BORD NA MÓNA

BORD NA MÓNA POWERGEN

Submission by Bord na Móna PowerGen

on

CPM Medium Term Review

Work Packages 7

BNE Calculation Methodology

SEM-10-068

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Work Packages 7
BNE Calculation Methodology
Response to Consultation

Introduction

This consultation is the second in a series of papers which form the basis of the consultation process for the Medium Term Review of the SEM Capacity Payments Mechanism, (CPM). The review of the CPM has been broken into a series of 10 work packages, which are being consulted on in a piecemeal manner. It is recognised that the scope of work being undertaken in the review process is substantial. However, it is not clear why the delivery of the review is being structured as it is, and Bord na Mona has a concern that related issues cannot be discussed effectively, where they are presented in a series of consultation papers.

In addition, in regard to the CPM review process, which has many different aspects and inter-dependencies and some quite complex subject matter, it would be useful to have an industry workshop to summarise the analysis and proposed options, and take some initial feedback and alternative ideas from market stakeholders. In the schedule which was issued in last year's information note on the scope of the review, a workshop was proposed to be held, prior to the publication of the main paper on the review process. It would be useful if the RAs could confirm if this is still planned.

This consultation focuses on the determination on the price of capacity used in the determination of the annual capacity payment pot. It discusses comparisons with other capacity products in other electricity markets around the world, and proposes some options to reduce the volatility and increase the predictability of the price of capacity in the medium to long term. It also discusses a particular element of the current BNE process, namely the estimation of the Weighted Average Cost of Capital.

Review of other capacity markets

There are a couple of interesting points that arose from the review of capacity markets in other jurisdiction around the world,

- Time horizon: - this shows that it is relatively common to set prices for capacity for multi-year periods, typically of the order of three years.
- Price setting – for price based capacity markets, the BNE approach appears to the common method of determining a price of capacity. Certain markets add in an inflation factor, which presumably is used to give a stronger incentive for availability and/or new generation capacity.
- Capacity requirement – similar processes to the SEM approach. The paper suggests that most markets included in the study estimate the required capacity to meet demand, and provide a reserve margin to ensure generation adequacy. It would be instructive to know what the typical or average level of reserve margin that is applied in these markets. It would also be useful to compare the international standards for reserve margin to the levels of reserve margin which fall out of the calculation of the SEM deemed capacity requirement.

Bord na Mona believe that the deemed capacity requirement should not only provide enough capacity to meet demand, but provide additional margin to provide the necessary reserves for the safe and secure operation of the transmission system.

- There are various approaches used in other jurisdictions to differentiate payments to different plants, e.g. different payment terms for new plant compared to existing plant, or providing additional incentives for flexible plant. There is very weak incentivisation of flexibility in the SEM CPM. The market will need increasing levels of flexibility going forward, in line with the increased penetration of renewables, and it will have to be decided if this is best incentivised through the CPM or some other market structure.

BNE calculation methodology 2006

This section of the paper discusses an option to re-visit an alternative method of determining a price for capacity. This option was considered as part of the initial consultation on the development of the price setting mechanism for the capacity market.
The option sets the price of capacity as the product of the expected duration of un-served energy per year multiplied by the highest market price which consumers are willing to pay to avoid being cut off, (termed the Value of Lost Load, VOLL). The expected duration of lost load is defined in the market as the Loss of Load Expectation (LOLE), which is a factor used in the determination of the deemed capacity requirement. The price of capacity would then be defined as

Capacity Price = VOLL x LOLE x (1 – FOP)
where FOP is the force outage probability of a peaking plant.

This mechanism was discounted in the original consultation on the determination of the price of capacity, because it was deemed too difficult to come up with a satisfactory definition of VOLL. The current proposal states that the value of VOLL that is defined in the T&SC (used as part of the price correction factor in the disbursement of capacity payments), gives a very good correlation between the estimated price of capacity from this method and the value of capacity generated through the BNE approach over the past number of years.

Bord na Mona feels that there is some merit in considering this option as an alternative to the current BNE process. It is certainly a lot simpler and more predictable, and removes a lot of the administrative burden in the determination of the BNE figure. There are a number of aspects which would have to be clarified before we could consider this as a viable option

- would it be envisaged that the current level of VOLL would be used, indexed as appropriate, or would it be consulted on every year?,
- does the formula give a final value for the price of capacity, or will it be subject to correction for estimated inframarginal rent and ancillary services earnings?

