

# Bord na Móna

---

## EY Review of the Performance of the SEM CRM

---

Response to SEMC call for comments

4 November 2022



## BnM Response

Bord na Móna welcome the opportunity to provide comments on the EY review of the Capacity Remuneration Mechanism (CRM). Since its introduction in 2018 as part of the revised SEM arrangements, the CRM has struggled to attract and deliver the volume of new generation capacity required to bridge the gap between the supply and demand needs of the Irish system. The Climate Act and Low Carbon Development Act 2021<sup>1</sup> has introduced an additional layer of complexity for policy makers and the TSO by requiring that the electricity sector adhere to strict carbon emission limits over the course of the decade to 2030. BnM is concerned that the CRM in its current form is not fit for purpose. The Mechanism is not flexible enough to support the procurement of the technologies needed to maintain security of supply in a way that enables compliance with the sectoral emissions ceiling for electricity.

As a semi-state, BnM operates in the interest of Irish citizens. We are working to deliver the right types of technologies in response to the needs of customers as identified by Government, the CRU, and the TSO. Time is of the essence, in 2019 Ireland declared a climate emergency. In response we need to act with urgency in making the necessary changes to mechanisms and processes that can deliver climate appropriate outcomes. Our response is focused on the recommendations that our informed experience indicates can have the most impact on the success of the CRM.

We note the EY report references engagement with “market participant representative bodies”. Given the apparent difficulties experienced with following through on delivery and the experience of investors who have competed in auction over the past 4 years, it would have been prudent to directly seek investor views to inform the report. That said, the review is timely, and we hope that the recommendations arising from it can be introduced quickly to enable the TSO to procure the projects required to meet the needs of Irish consumers over the next decade.

### Need for new capacity

The Generation Capacity Statement for 2022 – 2032 includes stark predictions for the power system in terms of generation adequacy between not and 2032. It is BnM’s view that investment in baseload generation, in addition to peaking generation is required. EirGrid is expecting deficits to increase in the short term due to “deteriorating availability of power plants, resulting in their unavailability ahead of intended retirement dates”. They expect that these deficits to reduce later in the decade as “new capacity comes forward through the SEM capacity auctions<sup>2</sup>”. Unfortunately, based on the attrition rate of new capacity procured through the CRM to date this is unlikely to be the case. Most of the new gas fired capacity, almost 600MW, contracted since 2019 have terminated. The reasons for developers taking these difficult decisions are identified by EY in their report<sup>3</sup> – delivery timelines and flexibility.

---

<sup>1</sup> Climate Action and Low Carbon Development (Amendment) Act 2021. Available online: <https://www.irishstatutebook.ie/eli/2021/act/32/enacted/en/html>

<sup>2</sup> EirGrid, Generation Capacity Statement 2022 – 2031, October 2022. Available online: [https://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid\\_SONI\\_Ireland\\_Capacity\\_Outlook\\_2022-2031.pdf](https://www.eirgridgroup.com/site-files/library/EirGrid/EirGrid_SONI_Ireland_Capacity_Outlook_2022-2031.pdf)

<sup>3</sup> EY, Performance of the SEM Capacity Remuneration Mechanism, June 2022. Available online <https://www.semcommittee.com/sites/semc/files/media-files/SEM-22-054A%20Performance%20of%20the%20SEM%20CRM.pdf>

## Emissions

Considering the climate challenge and supplementary role the electricity sector is likely to play in decarbonising other sectors like heat and transport, policy makers need to be cognisant of the emissions impact of new generation. Government also recently announced sectoral carbon emission ceilings for 2030. For electricity, the emissions reduction target is 75% by 2030, reducing from 10.5 MtCO<sub>2</sub>eq to 3 MtCO<sub>2</sub>eq. By the latter half of the decade this could be close to 2MtCO<sub>2</sub>eq depending on our actions between now and then. Government also published the sectorial carbon budgets in September 2022, which set out the cumulative emissions that each sector can emit while remaining within its allocated budget for the rest of the decade. The electricity sector ceilings for the period 2021-2025 and 2026-2030 respectively are 40 and 20 MtCO<sub>2</sub>eq. The Indicative Emissions level for 2025 is 6 MtCO<sub>2</sub>eq reducing to 2 to 3 MtCO<sub>2</sub>eq by 2030. Total cumulative CO<sub>2</sub> emissions from the Irish power sector out to 2030 are very much dependent on the pathway taken to get there.

