
Wholesale Electricity Market Rule Change Proposal Submission Form

RC_2010_25 and RC_2010_37: Calculation of the Capacity Value of Intermittent Generation – Methodology 1 and 2B

Submitted by

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Submission

Preliminary note

Before providing comments on the two Rule Changes, Vestas would like to comment on the use of the term “intermittent generation” to describe renewable energy technologies such as wind energy and solar energy. It is more accurate to describe these sources of electricity generation as variable rather than intermittent, which too often is used as a pejorative term by opponents of renewable energy.

For the sake of consistency with the language used in RC 25 and RC 37 we will in this submission continue to use the nomenclature of “intermittent” generation, but it should not go unremarked. The output of renewable energy might be variable but that does not mean it is unreliable or unpredictable. Certainly, modern forecasting systems used in wholesale markets such as the National Electricity Market (NEM) are able to correctly predict the generation performance of wind turbines up to 96% of the time. That level of certainty is barely short of the reliability of thermal generators using coal or gas as their fuel.

While the Wholesale Electricity Market (WEM) does not use the same wind forecasting technology as the Australian Energy Market Operator (AEMO) does for the NEM, this does not mean that wind energy should be dismissed by the IMO or System Management as a useful contributor to supply security.

1. Please provide your views on the proposal, including any objections or suggested revisions.

Vestas welcomes the opportunity to respond to two Rule Changes, RC 25 and RC 37 of 2010, which are being determined concurrently by the IMO. In summary, Vestas is opposed to RC 25 and supports RC 37, and will explain the reasons for this shortly.

Both Rule Changes have arisen as a result of the work of the IMO's Renewable Energy Generation Working Group (REGWG), which spent much of the past year in particular considering how best to revise the incentives for renewable energy generation under the Reserve Capacity Mechanism (RCM). There appears to be broad consensus amongst members of the REGWG that the existing rules on this topic under the RCM are outdated.

As part of this process, the IMO appointed an expert consultant, McLennan Magasanik Associates (MMA) to evaluate proposals for valuing the capacity of intermittent generation in Western Australia's Wholesale Electricity Market (WEM).

The IMO also engaged both MMA and another consultant, Senergy Econnect, to examine the output of renewable energy generators in WA, relative to peak demand periods. Importantly, it was found that wind energy generators in WA had an excellent track record of generating electricity at the times when it was most needed – during the morning and evening peaks.

Mindful of the likely drivers of future renewable energy growth, such as the WA Government's policy to increase renewable energy generation and the likely investment required to meet the Australian Government's 20% Renewable Energy Target (RET), MMA evaluated 4 proposals (1, 2A, 2B, 3) in the light of data that tracked the generation output of existing and planned renewable energy generators in the WEM. Proposal 1 is now the subject of RC 25, while Proposal 2B is the subject of RC 37.

The report from MMA was initially challenged by some stakeholders, including System Management and the Office of Energy (OOE) and a redraft was sought, but when further work was done the conclusion of the consultant remained the same.

Proposal 1, favoured by the IMO and the OOE, was found by MMA to be "conservative" and likely to have a low accuracy when it came to the crucial test – ascribing payment for capacity according to power produced.

Proposal 2A was evaluated as the "best fit to criteria" and was seen to have a high accuracy, though it has not been submitted as a formal Rule Change.

Proposal 2B, favoured by Griffin Energy, was evaluated as the next best alternative, even though it was remarked to be "very conservative for solar" (although this is probably due to the lack of available data on solar generation performance). Given that Proposal 2A has not been submitted as a formal Rule Change, Vestas therefore supports Proposal 2B, as it is currently expressed in RC 37.

Proposal 3, favoured by System Management, was found to be "very conservative and inaccurate" and of similar low accuracy to Proposal 1.

Vestas, as well as many other current and aspiring private sector renewable energy investors in WA hold a similar view to that of MMA. Unfortunately, our views have not prevailed and Proposal 1 has now been submitted formally as RC 25 by the IMO.

