

20 January 2017

Mr Geoff Willis
Chair
Energy Security Taskforce Secretariat
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Dear Mr Willis

Energy Networks Australia submission – Tasmanian Energy Security Taskforce Interim Report (December 2016)

Energy Networks Australia welcomes the opportunity to make a submission to the Tasmanian Energy Security Taskforce's Interim Report released in late December 2016.

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

We note the Taskforce's conclusions and findings below:

- » The incidence and the severity of energy security events calls for more conservative energy security settings,
- » There is heightened community concern and an appetite for a higher level of insurance to improve the security of energy supply, and
- » Increased transparency is a significant priority.

Energy Networks Australia generally supports the five priority actions areas identified by the Taskforce and along with our Tasmanian member businesses would like to offer any assistance in addressing these issues.

More specifically, Energy Networks Australia would like to respond to several of the recommendations that address the Taskforce's five priority actions, and to re-confirm and elaborate upon a number of previous key points made to the Taskforce.

1. Define energy security and responsibilities

- *A new Monitor & Assessor role should be established to provide independent oversight and transparent public reporting. The Tasmanian Energy Regulator (TER), the Australian Energy Market Operator (AEMO) and the Director of Energy Planning are identified as potential authorities to undertake the Monitor and Assessor role. (Recommendation 3).*

Energy Networks Australia supports this recommendation.

- *An Energy Security Coordinator role should be established to coordinate responses across market participants to manage electricity supply risks when water storages are near or below an identified energy security reserve level. TasNetworks (preferably the Responsible Officer) or AEMO are identified as potential options for the Energy Security Coordinator role (Recommendation 6).*

Energy Networks Australia supports this recommendation.

2. Strengthen independent energy security monitoring and assessment

- *Energy security risk should be monitored and assessed by a capable independent body, with transparent public communication of risk status.*

This is supported consistent with Recommendation 3, above.

- *The Monitor & Assessor role should utilise existing expertise where possible, such as within TasNetworks (particularly its modelling capacity) (Recommendation 5).*

Energy Networks Australia would support this recommendation, subject to the proposed functions being appropriately defined and resourced under clear governance frameworks.

3. Establish a more rigorous and more widely understood framework for the management of water storages

- *Hydro Tasmania and TasNetworks should closely engage with the Bureau of Meteorology and other experts ... for underlying assumptions of historical and future rainfall, wind variability and extreme events (Recommendation 24).*

Energy Networks Australia supports the intent of this recommendation.

4. Retain the Tamar Valley Power Station for the present and provide clarity to the Tasmanian gas market

The Tamar Valley Power Station (TVPS) is required as a backup generator when Tasmania potentially faces a prolonged low rainfall sequence and a six month Basslink outage (low likelihood, but credible scenario).

- *TVPS should be retained at least until there is a reliable alternative in place to mitigate against hydrological and Basslink failure risk (Recommendation 25).*

Energy Networks Australia supports this recommendation.

5. Support new on-island generation and customer innovation

The Taskforce identified that Tasmania is an excellent test bed for energy innovation and used the examples of storage integration and electric vehicles (EV's). Energy Networks Australia agrees and offers some other examples that may be considered by the Taskforce in its Final Report.

Firstly, the role of gas as a transport fuel. The Taskforce has identified EV's as an example of energy innovation. An alternate that should be considered is the use of compressed natural gas (CNG) vehicles. CNG vehicles offer reduced CO2 emissions, reduced air pollution, increased domestic energy security and lower fuel costs¹. Gas vehicles are up to 50 per cent less noisy than diesel alternatives and outperform the new EURO 6 vehicle emission standards². Globally, there are over 18 million National Gas Vehicles (NGV's). Most major global car manufacturers produce CNG vehicles ranging from passenger vehicles to vans, buses and heavy duty trucks.

The Tasmanian Gas Pipeline (TGP) has an underutilised capacity of approximately 100 TJ per day³. Tas Gas Networks⁴ already operates a CNG refuelling facility at Selfs Point and provides this competitive fuel service to the Hobart City Council which adopted CNG for its fleet in 2009.

The lower operating and fuel costs offset the higher purchase price of gas vehicles with a payback period¹ of just six months for taxis, up to two years for medium duty trucks and between two and four years for passenger vehicles. It must be noted that such comparisons are dependent on the price differential between fuels.

Energy Networks Australia recommends that the Taskforce considers the inclusion of CNG vehicles as part of its Final Report.

This would ensure that Tasmania can use potential energy supply from the TGP and provide additional security to the island. It would also contribute to Tasmania's draft climate change action plan 2016-2021⁵ by allowing Tasmania to become more energy independent.

Secondly, on-island energy generation from biomass should be examined. The Taskforce has identified that Tasmania has a deficit between on-island generation and consumption of between 700 GWh and 1,000 GWh.

¹ Energy Networks Australia (2016), *Compressed Natural Gas for Vehicles - Clean, Abundant, Australian*.

² National Grid (2016), *The future of gas - Transport*

³ Tas Gas submission to the Energy Security Taskforce Secretariat - 15 September 2016

⁴ Tas Gas Networks website - http://tasgasnetworks.com.au/?page_id=862

⁵ Department of Premier and Cabinet (2015), *Embracing the climate challenge - Tasmania's draft climate change action plan 2016-2021*.

