

About this submission

This submission was prepared by Sustainable Living Tasmania (SLT). SLT has over 40 years' experience promoting sustainability in Tasmania. Over the last ten years we have worked on numerous programs in the energy space, including the "Cool Communities Program", delivered numerous earn your stars grants as well as delivering over 4000 Energy efficiency retrofits through the "Energy Champions" and "Power Savings for Tenants" Programs. Further details of our work can be found at www.slt.org.au

Overview

20 year time horizons mean an Energy Strategy paper needs to realistically address climate change and peak oil. The strategy has made minimal effort to address peak oil and transport issues and practically nothing in terms of climate change.

Peak oil

Global oil production from conventional sources has reached a plateau over the past few years and is expected to decline into the future. The resultant gap between supply and demand is expected to result in price increases, ameliorated to some extent by a combination of demand side management, fuel switching (particularly electrification of transport) and oil production from non-conventional sources (e.g. tar sands). The latter option is problematic for climate change due to increased GHG intensity of production, and also economically as costs are higher.

Given that Tasmania is a "price taker" for oil, a *status quo* policy will lock Tasmania into ever increasing liquid fuel and transport costs. The strategy should address this, including by:

- a) Radically improving vehicle fuel efficiency
- b) Improving freight and logistical networks to increase efficiency
- c) Investigating and implementing an electrification program for public transport and light vehicles. This would also substantially increase the resilience of the Tasmanian economy by safeguarding it against the loss of a major industrial electricity user.

Climate change

Climate Change will have an overarching impact on the policy context over the next twenty years. It is inevitable that a higher proportion of Australia's energy needs will come from renewable sources and Tasmania is well positioned to capitalise on this. Tasmania should be planning for the impending renewable energy boom and have all technical and legislative arrangements in place to capitalise on any increase in demand for renewable energy.

Responses to specific questions

Question 1 - What enhancements could be made to regulatory frameworks to ensure the right incentives for businesses and consumers are in place?

We expect that the price of distributed renewable energy will continue to drop. This will create opportunities for Tasmanian businesses and consumers to access low cost energy from their own energy supplies, augmented by the grid. This should be promoted as a growth strategy by:

- a) Increasing opportunities for innovative renewable energy products to enter the market

- b) Increasing the maximum size of systems that can be installed without TasNetworks approval (up to 250kW)

Question 3 - Is retail competition important because of price, choice or for other reasons?

At a household level, we expect competition will result in an increase in red tape (competing contracts, out clauses etc.). Given that retail costs are only 13.1% of retail energy costs (issues paper Figure 11) we find it unlikely that significant savings for the customer can be found. On the contrary, it is likely that prices will increase because of the increase in marketing costs. Low literacy groups including those from low socio-economic areas and those with English as a second language may be disadvantaged because of competing and confusing marketing claims (as already experienced with telecommunications). In a retail environment the Government's role will need to address reducing costs and confusion from competing companies.

Question 4 - What enhancements or additional information could increase the reporting transparency of the Government's electricity businesses and contribute to improved efficiency?

Enhancements could be made by:

- Government owned utilities freely providing information on the grid capacity to connect additional distributed renewable energy generation capacity.
- Ensuring there are no disincentives to the connection of distributed renewable energy supplies
- Publicly disclosing electricity contract prices for large energy consumers as a bid to increase transparency and attract businesses to a low cost renewable energy economy.
- Assist service providers to offer energy efficiency services bundled to Aurora Energy contracts - this can encourage innovation and energy efficiency within the sector.

Question 5 - Do energy intensive and trade exposed businesses require greater future price certainty to maintain and/or grow their operations?

It is understood that electricity price subsidisation can help keep and attract business. SLT has no objection to this per se except that any costs below supply price should be considered a "subsidy" and should be publicly disclosed.

Question 6 - Would you consider accepting slightly lower levels of reliability if this resulted in materially lower prices?

Yes. The so-called "gold plating" of the network, largely due to over-estimated power usage projections, has been the largest driver of recent cost increases for consumers.

An approach supported by Sustainable Living Tasmania is a smart grid that allows energy-hungry, non-critical appliances to be managed to reduce peak loads on the electricity network. With appropriately constructed tariffs it could result in a win-win with lower infrastructure costs and lower power bills.

Question 7 - Would a review of tariff structures be desirable?

Yes. There are a number of elements in the current tariff structure that need review.

