16 December 2016

Climate Change and Resource Efficiency Policy Branch
NSW Office of Environment and Heritage
PO Box A290
Sydney South NSW 1232
Via email: environmental.future@environment.nsw.gov.au

## NSW Climate Change Fund – Draft Strategic Plan

Dear Sir/Madam

Energy Networks Australia welcomes the opportunity to provide comments on the NSW Climate Change Fund – Draft Strategic Plan released in November 2016.

Energy Networks Australia is the national industry association representing the businesses operating Australia's electricity transmission and distribution and gas distribution networks. Member businesses provide energy to almost every household and business in Australia.

Energy Networks Australia generally supports the draft plan as it focusses on how NSW can contribute to national emission reduction reforms. Although the money allocated in the fund is focused on renewable energy, Energy Networks Australia also notes that the NSW Government is supporting other low emission technologies, such as Carbon Capture and Storage – through its coal innovation fund and welcomes this portfolio wide approach to emission reductions.

The intention of this submission is comment on the proposed priority investment areas suggest in the NSW Climate Change Fund – Draft Strategic Plan.

### Key Messages

Energy Networks Australia supports the following:

1) A technology neutral approach to reducing emissions, that provides least cost abatement while maintaining reliability and security.
2) A technology neutral approach for reducing emissions from vehicles including low emission standards reflecting all low emission vehicles such as electric vehicles, hydrogen fuel cells and compressed natural gas vehicles.
3) A nationally coordinated approach to integrated carbon and energy policy including regular reviews of programs and incentives supporting low emission technologies.

## Priority Investment Area: Accelerating advanced energy

This priority area focuses on supporting advances in renewable energy technology for either power generation, transport or industry.

***Power generation***

Energy Networks Australia represents businesses operating Australia's electricity transmission and distribution and gas distribution networks. These businesses provide the essential infrastructure to connect large scale renewable energy projects to energy consumers. For example, our New South Wales businesses have recently connected the Gullen Range, White Rock and Capital wind farms and the large scale solar farms located at Nyngan, Moree and Broken Hill.

Energy Networks Australia supports a nationally coordinated approach to carbon and energy policy.

Energy Networks Australia has recently released analysis supporting the publication, *Enabling Australia's Cleaner Energy Transition*[1] which outlines seven steps to improved national carbon policy. This was supported by analysis completed by Jacobs[2] which examined a variety of policy options to achieve Australia's current abatement target (i.e. emission reductions of 26 to 28% below 2005 levels by 2030) or an extended target of 45%[3]. The policy scenarios examined included:

- *Business as usual* – where the suite of current government policies continue and major policy settings are adjusted to reach specific abatement targets.
- *Technology neutral* – where the current suite of policies is adjusted to become technology neutral and elements of a 'baseline and credit' scheme are introduced.
- *Carbon price mechanism* – where all policies are removed and replaced by a carbon price on all emissions.

The results from the analysis demonstrate that the Australia's 2030 target could be met in any of the three scenarios, with the main difference being the economic efficiency and outcome for customer bills.

Household bills are affected by changes to the wholesale price of electricity or gas price and/or by the additional impost from trading, where it can occur. The lowest household bills in the technology neutral approach could be $216 per year lower on average over the period from 2020 to 2030, compared to the business as usual settings. Either a technology neutral or a carbon price mechanisms policy setting also achieve overall economic savings over the decade of between $0.9 and $1.5 billion compared to the business as usual settings.

Significantly, the technology neutral and carbon price scenarios – which did not have an expanded renewable energy target - saw significant increases in the level of renewable generation based on its economic merit in achieving carbon abatement. The Federal 2020 Large –scale Renewable Energy Target (LRET) was reached in all scenarios and the level of renewable generation continued to grow in each scenario out to 2030, as shown in Figure 1.

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[1] Energy Networks Association (2016), *Enabling Australia's Cleaner Energy Transition*, available from www.ena.asn.au
[2] Jacobs (2016), *Australia's Climate Policy Options – Modelling of Alternate Policy Scenarios*, available from www.ena.asn.au
[3] The outcomes of the 45% target scenario are reported, indicating similar results – ie lowest residential bill under a technology neutral approach.