Tasmania's draft climate change action plan identifies that biomass is one of the options for maximising on-island energy. While Tasmania already generates renewable energy from landfill, there is significant potential for additional bioenergy to be produced from on-island resources. A research study by Rothe *et al* in 2015⁶ indicated that Tasmania currently uses around 7 PJ of forest biomass for energy, mostly as domestic firewood. This research estimated an additional 33 PJ (equivalent to 30 per cent of Tasmania's energy demand) per annum, could be sourced from existing forest biomass residue and pulp grade material.

Furthermore, Tasmania is a major agricultural region. The sector directly employs around 10,000 people and delivers around a third of its' Gross State Product⁷. Associated with this industry is a large volume of agricultural waste which is ideally suited for producing biogas.

Producing biogas from biomass can be carried out using commercially available reactors that reduce the biomass to biogas. This gas can then be used for electricity generation, as part of the Renewable Energy Target, or injected into the gas distribution network.

Producing biogas from agricultural waste is common within Europe, especially Norway, Germany and the United Kingdom. Within Australia, the largest biogas reactor is located near Goulburn, NSW and processes 20 per cent of Sydney's household waste. This reactor⁸ is located at an old mine site and the biogas produced is converted to green electricity. Another project⁹, in Western Australia, uses a specialised process to convert biomass into biogas. This project procured and modified technology from European vendors. The project is focused on generating green electricity but the project could just as easily be setup to produce gas to be injected into the gas network as renewable gas.

There are no technical obstacles to biogas production. It has been proven on a commercial basis for producing renewable electricity and the produced gas could easily be injected into the distribution network as renewable gas.

Energy Networks Australia recommends that the Taskforce considers the inclusion of using biomass for on-island generation.

This could include both the use of waste biomass for electricity generation, or using agricultural waste for producing biogas.

⁶ Rothe, A., Moroni, M., Neyland, M. (2015), *Current and potential use of forest biomass for energy in Tasmania*, Biomass and Bioenergy, 80, pp 162-172

⁷ <http://www.brandtasmania.com/agriculture/>

⁸ <http://www.veolia.com/anz/our-services/services/municipal-residential/recovering-resources-waste/woodlawn-bioreactor>

⁹ Jandakot project – biogas, available from: <https://arena.gov.au/files/2015/11/Jandakot-Bioenergy-Plant.pdf>

Electricity Network Transformation Roadmap

Energy Networks Australia is continuing its joint project with the CSIRO in developing an Electricity Network Transformation Roadmap (ENTR). This project is well underway and a Key Concepts [report](#) was recently published for consultation in early December 2016.

The Key Concepts report considers future impacts of emerging technologies on power system security and we would be pleased to meet with, or brief, the Taskforce.

Other Key Issues

Interconnection

Energy Networks Australia considers the Taskforce appears to have taken an appropriate approach to the assessment of interconnection generally, and to the potential for a second Bass Strait interconnector.

Other technologies and options

All technologies and options should continue to be considered on their merits to address energy security in Tasmania. Energy security issues should continue to be addressed at a national level - as recognised in the recent Blueprint to Energy Security in the National Electricity Market (NEM) Review, following the South Australian System Black event of 28 September 2016.

We would encourage the Taskforce to promote both:

- a robust, nationally consistent approach to estimating the Value of Customer Reliability (VCR). The Taskforce should consider recent analysis by the Independent Pricing and Regulatory Tribunal of NSW's [Supplementary Final Report](#) on Electricity transmission reliability standards - December 2016) that endorses such an approach, and
- a technology neutral approach to carbon policy.

Value of Customer Reliability

The Paper correctly identifies that energy security and the level of energy reliability should reflect the willingness of customers to pay for an optimal balance of energy 'insurance'.

In undertaking such an examination, the VCR should be considered in the context of a national methodology with the scope for some regional/locational variability. The Taskforce should also consider frameworks to address, and plan for, those risks which are not well accommodated by VCR assessments, such as High Impact, Low Probability events (as recognised by the COAG Energy Council's most recent (14 December 2016) [Communique](#) on potential changes to the Regulatory Investment Test for Transmission.

The Communique records that Ministers agreed to a number of improvements, *“including ensuring that system security and emission reduction goals are adequately considered; [and] low probability but high impact events like the South Australian system black event in September are appropriately taken into account”* (p.2).

Intermittent Generation

Energy Networks Australia acknowledges the rapid response and security of electricity supply afforded by the Tamar Valley (gas) Power Station. There may be future opportunities to embed small generation units (including gas) in the power system as small scale partners for intermittent generation. This solution would be particularly relevant at the extremities of the electricity network, where they might provide cost-effective network benefits.

TasNetworks continues to connect low emission generation at both a transmission and distribution level. Energy Networks Australia is aware that TasNetworks is of the firm view that connection standards for intermittent generation technologies may need to be strengthened. Network Service Providers have the experience, expertise, and responsibility to successfully connect all forms of generation and where economically viable, integrate demand management options.

The performance standards that various forms of generation technology must meet in relation to output, consistency, intermittency, quality, and power system stability and the scope of mechanisms by which those performance standards can be met, requires robust consideration. These issues are likely to be informed by: the NEM institutional reviews of the System Black event in South Australia of 28 September 2016, and the Finkel Independent Review into the future security of the National Electricity Market’s Final Report that is expected to be released by the middle of 2017.

Should the Taskforce require any additional information, please feel free to contact Norman Jip, Energy Networks Australia’s Senior Program Manager – Transmission on (02) 6272 1521 or via e-mail: njip@energynetworks.com.au.

Yours sincerely,



JOHN BRADLEY
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