

# Additional Comments from the Australian Greens

## Executive summary

The National Electricity Market (NEM) has been successful in delivering a reliable, secure supply of electricity. However, Australians are emitting higher levels of greenhouse gas emissions and paying much more for their electricity services than is necessary because of flaws in the regulation and operation of the NEM.

Whilst there is a multiplicity of factors increasing electricity prices, the primary driver underpinning the spiralling price rises has been over-investment in networks; \$42 billion has been allotted for investment in network assets from 2010-15 even as electricity demand is falling. The Productivity Commission notes the average NSW electricity bill increased from \$1100 to \$2230 (2007-08 to 2012-13), and the network component increased by 130 per cent from \$505 to \$1159 (greater than the entire bill of 2007-08).<sup>1</sup>

Some of the investment is unavoidable and necessary (e.g. catch-up on asset replacement),<sup>2</sup> but there is almost universal agreement (excluding the network businesses) the evidence demonstrates there has been substantial over-investment.

Professor Garnaut's testimony summarises effectively the evidence presented to the Select Committee:

The big increases in Australian electricity prices began...with the establishment of a new price regulatory system...the real price of electricity rose more than over a comparable period in any other developed country, and more than...any earlier period of Australian history...In my view, there was no good public policy reason for this large increase in prices. It happened because of the way we chose to regulate prices.<sup>3</sup>

The key factors include:

- (a) Excessive weighted average cost of capital and rate of return allowances in revenue determinations;
- (b) Systemic incentives to increase capital expenditure and the size of the asset base, and the coupling of revenue with energy throughput for electricity networks and retailers;
- (c) Regulatory process failures in the oversight of networks;

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1 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p.4. Some submissions focussed on the Renewable Energy Target as a contributor to electricity bills. The draft report of the Climate Change Authority review into Renewable Energy Target found that the scheme will add an average of around \$60 per annum (3-4% of the average electricity bill).

2 It is estimated that around one-third of network investment in NSW is asset replacement. The Department of Resources, Energy and Tourism, Fact Sheet, *Electricity Prices*, August 2012.

3 Professor Ross Garnaut, *Proof Committee Hansard*, 9 October 2012, p. 1.

- (d) Disincentives and barriers to distributed generation, energy efficiency and demand management - leading to under-investment in cost-effective 'non-network' solutions as cheaper, cleaner alternatives;
- (e) State-based planning and reliability standards;
- (f) Distortions in electricity prices that do not reflect the cost of usage during peak periods.

Through the proceedings before the Select Committee, one of the themes has been that networks will maintain rates of returns on assets through higher fixed or unit prices (c/kWh) if energy demand falls. As Professor Garnaut also noted:

We guarantee a rate of return...basically a riskless rate of return; there is not even exposure to the market, so that if demand falls price is increased to make sure that companies get their guaranteed rate of return. So, as demand has fallen, prices have had to be increased even more than they otherwise would have been. Of course, if price then goes up in response to demand falls, then demand falls even more. A completely unsustainable situation can emerge and I think that we are in that unsustainable situation now.<sup>4</sup>

It is an unacceptable (and unsustainable) situation for regulated monopoly businesses (public or private) to maintain returns on redundant infrastructure by increasing unit prices or fixed access charges as business and households improve their energy productivity or install distributed energy – potentially negating the financial benefits, and muting market and policy incentives for energy efficiency, demand management or distributed generation.

There is a misalignment between climate and energy policy and the regulation and operation of the NEM—and the NEM needs to be reformed to drive an effective, efficient transformation to a clean energy system.

Network investment and behaviour is the product of history, and the regulations and incentives of the NEM. The business models of the networks (and retailers) needs to be re-cast so they are no longer engines of energy growth but providers of energy services.

Regulatory arrangements should focus on rewarding businesses for supplying services, focusing on providing returns for valued services and not for the number of assets built.<sup>5</sup>

Reforming the regulations and incentives of the NEM, complemented by reforms outside the NEM, could re-direct billions of dollars of investment from fuelling more energy consumption into building a 'smart grid', financing energy efficiency, demand management and renewable energy and lowering electricity bills.

