under the Green Bonus.

**The existing CCGT fleet with an average age >20yrs has a finite economically viable operating life remaining, hence the urgency to attract New low carbon dispatchable gas replacement Capacity without delay.**

**v) Emissions Data Publication: Support – but with any additional costs not for the developer**

BnM does not have a formal position on this other than consideration around the potential imposition of additional costs – depending on the design of the reporting requirement and of conditions attaching. Our position is that **any additional costs should be not for the developer**.

**vi) Decarbonisation Declaration from Bidders:**

We do **not believe that it is appropriate for generators across the board to be expected to provide a Director-signed declaration committing to Net Zero by 2050**. Directors can not be expected to sign declarations for aspects outside of their control.

### 3) PART C – Direct Responses to Decarbonisation Consultation Questions

#### 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?**

We consider CY\_30\_31 a little ambitious and **suggest that timing around a T-4.5 or T-4.75 for CY 32\_33 – which would have auction timing Q1 2028 or Q4 2027 would give sufficient time to fine tune these proposals.** We understand from the concurrent consultation on auction timelines<sup>7</sup> that this auction timing is within current State Aid requirements within the existing CRM.

The **Green Bonus** concept as an incentive is positive but adding only a single year to a new or ILC unit's capacity contract term will fail to signal developers to upgrade or build vital low carbon transitional generation. Simple analysis shows that to be meaningful that this **should be an addition of 2 years (option)** – relating to the time value of money ref Question 3.

New low carbon dispatchable generation technology of scale, essential for security of supply and for supporting the transition to net zero has not been delivered on the Island since 2014. **In combination with the Green bonus, a Green scalar** should recognise CO<sub>2</sub> intensity performance, thus rewarding the cleanest assets.

It is essential that the above mechanisms are underpinned with conducive, realistic auction timelines given third party factors dictating pace of delivery, including supply chain, gas and grid infrastructure. In the current environment multiple external factors dictate the pace of development of new generation infrastructure, and auction timelines of 3.5 years offer, little, if any incentive to developers to accept project risk even for higher carbon modular OCGT. These factors have presented severe difficulty to 'good faith' projects which have had to terminate.

Additional time added to the capacity term, coupled with the **Green Scalar** increases contracted revenue certainty for a new or a refurbished asset; and project bankability. The ability to obtain project finance on these high capex developments is an evaluation of risk of/to investment by lenders, and increasing the CRM revenue certainty is fundamental to delivering these essential assets.

Reduced carbon, dispatchable flexible generating technologies at scale - a key enabler in the transition to net zero, are complex, carry significant risk in development and consideration should be given to a level of risk apportionment, which is currently heavily

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<sup>7</sup> SEM-26-003; January 2026 Options for the Timing of Upcoming Capacity Auctions

skewed against the developer, which will satisfy funders. To stimulate the vital transition, the markets ultimately need to signal improved project certainty through adequate project delivery timelines.

Annual Capacity revenue levels have been progressively eroded between Capacity years, and particularly for the larger, higher efficiency, lower emissions assets, where, for example a new 'F' class CCGT unit is subject to a derating factor of 0.70. The de-rating factor is intended to reflect the availability performance of the asset, where a new unit has a manufacturer underwritten guarantee of 95% for the first 10 years of operation.

We welcome that SEMC, in a July 2025 Decision paper<sup>8</sup>, says it intends to explore possible changes to the derating factor methodology, which could include unit-specific derating factors, and is engaging with the SOs to better understand the impact of any such change.

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

We do not propose a specific numerical threshold at this stage. We believe that any threshold should be accompanied by feasibility on the part of industry in the first case.

For the **Green scalar** the CO<sub>2</sub> emissions threshold should be scaled below the current 550gCO<sub>2</sub>/kWh to 0gCO<sub>2</sub>/kWh for hydrogen / CCUS / renewable technology.

The Green scalar should be used and reviewed annually rewarding incremental improvement in emissions performance to support appropriate investment signals.

Separately, ever decreasing Derating Factors between Auction years have been penal to the development of new CCGT's in not recognising availability performance of currently available technology and the massive potential contribution to carbon dioxide emissions reductions.

**3. Is one year the appropriate additional contract duration?**

Bonus years should be multiple years recognising CO<sub>2</sub> emissions performance and the contributions to the transition to net zero. With reducing energy revenue from gas generation, the ability to fund ILC's or New Capacity in future will fundamentally depend on the ability to raise finance and revenue certainty from contracted capacity revenue.

Simple analysis shows for that to be meaningful, that this **should be an addition of 2 years** (option)– relating to the time value of money ref Question 1. Under the BNE the WACC is 7%. The value of cashflows in year 11 at this discount rate = 0.45, ie just 45% of what they would be in year 1. International precedent indicates that longer additional contract terms are typically required to materially affect financing conditions. Poland, for example, provides two additional years.

