

Local Generation Network Credits (Rule Change)

ECA submission to the AEMC Draft Determination

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Energy
Consumers
Australia



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Introduction

Energy Consumers Australia (ECA) welcomes the opportunity to respond to the Australian Energy Market Commission's (AEMC) Draft Determination on the National Electricity Amendment (Local Generation Network Credits) Rule Change (the Rule Change).

ECA is tasked with providing and enabling advocacy on matters of national significance to residential and small business consumers. Our advocacy supports the overall market objective of promoting the long term interests of consumers with respect to price, quality, safety, reliability and security of supply.

ECA's view is that markets need to be designed and regulated in a way that ensures that consumers pay no more than necessary for reliable electricity services in a new, more dynamic local energy market. In this sense ECA sees the Rule Change as a missed opportunity by the sector, while recognising that the Draft Determination by necessity responded to a specific proposal for payments to local (embedded) generators.

In this submission, ECA supports the AEMC's Draft Determination.

However, before providing reasons for our support, we propose the need for a review by the COAG Energy Council as a matter of urgency, of the impediments and barriers to more mature pricing and payments mechanisms in retail electricity markets.

In the absence of more dynamic, local retail pricing there is a risk of inefficient and costly investment being made that potentially imposes higher costs than necessary on all consumers.

Such a review could provide valuable input into the Energy Council's consideration of the future of the National Electricity Market and the role of renewable generation (including the work of the Independent Review being led by Dr Alan Finkel) and the Energy Council's agenda on cost-reflective network pricing.

Consumers are driving change

Consumer research and findings

ECA undertakes research and engages with consumers to understand their views on electricity markets.

Consumers are telling us that they are willing to invest in technologies to manage their electricity bills.

In the first Energy Consumer Sentiment Survey (ECSS), it was found that over two thirds of households and small businesses have invested in energy efficient lighting, while more than half have invested in energy efficient appliances.

Further, households in the ECSS have made significant investment in rooftop solar panels and solar hot water systems to manage their electricity costs, with the highest reported rates of uptake in Queensland, South Australia and Western Australia. The ECSS results suggest that the proportion of households with rooftop solar and solar hot water systems could double in most jurisdictions in the next 5 years. While the numbers of small businesses that have invested in solar technologies is small, a significant proportion (48 per cent) expect to invest in this technology in the future.

In a separate (forthcoming) survey by ECA of 1800 consumers that have already invested in rooftop solar panels, the main reasons that consumers gave for their investment was to reduce their energy bills and to reduce their dependence on the grid. Further, many of these consumers are considering installing batteries. While environment was a factor for these consumers in their investment decisions it ranked below financial factors and independence from the grid.

Consumers are also telling us, in ECA's regional consultations, that they want a clean energy system, and new products and services. However, they do not want vulnerable households to be left behind in the transition, and people would rather give away their surplus energy than be paid little for it.

More dynamic, local energy markets

There are a number of implications of ECA's research and engagement for the policy and regulatory settings for more dynamic, local energy markets.

Consumers should pay no more than necessary

The electricity market objective, expressed simply as consumers should pay no more than is necessary, is of critical importance at a time when reductions in carbon emissions are more than likely to add to the future cost of electricity.

ECA's research confirms that consumers intend to continue to invest in solar technologies, and as they become cost-effective, in battery storage technologies.

However, as yet the pricing of grid supplied electricity and the payments for electricity exported into the grid is immature in its ability to support more dynamic, local energy markets.

This is because almost all household and small business consumers pay the same rate (throughout the day) for the electricity supplied from the grid, or receive the same rate for their export from their solar system into the grid. This is despite the fact that electricity that is supplied from the grid or exported into the grid at peak times has a higher value. In addition, in those locations where there is scarce capacity for the grid to meet peak demand, exports of electricity also have a higher value.

Additional investment in local generation or in the capacity of the grid to meet future demand is not the only option. Consumers could also be rewarded with payments from their electricity service provider for shifting or reducing their demand at peak times, so-called demand response payments. If this shift was certain, it avoids the need for costly new investment in either local generation or in the future capacity of the grid.

