



25 August 2011

Australian Energy Market Commission

Submission to AEMC Issues Paper for the Power of Choice Review (EPR0022)

Thank you for the opportunity to respond to the AEMC *Issues Paper for the Power of Choice Review* (AEMC reference EPR0022).

Progressive Green is please to make this submission, which identifies and explains the significant barriers to demand side participation (DSP) that exist under current market and regulatory conditions, and suggests ways to achieve cost-effective DSP and improve the efficiency of the NEM (National Electricity Market).

Summary

DSP has the potential to improve reliability and security of supply in the electricity market by reducing customer loads during periods of supply constraint. Load management by electricity customers in response to high-price signals delivers benefits that flow through to every level of the market.

Under current conditions, there are significant physical and financial barriers to retailers and customers participating in DSP; these are summarised in the table that follows, alongside Progressive Green's proposed solutions.

Barrier	Solution
Distributors impose unnecessary and unreasonable financial and technical barriers on customers connecting small embedded generation to the distribution network.	Reform and standardisation of the technical and commercial processes that distributors use for assessing and approving embedded generation connections.
The prudential security that AEMO requires retailers to hold is unnecessarily high, tying up working capital that could be more effectively used in industry growth and efficiency improvements.	Change AEMO's method for calculating maximum credit limits to take into account a retailer's ability to shed load in response to high-price events.
The data used to calculate the retailer's outstandings result in unnecessarily high payments to AEMO after high-price events, because previous-day data is not used or available.	Improve market systems to facilitate next-day calculations using actual load data. This change could be implemented as an option, because not all loads can be controlled.
The 28-day settlement cycle with AEMO is too long, tying up working capital and increasing risk of loss given default.	Shorter settlement cycle.



Progressive Green is a licensed electricity retailer established to provide innovative energy solutions for certain 'large' approved customers in Victoria. Progressive Green's Wholesale Managed Pool Purchasing & Monitoring product is a niche-market offering that is suited to sites consuming more than 160 MWh/per annum and have load management and shedding capability, or those that have invested in quality (and probably underutilised) backup generation assets. These large customers now have an alternative to standard retail supply contract arrangements; they now have the opportunity to lower electricity costs by accessing spot market prices. At the same time they can support the electricity grid during times of capacity constraint by using their backup generation assets and/or load management capabilities.

We assist our customers in their electricity purchases and load shedding with comprehensive systems for monitoring the market and notifying sites when it is beneficial to shed load. In some circumstances, this is achieved automatically via remotely control. Although our products and services have been welcomed by large customers, we have experienced several barriers to this form of Demand Side Participation. These barriers, and our proposed solutions, follow.

Connecting small embedded generation systems

Most pool-purchasing customers have the ability to transfer site loads to backup generation systems (powered by either natural gas or diesel fuel) in the event of interruptions in the supply of electricity.

Many sites have backup generation capacity that exceeds the site load and have the capacity to export (sell) power to the network when their backup systems are operating.

This potential to export surplus net generation capacity to the grid during periods of high pool prices represents an additional source of income for these customers, and additional support to the network during times of constraint (i.e. when prices are high).

Generators that are synchronised and connected in parallel with the network can seamlessly transfer between grid and backup generator electricity supply without interruption and can export surplus capacity to the network. This is known as embedded generation. It is our experience in dealing with our customers synchronised parallel connection with the grid is exceptionally difficult to achieve with most of the current distributors that are responsible for the distribution networks and the quality of supply on these networks. Clearly, any connection of an embedded generator to the electricity network must not compromise the integrity of the electricity supply for other customers. However, despite the ready availability of technology and expertise to effectively manage and mitigate any risks, distributors frequently impose unreasonable financial and technical barriers when customers attempt to connect their embedded generation to the network.

There are no incentives for distributors to connect small embedded generators to their networks, and the situation is not helped by the absence of uniform standards and connection prices across all distributors.

