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Overview

Historically, Tasmania has enjoyed relatively cheap electricity (largely sourced from hydro generated electricity), and that competitive advantage has contributed to our economic well-being through supporting industry, economic growth, and households.

However, over the past decade, retail electricity prices around the nation have increased dramatically, and Tasmania has been no exception. It is critical, therefore, to re-examine how we manage the energy sector in Tasmania to ensure that we remain competitive, and can ensure that our homes and industries can access an affordable supply of electricity and other energy sources to underpin economic growth, now and into the future.

To this end, the Government has commenced the process of developing a Whole-of-State energy strategy, to ensure that Tasmania and Tasmanians can benefit from an efficient, competitive, and affordable electricity supply, alongside other fuel sources, in order to drive growth and create jobs.

The Tasmanian Government has described the key objective of the Tasmanian Energy Strategy in the Government's election policy document - "Looking to the future with energy".

"The key objective of the Tasmanian Energy Strategy will be to identify ways in which energy can once again be utilised as an economic driver, including by securing a stable and sustainable price path for power that can provide relief to consumers and help grow the economy and attract new investment."

The Government took the immediate step following its election of appointing an Energy Working Group, to assist the Department of State Growth in the development of the Energy Strategy - a strategy that is to deliver benefits now, and to position the sector to continue to deliver benefits into the future.

This will not be a quick fix – there is no silver bullet. Indeed the energy sector has been the subject of significant debate and investigation in recent years. In particular, the Electricity Supply Industry Expert Panel, established by Parliament, conducted a thorough investigation and delivered a detailed report in 2012 on structural and market options. The response to that report resulted in a number of structural changes that have now mostly been put in place. The purpose of the Energy Strategy is not to revisit this work, but rather to build upon it and identify a future pathway for the sector.

This Issues Paper outlines some key themes and issues identified so far through the work of the Department of State Growth, taking into consideration discussions with the Energy Working Group.

The energy industry, and particularly the electricity supply industry, can be very complex, technical and difficult to understand. While all interested parties, including industry participants, are welcome to make submissions, it is the views of Tasmanian businesses and households that the Department particularly wants to hear.

While the energy sector today is broad and diverse, and there is information in this Issues Paper on all sectors, the Paper focuses primarily on those sectors where there is a level of local control (either public or private) over the supply chain. As such, the electricity sector is a major focus while, in contrast, there is little discussion on liquid fuels as Tasmania is effectively a price taker in the liquid fuels market where all supply needs are imported.

Energy is essential to the way we live – in our homes, and work places. We are all consumers of energy and have views on this topic. The Department is seeking input from the Tasmanian community on the future of energy.

Submissions

The Department of State Growth welcomes submissions or comments from all interested parties on any matter within the scope of this Issues Paper. To assist with the preparation of submissions, the paper contains questions of particular interest which are located at strategic points throughout the paper.

To promote discussion, the Department intends to publish submissions on its website. The Department may decline to publish certain submissions (or parts of submissions) where there are issues concerning appropriateness or confidentiality. If the author of a submission wishes to exercise confidentiality in relation to a submission or a part of a submission, this should be clearly indicated, and will be respected. Where only parts of a submission are requested to be confidential, they should be submitted as an attachment to that part suitable for publication.

To facilitate the publication of submissions on the website, submissions should be electronic where possible.

Submissions should be lodged by Monday 8 September 2014, and may be emailed to:

energystategy@stategrowth.tas.gov.au

or posted to:

Energy Strategy Submissions
Department of State Growth
GPO Box 536
Hobart, Tasmania, 7001

Introduction and Approach

A robust and efficient energy sector is a fundamental enabler of the Tasmanian economy. However, in order to maximise the benefits that energy can provide to our businesses and households, Tasmania needs a clear plan for the future of the sector. The Tasmanian Government is committed to developing a Whole-of-State Energy Strategy, informed by both public consultation (through responses to this Issues Paper) and through the input from the Energy Working Group.

There are three main functional elements of the energy sector, each with its own role and suite of responsibilities.

Governments are responsible for providing the right policy settings, primarily for the electricity sector. Governments establish the regulatory frameworks that ensure equitable access, adequate protection for consumers and regulatory certainty for market participants. In Tasmania, and on behalf of the community, the State Government is also currently the owner of electricity businesses who are participants in the National Electricity Market (NEM).

Market participants, be they Government-owned or from the private sector, are responsible for the efficient provision of a safe, secure and reliable supply of energy. Market participants - such as generators, network operators and retailers - must comply with regulatory arrangements and market rules, but must also have a focus on efficiency and customer value to be successful.

Consumers also have responsibilities - to be informed, to make informed choices about energy consumption, and to exercise control over their energy use. What they actually choose to do impacts on efficiency and productivity.