Need for mature pricing and payment mechanisms

Unless pricing and payment mechanisms are designed to support an integrated system based around more dynamic, local electricity markets, there is a real risk that the costs of electricity will be higher than they need to be.

There are two reasons that this could be the case.

The first is that investment that is currently being made by consumers in generation technologies could become redundant or need to be significantly upgraded. By way of example, current rooftop solar systems are not controllable as they lack smart technology. Consumers could need to upgrade their systems to be controllable to be able to participate fully in a more dynamic, local energy market by reliably supplying electricity to meet the demands of other consumers reliably at peak times.

The second is that the sum of the investment in grid-supplied electricity and consumer investment in local (embedded) generation could be greater than is necessary to meet consumer demand at peak times. By way of example, recent work by Energeia has quantified the potential cost of this over-investment at \$16.7 billion (compared with the base case).¹

Useful parallels might be drawn between the water sector and the electricity market.

Recent experiences of water restrictions brought on by droughts led many consumers to change their demand for water, by changing their use. Some of these behaviour changes endured after the drought and restrictions had passed, as consumers had become more water conscious. Many consumers invested in water saving devices in their homes, and some also invested in water tanks as an alternative or to supplement mains water. Without knowing at the time that some of these changes would permanently reduce water demand, investment was made in costly water network capacity which continues to be paid for by consumers, even though this capacity is not often utilised to the full.

It is ECA's view that we should avoid repeating the experience of the water sector in the electricity market. We will be pursuing this question – of avoiding expensive long term supply-side solutions where possible and the opportunities for consumers to shift their demand – through our contributions to the Independent Review for the COAG Energy Council being led by Dr Alan Finkel.

The way forward in the wider context of the cleaner energy future

The challenge for both consumers and policy makers is that questions of electricity pricing and payments can be complex, and there are trade-offs to be made between design purity, simplicity and certainty.

¹ "Network Pricing and Incentives Reform" Prepared by Energeia for the Energy Networks Association, October 2016

Further, consumers need to be engaged in the process and the transition managed carefully. This is because changes to pricing could inevitably change the financial rewards of past investment in solar and battery storage technologies, and negatively impact on the future bills of consumers that currently benefit the most from the existing arrangements.

In the wider context of supporting the emergence of more dynamic, local energy markets the focus of the work on electricity pricing and payments in the National Electricity Market (NEM) thus far has been largely on network pricing. This includes this Rule Change, and prior to that the Distribution Network Pricing Arrangements Rule Change (2013) and the Network Support Payments and Avoided Transmission Use of System for Embedded Generators Rule Change (2011).

While valuable progress has undoubtedly been made, there is unfinished business in how network pricing and payments should be designed to ensure efficient consumer investment in the future in local generation and storage. This includes consideration of:

- options for network tariffs that vary with the timing of peak demand at a local level, rather than network system wide;
- imposing on retailers cost-reflective network tariffs as the default for all consumers, with retailers determining what pricing structures they then wish to offer; and
- how the sunk costs of past investment in the transmission network, and the need for new investment are fairly recovered, noting that for most consumers it will be cost-effective to remain connected to the grid for a reliable electricity supply.

The area of the electricity market that has had the least attention, and where consequently there has been little or no progress, is in retail pricing. New offers (such as predictable plans, mobile phone type plans), new opportunities for set and forget (home energy management, demand response enabling devices) new entrants (offering access to the wholesale market) are emerging.

Where innovation in the retail market becomes critical is for consumers to be incentivised through their retail pricing structures to invest efficiently in generation technologies and battery storage. In the absence of more dynamic, local retail pricing there is a risk of inefficient and costly investment, that potentially imposes higher costs than necessary on all consumers.

Further, the “uber” innovation that consumers are looking for in the retail energy market is the enabling of peer-to-peer trading at a local level which could include allowing them to credit their excess generation to other consumers. It would be timely to explore with retailers the issues that need to be addressed to enable peer-to-peer trading, including virtual net metering.