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<sup>8</sup> SEM-25-035; July 2025; ref: CMC\_02\_25 – SEPARATE DE-RATING FACTOR FOR NEW VS. EXISTING CAPACITY

**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?**

We believe that OEMs will be prepared to indicate Hydrogen readiness – and that there can be an OEM methodology agreed to certify up to 30% Hydrogen in time for CY 2032\_33 which is the delivery year when we believe that this Green Bonus could be introduced within a T-4.5 or T-4.75 which could be delivered with auction time Q1 2028 or Q4 2027 respectively.

The **Green Scalar should reflect the CO<sub>2</sub> emissions** and recognise proportionally any inclusion of H<sub>2</sub> or biomethane in the fuel mix – with this to be reviewed/recalibrated annually to reflect incremental decarbonisation improvement.

### **Consultation questions regarding the Green 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?**

The **Green Scalar** will undoubtedly offer an incentive within the current timeframe for existing & new gas plants to reduce CO<sub>2</sub> emissions. We observe from the concurrent consultation on auction timing<sup>9</sup> that the current timeframe extends to CY 32\_33 with an auction in Q1 2028 or Q3 2027.

This proposal **could be improved by ensuring equal treatment across contract durations, 1 yr, 5yr, 10yr** whereby **the decreasing CO<sub>2</sub> emissions of the unit over the contract would be reflected annually**. To do otherwise would competitively disadvantage New Capacity.

With the implementation of a linear mechanism rewarding CO<sub>2</sub> reduction the incentive could be there too for continuous incremental improvement. Combustion system upgrades for gas, higher compression ratios, hydrogen capability, increased H<sub>2</sub> inclusion for new and existing machines all offer environmental benefits. The Green Scalar ideally rewards the best performing equipment with the scalar & payment mechanism recognising the contribution to emissions reductions & thermal performance.

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<sup>9</sup> SEM-26-003; Options for the timings of upcoming CRM auctions; Jan 2026

**6. What are the appropriate CO<sub>2</sub> emissions thresholds that should apply for the Green Scalar? Please provide appropriate evidence and rationale to support.**

For the Green scalar the CO<sub>2</sub> emissions threshold should be scaled below the current 550gCO<sub>2</sub>/kWh down to a range below 0gCO<sub>2</sub>/kWh for hydrogen / CCUS / renewable technology.

The Green scalar should be used and reviewed annually rewarding incremental improvement in emissions performance to support appropriate investment signals.

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

It is the view of BnM that the **Green Scalar** should be continuous in recognising small incremental plant improvements in reducing CO<sub>2</sub> emissions of generating units toward the ultimate new zero goal.

We have proposed in Q5. that the mechanism would reflect decreasing annual CO<sub>2</sub> emissions of the unit over the contract 5, 10 year contract duration. This will ensure a mechanism to ongoing investment in combustions upgrades, increasing amounts of hydrogen/renewable gas inclusion & major refurbishment & longer term CCUS in the decarbonising of power system's generating assets. To do otherwise would competitively disadvantage New Capacity.

**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?**

BnM recommends that the **Green Scalar & Green Bonus** are necessary to fully recognise the contribution of lower carbon producing, flexible generating assets – in their journey towards Net Zero.

We see opportunity for the Green Bonus to set the unit specific benchmark of carbon emissions.

And the Green scalar to reward the progressive annual beneficial reduction in emissions over the project duration.

Current derating factors disadvantage New CCGT Capacity

An additional single year of a contract added to an interim length or new capacity term will fall short in creating the necessary investment signal. The optimum flexible 'F' class CCGT with best-in-class cycle efficiency, lowest carbon emissions, hydrogen capability, CCUS capable & optimal for the Island power system, while having a capacity derating factor of

0.70 applied to a new unit. High efficiency decarbonisation needs to be recognised. Current New CCGTs have an OEM stated guaranteed availability of 95% over a 10 year period, and yet are derated in the CRM to circa 70%. **It is counter-productive for Technologies which are required to deliver the Path to Net Zero to be disadvantaged.**

It is essential that a large capital intensive CCGT has the maximum contracted revenue certainty from the CRM. To ensure CCGT's remain viable and new CCGT's can be financed & developed, it is paramount that the necessary investment signal is given via the capacity market. The CCGT, with its high capital intensity relies on a significant element of contracted revenue to secure finance. With the '1' year Green Bonus proposed or even '2' year proposed within this consultation response<sup>10</sup>, **additional elements to enhance the capacity payment are necessary. These include the green scalar, a derating factor aligned to new CCGT's plant guaranteed performance and realistic auction timelines.** We already make the case for 2 yrs vs 1 year in response to Q3

**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?**

CCGT's & OCGT's will be significant beneficiaries to the system from the **Green Bonus & Green Scalar** if the Green Scalar mechanism would reflect decreasing annual CO<sub>2</sub> emissions of the unit over the contract 5, 10 year contract duration as we propose in response to Q5, as these assets progressively decarbonise through life with improvements in fuel efficiency, renewable gas inclusion (hydrogen, biomethane) and potentially in the future, CCUS.