The biggest potential problem that would arise if this option were adopted would be if the capital cost of generating plant escalated significantly beyond the indexed price of

capacity. This would lead to a chronic under-valuing of the real price of capacity which would act as a barrier to the development of new plant in the market. The approach would only work if a reliable indexation formula could be developed which had a good correlation with power plant capital costs.

The analysis of indexation options in section 7.2 of the paper highlight the potential divergence in the price of capacity based on a range of potential inflation indices, including the European Power Capital Costs index. The analysis shown in Fig 7.2 does not show good correlation between the indexed prices and the out-turn prices developed through the BNE process. It must be stated in this regard that the 2007 estimate was not a good starting reference, as it had been adjusted downwards be a significant correction for infra-marginal rent. This indexation might be more accurate based on the estimates of BNE before adjustment for inframarginal rents and other revenues.

Options 2 – 5 – Reducing year on year volatility

These options were proposed in the consultation paper on the methodology options for the determination of the fixed costs of a BNE peaker, (SEM-09-023) published in March 2009. Essentially Option 2 is a sub-set of option 5, as option 2 considers fixing certain aspects of the BNE price structure over a multi-year period, (subject to indexation) whereas option 5 proposes indexing the full BNE price over a multi-year period. In both cases, the duration of the review period suggested was of the order of three to five years.

Bord na Mona indicated in our response to SEM-09-023 that whilst Option 5 would improve the foresight of capacity revenues in the shorter term, there is potentially greater variability between review periods. Both options proposed address short term variance in the annual pots, but do not significantly increase the predictability of capacity revenues over the investment horizon of a new entrant planning to invest in the market.

In this regard, the key enabler of confidence in the determination of the BNE fixed costs is consistency in the methodology used, regardless of the review frequency. In the initial years of the market there were quite significant changes in the methodology adopted from one year to the next, including changes in BNE turbine model, method of estimating capital and recurring costs, and the method of estimating the cost of capital. However, over the past two years, Bord na Mona has observed that the BNE estimation process has stabilised, with no significant changes to the approach adopted in the process to estimate the 2011 pot, compared to that used to estimate the 2010 pot. It is this consistency of approach that will give the strongest reassurance to market participants and potential investors alike, on the stability of the capacity market into the future.

Option 6

The RAs have indicated that they intend to model the impact of this option on the capacity payments mechanism in a later workstream. It is difficult to comment specifically on the proposal in advance of this analysis. The viability of this option

would depend on the duration for which capacity revenues are fixed for a new plant, how protection against overbuild in the market can be implemented, and the impact on capacity revenues for incumbent generators.
In relation to the alternatives suggested for the implementation of this option, Bord na Mona feels that the option should only be considered for conventional plant, i.e. plant operating on a merchant basis that depend on capacity revenues as a key element in covering their running and capital costs. The modelling work proposed should therefore focus on this alternative.

WACC
The estimation of the Weighted Average Cost of Capital remains one of the most difficult parameters to predict. Indeed in the prevailing financial market conditions, access to capital is probably the most significant barrier to new investment in the market than any other issue.
Bord na Mona has expressed a concern in our response to the last number of consultations on the determination of the annual BNE price that the value of WACC continues to fall in contrast to the prevailing market sentiments. There are a couple of key issues that we have previously highlighted

- the equity risk premium was not adjusted in the 2010 process even though the period for recovery of the investment was extended from 15 to 20 years. In principle, given that there is uncertainty on the levels of revenue from one year to the next, an investment whose capital is recovered over 20 years is inherently more risky than one recovered over 15 years. This should be somehow reflected in the equity risk premium for the project
- The approach to determining the key building blocks of WACC, such as debt spreads, risk free rates, equity risk premia, etc, is to estimate a high and low range, and take the mid point as the expected value. There is no economic justification that this approach will give the best estimate for the parameters in question.

It would be useful as part of this process, if the RAs reviewed the methods for determining the cost of capital in other markets, where the price of capacity is set in a regulated process. This may inform if there are other suitable approaches used to estimate risk premia and equity beta for a market subject to technology, competition and financial risk.

For and on behalf of
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