The Decentralised Energy Roadmap developed by the University of Technology's Institute for Sustainable Futures found that approximately one-third of the capital invested in our networks could be avoided by managing peak demand through energy

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4 Professor Ross Garnaut, *Proof Committee Hansard*, 9 October 2012, p. 2.

5 Australian Energy Market Operator, *Submission 39*, p. 3.

efficiency, demand management and distributed generation. In the current regulatory period alone, that is equivalent to \$15 billion of network investment.<sup>6</sup>

As the Australian Industry Group, Energy Efficiency Council, Choice and Brotherhood of St Laurence noted:

Governments must take action now to reform the electricity market. Some reforms can be implemented quickly and some will take time, but if we don't start the process now we will lock in billions of dollars in unnecessary infrastructure and higher bills for years to come.<sup>7</sup>

The Australian Energy Market Commission (AEMC) projection that network investment will increase by \$240 billion by 2030 highlights the potential cost of business-as-usual.<sup>8</sup>

The Australian Greens support the recommendations in the Committee Report. However, further regulatory reform is required to reduce electricity bills and develop a regulatory system and electricity market geared to the challenge of low-carbon transformation.

The Australian Greens have **additional recommendations and comments** in the following areas:

**Recommendation G1: That the National Electricity Objective be re-written to include an environmental objective and an Objective there are no regulatory barriers to demand management, energy efficiency and distributed generation.**

**Recommendation G2: That the Standing Council on Energy and Resources, in consultation with the AEMC and AEMO, develop reforms and rule-changes to establish AEMO as a single NEM-wide planning agency.**

**Recommendation G3: That the AER implement revenue caps for all Distribution networks to de-couple network revenue and energy consumption.**

**Recommendation G4: That the Department of Climate Change and Energy Efficiency and the Department of Resources, Energy and Tourism, in partnership with the Australian Energy Regulator, commission an independent study into the costs and benefits of a peak demand target and design options.**

**Recommendation G5: That the SCER directs the AEMC to review the costs and benefits of introducing a capacity-market, or capacity-elements, into the NEM to facilitate higher levels of demand-side participation.**

**Recommendation G6: That a standard connection, fair pricing and licencing regime for distributed generation be established, supported by a distributed generation ombudsman within the Australian Energy Regulator.**

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6 Dunstan, C., Boronyak, L., Langham, E et al., 2011, *Think small: The Australian decentralised energy roadmap: Issue 1*, December 2011, p. 30.

7 Australian Industry Group, Brotherhood of St Lawrence, Choice, Energy Efficiency Council, *A Plan for Affordable Energy*, p.2.

8 Total Environment Centre, *Submission 72*, p. 3.

**Recommendation G7: That the Federal Government implement a national energy intensity target and the National Energy Savings Initiative.**

## Introduction

The Select Committee on Electricity Prices is one of several inquiries and reviews occurring into electricity prices and the regulation of the NEM. The Council of Australian Governments (COAG) will meet on December 7 to consider a package of energy market reforms. The Greens support the Select Committee recommendations, but there are additional recommendations that should form part of the COAG energy market reforms.

### **Reforming the National Electricity Objective (NEO): incorporating environmental and demand management objectives**

The Australian Greens welcome the Select Committee recommendation that the AEMC consider how environmental considerations can be incorporated into the operation and regulation of the NEM. It is recognition that environmental considerations are not presently being adequately integrated.

Re-writing the NEO is necessary for environmental considerations to be incorporated at all levels of the NEM. As the Clean Energy Council submitted:

The National Electricity Objective is the fundamental driver behind decision making processes undertaken by regulators in the national electricity market. However, this objective does not consider the requirements for sustainable development (economic, social and environmental needs). This limitation means that the long-term interests of consumers cannot be fully considered by regulatory decision makers. The National Electricity Objective should be amended to ensure that it fully reflects the concept of sustainable development.<sup>9</sup>

The Australian Energy Market Agreement (2006) included ‘address(ing) greenhouse emissions from the energy sector’ as one of its objectives, but this has not been translated into any regulatory frameworks governing the NEM.