Existing gas assets have the ability to accept up to 5% H<sub>2</sub> without modification and up to 30% with combustion modifications and new fuel handling infrastructure.

CCGT's with their substantially higher thermal efficiency 60% v OCGT 38% will be more effective and due to scale and efficiency advantage will help accelerate the journey to Net Zero. Similarly, for CCUS adaptation, this requires largely steady state operation & high load factor and logically aligns with the higher efficiency CCGT asset.

In terms of timeframes existing gas turbines can accept biomethane & or up to 5% hydrogen by volume without any needed equipment updates / upgrades being undertaken during normal annual scheduled outage.

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<sup>10</sup> Ref Response to Q.3

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

With effective implementation, generating assets with the lowest carbon intensity are likely to top the merit order although certain gas turbine technologies may have some restrictions on turn down which will be on a case-by-case basis. A number of existing assets have undertaken combustion modifications to improve emissions performance at low load to improve overall flexibility of the generating asset to the system operator.

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

There would need to be discussion with OEMs on whether verification could be by them in their sites or in the field.

General principle: Emissions verification for both Green Scalar and Green Bonus should be based on validation of fuel input energy and electrical output energy in the determination of thermal efficiency and carbon intensity at selected load points in the unit's operating range. The volumetric flow rate of fuel input gas at standard temperature & pressure based on continuous measurement of calorific value of gas via in-line calorimeter. The plant's performance monitoring system will in real time calculate CO<sub>2</sub> emissions from electrical settlement metering data and the network operator's gas measuring station data to form the basis validation of carbon emissions. An agreed methodology for calibration, verification and validation of gas system data will be implemented. The plant's performance monitoring can if required be accessed remotely by the System Operator for CO<sub>2</sub> emission validations and publication of data.

**Consultation questions – Emissions Data Publication**

**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?**

BnM are in full agreement on the transparency and publishing of carbon dioxide emissions intensity data at qualification stage and additionally actual emissions data of generators. The newly proposed mechanisms are designed to incentivise and drive down CO<sub>2</sub> intensity of generation and as such visibility of achievements in this ultimate goal are essential. However, we believe that any additional associated costs to the generator should not be for the generator.

**13. How effective do respondents consider the proposed “Decarbonisation Declaration” would be?**

The Decarbonisation Declaration proposal places a binding obligation and commitment to participants to reduce carbon emissions.

We do **not believe that it is appropriate for generators across the board to be expected to provide a Director-signed declaration committing to Net Zero by 2050**. Directors can not be expected to sign declarations for aspects outside of their control.

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

In the event that there was to be some form of Decarbonisation Declaration there would undoubtedly be interim steps along the way as the improvements would be incremental in nature, through increased inclusion of renewable gas in the fuel mix and, over time, plant improvements bringing about efficiency benefits. These are mostly outside the control of the developer. Any additional expenditure over controllable measures would need to be recoverable – and not for the developer. We are mindful of competitive participation in the European Internal Energy Market and need for a level playing field.

A feasibility study by the OEM could potentially provide comfort and credibility on the extent to which a unit can decarbonize over a particular timeframe and indicative costs of modifications & upgrades to meet specific milestones.

In terms of displacement of natural gas in the fuel mix the network operator should by way of a study be able to inform on the likely inclusion rates of renewable gases in order to understand the transitional steps in the progressive decarbonising process.

In terms of carbon capture and storage technology - the costs and viability of this should be monitored.. New build CCGT’s will be prepped for later retrofit of carbon capture equipment and can be readily retrofitted when the technology is sufficiently mature and makes business sense.

**Other measures**

**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 14 workstream (lifetime of the existing CRM) or longer-term CRM development. If so, please provide supporting evidence.**

We believe that **Extension of the Longstop, without Contract erosion**, should be considered, particularly for complex infrastructural gas fuelled projects which involve gas and grid connection – recognising that natural gas will be displaced, transitioning to Renewable Gas in the path to Net Zero.

An issue with Extension of the Longstop in the AFRY Options document is Contract Erosion. To address this, we propose that either the contract is extended first off, rather than being eroded – or that the contract extension is linked in with the additional 2 year extension which, as mentioned above, we propose is appropriate under the Green Bonus.

**The existing CCGT fleet with an average age >20yrs has a finite economically viable operating life remaining, hence the urgency to attract new low carbon dispatchable gas replacement without delay.**