

TASMANIAN ENERGY SECURITY TASKFORCE

Consultation Paper Submissions Summary

Date: 29 September 2016

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Executive Summary

On 3 August 2016, the Tasmanian Energy Security Taskforce released a Consultation Paper to assist its examination of energy security by encouraging the views of stakeholders interested in the energy supply security challenges for Tasmania.

Across the thirty-two submissions received there has been useful insights and consistent messages against the key themes of the Paper. Submissions were provided by large and small customer representatives, industry bodies and key energy sector participants. The following messages are noted as the most consistent and pertinent (despite some level of crossover and diversity):

- energy security for Tasmania is likely to be best served through use of the current generation assets and supporting infrastructure;
- Tasmania requires a diverse mix of energy generation and security measures which if enhanced should focus on greater diversification;
- any energy security solution should be enacted on a least cost basis with high regard for the flow-on effects to both large and small customers;
- a more conservative approach to water management is seen by many to be the most cost-effective and logical choice for an energy security solution;
- the Tasmanian Government has a role to play in guiding any new approach to water management and energy security oversight more broadly;
- there can be better communication and transparency on Tasmania's energy security;
- a second interconnector presents high risks to Tasmania due to uncertainty of the future generation mix in mainland National Electricity Market (NEM) jurisdictions and the potential cost burden for Tasmanians, however, potential benefits were also identified by some;
- natural gas generation has a role to play in supporting Tasmania during an energy security event;
- greater demand management opportunities and choices should be facilitated and provided to customers, large and small;
- renewable energy generation is a core feature of the Tasmanian generation mix and adding new capacity could assist in managing energy security challenges over the long term, but needs to be balanced against the cost of doing so; and
- Tasmania's climate is changing with altered weather patterns increasing the difficulty of predicting future rainfall and wind patterns.

Comments on the scenarios that the Taskforce should consider have generally been addressed as part of other questions.

At a high level, there have been no points of comment from stakeholders to suggest the work (to date) of the Taskforce is not addressing the key issues within the scope of its Terms of Reference. However, a small number of submissions have suggested a broadening of the scope to include the non-stationary energy sector, specifically liquid fuels. Some stakeholders would also like the Taskforce to focus in more detail on recent events and in particular Hydro Tasmania's management of water storages.

I Background

The Tasmanian Energy Security Taskforce released a Consultation Paper, on 3 August 2016, to assist its examination of energy security by encouraging the views of stakeholders interested in the energy supply security challenges for Tasmania.

Submissions to the Consultation Paper were requested to focus on key themes, as guided by the Taskforce's Terms of Reference. These themes were:

- Energy Security
- Water Management for Hydro-Electric Storages
- Interconnection with the NEM
- The Tasmanian Gas Market
- Renewable Energy and Emerging Technology
- Impact of Climate Change
- Scenario Planning

Stakeholders were presented with 19 questions spread across the seven themes. The Taskforce reinforced that submissions presenting evidence based material would be most valuable and verifiable. The closing date for submissions was 9 September 2016.

Thirty-two submissions were received from a broad range of stakeholders, including small and large business customers, individual residential customers, peak-body organisations, energy sector participants based in Tasmania and consumer advocates. A list of stakeholders who made public submissions is provided at Attachment A. Four submissions from businesses requested that their submissions be treated as confidential.

The following sections provide a summary of the key observations and common concepts raised by stakeholders across the seven key themes outlined in the Consultation Paper.

2 Energy Security

2.1 What energy security risks should the Taskforce consider?

Multiple submissions highlight the risk to energy security in Tasmania from low dam storages and inflows as the primary challenge.

Some stakeholders followed this point further by suggesting rainfall and wind are potentially unreliable energy sources due to changing weather patterns.

A number of stakeholders discussed the extended outage of the Basslink interconnector, noting their understanding that while a prolonged outage not considered to be a 'credible' event, such an event is now a real risk to Tasmanian energy security.

Given the significant role of gas in assisting with the recent energy security event, and due to its importance as an ongoing fuel source, the gas sector is noted by several submissions as a risk the Taskforce should consider. Many submissions note the dependency on a single source, the Tasmanian Gas Pipeline, and the uncertainty surrounding the future operation of the Tamar Valley Power Station (TVPS) as key factors to be considered.

Some submissions pointed to potential barriers to new investments in on-island generation as risks to future energy security initiatives. These ranged from difficulty in obtaining capital, securing planning approval, competition from more attractive investment markets and changes to incentive frameworks such as the Renewable Energy Target (RET).