As the Clean Energy Council further notes:

When asked, the AEMC will clearly state their belief that policies to reduce emissions and promote renewable are simply externalities. Despite the transformative influences of these policies on the market which is being regulated by the AEMC, their firm view is that they have no responsibility to consider them or even to enable them to be met at least cost, for the long term interests of consumers.<sup>10</sup>

The Total Environment Centre highlighted some of the effects of the absence of an environmental objective in the NEO:

The current NEO does not support climate and renewable energy policies, and struggles when their implementation appears to conflict with the overarching objectives of the NEM ... This disconnect is apparent, inter alia, in relation to the costs and connection times associated with renewable

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<sup>9</sup> Clean Energy Council, *Submission 74*, p. 2.

<sup>10</sup> Clean Energy Council, *Submission 74*, p. 11.

energy projects at all scales, from humble rooftop PVs to the largest wind farms. It is also apparent in the current push by some retailers to attempt to restore revenue lost via the boom in PV systems by increasing fixed charges, making new PV systems less financially attractive.<sup>11</sup>

The United Kingdom has incorporated an environmental objective to ensure alignment between the operations of the electricity market and climate change and environmental policy. Australia also needs an environmental objective in the NEO ensure alignment between the NEM and public policy, and to ensure that regulators do not implement decisions that will impact on efficient carbon reduction or renewable energy targets.

Additionally, a demand-management objective is necessary to ensure the regulations and market operation balances investment in network infrastructure with non-network solutions – and doesn't privilege building network infrastructure over demand-side solutions.

In theory, the requirement to make decisions in the long-term interests of consumers should ensure this is the case, but as the AEMC, the AER and industry stakeholders have noted this is not occurring. To ensure cost-effective non-network alternatives are placed on equal footing to network investment, relevant provisions within the National Electricity Law and National Electricity Rules should be re-written to require regulators and networks to do so.

### **Recommendation G1**

**That the National Electricity Objective be re-written to include an environmental objective and an Objective there are no regulatory barriers to demand management, energy efficiency and distributed generation.**

### **NEM-wide planning**

The Australian Greens have additional comments in support of Recommendation 3 and 5.

The NEM is in practice a group of inter-linked state markets with major variations between states on the regulation of network services.

In relation to reliability standards, the Productivity Commission notes:

- (a) there are major variations between jurisdictions which does not efficiently optimise reliability standards across the NEM;
- (b) there is a conflict of interest if transmission businesses are both responsible for setting and meeting reliability standards, and evidence of massive over-engineering of standards in some States (e.g. the Productivity Commission estimates \$1.1 billion alone could be saved in

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11 Total Environment Centre, *Submission 72*, p. 15.

one regulatory period in NSW for the distribution networks, which implicitly values electricity at \$9 million/megawatt-hour);<sup>12</sup> and

- (c) ‘deterministic’ approaches used in some states encourage building rarely-used lines as redundancy into networks and discourage cheaper demand-side solutions.

The AER has also noted there are ambiguities in the deterministic reliability criteria which ‘make it difficult for the AER to assess whether the capital expenditure proposals of [transmission network service providers] are genuinely required to meet reliability requirements.’<sup>13</sup>

The risks of political consequences for networks and state governments from outages also encourage extreme conservatism. Reliability standard setting should be undertaken by an independent agency across the NEM.

AEMO, AEMC and the Productivity Commission have also noted that state-based transmission planning creates a potential bias against inter-connection between regions.<sup>14</sup> The Energy Reform Implementation Group previously identified in 2007 that:

...investment decision making is biased toward investment within each state rather than, where it is efficient to do so, having a true national character ... in an interconnected alternating current AC electricity grid, additions and subtractions of generation and network capacity at any point within the system affect conditions in other parts of the network ... Efficient system wide development requires planning to be coordinated across generation, transmission and load.<sup>15</sup>

Efficient flows of energy between regions can reduce prices<sup>16</sup> and assist in maintaining network security with higher penetrations of renewable energy. The establishment of a NEM-wide planner is an important reform to facilitate transition to a low-carbon electricity system.

The AEMO currently publishes the annual National Transmission Network Development Plan (NTNDP) but it cannot direct a transmission network to undertake investment in the plan. The exception is in Victoria where ownership was separated

12 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p.3.