It is accepted that we need significant deployment of renewables onshore and offshore, but we also need to decarbonise our thermal baseload and incentivise less carbon intensive technologies like CCGTs. The CRM as designed does not consider the carbon sectoral targets and this has been evident in the assumptions around the running regimes and associated Inframarginal Rents (IMR) that new gas generation plan will receive. BnM's view for some time and as stated in previous consultations on the topic is that the CRM should assume low or zero IMR for new gas generation plant. The CRM as it is set up today appears entirely separate from the Carbon Sectoral Ceilings and we believe that this needs to change.

## The role of CCGTs

BnM's Derrygreenagh Power is the only CCGT in Ireland with planning. The project has been defined for years but it will not be progressed in the absence of clear market signals. We have engaged extensively with relevant stakeholders in the past 18 months to support revisions to policy and while the policy signals have become clearer in the past year, those changes have not been supported by market signals. The Climate Action Plan 2021 (CAP) is seeking to increase the share of electricity demand generated from renewable energy sources (RES) by up to 80% by 2030, halve its emissions by 2030, and reach Net Zero emissions no later than 2050. Separately Government have published a national policy statement on security of supply in November 2021 which included a target of 2GW of new gas fired generation by 2030. Very little has been done to revise the broader policy framework to reflect national policy ambitions or to provide the necessary economic signals to investors.

Considering that energy demand in 2035 is likely to be ~50TWh based on EirGrid median scenario in GCS plus a conservative growth estimate and our ambition to have 80%+ renewable electricity, the remaining 10-15% will come from gas. Those gas plant will have a lower running profile than thermal generators today. To incentivise investment in CCGT plant, which are required by the TSO, the CRM will need to provide a clear economic signal through an appropriate contract price that reduces uncertainty in the business case. By 2030 the power system will have approximately 7-10 GW of wind, which needs to be supported by the equivalent backup generation. If we attempt to deliver this back up through OCGTs we will breach our carbon budgets for electricity sector (OCGT efficiency of ~37% versus CCGT efficiency of ~60%). The regulatory framework needs to adapt now to incentivise investment in generation that can underpin the achievement of our decarbonisation ambition. Not one that undermines it.

The energy system needs to change and the regulatory mechanisms that make up the investment framework must evolve along with it. Otherwise capacity deficits will persist beyond 2030

exacerbated by additional plant exiting and not being replaced over the next decade. SEMC must accept that the most of CCGT plant on system will be over 30 years old by 2030. This will inevitably lead to increased reliability issues over the next decade. These plant have experienced several forced outages over the past 18 months which can be attributed to changes in running profile, low wind generation and general reliability issues associated with age. We need to replace these CCGTs with new CCGTs to maintain system stability and to support decarbonisation by supporting increased RES-E and by displacing carbon intensive generation.

For clarity, the challenges facing investors in new capacity including CCGTs are:

#### Reasonable return and risk application on Investors

- Price volatility and increased development costs – it is increasingly difficult to obtain a fixed price contract for energy investments. In addition, the cost of debt and interest rates are increasing which is impacting the overall weighted average cost of capital. This cost fluctuation is not reflected in the CRM contracts. Indexation needed to be applied to capacity payments to mitigate this risk.
- Lack of clarity on market revenues such as energy and ancillary service market payments – the running profile for new investments is unclear. The Irish system will move towards 80% RES-E by 2030 utilising a mix of wind, solar and other renewable generation. This means the running profile of new gas capacity is likely to diminish impacting market revenue. In addition, during the transition period the RAs are seeking to reduce the budget for system service payments further undermining the business case for new investment over the next few years. Financial institutions do not assess energy and system service revenues as guaranteed income which impacts financeability of new investments.
- Length of contract term – the CRM provides a maximum of a 10-year contract. The investments being progressed via this mechanism often have a payback period beyond 10 years which means that an investor seeks to recoup capital cost sooner increasing the overall cost to consumers.

#### Delivery timelines

- Inflexibility in contract timelines – a restrictive approach to the delivery milestones set out in capacity contracts undermines the ability of an investor to deliver projects and results in increased consumer costs. The lead times to deliver new capacity are too short hence the need for flexibility in assessing extension requests and adjustments where unforeseeable delays occur.
- Lack of capacity leads to requirement for emergency generation – this increases the overall cost of maintaining security of supply for consumers. This type of generation is also likely to lead to the electricity sector breaching emissions ceilings.
- Planning challenges – elements of the development process are outside the control of investors but penalties for delays are applied to the contracted party. The statutory processes that enable the development of energy projects are often a barrier to delivery. There is a lack of ownership by these entities for addressing issues within processes which is transferring risk to investors. This in turn increases the cost for consumers.