Catastrophic loss of critical transmission infrastructure is also detailed as a specific risk that the Taskforce should consider.

A small number of submissions raise concerns regarding the focus of the Terms of Reference on stationary energy generation rather than the State's total energy security, including the non-stationary energy sector. In particular, some argued that threats to the reliable supply of liquid transport fuels (on which the State is heavily reliant) should be considered within the Taskforce's Terms of Reference.

Submissions that addressed the question of reliable supply consistently noted a 100 per cent reliability is not realistic nor is it expected by customers.

Key customer stakeholders raise the point that a secure supply of energy is essential, although this goal should be achieved through least cost means. TasNetworks notes that in its 2016 customer survey it found that *"78 per cent of residential customers are not prepared to pay more for increased network reliability over and above existing performance levels."*

Submissions acknowledge that any additional costs of ensuring supply are likely to flow through to customers, whether from upstream cost increases or by other means such network charges or energy retailer bills.

Some submissions highlight that during the 2015-16 event Tasmanian spot market prices increased significantly. For customers not under the protection of regulated contracts this produced high wholesale cost impacts in both the market and offers to contract from electricity retailers.

Stakeholders suggest investments should represent value for money and that this would be difficult to achieve against outcomes that have a high degree of uncertainty caused through reducing patterns of demand, growth in renewables over the longer term and the challenge of servicing a large amount of capital. The small population of Tasmania is singled out as a limitation on the economics of investment in expensive energy infrastructure.

Some submissions note there are a number of pre-existing reliability standards and reporting mechanisms, set at both a State and Federal level, which predominantly work well in content and execution. This includes the Annual Planning Statements from TasNetworks and State reliability guidelines and standards set by the Australian Energy Market Operator (AEMO).

Anecdotal reporting is that some sectors may have capacity to adjust business operations and/or behaviours to reduce demand during supply disruptions. However, not all business operations are alike with some highly dependent on a consistent supply of energy.

Large customer stakeholders note that whilst there is capacity to cope with some level of disruption, as demonstrated by the fact that major industrial consumers assisted the State to minimise disruptions to other users, there are still fundamental concerns with energy security risks, particularly if outages are extended or unplanned.

The Tasmanian Minerals and Energy Council notes that businesses have an ongoing need to satisfy their customers and “*that means maintaining a reputation as a reliable supplier of quality products.*” Customers place orders which are expected to be delivered in full, on time and, at the price and agreed quality.

The Tasmanian Small Business Council notes that small business customers have limited ability to manage without supply.

2.2 Communication of energy security risks

Stakeholders generally identify communication of energy security risks and activities as an area that could be improved. Some submissions suggest that after the events of 2015-16 the community has a greater awareness of energy security risks. However, most stakeholders consider the level of understanding is still limited, particularly as to the technical solutions required to avoid energy supply constraints.

Some stakeholders are seeking greater information for immediate customer needs such as maintenance of energy supply or planning for loss of supply. Others flagged the benefit to overall community confidence though a more prominent, structured and consistently communicated plan for managing energy security.

Stakeholders with a community focus highlight the nature and quality of the information provided to the public about the recent energy security event and its possible consequences. It was considered information provided was poorly communicated and difficult for the community to understand given its generally technical content.

The Tasmanian Council of Social Services (TasCOSS) identify that no plans were in place to assist or inform disadvantaged population groups who may need more time to prepare for extended outages, such as life support customers or disability services customers.

The benefit of time to prepare for an energy security challenge was reflected by all customer stakeholders who noted that, with earlier notice, demand management processes and energy efficiency measures could be engaged. Some customers with enough notice could source alternative forms of fuel supply if their operations allowed.

2.3 Frameworks for assessing and monitoring energy security

There is strong support from stakeholders for the establishment of formal framework for assessing and monitoring energy security.

A consistent point raised is the need for a dedicated energy security plan that is prepared with specific regard to the events of 2015-16. This plan would articulate the role of all mitigation strategies including gas generation, demand side management and temporary generation.

Stakeholders suggest the governance frameworks for managing energy security should be strengthened. This would include clearer oversight of the management of water storages, whether through Hydro Tasmania's own structure or by an external regulatory or government body.

Some submissions state that a first step in preparing such a framework is to settle on an appropriate definition of energy security. Views suggest a broad definition of energy security is required.

Transparent monitoring and reporting of energy security metrics is also noted as essential to assisting the communication requirements in an energy security emergency event.

