Airtricity Response to

Consultation Single Electricity Market Scope of CPM Medium Term Review

SEM-09-03

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Scottish and Southern Energy

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Introduction

We support transparency, predictability and simplicity in the CPM, but they do not of themselves instil the level of investor confidence required to commit to major power station investments. For projects to be bankable, the market regime also needs to deliver a degree of earnings stability and visibility over the project lifetime; precluding sudden fundamental rule changes. In undertaking this broad ranging review of the CPM, Airtricity believes the RAs should be mindful of the need to avoid establishing a track record of policy change and consequent perception of increased regulatory risk.

In publishing their conclusions and Decision on changes to the CPM, the RAs should therefore provide a detailed evaluation framework that they will use in future to decide whether any particular aspect of the mechanism has failed to deliver its objective and requires further modification. We believe such a framework would enable investors to understand the context of change and to some extent identify signals indicating likelihood and direction of possible future adjustment.

Among other issues the current Consultation seeks to balance incentives to deliver short-term availability with longer-term reward for investment. This is a fundamental dichotomy that was not fully resolved during the market design phase; it is something that must be properly addressed within the current workstream. This can only be done by explicit acceptance that a significant sum of money must be committed in ex-ante payments, irrespective of actual plant performance, in order to incentivise investment in appropriate plant; eligibility for receipt of additional payment(s) that in total recover the full cost of capacity must depend on delivered availability. This is not much different from existing arrangements, but represents a philosophical shift away from ongoing debate as to the correct balance between ex-ante and ex-post sums.

To correct the current CPM inadequacies that favour inflexible baseload plant and do not incentivise efficient exit, the current review will be a success if it;

- explicitly recognises the ex-ante payment as being a stable and predictable payment accounting for (eg 70%) of investment requirement,

- delivers a more onerous regime that tests and pays for actual availability of characteristics the system actually needs; flexibility, fast starting, reliability – and especially availability when called,
- results in a CPM that is robust to developments in the generation mix – particularly in an SEM with increasing wind generation; characterised by low SMP in windy periods, energy price spikes at other times, with increasing inframarginal rent divergence between dispatchable and non-dispatchable technologies, and
- avoids economic disruption to Participants through cliff-edge revenue changes.

These will be highly complex issues to resolve. The existing CPM was significantly moulded by the considerable time pressure surrounding delivery of the SEM, but it has proved to be reasonably effective. In undertaking this review there is no equivalent time pressure, so there is adequate time to engage in the necessary full exploration and proper debate on issues and difficulties with design of potential changes, prior to implementation.

Finally, although it is not the SEM's function to deliver Government renewable generation targets, we believe that any changes to the CPM should be compatible with delivery of such targets and not act to undermine them.

Consultation Point 1:

The RAs welcome comments and backup material from participants in relation to any historical analysis they have carried out in relation to the CPM.

1. The effect of the distribution of capacity payments on availability, particularly at times when capacity is needed most. - This is an important issue to examine, but the analysis should recognise that the ex-ante/ex-post decision was not just about certainty for its own sake; ex-ante payments provide reasonably predictable base-level revenue that (partially) remunerates investment in capacity. Availability is incentivised by ex-post payments. Availability and capacity are related but different and the cpm needs to be clear about its objectives in each area.
2. The effect of the scheme on incentives/signals to enter and exit the market. - An assessment of the BNE method of setting the size of the capacity pot is outside the scope of this consultation, but the inter-relationship between BNE methodology and inframarginal rent, even if the latter is not included in the BNE calculation, is fundamental to any decision to invest in generation. As the proportion of renewable generation approaches Government policy target, energy payments to generators are likely to fall significantly (as highlighted in SEM-09-002). In order to avoid perverse incentives to exit the market, the CPM must provide adequate revenue to maintain the required level of generation in the market. SEM-09-002 suggested that high penetrations of renewables would result in, "a concomitant transfer of income from

generators to consumers". If customers receive all benefit in the form of lower charges, this will happen at the expense of disinvestment and decreased security of supply.

3. The effect of the scheme on the type of plant planned or being built. - It is difficult to understand how the RAs can assess the types of plant currently being planned by market participants. Current grid connection applications might provide some indication, but the RAs have no way of knowing which plants (technologies or fuel types) that market participants intend to progress further. Neither can they know what generation is being planned but has not yet been taken to the point of applying for grid capacity.

4. The RAs should carry out a more qualitative analysis of plant that has been taken from the planning stages to the construction phase since SEM Go Live, or even since the structure of the CPM was finalised. Generators will almost certainly have waited until they had some certainty before making the final commitment to start procurement and construction.