#### Investor Risk

- Risk associated with third party delays – investors are reliant on third parties like EirGrid, GNI and an Bord Pleanála for elements of their projects. Where consents and infrastructure are delayed the risk sits with the developer whereby the term of support can be impacted, or

security may be forfeit. Allowing for extensions within the contract term could mitigate the risk for an investor in this case and should be considered accordingly.

- Policy and regulatory risk around the CRM – there is a lack of clarity on expected capacity revenues beyond the support contract length which may be heavily discounted. This incentivises investment in projects whose costs can be recovered in shorter timeframe like OCGTs making CCGT investment unattractive. This in terms means that the technologies required to bolster an 80% renewable electricity system in 2030 are not being delivered.

## Incentivising a broad technology mix

The EY report has highlighted a need, identified by the TSO, for “**1GW of new combined cycle gas turbines (CCGT) by 2026<sup>4</sup>**” which they are concerned will not be delivered due to the technology-neutral approach in the auction which is not appropriately incentivising investment in CCGTs. EY reference confirmation by the RAs that no CCGTs have been successful in the CRM to date and consider that “this may reflect regulatory or market barriers to investing in capital-intensive technologies such as CCGTs – for instance due to uncertainty of whether the CRM will remain in place beyond the initial contract period... or the market anticipating CCGTs having a low load factor in a decarbonised energy system<sup>5</sup>”. BnM is aligned with the TSO view – the system needs CCGT capacity. To date the CRM has failed to deliver this technology in Ireland. To incentivise it changes are required.

Most of the new gas capacity contracted has come from OCGTs. Aside from the **system requirement for CCGT capacity to provide “efficient new baseload generation<sup>6</sup>”**, the procurement of OCGTs presents an additional complexity for an energy system focused on decarbonisation given the carbon intensive nature of OCGTs compared to CCGTs. The SEM Committee published a consultation on review of BNE in October 2022 accompanied by an independent report by CEPA. CEPA has estimated the efficiency level of an OCGT is ~37% versus 60% efficiency for a CCGT<sup>7</sup>. While OCGTs can maintain individual emissions limits, requirements related to the CRM, advancing a new portfolio of OCGTs for the Irish system i.e. to back up ~7GW of wind will lead to non-compliance with our own emissions laws.

BnM has set out our view on the key challenges for new capacity, EY in its’ report also highlighted the risks and challenges for CCGTs namely financing, and policy and regulatory risk, related to the CRM. In considering how an investor would build a business case for new capacity, there are other relevant revenue streams like the energy and system services markets. The SEMC need to consider these together to understand the challenges for Investors. EY has noted that “while CCGTs may not earn a higher capacity payment than OCGTs with lower capital costs, they should still not be disadvantaged in a CRM auction as they can expect to earn additional revenue (inframarginal rent) in the wholesale market owing to having a lower operating cost than the marginal price setting plant”. While in principle this is plausible, an investor will struggle to build a business case based on a running profile for an asset that may diminish under current market conditions.

---

<sup>4</sup> IBID

<sup>5</sup> IBID.

<sup>6</sup> IBID

<sup>7</sup> CEPA, 2022. Best New Entrant Study 2022. Available online

<https://www.semcommittee.com/sites/semc/files/media-files/SEM-22-076a%20BNE-Net%20CONE%20Report.pdf>

More long term there is also a risk of fundamental change to remuneration as part of a future market redesign. At present there is little clarity on how a CCGT in Ireland will be treated in the energy market, and practically none in the system service market. In its' report for the SEMC on BNE, CEPA has also assumed very high IMR for CCGTs. The assumptions underpinning this market revenue seem to suggest a running regime that is contrary to the objectives set out in the Climate Action plan. It is unclear whether the approach being taken by the SEMC in terms of the CRM and the ambitions of Government to decarbonise our electricity sector. At a time of great urgency, a more consistent approach across policymakers is needed. The contradictions only serve to create further uncertainty for investors.