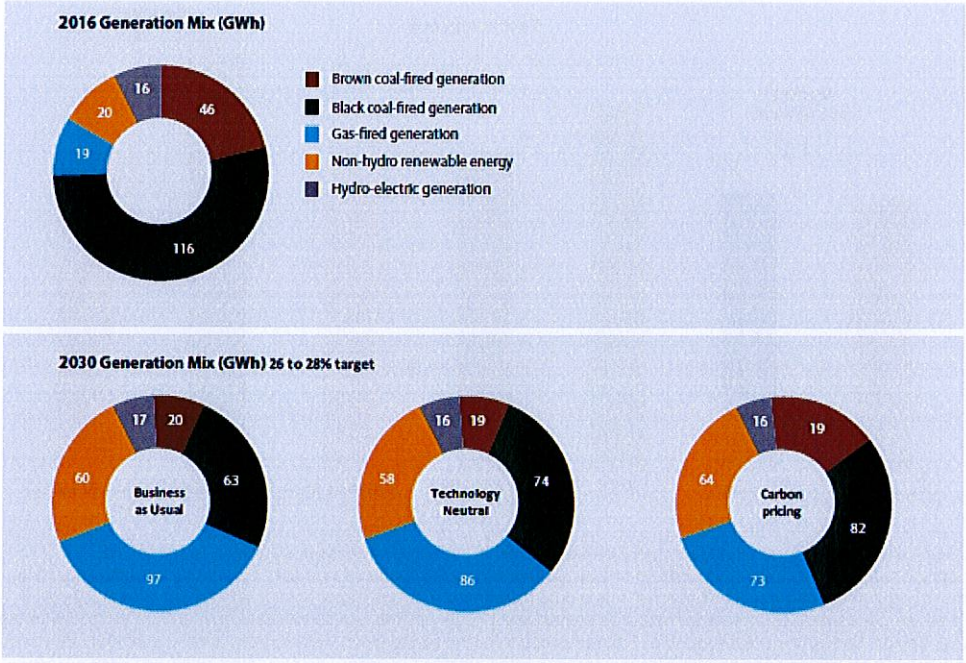


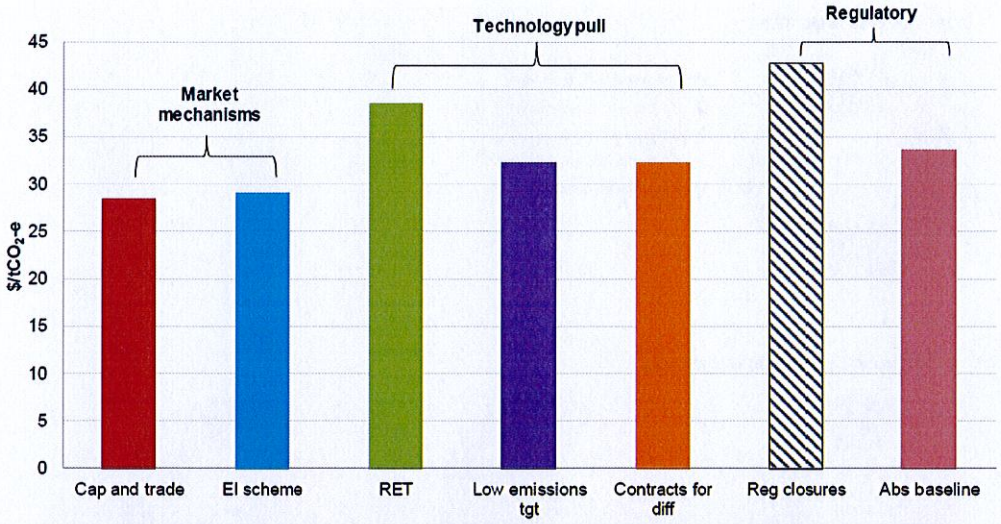

***Figure 1: Impact of policy mechanism on NEM generation mix in 2030.***

The ENA also notes recent analysis for the Queensland Productivity Commission conducted by ACIL Allen, which showed that a Queensland Renewable Energy Target - QRET could require a subsidy of about $10.8 billion (in real terms) over the period to 2030.[4] While Energy Networks Australia recognises this earlier analysis was based on a different delivery model to that of the LRET, it suggests the potential for significant impacts on system costs.

These analyses indicate that the introduction of an additional renewable energy target does not increase the efficiency or effectiveness of the growth in renewables. There is material evidence that a technology specific renewable energy target would perform more poorly than technology neutral "indirect measures" against the Government's stated objectives. The Climate Change Authority[5] also found that technology pull mechanisms, such as a renewable energy target and/or contracts for difference are a more costly approach to carbon abatement compared to market mechanisms such as a cap and trade or emissions intensity schemes (see Figure 2).