It is incredibly disappointing to private sector investors that the IMO would go to the trouble of seeking expert advice and consulting with industry on this important issue, only to reject the advice and findings of the expert consultant.

Vestas understands the importance that the IMO, OOE and System Management places on the issue of security of supply. However, Vestas strongly disagrees that the RCM is the best measure to achieve this. Rather than damage the business case for renewable energy investors in WA by implementing RC 25, the goal of security of supply could be better met, for example, by revising WA's system reserve margins.

2. Please provide an assessment whether the change will better facilitate the achievement of the Market Objectives.

Vestas considers that RC 37 facilitates the Market Objectives, in most if not all cases far better than RC 25 would do. Indeed, RC 25 seems to militate against many of the Market Objectives. More detailed comments are below, listed under each of the objectives.

a) to promote the economically efficient, safe and reliable production and supply of electricity and electricity related services in the South West interconnected system;

While the proponents of RC 25 clearly place a high emphasis on the *reliability* aspect of this objective, RC 25 has serious weaknesses when the *economically efficient supply* of electricity is considered.

As mentioned under Question 1 above, security of supply is an important issue, but there are other ways in which to achieve it without amending the RCM to do so at the cost of other objectives.

RC 25 might well have the aim of improving system security but it has no benefits on the issue of reliability, and a negative impact on economic efficiency. The methodology by which RC 25 values the capacity of intermittent generation has already been characterised by MMA as conservative and inaccurate. So it follows that it is unlikely to be reliable either, unless of course it is reliably inaccurate.

RC 25 ignores strong evidence that WA's intermittent resources in fact have a very good correlation with system peak demand. For example, WA's best wind periods occur during summer mornings (easterly) and afternoons (sea breeze). These findings from studies done for the IMO by MMA and Senergy Econnect appear to have been ignored.

While the methodology used by RC 37 has also been characterised by MMA as conservative, its accuracy was deemed to be better than RC 25 and it is the only alternative, given that there appears to be agreement across the REGWG membership that the current RCM status quo is untenable.

On the question of *economically efficient supply* of electricity, RC 25 is unquestionably poor. It reduces the capacity payments to intermittent generators from the status quo in the RCM. This in turn discourages new investments in renewable energy generation in the SWIS and improves the relative prospects of renewable energy projects in the National Electricity Market (NEM).

As noted in Question 1 above, the major driver of renewable energy investments is the Federal Government's 20% RET. The RET is enforced by legislation that requires liable parties (predominantly electricity retailers) to source a certain percentage of their electricity supplies from renewable energy generation, evidenced by the surrender of Renewable Energy Certificates (RECs).

WA's government-owned retailer, Synergy, is a liable party under the RET legislation. At present it can meet its REC obligations by sourcing them from the spot market, or it can enter into contracts with WA-based renewable energy generators to purchase both electricity and RECs as part of the same agreement.

Synergy's recent track record has seen it take the latter option, by contracting directly with WA-based renewable energy generators to purchase RECs that are bundled with a power purchase agreement. This is done for good reason, as it reduces the risk that Synergy might otherwise be exposed to a rising REC market. In the absence of such a strategy, a rising REC market would see Synergy paying the high local cost of electricity as well as a higher REC price, rather than having a natural hedge with the electricity being bundled to the RECs.

If RC 25 is implemented, it will reduce the returns available for renewable energy projects in WA and discourage new investment in intermittent generators in the SWIS, and will reduce the opportunities for Synergy to enter into such agreements. This in turn leads to a less economically efficient supply of electricity to WA consumers and businesses, who will face price rises if this additional cost to Synergy's business is passed through to them.

There are similar problems if a carbon price is introduced on a national basis, as is being proposed by the Federal Government. Different wholesale electricity markets (i.e. the WEM and the NEM) will respond with energy pricing in different ways, but REC prices remain the same across all jurisdictions, so Synergy's bundled electricity/REC agreements act as a hedge.

