

Submission by Bord na Móna PowerGen

on

**Fixed Cost of a Best New Entrant
Peaking Plant
&
Capacity Requirement
for the Calendar Year 2011**

Response to SEMC Consultation Paper

SEM-10-034

Fixed Cost of a Best New Entrant Peaking Plant for 2011 Response to Consultation

Introduction

Bord na Móna welcomes the opportunity to respond to the consultation on the cost of a Best New Entrant (BNE) peaking plant, and the deemed capacity requirement for 2011, which generate the indicative Annual Capacity Payment Sum for 2011.

As acknowledged in our response to last year's consultation, the process of determining the BNE peaker costs has improved significantly since the early years of the SEM. The appointment of independent technical and economic consultants to prepare the case for the BNE project has brought significant improvements to the process, and Bord na Mona welcomes the involvement of CEPA and Parsons Brinkerhoff again in this year's process. One of the most noteworthy aspects of this year's consultation paper is that there are no significant changes to the methodology used from last year's process. This is an encouraging sign that the assessment is reaching a level of maturity and stability which is critical to generating investor confidence in the longer term stability of the Capacity Payment Mechanism.

This year's assessment is published in the context of significant volatility in international financial markets, and ongoing concerns over sovereign default in a number of Eurozone member states. In this context, the reliability of the Capital Asset Pricing Mechanism (CAPM) used to generate the Weighted Average Cost of Capital (WACC), which is based on theoretical analysis on the longer term returns from financial markets comes into doubt, especially given that activity has been very low and the pricing of debt may reflect the difficulties in other sectors more than the fundamentals of the utility sector.

In this context it is hard to justify a significant fall, of almost 1% in the estimated Weighted Average Cost of Capital WACC, from last year's estimate. This is also taken in the context that the availability of funding, especially longer term funding is scarce, and any utility that could access such funding would seek to leverage the maximum return from the equity. The change in the investment recovery term in last year's process, which increased from 15 to 20 years, has not been adequately reflected in the assessment of the WACC either, as it will be practically impossible to secure funding for longer than 15 years for such projects, which would be factored into the return required on equity required, even where debt is being raised at the corporate level.

The CAPM methodology also raises concerns about the reliance on spot market trends which can vary significantly throughout the assessment period, and which has a significant impact on the out-turn BNE peaker cost. Bord na Mona hopes that this issue will be adequately considered as part of the CPM medium term review, as it is probably the largest source of uncertainty in the process at the moment.

Bord na Móna looks forward to participating in the forthcoming consultations associated with the medium term review of the CPM, which are currently being

prepared by the RAs. There is no explicit update on progress on this work in the consultation paper, or on the All Island project website. It is important that the RAs commit to meeting the schedule set out in the information note SEM-09-105, to ensure that the review of the CPM is concluded in a timely manner, and any changes recommended in the process can be adopted in the Trading & Settlement Code prior to the estimation of the 2013 ACPS.

(1) Technology selection

The technology selection is broadly in line with last year's process. Bord na Mona would agree with the selection again of a Gas Turbine engine as the technology of choice. Given the similarity of the process and the out-turn results, Bord na Mona suggests that it would be appropriate to review the technology selection on a less regular basis, (say once every 3 – 5 years), as there are unlikely to be any significant changes year on year, and any new technology will have to be proven before it could be selected. This proposal could be evaluated during the review of the CPM later this year.

(2) Capital costs

As commented on in our response to last year's paper, the development of the capital costs is much more rigorous and price reflective than in the earlier years of the process.

The most significant issue that Bord na Mona feels is not adequately addressed in the development of the capital costs of the BNE peaker is the issue of grid code compliance. Certain provisions of the grid code, particularly in relation to fault ride through capability could have significant implications either for the specification of the generator, where the plant can be connected, or both. It is not adequate to assume the plant will be grid code compliant, without properly addressing the potential costs of achieving compliance.

Another point we would seek to query is the grid connection costs for RoI. Based on a loop – in line for a 220 kV connection, with a new 220 kV substation and 4km of new OHL, (i.e. 2 km per leg of loop), the indicative cost for the connection, based on the CER approved rates¹, is approx €6.6 million.

(3) Unit Output

The output from the unit is assumed as the maximum possible output, with power augmentation achieved by the use of water injection, which also serves to reduce NO_x emissions. The figure quoted is the net output, adjusted for a project lifetime degradation factor of 2.5%.

As per our response to last year's paper, Bord na M6na contends that it would also be appropriate to adjust the estimate to the expected value of the capacity that would be available to meet peak demand. This factor would allow for the fact that the unit has a certain forced outage rate, and is not guaranteed to be available during periods of peak demand.

¹ CER-09-077 *Standard Transmission Charges and Timelines*

A reasonable forced outage rate for this type of machine is in the range of 1-2%. Taking a mid-point of the range, a reasonable expected value for the unit would be 187.2 MW, i.e. equivalent to 98.5% of output.

(4) Recurring Costs

Bord na Mona is happy to see more stability in the estimates of the recurring costs as the year on year changes in the individual line items are modest and in line with the typical variation that may be expected year on year. As indicated in last year's response, it may be easier to do a more fundamental review of these costs once every 3 or 5 years, and inflate the overall estimate by an appropriate inflation index in the intervening years. This is a point that may be examined as part of the medium term review process.

(5) Financial Parameters

As discussed in the introduction, the estimation of the financial parameters, notably the estimation of WACC and the investment payback period, give rise to the most concern in relation to the overall BNE assessment process.