The Energy Strategy will articulate the actions and choices that the Government will take to seek to achieve a set of defined policy outcomes. Section 7 of this Issues Paper discusses in more detail possible outcomes.

The key actions in the Energy Strategy must address the role that Government can play in creating the right environment for market participants, industry and consumers to meet the challenges and enjoy the benefits of a robust energy sector for the State.

The energy industry has been the subject of significant structural reforms since the 1990s. The transformation started with the disaggregation of the Hydro-Electric Commission in 1997, the development of the Basslink and Tasmanian natural gas projects, entry into the NEM in 2005 and the development of significant wind assets. These amounted to the most significant reforms since the end of the large scale dam building projects. The Energy Strategy does not propose to revisit these reforms.

The energy sector has also been the subject of significant debate and investigation more recently. In particular, the Electricity Supply Industry Expert Panel, established by Parliament, conducted a thorough investigation and delivered a detailed report in 2012 on structural and market options. The response to that report resulted in a number of structural changes that have now mostly been put in place. These changes include:

- the merger of Tasmania's transmission and distribution networks under one business, TasNetworks, which commenced operating on 1 July 2014. This merger is designed to reduce costs and support reduced prices;
- the commencement of full retail contestability on 1 July 2014, which is designed to allow retailers to compete for all Tasmanian electricity customers (including residential and small business customers who before this date were not open to competition);
- the transfer of the Aurora Energy Tamar Valley (AETV) power station to Hydro Tasmania on 1 July 2013; and

- requiring Hydro Tasmania to offer some safety net contracts on a weekly basis at a regulated price. This was introduced on 1 January 2014 in response to concerns expressed by potential new entrant retailers regarding Hydro's dominant market position in the generation sector in Tasmania.

The main change that has not been implemented is the sale of Aurora's customer list. For various reasons, the sale process under the previous Government was discontinued in October 2013. The new Government remains committed to a sale of Aurora's retail customers at an appropriate time in the future.

The purpose of the Energy Strategy is not to revisit these reforms, but rather to build upon them and identify a future pathway for the sector.

The Energy Strategy will also need to be cognisant of, and adaptable to, national policy settings that impact the sector. The Commonwealth Government is currently reviewing a number of energy or related policies, such as the Renewable Energy Target, and intends to release an Energy Green Paper and White Paper before the end of 2014.

This Issues Paper aims to provide stakeholders with an overall picture of the energy sector, and to invite feedback to assist in the development and shaping of the Energy Strategy.

Given the State Budget position, strategies and actions that will be considered will need to demonstrate that they can be delivered in a way that:

- is practical and implementable including being manageable in terms of cost; and
- can positively contribute to economic growth and community wellbeing.

The proposed lifespan for the Strategy is 20 years. This long-term horizon is broadly consistent with energy strategies in some other jurisdictions, which balance taking practical short and medium term actions against long-term strategic directions.

Themes Examined in this Paper

This paper has been organised into key themes. There is overlap between themes, which is a natural consequence of the fact that there are many inter-relationships between specific energy matters.

The topics covered in this paper are:

1. Context
2. Sustainable Electricity Prices
3. Vulnerable Customers
4. Productivity and Efficiency
5. Broad Economic Development Opportunities
6. Future Preparedness
7. Tasmanian Energy Strategy Objective and Outcomes
8. Other Issues

While energy security and reliability are critical issues, they are not dealt with in detail in this paper, as these are complex and technical matters that are difficult for most energy consumers to comment on. The paper is, however, premised on the view that security and reliability must be maintained to an appropriate standard that customers are willing to pay for.

1. Context

Before exploring specific issues and themes, it is important to provide some context about Tasmania's energy sector. There is a wealth of published, detailed material covering Tasmania's energy sector. For the sake of brevity and simplicity, this Issues Paper will only attempt to briefly summarise Tasmania's context.

1.1. Energy Diversity

Tasmania's electricity supply is still dominated by hydro generation, but over the past decade the diversity

of energy supply has increased in Tasmania with the introduction of natural gas, interconnection to the NEM via Basslink, the building of wind farms, the construction of the gas fired Tamar Valley Power Station, and the recent rapid uptake of household solar panels (micro solar photovoltaics (PV)).

This has improved the security of supply and, combined with a softening in demand, has effectively drought-proofed Tasmania and mitigated the historical risk that low rainfall could jeopardise our hydro generation system's capacity to meet Tasmanian consumption demand.

Energy diversity has also helped achieve competitive outcomes. Prices for LP gas have been restrained where there is access to natural gas. Industrial customers have also been able to access natural gas to replace other fuel sources, including more expensive energy sources and more emissions intensive sources, such as coal.

In essence, competition between fuels has been, and is, a good thing for consumers (noting that not all consumers have the same level of access to all fuel types).

