



Online: NEMSecurityReview@environment.gov.au

15 February 2017

Dear Sir/Madam

Re: Independent Review into the Future Security of the National Electricity Market Preliminary Report

The Northern Alliance for Greenhouse Action (NAGA) is pleased to take this opportunity to submit a response to the Independent Review into the Future Security of the National Electricity Market.

NAGA is a network of nine northern Melbourne metropolitan councils working to achieve significant emissions abatement and energy cost savings by delivering effective programs and leveraging local government, community and business action. Our council members include the cities of Banyule, Darebin, Hume, Manningham, Whittlesea, Yarra, Melbourne, Moreland, Moreland Energy Foundation Limited, and Nillumbik Shire Council. NAGA formed in 2002 to share information, coordinate emission reduction activities and cooperate on research and develop innovative projects.

We welcome the establishment of the Finkel Review “to develop a national reform blueprint to maintain energy security and reliability in the NEM”, and note that the review is also seeking to consider how to best integrate climate and energy policy particularly relevant given the Federal Government’s commitments to reduce Australia’s emissions by 26-28 per cent by 2030 as part of its signing the Paris Agreement to limit global warming to below two degrees.

1. The National Electricity Market (NEM) must consider ways to *adapt* to climate change

This review is an important opportunity to consider climate change adaptation, not just how to achieve emissions reductions in the NEM. This means considering how to ensure the energy system can withstand increases in extreme events and hotter and drier conditions into the future. The recent events that have led to this review were driven by climate impacts, with a severe storm in South Australia toppling transmission towers and a prolonged severe drought in Tasmania affecting the state’s hydropower generation. We consider that the review has not adequately considered the impacts of climate change on the NEM and should be reframed to also consider current and future impacts.

Building resilience to climate change into the NEM requires strategically planning and supporting a shift to a decentralised and decarbonised energy system going forward. NAGA has recently completed a regional climate change vulnerability assessment and adaptation plan for northern metropolitan Melbourne. One of the critical areas of vulnerability identified was the resilience of electricity network infrastructure; as a result, the plan contains actions to encourage decentralised renewable energy generation. Many of the risks posed to councils and their communities from heatwaves, bushfires and storm events are exacerbated by power failures. These risks have been realised in recent extreme weather events and local governments must act to further threaten vulnerable members of the community and disrupt council’s ability to deliver services during extreme events.

Furthermore, low income households are particularly vulnerable to climate change, with high power prices and outages during heatwave events and other extreme events leading to higher morbidity and mortality risks, particularly for the aged. There is mounting evidence to demonstrate that the installation of solar PV supports greater capacity for cooling in households where energy costs represent a large proportion of ongoing living costs. Council staff in our regional workshops shared anecdotes of low income households avoiding using any cooling in heatwaves because of fears of a high power bill. The ability of the technology to provide low cost energy throughout the day means these householders can cool their homes without fear of ‘price shock’. NAGA is currently delivering a program with three other greenhouse alliances to deliver solar PV to more than 1,000 low income households to reduce dependency on

centralised electricity. This program is aiming to improve access to clean energy for low income households through innovative financing mechanisms.

2. The critical need to align climate and energy policy

NAGA strongly agrees with the Finkel review that “the energy market transition is a challenge requiring whole-of-system thinking and a national commitment to energy and emissions reduction policy integration”. However, to date Australia’s national emissions reduction and renewable energy policies have been considered externalities to energy policy. This is one of the main drivers of significant inefficiencies in the market reform process that has led to concerns about system security, and the need for this very review. It is not technology change per se that impacts power system security. Rather it is *failing to prepare for technological change* that lets system security down.

Alignment between climate and energy policy will only be achieved when the urgent need for emissions reductions is taken seriously across all institutions in the energy sector. Not achieving emissions reductions is a non-negotiable as Australia has signed up to the global net zero emissions goal of the Paris Climate Agreement. Furthermore, any national strategy that does not consider emissions reductions comprehensively will be faced with further ad hoc disruptions from businesses, local governments and their communities who are seeking ways to access clean energy.

3. An outdated National Electricity Objective

NAGA has previously made a joint submission to the Finkel Review calling for reforming the current National Electricity Objective (and the National Gas Objective). Our concerns with the current NEO is detailed in a separate joint submission so will not be covered in detail here.