2.4 Potential energy solutions for consideration

Across the submissions there are a variance of views as to what solutions should be considered, although two contrasting points are noted as the common themes:

- Tasmania has adequate generation capability that, if managed with a greater focus on energy security, can be sufficient to manage challenging energy security events; or
- diversification of energy sources, whether through new renewable generation initiatives or alternative fuels, is the optimal strategy for Tasmania's future.

Amongst these two views there is consistency that either approach should be implemented on a least-cost basis and any new energy security solution should be prudently considered against a baseline of community expectations.

Stakeholders that suggest a solution of better management of the current generation mix stated a more conservative approach to use of Tasmania's water storages as the most cost effective strategy. This is cited by some as preferable to the significant capital costs of increasing available energy supply through new generation projects.

A second interconnector is broadly considered as a potential solution but would come with significant risks (further discussed in Section 4).

Some stakeholders state a responsive gas portfolio could play a role in energy security through its ability to adjust to meet changes in demand, to take advantage of market opportunities and to manage asset failures.

Submissions advocating for diversification through alternative fuels are focussed primarily on the potential introduction of additional renewable energy projects, including wind, solar, geothermal biomass and wave power. Several submissions advocate the use of pumped storage within the hydro system and battery storage.

Other submissions note the important role of diesel in the 2015-16 energy security event.

Some submissions propose a goal of Tasmania being able to produce 100 per cent of its energy from renewable sources as a guiding strategy for the Taskforce to consider. This would be underpinned by targeted support for renewable technologies through measures such as reverse auctions and feed-in tariffs.

Demand management solutions, whether energy efficiency or load reductions, are proposed as cost effective options, particularly if backed with appropriate development and support. Bell Bay Aluminium noted that

major customers are willing and able to negotiate 'demand response' services that would "keep reliability as close to 100 per cent for those who expect it and not require investment dollars to sustain or install new infrastructure."

3 Water Management

3.1 Water storage management practices

Across multiple submissions, the impacts that may arise due to water management practices are highlighted as the primary risk facing the Tasmanian energy sector. Furthermore, stakeholders share a view that within the Tasmanian energy supply demand balance, water held the greatest role in shaping assumptions of energy security and actual outcomes.

In support of the significance of water storages for Tasmania, one stakeholder notes the hydro system offers much flexibility in its deployment and that this adaptability can assist changing circumstances over time. Tasmania has a complex mix of 'major', 'intermediate' and 'run-of-river' assets, which are noted as being essential for effective water storage management.

Obtaining a higher yield from the existing hydro system was also mentioned in some submissions. The potential to achieve this can be found through augmentation of run-of-river dams to increase capacity or by the implementation of pumped storages to operate during cheap overnight imports from Basslink.

3.2 Water storage governance arrangements

All stakeholders who addressed the issue of governance arrangements for water management agree that improvements can be made in either reporting of water storages and/or the controls applied to the release of those storages.

Many stakeholders note that reporting is a first order priority, as the quality of reporting on water storages during the recent energy security event was difficult to access and understand. Other stakeholders note alternative forms of reporting on energy security would improve transparency and increase community confidence.

Controls placed over water storages are also identified as a key area for the Taskforce to examine. Some stakeholders contend that the operational and strategic goals placed on Hydro Tasmania have the potential to drive outcomes incongruent with energy security.

Actions proposed by stakeholders to address water storage governance deficiencies include the following:

- high minimum dam storage levels should be maintained before export is allowed;
- a scrutinised business case should be approved and adhered to for hydrological management;
- Hydro Tasmania's planning and forecasting processes should better reflect the likelihood of supply security emergency events; and
- international monitoring and reporting examples should be adopted for Hydro Tasmania's storages (such as New Zealand's metrics for monitoring and reporting).

A more involved role for Government in overseeing water storage monitoring and controls was also proposed.

3.3 Value of water outside of energy supply security

A small number of submissions highlight the importance of water to the other sectors outside the needs of stationary energy production. Depletion of major water storages can create challenges to fisheries and tourism industries through negative impacts on fisheries stocks and water quality, such as those associated with increased levels of algae. These submissions request that these issues be part of the Taskforce's focus.

4 Interconnection with the NEM

Across the submissions that addressed the matter of interconnection with the NEM, there are generally two opposing views:

- a second interconnector would comprehensively ensure a secure supply of energy for Tasmania and provide development opportunities in Tasmania to support the energy needs of the NEM; or
- a second interconnector is unlikely to be a cost-effective or optimum solution to Tasmania's energy security requirements.