5. The effect of the scheme on the diversity of generation. - The foregoing comments apply equally to this issue. However, we believe that the underlying thinking may be more related to the plant that is being/has been decommissioned from the Grid; ie the diversity of the current fleet rather than the future. All plant currently scheduled for closure is oil-fired, so decisions on closure might also be influenced by the ETS, LCPD and possibly considerations of age rather than the structure of the CPM.

Consultation Point 2:

The RAs welcome comments from participants in relation to the impact of the CPM on consumers and the methodology for payments by suppliers

From a customer perspective, the most important issue is that the correct balance is struck between security and reliability of supply and the price they pay for the service. In terms of market price determinants, the four elements of energy and capacity charges, constraint costs, hedging contract market liquidity and competition have probably at least as much impact as operation of the CPM. While the impact of the latter two may be difficult to quantify, they are nevertheless real.

In 2008/09, one effect of the hedging process has been to lock in energy prices close to the market peak. On the other hand, competition has delivered price reductions of up to 13% for domestic electricity customers. However the main customer protection provided by the CPM design is that the fixed capacity pot limits the overall charge to customers. But does the CPM provide value for money? We believe it does.

The CPM is intended to reduce price spikes that would occur in an energy-only market, where there is effectively no cap on the capacity rent that can be extracted from the market. The energy and capacity design of the SEM exchanges this uncapped volatility for an administered regime that defines the total allowed market capacity revenue and allocates it to generators across the year. The current review recognises that any administered arrangement will be imperfect and require adjustment, but we believe the fundamental argument in favour of the current CPM is that customers pay for a defined level of supply security and not for "bubble" investment.

In terms of the impact of the CPM on suppliers, it affects all participants equally and is therefore not a competitive issue. We expect that the half-hourly correction factors implicit in moving towards global aggregation of the retail market will deliver a greater level of supplier risk than the CPM. Therefore, whatever else may change as a result of the current review, we believe that the basic structure of monthly fixed pot and smoothed recovery from suppliers remains fit for purpose.

Consultation Point 3:

The RAs welcome comments from participants in relation to incentives that could be introduced within the Capacity Payment Mechanism or covered under the Ancillary Services mechanism.

The area of incentives is important in delivering the correct mix of generation capacity on the system and we believe that these can be achieved through development of the existing process used to derive the overall capacity pot. However to do this correctly will be extremely complex and require some significant assumptions as to "correct" outturns. However, should the RAs choose to follow this path, we propose the following:

- establish sub-categories of plant, based on the requirements of an idealised system; baseload, peaker, flexible, etc,
- divide the total capacity sum amongst the plant sub-categories,
- where one type of plant is under-represented on the physical system and capacity rewards are therefore available, there will be an incentive on generators to deliver the greater flexibility or ramping capability required to qualify for reclassification into the more rewarding category. Experience in North American LMP markets has been that when a value is placed on characteristics such as ramp up/down, this has resulted in generators offering significantly greater flexibility to the system operator than previously.

We therefore support development of the CPM to provide generators with appropriate incentives to deliver flexible capacity and performance, but at the same time there should be no payment if services are not delivered.

One category of generation that uniquely reduces the market price of energy is that of renewable; even as a price-maker, wind would be required under the Bidding Principles to bid a maximum price of zero for its output. The CPM should recognise the value of renewable generation in reducing the overall cost of energy to customers, in a market in which its increasing output will increasingly reduce inframarginal rent for all generators' – as well as spreading capacity payments more thinly. This is a market issue, entirely separate from the existence or otherwise of any Government support mechanism, and therefore should quite properly be addressed in the market.

The basic SEM market design assumes a rising generation marginal cost curve and that there is a correlation between the investment costs of conventional generation technologies and the BNE peaker that can be supported by the resulting inframarginal rent. These assumptions are not valid in the situation where increasing wind output reduces the marginal energy price. While a declining marginal cost curve points to the need for a specific CPM element for wind, it is also a more general argument against a deduction of inframarginal rent from the annual fixed cost of the BNE. Any change to the CPM payment structure must ensure that inframarginal rent for non-peaker conventional, as well as renewable, plant is adequate to support the difference in annual fixed costs compared with the BNE peaker.

We believe that the CPM is the correct mechanism by which to address these technology issues, as they are a consequence of the market design rather than a result of Government policy. Ancillary services contracts should only be used to deliver services the market cannot provide, such as black start, reactive power, or reserve.

Consultation Point 4:

The RAs welcome comments from participants in relation to the timing and distribution of Capacity Payments as described in Sections 7 6.4 and 7 6.5.