- a) Solar customers connected to tariff 31 – these customers cannot use their "on-site" generated power to support their appliances on tariff 41, 42 or 61. As a result they may be simultaneously generating power, selling it to Aurora for 6.1 cents and purchasing it back at 14.9 cents (more than double the price). This arrangement needs to be fixed.
- b) Create an inverted tariff structure with reduced tariff for the first units of energy and higher tariffs for larger energy use (this will embed a culture of energy efficiency).
- c) Avoid increasing the "fixed charges" proportion of electricity bill – doing this will eventuate in more people going off-grid and increasing fixed costs for remaining energy users, thereby exacerbating the "death spiral".
- d) Introduce virtual net metering. This allows physically separate buildings to assign their "exported" electricity to other sites through billing processes. For more information we recommend you read a report titled "Virtual Net Metering in Australia: Opportunities & Barriers" written by the Institute for

Sustainable Futures

<http://cfsites1.uts.edu.au/find/isf/publications/langhametal2013virtualnetmetering.pdf>

- e) Consider tariffs to promote the uptake of electric vehicles. An appropriately constructed tariff connected to smart metering could also allow a network provider greater flexibility to dispatch energy from a distributed energy storage supply in electric vehicles.

Question 8 - What approach should Government consider for improving the thermal efficiency of our buildings?

Tasmanian buildings are woefully inadequate to deal with the climate, which results in wasted energy and a drain on the available income of households and businesses. Research indicates that improving thermal efficiency can also have a significant impact on health (Howden and Chapman et al 2007, 2011)

Many homes may meet the star ratings on paper but are poorly built. We recommend that buildings are tested at completion to ensure that they meet minimum air exchange standards.

We also consider that 6 stars is an easily achievable energy standard and many builders are easily pushing into 8 and 9 stars for new builds. We recommend a legislated and staged increase in the star rating requirements for new builds.

To improve the quality of older buildings we recommend that buildings are tested and rated at point of sale by a competent person. This should be converted into annual running cost estimates for the home. This will assist the market to decide so that households can choose an efficient home to save on running costs. The ACT Government has implemented such a scheme:

http://www.actpla.act.gov.au/topics/property_purchases/sales/energy_efficiency

The quality of trades should also be improved so that buildings are built as rated. This training should extend to all trades at the apprenticeship level and also by providing “green tickets” to existing trades.

Given the dearth of baseline information on the measured quality of Tasmanian buildings we recommend that the government undertake a complete audit of a “baseline” sample of housing stock.

Research indicates that improving thermal efficiency can have a significant impact on health (Howden and Chapman et al 2007, 2011). Using a 30 year horizon and 5-7% discount rate, Chapman demonstrated that health impacts could be valued at around \$111 per household per annum. A possible approach could be the issuing of “Social Impact Bonds” to promote the improvement of household thermal efficiency. In effect these bonds would use the savings from the health system (from respiratory diseases and cold related illness) to fund the improvement of residential thermal efficiency. More information on the nexus between health and energy efficiency can be found in a volume titled “An investigation of the Potential Health Benefits from Increasing Energy Efficiency Stringency Requirements”, BCA V1&2.

Question 9 - What approach to energy efficiency should Government use to help improve productivity for small to medium businesses, and to reduce energy bills for households?

SLT has delivered two State Government energy efficiency projects, “Power Savings for Tenants” and “Energy Champions” as well as currently implementing the Federal Governments Low Income Energy Efficiency Program named “Get Bill Smart”. As a result we have visited over 4000 Tasmanian households and provided targeted upgrades and advice on energy efficiency.

Power Savings for Tenants

The Power Savings for Tenants project delivered 813 home energy efficiency visits. These included upgrades and behaviour change sessions. Overall these benefitted a total of 813 households, with 2068 tenants. Of these around 6% were aged pensioners and 22% came from single parent households.

The program has delivered tangible benefits to the households that participated. The collection of billing data from Aurora indicates that the average household has reduced their energy usage by 2.4kWh per day. This equates to around \$190 per year or a combined total of approximately \$157,000 per year across the project. The project has also resulted in reduced water usage. Simply changing the showerheads in 483 households has resulted in average water saving of 129 litres per day, which equates to a cumulative saving of 38,537 kL/year valued at around \$35,000. Combined the water and energy savings provide a project with a 4 year payback.

When questioning households they have demonstrated overwhelmingly positive feedback. Overall there has been a reduction in energy poverty, including warmer homes and improved health of occupants. Tenants have been implementing the advice that has been recommended and have linked this to their reduced energy bills.

Energy Champions

The Energy Champions project successfully delivered a quality energy efficiency service to 3306 Housing Tasmania Properties. Overall the project benefitted 7062 residents including 928 people over the age of 65. In total 9587 hours (4.9 full-time years) were spent delivering services within Housing Tasmania properties.

The service delivered energy efficiency upgrades and education sessions. In total almost 25,000 lights were changed, 4,800 doors draft-proofed and over 2,000 showerheads replaced. These upgrades have contributed to estimated water savings of 127,000 KI per year, valued at over \$120,000 per year. An analysis of energy billing data in December 2013 showed that the average household was saving 3.27 kWh off their bills, equating to \$262 per household per year (\$866,172 per year across the project).

Overall the project has been favourably received by target households. There has been an increase in warmth with 20% more tenants reporting they were warm in their living room. This is backed up by verbal reports and unsolicited thanks from project clients.