Stakeholders that highlight the potential role of the second interconnector in addressing energy security challenges consider it would enhance energy security when used in combination with the development of renewable energy resources. The second interconnector could also assist with supporting the network through provision of bi-directional power and ancillary services as well as provide more communication bandwidth. Some submissions suggest a business case for a second interconnector based on energy security alone is unlikely, but could be made based on the role an interconnector could provide to support the growing renewable generation profile in the NEM.

Many stakeholders consider the expense of the second interconnector is unnecessary given the range of other low emissions and cost efficient energy options. Furthermore, the current modes of energy provision should not be reinforced to ensure diversity, especially in the context of the recent Basslink outage. Some submissions point to the highly changing landscape of the NEM and consumer demand as reasons not to invest in a second interconnector.

The complexity of the current Basslink and its impact on the Tasmanian network is noted as an important factor for consideration in any second interconnector feasibility study. The second interconnector could introduce instability to the Tasmanian network and require capital intensive network strengthening.

5 Tasmanian Gas Market

5.1 Gas supply is important to Tasmanian energy security

A consistent point made by multiple submissions is that the Tasmanian gas market is important to energy supply security. The gas sector provides diversification to the Tasmanian energy mix and helps ensure an acceptable Tasmanian energy supply demand balance.

The key element in the gas sector is stated to be TVPS. It provides on-island, base-load generation and is repeatedly noted as a risk mitigation strategy against reduced rainfall, wind flows and Basslink outages.

Submissions suggest that any sale or long-term shut-down of TVPS is likely to result in higher capacity costs being passed through, due to fewer consumers using the Tasmanian Gas Pipeline. Stakeholders consider this could lead to fuel switching and impact the diversity of energy generation in Tasmania.

Stakeholders also show a high awareness of the expiry of key gas commodity and capacity contracts in December 2017 and that the potential negative implications for gas customers and the gas sector.

It is noted that if demand for commodity and capacity moves away from its currently aggregated state, then the entities will become more exposed to seasonality and variability. In this disaggregated environment more capacity would be booked than required, leaving the market to bear the costs of underutilisation.

5.2 Actions to strengthen gas market without significant costs

A number of submissions focus on the potential actions to strengthen the gas market. The most prominent issue is the expiry of commodity and capacity contracts at the end of 2017.

Some submissions suggest formalising the future of gas through the development of longer term upstream gas supply contracts would provide the certainty required for the Tasmanian gas market to continue.

A goal mentioned in this context is to keep TVPS engaged in providing energy to the Tasmanian market and using the Tasmanian Gas Pipeline to source its production. Some stakeholders consider this a strong ongoing option for ensuring energy security for Tasmania.

Stakeholders provide a view that Government has a role in facilitating new wholesale purchase and transport arrangements, given the commercial arrangements post 2017 remain uncertain. In this context, some submissions contend this would not be an unusual action given Government was highly involved with the initial establishment of the gas industry and is the primary shareholder of Hydro Tasmania.

A complimentary but alternative view is that while decision-making regarding the immediate future of the gas sector is unavoidable this should not impact a holistic approach to considering the future of the Tasmanian energy sector.

Stakeholders raise the potential to grow the gas network, citing this action as a mitigation strategy against the continued reliance on electricity for security of supply.

Gas Energy Australia asserts that Tasmania energy security is not diversified, being too heavily weighted to Hydro-electricity and centralised generation. Fuels such as LNG, LPG and CNG provide diversity and can support de-centralised generation models. A case is presented that liquid fuels can be transported anywhere by sea, rail or road, meaning they are in effect a 'virtual pipeline'. In the Tasmanian context, this model of fuel provision is small and open to expansion when and where necessary.

6 Renewable Energy and Emerging Technologies

A number of submissions commented on renewable energy generation and emerging technologies, including available renewable energy sources, distributed generation, subsidies, government regulations and technologies required to deliver these benefits to business and residential consumers.

A broad range of stakeholders support the introduction of utility-scale renewable energy generation investment in Tasmania. While new wind generation and solar are identified as important technologies, a small number of submissions noted that a technology neutral approach should be adopted by the Taskforce.

The Renewable Energy Target was highlighted as a factor in supporting new renewable generation investment given the additional subsidies it provides.

Stakeholders also noted the role of customers in assisting cost-competitive pathways to improving energy security through mechanisms such as energy efficiency, distributed generation and technologies such as battery

storage. In this context, customer choices to more actively interact with the network are considered important for Tasmania's energy future.