On this basis it is clear that RC 37 is the superior option when compared to RC 25, as it does not have the same negative impact on renewable energy project returns and therefore preserves Synergy's options to enter into the bundled electricity/REC agreements with WA renewable energy generators.

b) to encourage competition among generators and retailers in the South West interconnected system, including by facilitating efficient entry of new competitors

As touched on above, one of the biggest problems with RC 25 is its likely impact on competition, and its likely impact of discouraging new renewable energy projects (and in many cases, new entrants) from connecting to the SWIS.

By reducing the levels of capacity values calculated for renewable energy generators, RC 25 makes future renewable energy investments in the SWIS far less attractive when compared to projects in the NEM.

Meanwhile, although RC 37 is also less advantageous for new renewable energy generators than the present rules in the JCM, Vestas is confident that its approach would be supported by most if not all renewable energy generators.

Discouraging new entrants to the SWIS therefore discourages competition between generators, leading to less efficient outcomes and higher power prices. On that basis RC 25 fails to meet objective (b) of the WEM.

- c) to avoid discrimination in that market against particular energy options and technologies, including sustainable energy options and technologies such as those that make use of renewable resources or that reduce overall greenhouse gas emissions**

RC 25 clearly is a form of discrimination against renewable energy generators, relative to the existing rules. Primarily it does this by reducing the valuation of their contribution to WA's needs for generation capacity at key times. Meanwhile, it does not alter the capacity payments for thermal generators.

RC 37 is a far better option, as it rewards generators for their contribution to WA's needs for capacity at the times when it is most needed. It relies upon evidence, it rewards performance and it penalises underperformance. Such a regime appears consistent with the aims of having a capacity market in the first place.

- d) to minimise the long-term cost of electricity supplied to customers from the South West interconnected system;**

Cost arguments, particularly long-term costs, are addressed in response to consideration of the impact of RC 25 and RC 37 upon objective (a) above.

To summarise, RC 25 would impose regulatory risk on existing investors in renewable energy generators in the WEM and would deter future investors due to the prospect of a lower return as well as the regulatory risk noted above.

This deterrence of investors will reduce competition over the long term in the WEM and would reduce the ability of Synergy to hedge its REC liability and wholesale power price risk through bundled electricity/REC deals in its home market.

By contrast, RC 37 goes a long way to maintaining a prospective investment market, which will be likely to promote greater competition for new renewable energy projects and hence lower costs to consumers over the long term.

- e) to encourage the taking of measures to manage the amount of electricity used and when it is used.**

This objective does not appear to be greatly advanced or adversely impacted by either RC 25 or RC 37.

If anything, given that RC 25 acts as a deterrent to new investment in renewable energy generation, it may also act as a minor barrier to the early adoption of storage technologies for renewable energy generation when they begin to become available.

However, it could equally be argued that the economic inefficiency of RC 25, which will expose WA to higher retail electricity prices, may in fact provide a price signal that helps to bring forward the widespread adoption of energy efficiency technologies in homes and businesses.

3. Please indicate if the proposed change will have any implications for your organisation (for example changes to your IT or business systems) and any costs involved in implementing these changes.

Vestas does not expect that there would be any compliance or implementation issues with either RC 25 or RC 37, as it is a supplier to the energy industry rather than a market participant in the strict sense.

4. Please indicate the time required for your organisation to implement the change, should it be accepted as proposed.

See answer to Question 4 above.

Closing comments

If WA is going to retain a capacity market, then the participants in that market need to be treated with respect and not exposed to undue regulatory risk.

If it was to be adopted, RC 25 would:

- fail to advance most if not all of the Market Objectives
- expose existing investors to regulatory risk
- deter new investors in renewable energy generation
- increase costs and risks for Synergy over the long term, with a consequent increase in costs and risks for either the WA government (as owner of Synergy) or WA electricity users, depending on whether these increased costs are passed through
- not add to security of supply in any meaningful way
- leave members and observers of the REGWG wondering why they bothered to participate in a process that culminated in stakeholder views and expert evidence being later disregarded by the IMO and OOE

In light of this, Vestas strongly urges the IMO to reject RC 25 and adopt RC 37. There are other proven measures available to the IMO and System Management that will enhance security of supply in WA without penalising existing and future investors.