1.2. Energy Consumption

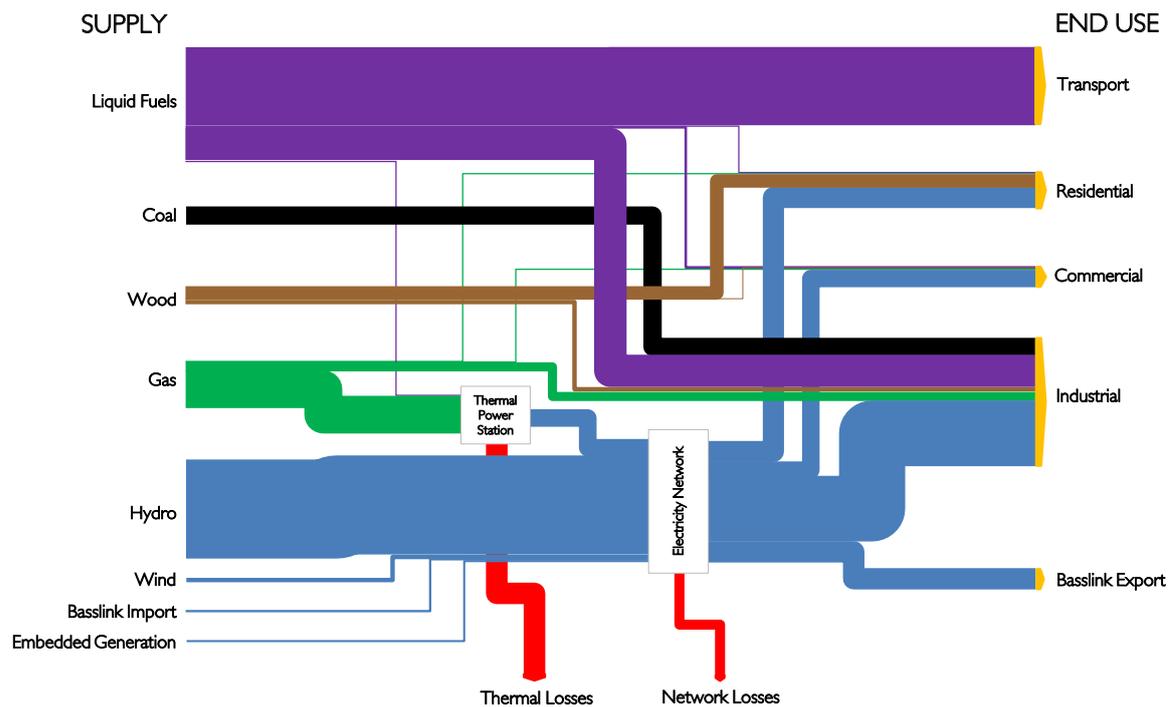
A Household Energy Consumption Survey carried out by the Australian Bureau of Statistics (ABS) in 2012 indicated that Tasmanian households spent an average of approximately \$100 per week on energy, with more spent on vehicle fuels (\$56 per week) than on energy within the home (\$44 per week).¹

Energy flows within Tasmania are indicated in Figure 1, which indicates that while electricity dominates Tasmanian energy supply, other forms of energy are also important. With regard to liquid fuels, the Government has a very limited capacity to influence price outcomes, which already provide strong signals to consumers to increase fuel efficiency in transport. Tasmania is effectively a price taker in this market where practically all our supply needs are met through imports.²

¹ Tasmanian household energy expenditure was virtually the same as the national average, but with more spent on electricity and less on vehicle fuels and natural gas.

² The Government is considering the potential for bio-fuels based on forest biomass. However, while this work is important, it is at a very early stage. Electric vehicles also present a potential future opportunity to shift away from reliance on imported petroleum products.

Figure 1 Tasmanian energy flows 2012-13



Source: All data derived from Australian Energy Statistics 2014 Energy Update, Table F, except electricity supply and Basslink data (from Transend) and some gas data.³

1.3. Electricity

The electricity sector has been subject to a significant level of scrutiny. This is appropriate given that almost the entire supply chain is located within Tasmania which provides greater opportunity to maximise efficiencies across the supply chain and influence prices (noting that the State operates within the NEM and is subject to the National regulatory framework).

In addition, electricity plays a significantly more important role in driving Tasmania's economy and powering Tasmania's households compared to the rest of Australia.⁴ Electricity intensive major industrial

facilities dominate the Tasmanian industrial sector with four customers accounting for more than half of the State's electricity load consumption, reflective of successful implementation of the hydro-industrialisation policies of earlier Tasmanian Governments during the mid to latter part of the last century.

In total, there are around 270 000 electricity connections in Tasmania, with residential consumers representing about 85 per cent of this total.