A small number of submissions asserted that feed-in tariffs are a potential solution to energy security challenges. These stakeholders considered the current Tasmanian feed-in tariff to be too low to encourage uptake of distributed generation. Some submissions proposed alternative models for calculating the feed-in tariff such as a return to the 1:1 approach or setting the feed-in tariff at the Basslink export cost.

Other submissions suggest the NEM is oversupplied for electricity and that renewable generation development viability is challenged by sovereign risk, obstacles to obtaining project finance and lack of retailer support through power purchase agreements. Furthermore, that emerging technologies by their very nature are untested and unreliable.

The operation of intermittent generation is also noted across many submissions with references to the current challenges facing the South Australian jurisdiction cited as evidence of perverse outcomes in the development of wind and solar generation. Network stakeholders note that in future, the costs of supporting a greater level of intermittent generation will alter the types of connections and associated costs paid by customers to connect such infrastructure.

Future climate change mitigation policies are also highlighted as having potential consequences for the NEM in relation to renewable energy developments. Implications are noted through a range of avenues:

- an increased level of subsidies for zero emission technologies may alter the generation mix through changing cost structures and lower the viability of long term investments in new baseload generation sources;
- the move away from fossil fuels creates uncertainty and a reliance on variable natural inputs and, in turn, more renewable generation may increase the level of intermittency within the broader NEM; and
- increased constraints on carbon dioxide emissions if Australia's commitment to international agreements, such as the Paris COP21, are realised.

A small number of submissions note that future Australian energy policies will be guided by the Paris COP21 agreement through Australia's commitment to an emission target of 26 to 28 per cent reductions on 2005 levels by 2030.

7 Impact of Climate Change

Across submissions that addressed the impact of climate change on energy security there was general agreement that weather patterns are changing and that this paradigm may pose a risk to Tasmania's energy security, both in terms of changes to rainfall and wind patterns as well as through increased extreme events that may damage energy infrastructure.

One submission notes that the change in weather patterns ensures past scenarios are no longer a reliable point of information on which to base future energy security decisions. This applies to expected rainfall by location and time thus impacting the historical understanding of inflows to major storages.

Another submission highlights the recent dry spring of 2015 as evidence of climate change and what may be a new trend of lower rainfall periods. A suggested point of action by stakeholders are for work to be undertaken to assess whether the extreme events of recent times are set to become more regular.

Potential increases in Tasmania's population (and subsequent implications for future demand) are highlighted in one submission due to the State's climate becoming more desirable compared to other areas of Australia.

8 Other Issues

Stakeholders offered a number of scenarios that the Taskforce should consider that address the operation of all current components of the Tasmanian energy sector as well as impacts from scenarios such as loss of customer demand and population growth.

Some stakeholders presented their own assessment of the 2015-16 energy security event, including the factors leading up to the historic low dam levels and the subsequent management of the emergency. Two contrasting points are most commonly noted:

- an alternative approach to risk management practices, whether through a greater focus on energy security generally or through more prudent management of water storages may have avoided the events of 2015-16; or
- the combination of events that led to the energy security challenge was such that this was unexpected and unavoidable.

Many submissions note that despite the challenge of the 2015-16 energy security event, the Government and energy sector stakeholders worked well together to help maintain continuity of supply.

Appendix A – List of Stakeholder Submissions

Australian Energy Market Operator
Aurora Energy^
Basslink Pty Ltd
Bel Bay Aluminum
BOC Ltd and LNG Refuellers Pty Ltd
Clean Energy Council
Clean Energy Finance Corporation and Goldwin Australia
Climate Tasmania
Energy Networks Association
Engineers Australia
Estelle Ross (private)
Gas Energy Australia
Goanna Energy Consulting Pty Ltd
Hydro Tasmania
Ian Howard (private)
Island Fisheries Advisory Council
John Bishop (private)
Lee Dyson (private)
Pavel Ruzicka (private)
Steel Wave Power
TasGas Network and TasGas Retail (combined)
Tasmanian Council of Social Service
Tasmanian Gas Pipeline* and Value Advisor Associates Pty Ltd
Tasmanian Greens
Tasmanian Minerals and Energy Council
Tasmanian Renewable Energy Alliance Inc.
Tasmanian Small Business Council with Goanna Energy Consulting Pty Ltd
TasNetworks Pty Ltd
Trout Guides & Lodges Tasmania Inc.

^Aurora Energy's submission was made on a confidential basis, although a non-confidential cover letter was provided

* Tasmanian Gas Pipeline also provided a separate confidential submission