In the wider context of the need to support the development of a more dynamic, local energy markets, the impediments and barriers to mature pricing and payments mechanisms should be identified. This should not be limited to consideration of the National Electricity Rules, but also jurisdictional policies and market design issues in the retail market.

ECA sees the need for such a review being undertaken by the COAG Energy Council as a matter of urgency, rather than leaving these issues to be resolved in a piecemeal way through possible ad hoc rule changes. In the absence of such a timely review, there is a risk that a range of jurisdictional approaches will be developed that individually will have merit, but that will create inconsistent and partial solutions across the NEM.

Response to the Draft Determination

The Rule Change request was submitted by the City of Sydney, the Total Environment Centre and the Property Council of Australia.

ECA's understanding of the Rule Change request is that it proposed that the current payments for local generation be replaced by a new system of payments, called local generation network credits. Currently local generators are paid network support payments and avoided transmission cost payments by networks, where they are able to reliably be called on to meet peak demand. Instead, the rule change proposed that all electricity exported by local generation would be eligible for a network payment.

ECA agrees with the AEMC's view expressed in the Draft Determination that the Rule Change was specific, and as such did not extend to the enabling of peer-to-peer trading or the potential for fairer recovery of transmission network costs taking into account the significant shift to more local generation. As discussed earlier in this submission, ECA considers these issues need to be explored in a timely and comprehensive manner in the context of the shift towards more dynamic, local energy markets.

ECA shares with the Rule Change proponents and the AEMC a view that efficient investment in local (embedded) generation has the potential to reduce the need for costly network capital expenditure in the future to meet peak demand.

In ECA's view the proposed system of local generation credits does not meet this test. This is because:

- the payment is not based on when generation would be made available, so not limited to peak periods;
- the payment does not depend on where the local generation is connected to the networks, so not limited to areas where there is scarce capacity to meet peak demand; and
- the payment does not depend on the controllability of the generation made available, so that network capacity may be needed to ensure the reliability and quality of the electricity supply.²

If these factors – time, location and controllability – were to be incorporated into the proposed system of payments, so that the value of the local generation was appropriately measured, they would then in effect resemble the existing payment mechanisms.

² The Essential Services Commission of Victoria in its Inquiry into the True Value of Solar has identified key factors in the ability of local generation to reduce future network costs as location, time and controllability (see <http://www.esc.vic.gov.au/document/energy/35432-distributed-generation-inquiry-discussion-paper-network-value/>)

In addition, the system of payments is likely to be costly to administer, and does not take into account any costs that might occur because of the local generation's impact on the reliable operation of the grid, including voltage regulation, frequency regulation, and energy balancing. Once these additional costs are taken into account, as well as measuring the value of the local generation appropriately, the evidence provided by the AEMC is that it is unlikely that there could be material cost savings.

On the basis of the evidence provided in the course of the Rule Change, including the research by the Institute for Sustainable Futures, proceeding with the proposed system of local generation network credits would represent a transfer from all other consumers to local (embedded) generation.

As such the proposed the system of local generation network credits would inappropriately encourage investment in local generation, at the expense of other solutions including consumers being rewarded for shifting or reducing their use of electricity at peak times (demand response).

Further, an unintended consequence of the proposed system of payments may be the expansion of diesel generation, rather than renewable generation, given the current, relatively favourable cost advantages of diesel generation. This was certainly the experience in New Zealand and the United Kingdom where positive incentives were introduced.

Conclusion




There remains an unexplored opportunity to identify the retail pricing and payment mechanisms that will incentivise efficient investment in both the electricity grid and local (embedded generation). It is critical that this opportunity be taken up as a matter of urgency so that consumers pay no more than necessary for a more dynamic, local energy market that delivers innovative products and services.

In this submission we have suggested that the COAG Energy Council could play a key role in instigating a review. Such a review needs to be timely, as there is a risk that delays will result in inconsistent or ad hoc changes that will make it more difficult for consumers to engage, understand and benefit from changes across the national energy market.

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