3. Low emissions technology definition

NAGA disagrees with the preliminary reports definition of low emissions technologies including coal or gas-fired generation with carbon capture and storage. It is critical that there is an emissions intensity threshold for not just the definition of low emissions, but access to low emissions finance and policies for new build generation. Emissions intensity is typically defined as tonnes of CO₂ equivalent greenhouse gases emissions per 1 MWh of generated electricity from all energy sources. At the moment Australia is a laggard with energy intensity levels higher than the majority of other countries including China, the USA and the UK¹.

According to the International Energy Agency “projections for Organisation for Economic Co-operation and Development (OECD) economies, the average CO₂ intensity of electricity needs to fall from 411 grams per kilowatt hour (g/kWh) in 2015 to 15 g/kWh by 2050 to achieve the goal of limiting the global increase in temperatures to 2°C.”² Therefore in order to plan for an energy system that is consistent with Australia’s commitment to tackling climate change, 15g/kWh needs to be a long-term benchmark for new generation technologies.

4. Gas is not a transition fuel

The report gives much weight to the role of gas in providing a transition to a decarbonised energy supply. NAGA disagrees with the role that gas has to play in providing secure, affordable low carbon energy into the future. In particular, we consider that:

- gas prices are expensive and are projected to increase;
- new gas plants would lock in additional emissions for decades to come;
- fugitive emissions from unconventional gas could cancel out any emissions benefit of using gas over coal;
- Australia can not afford to use more gas and stay below a carbon budget consistent with a temperature increase below 2 degrees Celsius;

¹ <http://climatechangeauthority.gov.au/files/files/Target-Progress-Review/Analysis-of-electricity-consumption-electricity-generation-emissions-intensity-and-economy-wide-emissions/Australia%20electricity%20and%20emissions%20final%20report%202013%2010%2018.pdf>

² <https://www.iea.org/media/workshops/2015/esapplenaryjuly2015/Baritaud.pdf>

- transitioning directly to renewable energy is the cheapest option and there are many demonstrated technologies that can provide security of supply, such as through battery, thermal, pumped hydro storage, energy efficiency and a diverse suite of renewable energy technologies; and
- a lack of community support for unconventional gas

In addition to gas used for electricity generation, there is a growing momentum for domestic and commercial customers to move away from natural gas as a fuel source. Many NAGA councils are currently electrifying their facilities and working with communities who are seeking to electrify their homes. This is in response to not only rising gas prices, but also the improved efficiency and affordability of electric appliances and concern over climate change. Electrification opens up more opportunities for integrating with renewable energy and reducing local greenhouse gas emissions.

5. Planning for distributed generation

A well-designed energy market is not just about costs or technological availability. The design of local energy solutions requires collaboration between parties that have traditionally not worked in close partnership, such as local governments and electricity networks. Distributed energy resources require participation and collaboration from diverse stakeholders in order to ensure that overall system security and reliability is maintained. The energy sector could learn a lot from the water sector, where multi-stakeholder partnerships are more common, and upstream and downstream impacts and benefits are more holistically considered.

Under Victoria's planning system local councils and the State Government develop planning schemes to control land use and development. Currently, electricity network planning and land-use planning currently occur in isolation, meaning long term, viable and sustainable options for integrating demand and supply side opportunities are lost, resulting in inefficient investment and higher prices for consumers.

Whilst both land use planning schemes and the national energy market objectives intend to serve the long term interest of the community, they cannot do so whilst operating in isolation. Despite the implications land use planning has for local energy use and demand patterns, existing regulatory requirements do not require either sector to synchronise their respective planning processes.

The current consumer engagement processes for network planning, such as the Regulated Investment Test (RIT-D), are overwhelmingly complex and time consuming for local (and to a lesser extent state) governments to proactively engage with. For example, a number of councils have recently been consulted by their DNSP a few days prior to the RIT-D due date, with the DNSP seeking local government support for substation upgrades. This is an example of this process failure and highlights the need for coordinated and ongoing engagement between the sectors. Future regulatory settings should incentivise proactive and collective cross-sector solutions, particularly with respect to network constraints.