Investor sentiment is waning in relation to system services. The most recent publication related to DS3 was a proposal to reduce the budget during the transition period which is a time where additional investment in technology and system flexibility is needed. In that context, while the SEMC consultation paper mentions the RAs are "considering a TSO paper to introduce a System Services product with a longer lead time and duration", this provides no clarity for an investor in terms of timeline for introduction, the value of such a product, eligibility criteria or contract duration. Energy project investments have **long lead times prior to the auctions**. Preparatory work on site selection, initial environmental assessments, engaging with suppliers to form a bid etc. take time and money. The promise of an additional revenue stream sometime in the future will not incentivise investment in the next decade. We will not meet our 2030 targets if decision making is protracted with outcomes that are not fit for purpose.

### Encouraging participation and delivery

Firstly, BnM would like to note that there are a limited number of gas projects being considered for investment during this decade given the policy framework, emissions targets, and challenges in financing fossil fuel projects. Many of the participants in the CRM also invest in renewable projects. These investments are backed by 15-year contracts, attract better finance terms, and deliver broader benefits which are acknowledged by society. There is an opportunity cost to participating in the CRM which is not reflected in the market terms. Changes to the SEMC should be considered in this context with a view to enabling defined projects to develop as quickly as possible.

We strongly support the proposal to **increase the lead time to at least 4 years** from the announcement of auction results to start of the relevant capacity delivery year. Post-auction an investor must seek/or wait for planning for the grid and gas connection (depending on the technology, whether the network infrastructure is being contestable delivered etc.) which can take years. During this period, an investor may be exposed to penalties associated with delays by third parties which have a knock-on impact to the delivery programme.

Bringing energy projects through the Irish planning system is a challenge. Experience has shown that objections are frequent and resolving them can draw out the process by years. Larger projects often attract more attention so it would be prudent to consider providing a longer lead time for certain technologies. For example, a CCGT is likely to take longer to commission post consents than an OCGT or battery project. Taking this approach could support the TSO and the RAs in increasing the accuracy of the years that new capacity will deliver.

EY has classified the impact of extending delivery timelines on the capacity deficient as a '5' with a very high benefit, but medium feasibility. We would urge the SEMC to prioritise this change given



the volume of capacity identified as not qualifying for the auction due to timelines being too short<sup>8</sup>. EY noted that “the most common reason for auction disqualification has been a project’s inability to meet timelines and emissions requirements, which is consistent with the delivery challenges observed for successful new projects to commission in time<sup>9</sup>”. EY describe the timelines as resulting in “an unrealistic likelihood of meeting substantial completion...”. This needs to be addressed urgently. The restrictive approach taken to extension requests is identified as a potential contributor towards new build contracts terminating “with adverse impacts for consumers”.

The ESB case study included in the report sets out the myriad of factors that results in the developer terminating the contracts. The approach to extensions is highlighted clearly as a key factor. On the basis of our experience to date with the CRM and the EY report we cannot see how the CRM as currently defined will deliver the 2GW target set by the Minister, nor the 1 GW gap identified by EirGrid in 2026. Adopting a more permissive approach to extension from new builds should help to alleviate some of the concern for developers linked to third party risk incentivising participation and going some way towards practically de-risking delivery.

We note that the SEMC is “considering” a recommendation from the EY report to increase transparency in target setting for auctions via a panel of technical experts who will assess the TSOs’ recommendations. This would add an additional step to the current process resulting in the publication of a report and explanation of EirGrid’s recommendation. While this may increase transparency, we are concerned with the additional resources required to do this. It could also be viewed as undermining the confidence in the ability of the TSO to forecast system needs. Our experience to date has been that the volumes required are appropriate, the issue is with the types of technology being awarded contracts and their ability to deliver post contract signing due to lack of indexation, delays in delivery related to supply chain and statutory processes as well as increased uncertainty in the market due to a lack of policy clarity. We would suggest that the SEMC focus on these areas rather than adding additional layers which may lead to less accountability in decision making.

#### Longer term contracts

Another option considered in the report to “level the playing field for more efficient generators” is to provide longer term contracts for CCGTs and extending the duration, and lead time, for ancillary service contracts<sup>10</sup>. While EY have identified that this would “lock into gas generation capacity agreements” as being a disadvantage in effect it would go a long way in addressing the shortfall in CCGT generation, reducing capacity prices and introducing a market-based approach to promoting CCGTs. The system requires these generators to maintain security of electricity supply into the mid-30s and beyond to back up intermittent renewable generation. And would urge the SEMC to consider this remedy to incentivise investment in **CCGTs which have a critical role to play in achieving a net zero power system**. Any redesign of the CRM should incentivise lower carbon alternative to those already operational. New gas turbines are typically ‘hydrogen ready’. Investors should be encouraged to build this technology during this decade to replace older plant leaving the system and to reduce the carbon intensity of electricity generation in line with our sectoral emissions ceiling obligations.