In the first instance, it is recognised that it is difficult to generate a reliable estimate of the cost of capital, especially in periods of significant volatility in financial markets. The CAPM approach passes through the volatility in the underlying indices used in the calculation, which causes significant uncertainty in the estimation of the WACC from year to year. It would be more appropriate to use a longer term average of the component indices than spot rates: this should be at least considered in the medium term review, if not in this year's calculation.

It was interesting to note the discussion in the analysis by CEPA on the inclusion of a crisis factor in the assessment of equity risk premium. This has been used in other WACC processes to adjust the level of ERP to account for the stage of the business cycle. In this regard, given that the industry is currently operating in the most difficult trading conditions in recent history, it would be more appropriate to see a rise in the ERP compared with previous years. It is also inappropriate to use utilities, subject to a multi-annual revenue review process, and which have adjustment factors that address under or over-recovery of revenues, as a benchmark as their risk profile is significantly lower than participants operating in a competitive market.

The economic payback period for the BNE peaker plant was adjusted in last year's process from 15 to 20 years, without any adjustment to the estimation of WACC. This change was justified on a technical basis, relating to the useful operating life of the plant. This may be correct, but misses the point that the period over which an investor will seek to recover their investment will be inextricably linked to the rate of return that the investor will expect.

The economic payback period has increased by 5 years from the 2009 value to 2010, where the consequent level of WACC fell from 7.07% (RoI) to 6.80% in 2010, and has fallen even further in the proposed value for 2011 to 6.04% (RoI). It is stated that the average tenor of debt is ten years; however there is not enough development of the

financial structure of the project to ascertain that a rational investor could accept the rate of return as estimated using the CAPM method.

In particular, there is an assumption that debt will be available for up to 20 years, which is an unsafe assumption in the current difficult financial climate. If the BNE peaker was project financed, the developer would either have to take the risk of re-financing during the economic payback period, or front load the repayment of the debt, which consequently significantly reduces the rate of return on equity. The rationale investor would take these factors into account when determining the financial structure and the required rate of return on equity, even where the debt is raised at the corporate level. It is not credible that such a theoretical investor would take the same return on equity where the payback period of a project was extended from 15 to 20 years.

To summarise on this issue, Bord na Mona feels that the process significantly underestimates WACC, critically on the assumption of the cost of equity, and its relationship to the payback period for the project.

(6) Ancillary Services Revenues

Bord na Mona would like to acknowledge the adjustment that was made to this figure to reflect potential generator penalties and charges for plant trips, which we recommended as part of our response to last year's consultation.

One point of concern that arises in relation to the estimation of the AS revenues, is the assumption that the BNE peaker will get an AS contract for the full capacity of its capability to provide such services. Eirgrid has clearly indicated that they have no obligation to contract with any generator to provide Ancillary Services at any level above the minimum requirements set out in the Grid Code. In this regard, it may be more appropriate to assess a mid-range estimate for the BNE peaker plant, to reflect the possibility that the System Operator may not contract for the full AS capability of the plant at the particular location where it is connected.

(7) Deemed Capacity Requirement

The data used in the calculation of the deemed capacity requirement was published with an information note during the consultation period on the BNE peaker paper. This is a welcome development on previous years, as it gives further information to market participants when forming their responses to the consultation process.

The load forecast data used in the deemed capacity requirement calculation shows an increase of approx 0.7% in total electricity consumption compared to the data for 2010 which was used in last year's calculation. This is probably at the lower end of the range of forecast demand growth, particularly given that demand has stabilised year on year, where it was forecast to fall further in 2010 at this time last year.

It is also noteworthy that, although total energy demand has increased by 0.7%, peak demand has fallen by approx 1.4% year on year, equivalent to a fall of over 2% after factoring in the forecast total electricity sales growth for 2011. This indicates evidence of an assumed significant change in load shape which has not been

explained in the consultation paper. The peak demand can have a significant influence on the deemed capacity requirement; it is therefore important that the RAs elaborate on the reasons why the load shape has been changed so significantly.


The reserve margins at peak demand are helped by the forecast wind series, which shows significant wind output during the peak load periods. However, the deemed capacity requirement reserve margin, (ratio of the deemed capacity requirement to peak demand), remains extremely tight at 6.5%. This figure has improved since last year, partly because of the increase in the deemed capacity requirement, but mainly because of the reduction in peak load associated with the change in load shape.

There are two key issues with the deemed capacity requirement reserve margin being at such a low level:

1. Firstly, if the market was in equilibrium, the Capacity Payments Mechanism could not support any more plant on the system than the deemed capacity requirement. If we remove the capacity credit for wind when the wind output is close to zero, this leaves the market potentially in deficit at peak load times. The coincidence of low wind with peak demand has happened previously on a number of occasions around the winter peak demand periods.
2. Secondly, the deemed capacity requirement does not factor in the obligation of generators to provide reserves to the system. The provision of capacity to provide these reserves cannot be remunerated from Ancillary Services, (and indeed, the margins earned from such revenues are explicitly removed in the process to estimate the BNE peaker), yet generators are penalised for not providing the minimum level of reserves through the generator performance incentives scheme.

Bord na Mona would urge the Regulators to review and revise upwards the deemed capacity requirement for the 2011 capacity payments estimation process, to ensure that the market is giving the appropriate capacity signals based on the current demand trends, and the need for the generation fleet to provide adequate reserves.

For and on behalf of
Bord na Mona Energy Ltd


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