13 AER cited in Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 486.

14 AEMO and AEMC cited in Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 641.

15 Energy Reform Implementation Group cited in Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 640.

16 The Productivity Commission estimates an efficient transmission reliability framework could produce savings of \$1 billion within a single regulatory period, and greater savings over the long-run. Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 485.

from network planning, and the AEMO undertakes network planning and procurement. The Productivity Commission notes:

The Victorian transmission planning framework appears to support efficient options for meeting reliability constraints. The decisions about what, where and when to build are made by AEMO, or are subject to competitive forces through tendering. AEMO, an expert, independent, not-for-profit planner, has little incentive to make inefficient investment decisions ... AEMO also has no reason to prefer network or non-network solutions since it is not influenced by the need to meet deterministic standards. As a result, it can identify the most efficient option, which may be a network or non-network option, or a combination of both.<sup>17</sup>

Establishing AEMO as a NEM-wide planner can also therefore create scope for an integrated resource assessment which examines both network and non-network solutions, and open up the tendering process to third-parties offering non-network solutions. Rule changes would be required to enable the AER to accept AEMO's advice on preferred network and non-network options.

As in Victoria, AEMO could also operate competitive tenders which are likely to deliver more cost-effective network augmentations. The Clean Energy Council says cost over-runs and excessive quotes are commonplace for network augmentations for large-scale renewable energy.

The Productivity Commission has noted some concerns about the costs of undertaking tenders and that in most cases the network proposal was selected. This is likely to reflect an under-developed third-party provider market and market competition can be expected to improve over time.

AEMC has proposed a hybrid-model which the Productivity Commission considers a 'second best alternative'.<sup>18</sup> The hybrid-model retains deterministic standards, and would establish new bodies within each state to set reliability standards. This does not create a genuinely NEM-wide framework and deterministic standards discriminate against demand-side options.

The AEMO should be established as a 'single planning agency for the entire NEM that is independent of individual governments and network businesses, which are conflicted in their role as planners and reliability setters'.<sup>19</sup> The Garnaut Review also recommended the establishment of a national transmission planning and reliability framework.<sup>20</sup>

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17 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 502–03.

18 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 642.

19 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 18.

20 Garnaut Climate Change Review, 2011, *Transforming the Electricity Sector*, Update Paper No. 8.



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The transition to demand forecasting by AEMO should also be completed. Transmission businesses produce the forecasts for New South Wales, Queensland and Tasmania that are used as the starting point for network planning and revenue determinations within the AER. This creates potential for over-stating demand in the context of the incentives which exist to over-investment. AEMO, which currently produces the forecasts for Victoria and South Australia, should also assume this responsibility across the NEM. AEMO processes should be more transparent and open to specialist input, especially on energy efficiency and distributed generation where forecasting capacity is relatively under-developed.

If AEMO is to assume further NEM-wide responsibilities, it is also timely to consider if its membership-funded model is appropriate to ensure there are no real or perceived conflicts of interest.

### **Recommendation G2**

**That the Standing Council on Energy and Resources direct the AEMC to examine arrangements for AEMO to be the single planning agency for the NEM with responsibility for forecasting, network planning, national reliability standards and operating tenders for integrated assessment of network and non-network options.**

### **Further regulatory reform: de-coupling revenue and energy throughput**

Overall, the recommendations in the Select Committee report and relevant reviews and rule-change processes (*Power of Choice* review, the *Economic Regulation of Network Service Providers* rule change and the statutory *Limited Merits Appeal review*) represent a significant, positive step.

The reforms should be implemented as soon as possible to provide regulatory certainty and ensure they are incorporated into the next round of revenue determination processes for network businesses.

However, the reforms currently proposed do not fully address the systemic incentives and disincentives identified as underpinning inefficient investment and privileging network over non-network solutions.

The Select Committee's Recommendation 4 is for the AEMC consider measures to decouple network revenues and energy throughput. The AEMC has already noted the incentives to over-investment and over-recovery of revenue created by the linkage between profits and energy volume:

When a network business develops tariffs which are based on consumption volumes, its profits could depend upon the level of actual volumes. Under such a tariff structure, the business would have no incentive to pursue any form of DSP project (or energy efficiency project) which decreases volumes.<sup>21</sup>

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21 AEMC, *Power of Choice – giving consumers option in the way they use electricity draft report*, 6 September 2012, p. 127.