The existing principles of the CPM are broadly adequate to ensure that plant is available at the correct time, although there may be issues with forecasting LoLE across the day and year. As explained in our introduction, we believe that incentivising availability is not as simple as changing the ex-post proportion of the capacity pot, although that may be part of the solution. The CPM must provide a stable, long-term guarantee of a significant proportion of annual fixed cost in order to encourage efficient entry (the ex-ante proportion), but it should also ensure that a poor performing plant cannot recover its costs, even with ex-post payments and is therefore incentivised to close.

If a number of sub-categories of ex-post capacity payment are introduced, then each can be rewarded on the basis of a different payment distribution profile; eg baseload might have a constant value, while ramping payments might be highest between 7.00 and 9.00 am etc.

This type of approach is a refinement of the current LoLE capacity payment driver; it just recognises that flexibility or some other attribute is sometimes more important to system operation than lack of available capacity. In summary the basic principles of the existing CPM can be retained and developed to,

- define plant categories with characteristics framed in terms of attributes required by the system (eg baseload, mid-merit, flexible, energy price suppressing, etc) and allocate each generator unit appropriately,
- set ex-ante (to reward the basic investment decision) proportion at a level where an average performing plant of the defined technology receives (eg 70%) of its annual fixed cost,
- create ex-post (availability and delivery) CPM incentive sub-pots for flexibility, fast start, etc, based on the value of each type to the system, with temporal distributions that that reflect this value across the day and year, and
- replicate the existing (LoLE-focused) payment calculations for each ex-post payment pot using the appropriate value measure for each.

This type of value-based approach would provide generators with an incentive to deliver the most valuable system attributes possible, within their technical and economic capability and would reward investment in plant other than inflexible, single-shaft machines.

Consultation Point 5:

The RAs welcome comments from participants in relation to the Capacity Requirement Calculation and what parameters should be considered in the review.

There is a balance to be struck between creating an excessively large capacity pot that fully remunerates unreliable plant and an unduly frugal approach that underpays for good, modern plant. We believe that the SEMC should use average reported outage rates for 5 to 7 year old plant of a similar technology to the BNE plant. Of course if a peaker is seldom dispatched deficiencies in its reliability may be hidden through under-use. For this reason the reported outage rates should be filtered to ensure that forced outage rates are only used for plant running more than (eg 1,000) hours.

Consultation Point 6:

The RAs welcome comments from participants in relation to the calculation of WACC and the approaches that could be used in calculating the various WACC parameters.

WACC is one of the key parameters of the BNE calculation, but values are not directly comparable across the two jurisdictions as the risk-free rate varies by currency and over time.

We agree that this aspect of the CPM calculation would benefit from greater transparency and, in view of the jurisdictional differences, this transparency should include a clear statement of policy for reconciling results of the separate calculations without causing dislocation to the capacity pot

Consultation Point 7:

The RAs welcome comments from participants in relation to impact of Infra Marginal Rent on the BNE Peaker.

Inframarginal rent is an important component of non-peaker generator revenue; it supports the additional investment required to build higher-efficiency plant. Inclusion of inframarginal rent in the BNE peaker calculation blurs the definition of fixed cost by bundling-in a number of forecast variable cost elements that are affected by relative as well as absolute fuel price movements. This is fundamentally wrong. The CPM is intended to provide the basic investment return for the BNE; ie the fixed cost of investment. Inframarginal rent provides an operational return.

Although wrong, the SEMC may wish to include inframarginal rent in the BNE calculation because of a perception that its omission somehow over-rewards certain classes of generator, but this is an issue with the underlying philosophy of the energy market design rather than something that should be "fixed" by subjective (but modelled) adjustment of the BNE fixed cost.

There is an issue with inframarginal rent as a result of the market design being based on the assumption of a rising marginal cost curve, but this is not addressed by its inclusion in the BNE calculation. The BNE must be robust and independent of changes to variable revenues and we therefore believe that inframarginal rent should not be included in the BNE calculation.

Consultation Point 8:

The RAs welcome comments from participants in relation to impact of exchange rate fluctuations may have on the CPM

We do not have a strong preference for moving away from the current annual exchange rate. The main objective for generators is that capacity revenue should reflect their liabilities in the currency in which they were incurred. The question is whether an annual hedge is of greater value than a daily hedge in the context of long term investment and if so, whether the SEM should be the hedge provider, or if it should be left to each individual generator.

Consultation Point 9:

The RAs welcome comments from participants in relation to the Treatment of Wind within the CPM.

The December information note was unhelpful in that it was limited in scope and prejudicial in tone. For example, three paragraphs after highlighting that the analytical results were subject to certain caveats, the paper states that "this overpayment must be addressed", without considering whether any calculated overpayment can be substantiated by ex-post measurement. It failed also to distinguish between ex-ante capacity payments (the investment contribution) and the ex-post (availability); it is only the latter that relates to the security of supply argument. Even then there are issues around what this means; the security of having adequate capacity available at any time, or the availability of sufficient energy to meet instantaneous demand.