Recommended Approaches for Households

- Support the industry - schemes with a boom and bust cycle due to inconsistent government funding waste the significant skill base of the energy efficiency industry.
- No need to reinvent the wheel - there are existing skilled auditors and assessors, project management staff and software to deliver effective and efficient programs.
- Remove restrictive eligibility criteria – criteria have meant that neighbouring households with identical incomes have been ineligible to participate in the same programs due to housing tenure. Remove the tenure restrictions.
- Recognise that all homes are different – one size fits all approaches rarely work.
- Electric storage hot water – Storage hot water tanks are responsible for a significant proportion of hot water bills. These should be replaced by heat pump, solar or instantaneous systems (as legislated in other states). At a minimum all tanks sold in Tasmania should be plumbed to be “solar ready”.

Recommended approaches for Businesses

Approaches for small businesses need to be tailored and recognised that small business owners are very time poor and as such have difficulty wading through all the decision making criteria. A risk free service that bundles energy efficiency services and information with retails energy supply could go a long way to improving its uptake.

Recommended approaches for Government

The Government should use Energy Performance Contractors (as has been successfully done in Victoria, for example) to reduce ongoing Government costs and help to nurture the fledgling resource efficiency consulting sector who would then be better equipped to assist the private sector, freeing up resources to innovate.

Question 10 - What role should Government play in attempting to retain and increase load growth in Tasmania and how should it do it?

Load growth should not be an aim. Rather the productive use of our energy supply for the benefit of the community. At Sustainable Living Tasmania we believe that load should only be from 100% renewable energy sources. Where there is load capacity we should be trying to use this energy productively by attracting high job industries that are energy intensive (e.g. call centres). This will maximize the social and economic productivity of the energy used.

Question 11 - What further potential is there to develop renewable energy in Tasmania, including wind energy, given there is no unmet Tasmania demand requiring additional generation for the foreseeable future.

Tasmania's point of difference is a low-emissions, renewable energy driven state. As a policy goal Tasmania should aim to once more produce 100% of its stationary energy from renewable sources. Given Basslink is already installed and connects Tasmania with the emissions-intensive grid in Victoria, Tasmania should position itself to be a base-load renewable energy supplier for Victoria.

There is currently approximately \$1B/year spent on transport energy, which could be met by increased renewable electricity generation.

Question 12 – Is there a further facilitation role for Government gas roll-out, or should Government focus in its efforts on examining the costs and benefits of improving minimum protection for gas customers.

Given that natural gas is a finite and greenhouse-polluting fossil fuel, government support should not be provided to this sector. The only potential exception is for thermal purposes where natural gas directly replaces coal (e.g. cement industry).

SLT recommends that minimum consumer protection for gas customers should be introduced that recognise it as an essential service as is currently the case for electricity.

Question 13 - What are considered the key opportunities, and the key issues associated with possible energy futures

This strategy gives little consideration to how the world will be different in 20 years. As mentioned in the overview, Peak Oil and Climate Change will fundamentally reshape the economy. A substantive risk from the government perspective would be the closing down of one of the large energy users and the subsequent abundance of energy available in Tasmania.

There is however an elegant solution to address this risk: the electrification of transport infrastructure. There are a number of key areas where the government could support this:

- a) Trial and roll out the electrification of the metro bus fleet.
- b) Promote an electrified light rail system for Hobart along the northern suburbs rail corridor.
- c) Support the widespread use of electric bikes in metropolitan areas by providing handy recharging stations.
- d) Promote the use of electric cars in the Tourism industry by developing a network of fast recharging stations at close intervals around the state.

Other opportunities extend from an improvement in the thermal efficiency of Tasmania homes. Research indicates that improving thermal efficiency can have a significant impact on residential health (Howden and Chapman et al 2007, 2011). Using a 30 year horizon and 5-7% discount rate Chapman demonstrated that health impacts could be valued at around \$111 per household per annum. A possible approach could be the issuing of "Social Impact Bonds" to promote the improvement of household thermal efficiency. In effect these bonds would use the savings from the health system (from respiratory diseases and cold related illness) to fund the improvement of residential thermal efficiency. More information on the nexus between health and energy



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efficiency can be found in a volume titled “An investigation of the Potential Health Benefits from Increasing Energy Efficiency Stringency Requirements”, BCA V1&2.

Sustainable Living Tasmania is a “can-do” organisation that is a position to facilitate these improvements for the benefit of all Tasmanians.

Question 14 - What are some of the outcomes for the Tasmanian Energy Strategy, and what actions can Government or energy providers and consumers, take to achieving them?

The Tasmanian Energy Strategy would be successful if it addressed the interlocking and intertwined issues of Climate Change and Peak Oil. As currently premised, it is only addressing around 30-40% of the energy supply. A successful strategy would ensure that Tasmania’s prosperity is supported by a 100% renewable energy supply, for all uses.