Revenue determinations for most distribution networks (NSW, Victoria, South Australia) are regulated using a weighted average price cap instead of a revenue cap (maximum allowable revenue) - which the AEMC observes is 'largely' a result of the AER's decision to continue with the previous mechanisms used by jurisdictions.

Under a price cap, the AER divides revenue requirements by projected units of sales. Unlike a revenue cap which incorporates ex-post adjustment to revenues (which ensure networks recover the specified revenue – no more, no less), a price cap is set annually, and there is no subsequent adjustment; if volume is higher than anticipated, the networks earn additional profits – and vice-versa. Under price caps, there have been cases of serious over-recovery (e.g. the AER estimated an over-recovery in the Victorian 2006-10 regulatory period, there was an over-recovery of \$568 million) and it creates dis-incentives for demand-side activity:

In the short-run, under a revenue cap when demand is increasing, revenue remains constant. Networks therefore have an incentive to encourage energy saving measures ... in order to reduce costs, thereby increasing profits. Where a price cap is in place, on the other hand, when demand is increasing networks will increase their revenue by encouraging more consumption.<sup>22</sup>

It is notable there is a higher level of demand-side activity in Queensland which operates under a revenue cap.

The AEMC and the Productivity Commission have expressed a preference for price caps over revenue caps. The Productivity Commission argues that it creates a stronger incentive to efficiently price electricity to discourage peak consumption, and now that reforms are in motion for time-of-use pricing to remove distortions it should be retained.<sup>23</sup>

Time-of-use pricing is part of the solution, and the Australian Greens support their introduction in a phased manner with consumer education and protections for vulnerable consumers. However, there will be limits on both the extent to which pricing is genuinely cost-reflective for equity reasons, and the capacity and motivation of consumers to respond to price signals – especially low-income consumers. As the Productivity Commission notes, it is likely that the roll-out of time-of-use pricing, smart meters and other associated reforms will take quite some time.

In the meantime, the AER should move to implement revenue caps for all distribution networks. This could be reviewed if and when it is clear the pre-conditions for effective implementation exist for price caps to be implemented.

### **Recommendation G3**

**That the AER implement revenue caps for all Distribution networks to de-couple network revenue and energy consumption.**

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22 Total Environment Centre, *Submission 72*, p. 6.

23 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 417.

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## A peak demand reduction target for networks

An effective response to rising electricity prices must address aggregate and peak demand:

The current state of rising electricity prices is primarily driven by a failure to manage peak demand, both at a network and a generation level. The inability or reluctance to properly engage the demand side of the market has led to over investment in and inefficient operation of the electricity system.<sup>24</sup>

The Decentralised Energy Roadmap developed by the University of Technology's Institute for Sustainable Futures found that approximately one-third of the capital invested in our networks could be avoided by managing peak demand. In the current regulatory period, that is equivalent to \$15 billion of network investment.<sup>25</sup>

The AEMC (reflecting stakeholder submissions, including networks) has found the existing Demand Management and Embedded Generation Connection Incentive (DMEGCI) scheme is not working. The allowance under the DMEGCI represents just 0.1 to 0.2 per cent of network revenue, and still only 15-20 per cent of approved expenditure has been spent from 2010-12.<sup>26</sup>

The AEMC proposes reforms to the operation of the Demand Management and Embedded Generation Connection Incentive (DMEGCI) scheme. Reforms to the DMEGCI are unlikely to be effective (or at least optimal) in the context of on-going systemic incentives and barriers which will take time to fix. There are also powerful forces toward inertia and under-investment due to factors such as:

- Network culture: the AEMC observes there is an 'internal bias to engineering solutions' within the networks; and
- Low demand-side capacity: network skills and experience in implementing demand-side solutions is under-developed, and the external, third-party demand-side market is immature.

The United Kingdom and 14 US states have legislation or regulations for network peak demand reduction schemes – explicitly setting targets for networks to address part of forecast growth in peak demand through 'non-network' solutions.