[4] See the ENA Submission to the Queensland Productivity Commission (QPC) , *Electricity Pricing in Queensland Draft Report* available at: http://www.qpc.qld.gov.au/files/uploads/gravity_forms/12-4457891b4ac8d0960895c78212ee1497/2016/03/Draft-Report-submission-ENA-FINAL.pdf

[5] Climate Change Authority (2016), *Policy options for Australia's electricity sector – special review research report,* pg10




**Note:** See Table 3 in Chapter 3 for a summary of the policies. 'EI scheme' = emissions intensity scheme; 'RET' = Renewable energy target; 'Low emissions tgt '= Low emissions target; 'Contracts for diff' = contracts for difference; 'Reg closures' = regulated closures, 'Abs baseline' = absolute baselines. Average direct cost of abatement over 2020–2050 using a seven per cent discount rate for resource costs. Direct costs are the additional costs arising from the policy in the electricity sector. Emissions not discounted. Figures account for the reduction in welfare from a fall in electricity demand compared to the reference case resulting from increased retail electricity prices. The regulated closures policy breaches the common cumulative emissions budget by about 200 Mt $CO_2$-e or 15 per cent, so the cost of abatement here is not directly comparable with other policies. See Appendix C.1. All dollar figures in this report are in 2014 Australian dollars unless otherwise specified.
**Source:** Climate Change Authority based on Jacobs 2016c.

***Figure 2: Average cost of abatement by policy settings (2 degrees, 2020 to 2050) (CCA, 2016).***

Energy Networks Australia supports an enduring, stable and nationally integrated carbon policy framework based on consensus that is technology-neutral and uses market mechanisms to achieve least cost abatement.

***Transport***

This action focusses on a strategy for electric vehicle in NSW.

Energy Networks Australia's notes that the majority of forecasts for reducing emissions abatement action are focussed on the electricity sector and that emissions from transport in Australia contribute around 1/6th of the national total, contributing 93 Mt to Australia's national emissions in 2015[6]. Low emission vehicles will be essential to the national abatement target.

A range of options for low emissions vehicles include electric vehicles, hydrogen fuel cells and vehicles fuelled on bio-fuels including biogas, ethanol and biodiesel, compressed natural gas as well as more efficient petroleum fuelled vehicles.

Energy Networks Australia supports a national $CO_2$ emission standard for light vehicles as noted in the Climate Change Authority's review[7] and in the Electricity National Transformation Roadmap[8] (ENTR) Key Concepts Report. This standard should specify emissions levels while being technology neutral, while considering the life cycle emissions of different technologies.

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[6] Department of the Environment (2015), *Tracking to 2020 An interim update of Australia's greenhouse gas emissions projections*, December 2015, available from www.environment.gov.au

[7] Climate Change Authority (2016), *Towards a Climate Policy Toolkit: special review on Australia's climate goals and policies*, August 2016, available from www.climatechangeauthority.gov.au

[8] CSIRO and Energy Networks Australia (2016), *Electricity Network Transformation Roadmap: Key Concepts Report*, available from www.energynetworks.com.au

Modelling completed as part of the ENTR showed that electric vehicles could constitute 20% by 2035 and over 40% by 2050. The ENTR recommends that by 2020, a national approach be resolved for electric vehicle charging. This approach may outline how infrastructure is rolled out across the country to support growing numbers of electric vehicles. While the ENTR focuses on electric vehicles, this infrastructure approach could be expanded to a national technology-neutral approach of supporting low emissions vehicles, including vehicles fuelled by either electricity, biogas or hydrogen, or compressed natural gas.

Energy Networks Australia supports improved energy productivity of vehicles and considers that the best approach would be to be technology neutral in pursuing this outcome.

## Priority Investment Area: Preparing for Climate Change

Energy Networks Australia welcomes the Government's decision to allocate up to $100 million to better understand the awareness and impacts on priority sectors. Impacts of climate change are becoming more evident and these need to be taken into consideration. For example, AEMO in its 2016 National Gas Forecasting Report[9] includes the potential impact of climate change on the consumption of gas.

An improved understanding of these climate change risks may influence planning of new infrastructure and response management. Energy Networks Australia has produced a Climate Risk and Resilience Manual that can be used by its members to assess the risks of a changing climate and develop adaptation plans that addresses the risks that are identified. The Industry Guidance Manual contains practical guidance on: establishing the base line climate and asset context; climate modelling and interpretation of future climate projections; identification of climate risks and undertaking a probabilistic risk assessment; and climate adaptation planning. For instance, it provides a stepwise risk-based process to identify climate effects, infrastructure and service impacts; metrics for risk measurement; trigger or thresholds for asset sensitivities and responses.

We would be happy to provide any further information on the issues addressed in this submission. Please don't hesitate to contact Dennis Van Puyvelde if you would like further information on (02) 6272 1548.

Yours sincerely,

**John Bradley**
**Chief Executive Officer**

[9] AEMO (2016), *National Gas Forecasting Report for eastern and south eastern Australia*, December 2016, available form www.aemo.com.au