Conventional generation was treated as a class, whereas no analysis was presented on the range of CPM values associated with different individual generators within this generic grouping and whether they are appropriately remunerated across the range of reliabilities. If the intention of this paper was to propose segregation of the CPM by generation technology then, in the interests of fairness and non-discrimination, there must be a separate capacity pot for each technology – or, as we have suggested, a separate pot for each class of operating capability – plus ex-post reconciliation of calculated capacity credit with outturn delivered availability for each plant.

In terms of modelling, the process and inputs are opaque. Is the modelling based on simulation techniques or on static scenarios? If so, how were the scenarios made statistically credible? How were the movements of weather fronts across the island modelled, or the wind shapes derived? How much simplification was made in order to arrive at a problem definition amenable to solution using the chosen technique? The BNE calculation includes ancillary service revenues of almost €7 /kW/year, but there was no mention of this additional revenue when comparing wind generation with conventional.

No-one, perhaps with the exception of Eirgrid, knows the sensitivity of capacity credit to the input assumptions and this note was the first time that a link had been made between GAR and the CPM; it was never part of the original discussions on design of the CPM. If the link is now to be explicit, then the modelled capacity credit needs to be derived for all plant on the system; it may then be found that all plant is found to be over (or under) remunerated. The incomplete results presented in this paper provide no perspective as to whether or not study-calculated capacity credits deliver a systematic variance compared with CPM outturns across technology types and individual plants. We have had recent SEM experience of a divergence between modelling and reality almost resulting in major mispricing of contracts. If modelling is introduced to determine capacity credit allocation, then the process must also include a reconciliation process to prevent generators being penalised by inaccurate modelling.

Overall it is hard to see how any credible policy proposals can be made on the basis of SEM-08-177.

Consultation Point 10:

The RAs welcome comments from participants in relation to the Interconnector treatment within the CPM.

We believe that much greater use of the interconnector could be made if use-it-or-lose-it capacity allocation were to be allowed and more frequent gate closure introduced. At the GB end, trading is inhibited by the commercial risk inherent in the level of NGC entry charges. Although Moyle is not considered an interconnector in EU terms, it is nevertheless the only electrical connection between Ireland and the wider FUI market and it would benefit both the SEM and Irish trade if Ofgem could be persuaded to stop NGC "pancaking" transmission charges in this way.

Consultation Point 11:

The RAs welcome comments from participants in relation to the relationship between the Ancillary Services and the CPM.

We agree that the relationship between ancillary services and the CPM is important, but the current review must take into account that ancillary services contracts are not guaranteed, even for identical generation sets, and that not all technologies are eligible for all types of service payments. For example wind can only receive reactive power payment and even then only if it has received its Operational Certificate. A design objective for revision of the CPM must be to reward energy price suppression as well as flexibility and contribution to capacity security. Each of these is a real customer benefit, but none should be ignored just because a degree of effort is required for quantification.

Consultation Point 12:

The RAs welcome comments from participants in relation to any other aspects of the CPM that should be included in the scope of the Medium Term Review

The CPM will have an impact on generation diversity irrespective of whether or not this is an explicit objective. In this context the December information note was a particularly unhelpful contribution to a debate on diversity of generation and security of supply. Previous discussions seeking recognition of the contribution wind makes to energy cost reduction have been met with the response that reduced Pool revenue for renewable generation is a matter for Government support mechanisms. We fundamentally disagree with this position.

The impact of high wind penetration on Pool energy prices is a market issue for all generators, irrespective of technology, in view of the impact on inframarginal rent. As stated earlier, the market must be adapted to cater for generators operating in a declining as well as increasing marginal cost environment and we believe that this can best be achieved by

means of the CPM changes we have proposed. The aim of this current CPM review must be to deliver an enduring solution that is robust to known generation mix changes that will result in a shift from a market with medium-fixed/high-variable costs, towards one with much lower energy costs. We re-emphasise that this is a market issue that must be addressed through changes to the CPM.

Our final point in commenting on this scoping proposal is to highlight once again the development in European thinking on security of supply, where the concept has been expanded from mere consideration of whether there is adequate generation hardware in place to include recognition of the need to exploit indigenous renewable resources as a means of reducing dependency on imported fossil fuels. While it is not the job of the SEM to drive National policy, it should at least avoid obstructing it. This review of the CPM represents an opportunity to address difficult and often contradictory requirements and achieve a resolution that balances the different fixed, variable and inframarginal revenue requirements of the developing portfolio of SEM generation in a way that provides the security of both energy and capacity that customers need.