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24 Mr Damien Moyse, Energy Projects and Policy Manager, Alternative Technology Association, *Proof Committee Hansard*, 3 October 2012, p.1.

25 Dunstan, C., Boronyak, L., Langham, E et al., 2011, *Think small: The Australian decentralised energy roadmap: Issue 1*, December 2011, p. 30.

26 Clean Energy Council, *Submission 74*, p. 13.

A range of submissions from industry, clean energy bodies and community/consumer organisations advocated mandating a minimum peak demand reduction target for networks in Australia.<sup>27</sup>

Targets are important, because they set expectations and focus management's attention. A regulated business can choose to ignore an incentive scheme, or make only a token effort...judging by the results of previous attempts to incentivise DSP, there is a risk of this happening with the proposed incentive scheme.<sup>28</sup>

Develop a proposal to set distribution network companies minimum targets to reduce infrastructure driven by new peak demand. Network companies have a lot of experience in building infrastructure to meet demand, and very little history with peak reduction projects that can be much cheaper. On their own, incentives will take a long time to change this. Setting network companies a minimum target...would help them develop the experience and skills to use demand-side measures.<sup>29</sup>

Many networks companies are still building infrastructure based on the assumption that energy consumption is rising, when in fact it has been declining for the last few years...While some network companies have made some effort to improve their demand-side skills, the culture and skills sets of every network business in Australia still substantially favours network augmentation over peak reduction...the NEM now has a 15-year history of tinkering in this area, which has failed to address this issue. It is clear that far more directive action is required. Such directive action is common in energy markets in the US and Europe.<sup>30</sup>

A range of models for a peak demand target were proposed. For example:

- (a) Mandated peak demand reductions through the DMEGCI: the AER would oversee an obligation for networks to meet a minimum proportion of forecast peak demand through non-network measures. This would be implemented through the existing DMEGCI.
- (b) A peak demand reduction fund: a national peak reduction target would be allocated between networks, and an independent body such as AEMO or the Clean Energy Regulator would oversee a tender process from the networks and third-party specialists for peak demand reduction projects. A price-cap for tenders based on the value of network augmentation

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27 Australian Industry Group, Brotherhood of St Lawrence, Choice, Energy Efficiency Council, *A Plan for Affordable Energy*; Total Environment Centre, *Submission 72*; Clean Energy Council, *Submission 74*; EnerNOC, *Submission 50*; Alternative Technology Association, *Submission 80*; Dunstan, C., Boronyak, L., Langham, E et. al., 2011, *Think Small: the Australian Decentralised Energy Roadmap: Issue 1*, December 2011.

28 EnerNOC, *Draft Power of Choice Submission*, p. 2.

29 Australian Industry Group, Brotherhood of St Lawrence, Choice, Energy Efficiency Council, *A Plan for Affordable Energy*, p. 2.

30 Energy Efficiency Council, *Submission 75*, p. 10.

would provide a safeguard against inefficient investment. The up-front costs could be funded by a consumer levy, with the price cap ensuring there is benefit-sharing between networks and consumers, or through a program such as the Clean Technology Innovation Program.

- (c) A peak demand reduction white certificate scheme: a network obligation akin to existing state-based energy efficiency retailer obligations. Networks would be required to acquit certificates, self-generated or sourced from third-parties, to meet a mandated peak demand reduction target.
- (d) A network productivity target scheme: a mandated target based on network load factor or ratio between peak/average demand, administered by the AER or the Clean Energy Regulator.

The AEMC agrees there is under-investment and the networks are poorly positioned to undertake demand management – but does not support a target because of the risk of networks under-taking inefficient investment for the purposes of meeting a target. Submissions to this Inquiry indicate these concerns can be addressed through effective scheme design such as safeguards within the DMEGCI or price-caps for peak demand reduction projects.

The risk of consumers over-paying for investment in non-network solutions to meet peak demand targets appears considerable lower than the risk consumers will continue to pay for the failure to invest in cost-effective energy efficiency, demand management and distributed generation.