Barriers that our customers in Victoria have experienced include:

- Large or unspecified up-front fees, such as 'project investigation fees' or 'feasibility fees' – these tend to be requested by the distributor before any information about the network is supplied, i.e. before it is even established that an embedded generation connection is possible.
- Large project management and project implementation fees deemed necessary by distributors – these are often not clearly defined or are determined according to a poorly defined scope of work.
- Customers not afforded the opportunity to verify or challenge the fees, timelines and scopes of works – there is no apparent accepted standard or basis for reasonable comparison.
- Requests by distributors for costly network system studies, even when it is highly unlikely that the embedded generation connection will have any significant impact on the network.
- Absence of clear and detailed specifications for the required technical scope of works.
- Absence of a clear well-defined process for customers to follow in connecting their embedded generation to the distribution network.



- Long delays in distributors providing information and responding to customer enquiries and requests for information.
- Distributor requests for unnecessarily complex designs, including integration with the distributor's own network and communication systems.

Progressive Green's Proposed Solution:

Connection of small embedded generation would be facilitated by reform and standardisation of the technical and commercial processes that distributors use for assessing and approving these connections. This requires appropriate incentives for distributors to encourage them to seek integration of small embedded generation into their networks.

There already exists a standard connection process for small-scale solar PV systems, and a similar process could be implemented for small (up to 5 MW) embedded generation systems. These could include large-scale solar systems. The G59 standard used in the United Kingdom is a national standard for connection of embedded generators to the electricity network, and this could be modified for Australian conditions.

To remove unnecessary price barriers, we recommend a review of the costs that distributors reasonably incur when customers request connection of embedded generation to the network. Based on this review, there should be a set of standard and regulated fees and charges that reflect the costs that distributors incur for these connections.

Retailer Prudential Security Requirements

Market operator AEMO assesses the prudential obligations of retailers and requires them to hold Prudential Security that reflects AEMO's potential financial loss should a retailer default in its payments for electricity purchases. AEMO's current assessment method does not take into account a retailer's ability to reduce its load in response to the market price. Instead, it assumes all retailers continue their historical consumption patterns during periods of high market prices. This creates a substantial financial burden for retailers and ties up working capital that would otherwise be available to support industry growth and efficiency improvements. Some retailers – those that participate in DSP – are incurring unnecessary financial costs by providing security in excess of requirements, and others – those that do not participate but have the capacity – have no incentive to do so.

Progressive Green's Proposed Solution:

AEMO should be required to change the method it uses to assess the SDA to take into account any change in retailer load in response to high market prices. This is fairly straightforward. AEMO could calculate a retailer's average load during periods of high prices (say, above \$1000/MWh), and compare this with average load during periods of 'normal' prices. Historical 30-minute load data is available for this calculation. By incorporating these calculations in the maximum credit limit formula, the required security would more accurately reflect the risk of default and release working capital for more efficient uses that improve the NEM.

Calculating Outstandings

When the imposition of a Security Deposit Amount (SDA), is under consideration by AEMO (call for additional for security), the current method of calculating 'outstandings' (average daily load multiplied by RRP for the previous day) does not take into account a retailer's ability to control its load, because data is generally not available on the day following a high-price event. If AEMO used the most recent data in calculating outstandings, the SDA amount would be considerably less. The additional amount is an unnecessary financial burden on retailers.

Note that, if the assessment method was changed in line with our proposal above, the difference in outstandings would be much greater. Both issues relating to SDAs and maximum credit limits need to be addressed together.

Progressive Green's Proposed Solution:

Calculations relating to SDA's should account for a retailer's ability to control load in response to market prices, and the market systems should be improved to facilitate next-day calculations using



actual load data. This change could be implemented as an option, because not all loads can be controlled.

Settlement Cycle

The current 28-day settlement time from AEMO is unnecessarily long and represents a significant financial burden on retailers, tying up working capital that would otherwise be available to support growth in the industry and efficiency improvements.

Progressive Green's Proposed Solution:

A shorter settlement cycle would reduce barriers to participation in DSP by small retailers, improving cash flow which reducing the risk of loss in event of a default.

Going Forward

Prudential security is one of the most substantial financial obligations for retailers. The settlement framework should more accurately reflect the operation of the market and a retailer's real exposure to volatility. The current prudential and settlement system may have been appropriate in the past; but, it will not serve the community in the future. New opportunities are opening up with new technologies and infrastructure. The high-speed broadband network and roll out of smart meters in Victoria are two examples of developments that will facilitate new and innovative systems and, possibly, new retailers entering the market. Without reform, the system will remain a barrier to these potential improvements that can deliver cost-effective DSP and improve the efficiency of the NEM.

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