---

<sup>8</sup> EY, Performance of the SEM Capacity Remuneration Mechanism, June 2022.

<sup>9</sup> IBID.

<sup>10</sup> IBID.

Signals from the EU Commission regarding securing the supply of electricity are encouraging regarding the softening of state aid rules. Considering the need for CCGTs and the broader advantages of this technology for Ireland, it may be worth exploring the potential to introduce longer term contracts in any engagement with the EU on new state aid approvals which we understand are required in the coming years. In the absence of a contract extension an increase in the price paid to these more capital-intensive plants should send the appropriate signal to an investor if coupled with appropriate timelines for delivery.

#### Availability and penalties

The CRM includes provisions to apply substantial availability penalties to generators. The approach in Ireland is comparable to other EU markets and is not an area we consider requires intervention at this time. The report includes proposals to expose generators to RO payments for reasons outside their control e.g., TSO decisions around constraint actions which appear overly penal.

The EY report suggests that increasing performance securities, which are already higher than other EU markets, will improve reliability in the market. We do not believe this is the case and are concerned with the inference that penalties are not material based on viewing the penalties against annual revenues, rather than considering the penalty against the actual volume of lost revenue, given the frequency of amber alerts recently. The application of ROs is also problematic given the threshold can be triggered irrespective of whether a contracted unit can respond at that time (versus being dispatched down for instance, which a unit cannot address, but is penalised).

More broadly, the EY report includes strong views on the Administered Scarcity Price (ASP) and a recommendation to increase it. The basis for the recommendation is unclear, any changes to this component of the CRM need to be considered in the context of actual events experienced on the system and requires extensive consultation. Again, we do not believe that reviewing this element of the CRM is a priority in the context of the forecast capacity deficit. To solve the problem, we need to incentivise investment in more generation during this decade rather than adjusting element of the market that increase risk for Investors.

#### Planning as a prerequisite

The EY report includes requiring all new build to have the necessary consents to pre-qualify for the auction as a potential remedy to improve auction participation. This includes planning and environmental consents. BnM would support the introduction of this requirement particularly for larger scale projects. However, it is worth bearing in mind that post auction planning will still be required for the network elements of a project and so this proposal alone may not reduce the risk of non-delivery or incentivise increased participation in the auction. If this requirement was introduced in parallel with a more permissive approach to extension request it could appropriately allocate risk to those best able to manage it i.e. the developer is responsible for the generation, the grid or gas system operator is responsible for the network infrastructure.

#### Grid

Remedy 2.1 “Greater investment in infrastructure to enable more competitive all-island market and reducing pressure for new build to be situated in particular locations” is ranked a 5 and identified as having the potential to have a high benefit but medium feasibility. The 5 means it has high potential to impact on the capacity deficit but is not being considered by the SEMC presumably due to the identified disadvantage of an “increase in TUoS charges to recover infrastructure investment upfront cost”. EY also identified that the auction has failed to procure plant in local capacity constraint areas.



Considering these issues together could lead one to conclude that investment in the grid would in turn encourage investment in constraint areas as a developer would have a better sense of their potential for energy payments due to the ability to export their maximum capacity. No new grid capacity means limited export making the project nonviable. Long term investment in the grid which drive an increase in TUoS is a far more sustainable option than procuring emergency generation and recovering that through TUoS. Our view is that this recommendation should be considered by SEMC given the positive impact having additional grid capacity on the system overall.

## Conclusion

We note that the output from this call for comments will be a “plan of action detailing the next steps on the various recommendations from the EY Report”. Action needs to be taken as soon as possible. The next capacity auction due to take place in March 2023 – revisions that can be made prior to this auction to increase the possibility of successfully securing the plant required by the system should be made. The CRM is not delivering the capacity requirement by the system, participation and delivery are known issues. Where feedback is received from investors proposing changes that could address these issues and increase the potential for new capacity to deliver, they should be prioritised by SEMC. While tweaking markets elements may incrementally increase the attractiveness of investment in the capacity market, fundamental change to the contract terms are required. Without them the capacity situation will only get worse, ultimately increasing the overall cost for consumers and further undermining the security of Ireland’s electricity supply.