NAGA therefore supports the introduction of regulatory and market based approaches to ensure coordinated planning the delivers smarter, tailored integrated energy solutions that alleviate costs to consumers. This will also ensure that consumers have equitable access to a range of emerging energy services and are not constrained by outdated traditional market models.

6. The importance of energy efficiency and productivity

The Australian Government has set a target to improve Australia's energy productivity by 40 per cent by 2030.³ Despite the preliminary report emphasising the importance of integrating energy and emission reduction policies, it contains little reference to the ability of energy efficiency (and the National Energy Productivity Plan Measures) to simultaneously provide a high level of energy security and reliability, universal access to affordable energy services and reduce emissions.

The preoccupation with the assessment of the 'trade-offs' of technology integration, rather than focusing on the win-win outcomes of energy efficiency, is a cultural deficiency that has pervaded the NEM's various rule making bodies and institutions, paralysing opportunities for reform (see Section 4). NAGA therefore recommends that that

³ National Energy Productivity Plan 2015–2030

the cross-sector and sector-specific policies defined by the Energy Efficiency Council⁴ be objectively assessed against ‘technology integration’ options within the final report.

7. Accelerate a low carbon transition through incentives and smart pricing

Under existing regulatory and pricing arrangements, local governments (and others) are incentivised to duplicate electricity network infrastructure through building private wires across property boundaries to share electricity between their own facilities and with neighbours. Many councils have exhausted the potential for solar PV on their own buildings where they prioritise size systems for self-consumption only. Similarly, a number of councils are investing in other technologies such as co-generation and tri-generation, and in other parts of the state, bioenergy and wind.

Current pricing structures favour behind the meter consumption, with exports only receiving a very small feed in tariff. Councils own many buildings with large roof spaces that have little daytime energy demand, despite nearby facilities with poor solar potential having high demand. In our view, it is critical that a mechanism is developed to incentivise customers to use the existing electricity network to avoid costly duplication of infrastructure through the building of private wires. The mechanism should also incentivise the forms of distributed generation that can be optimised for network value (i.e. micro grids that address network constraints or reduce bush fire risk). If designed correctly, the risks of mass defection from the network can be reduced as consumers seek to generate and share their own low carbon energy in new ways. This risk of mass defection should not be underestimated and may result in particularly poor social, environmental and economic outcomes for all consumers.

We consider the electricity network to be an important asset in a low carbon energy future, but reform is required to facilitate optimal integration of new energy technologies and efficient utilisation of existing assets. Unfortunately, a key opportunity for progress was recently lost when the AEMC determined that it would not implement ‘*local generation network credits*’ into the National Electricity Rules (NER). We therefore recommend that the AEMC reconsider this determination following the release of the review panels final report.

8. The critical need to grow the demand management market in Australia

Recent electricity network pricing determinations have demonstrated the lack of support for demand management initiatives by the Australian Energy Regulator (AER). This has led to only a small allowance being provided to network businesses to pilot and trial projects to fully assess the costs and benefits of network innovations via the Demand Management Incentive Scheme. On average, allowances under the scheme equate to just 0.09% of the total revenue allowances for each DNSP. This amount is clearly insignificant when compared with other industrialised businesses where expenditure on research and development is often higher by several orders of magnitude.

Much emphasis has been placed in recent years and throughout consultations in this review on the need to introduce cost reflective pricing structures to consumers. At the moment consumers are billed based on consumption, and apart from some time of use tariffs, are not typically charged based on their usage patterns and how it affects the network. Although we see some role for the introduction of cost reflective network tariffs we do not consider that this will significantly address issues faced by networks and the energy market more broadly. For instance, the takeup of solar and batteries is driven by consumers that want to use low carbon energy and are concerned about climate change, not just those responding to high electricity prices. It is critical that the review understands the limitations of cost reflective network pricing. Instead, there needs to be considerable engagement and support by government to grow the demand management market in Australia.

⁴ Australian Energy Efficiency Policy Handbook, Energy Efficiency Council, July 2016



We thank you for the opportunity to provide a submission to this review.

Please contact David Meiklejohn (phone: 9385 8505 or email david@mefl.com.au) if you would like further information, case studies or any clarification regarding the issues raised in this submission.

Yours sincerely

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The views represented in this submission do not necessarily represent the views of all NAGA members individually.