#### **Recommendation G4**

**That the Department of Climate Change and Energy Efficiency and the Department of Resources, Energy and Tourism, in partnership with the Australian Energy Regulator, commission an independent study into the costs and benefits of a peak demand target and design options.**

#### **Facilitating demand-side participation**

There was widespread support for the recommendations in the Power of Choice review to facilitate demand-side participation in submissions and public hearings, such as enabling demand-side bidding into the wholesale electricity market.

However, the major Australian demand-side aggregator (EnerNOC) and the Energy Efficiency Council also submitted that the benefits of the change proposed by the AEMC may be limited unless a capacity-market, or capacity-market elements were introduced into the NEM.

Effective participation will require the capacity to respond very quickly to fit with the 5-minute bid periods of the ‘energy-only’ wholesale market. EnerNOC notes that whilst there are some demand-response activities that can take advantage of the proposed change, the high short-run marginal costs of most demand-side activities will limit the ability to take advantage of the opportunity:

Some demand resources are able to dispatch at short notice, in 5-10 minutes or less. These are customers whose operations are simple, or whose loads

can be remotely controlled. Demand response on these terms is relatively expensive, because dispatching such resources tends to be disruptive. Increasing the notice period greatly increases the number of customers that can participate ... truly broad participation can be achieved if 1-2 hours of notice can be given.<sup>31</sup>

A capacity-market includes payment for availability irrespective of energy output, plus a payment for dispatched energy. It would guarantee payment to demand-side participants. Western Australia, which has a capacity-market, has a 7 per cent contribution from demand response relative to 3 per cent in the NEM<sup>32</sup>:

If a capacity market was introduced into the National Electricity Market, an energy consumer could sell their demand-response into the capacity market instead of the wholesale energy market. Capacity markets appear to unlock greater volumes of peak reduction than other mechanisms but...any decision to introduce a capacity market requires detailed consideration.<sup>33</sup>

### **Recommendation G5**

**That the SCER directs the AEMC to review the costs and benefits of introducing a capacity-market, or capacity-elements, into the NEM to facilitate higher levels of demand-side participation.**

### **Connection processes and pricing of distributed energy**

As the Productivity Commission has noted, distributed generation is ‘constrained by regulatory obstacles’;<sup>34</sup> connection processes are costly, uncertain, complex and lengthy.

The Australian Greens welcome the Select Committee recommendations, but believe a distributed generation ombudsman within the Australian Energy Regulator may be more effective. If effective processes are not established within State and Territory Ombudsmen and Territories, the Commonwealth Government should fund the establishment of a distributed generation ombudsman within the Australian Energy Regulator.

### **Recommendation G6**

**That the Commonwealth Government should fund the establishment of a distributed generation ombudsman within the Australian Energy Regulator, if satisfactory progress is not forthcoming on empowering and resourcing State and Territory Ombudsmen and/or tribunals.**

### **Energy efficiency programs outside the NEM**

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31 EnerNOC, *Submission to Power of Choice Draft Report*, p. 3.

32 Oakley Greenwood, *Policy Options for maximising downward pressure on electricity prices*, p. 30.

33 Energy Efficiency Council, *Submission 75*, p. 11.

34 Productivity Commission Draft Report, *Electricity Network Regulatory Frameworks*, October 2012, p. 439.

Reforms outside the NEM are also required to drive improvements in energy productivity, reducing aggregate and peak demand.

The recommendation of the Prime Minister Task Group on Energy Efficiency to set a national 30% energy intensity target for 2020 should be implemented. A national energy intensity target would create a focal point for a policy framework to improve energy productivity. The Department of Climate Change and Energy Efficiency would report annually on progress towards the target and be required to develop a plan to achieve the target.

The National Energy Savings Initiative (a national energy efficiency trading scheme) should be implemented, replacing schemes operating in NSW, Victoria and SA. The review of the NSW Energy Savings Scheme by IPART found it to be delivering cost-effective energy savings, and the first round of modeling on the NESI estimated it could reduce household energy bills by \$87 to \$296 a year by 2020, including \$3.5 billion - \$12 billion in deferred generation and network costs.

**Recommendation G7: That the Federal Government implement a national energy intensity target and the National Energy Savings Initiative.**

**Senator Christine Milne  
Senator for Tasmania**