Electricity consumption within the Tasmanian residential and commercial sectors is higher than the Australian average, due to a combination of a high electrical

3 Note: a) The energy flow diagram indicates relative contributions and flows from supply sectors to end use sectors, with relative contribution indicated by the thickness of the line.
 b) Total energy consumption in Tasmania in 2012-13 was approximately 110 PJ.
 c) All residential and commercial vehicle use is included within the transport end use sector.

d) Liquid Fuels includes 0.5 PJ of Biofuels.
 4 Electricity represented nearly 40 per cent of total energy consumed in 2011-12, compared to an Australian average of approximately 15 per cent.

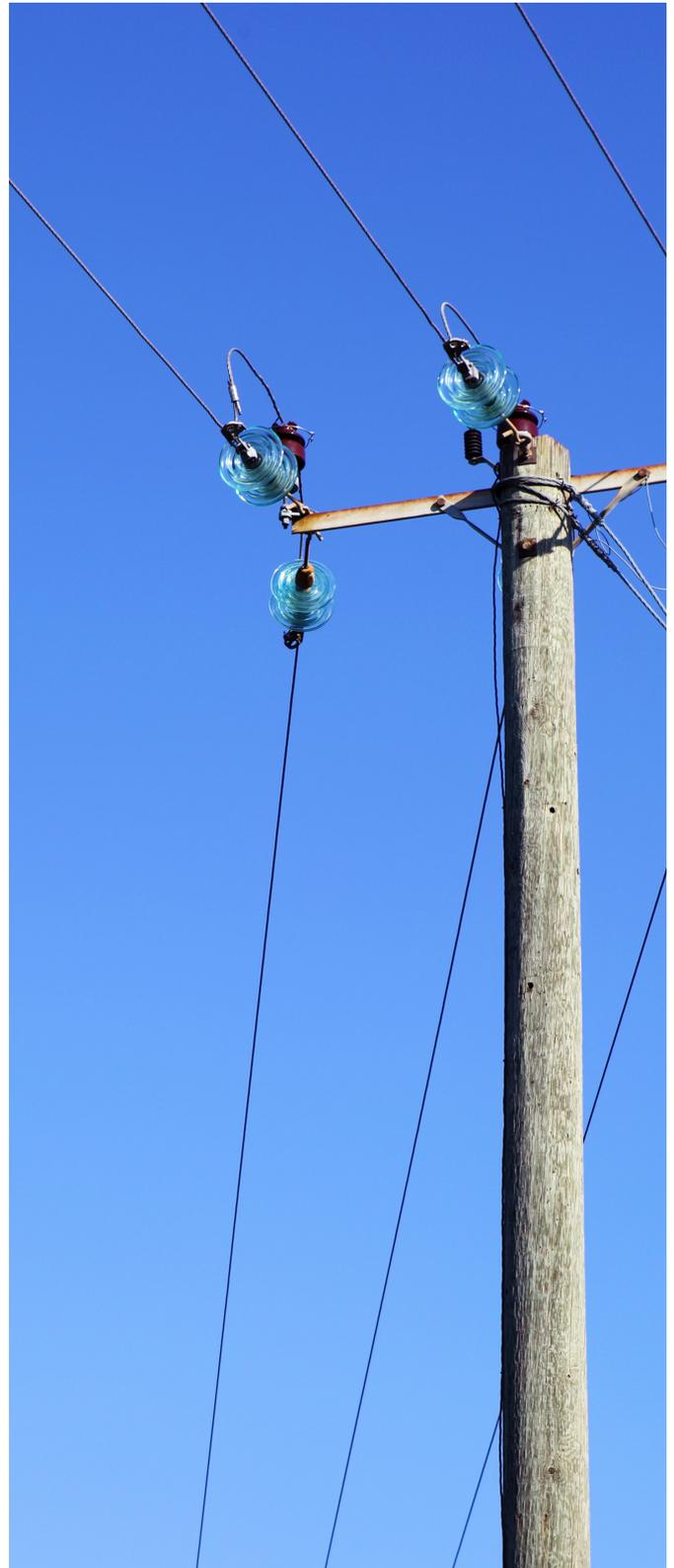
heating demand associated with a cold climate and low penetration of natural gas, and relatively inefficient (older) housing and building stock.

Tasmania is part of the NEM, which is a wholesale market in which generators sell electricity in eastern and southern Australia. The main customers are energy retailers that bundle electricity with network services for sale to residential, commercial, and industrial energy users.

The NEM covers five regions - Queensland, New South Wales (which includes the Australian Capital Territory for the purposes of the NEM), Victoria, South Australia, and Tasmania - that are physically linked by an interconnected transmission network. The NEM has around 50 companies owning large generation assets, five state-based transmission networks (linked by cross border interconnectors) and 13 major distribution networks that supply electricity to end use customers. In geographic span, the NEM is one of the longest continuous alternating current systems in the world, covering a distance of 4 500 kilometres.

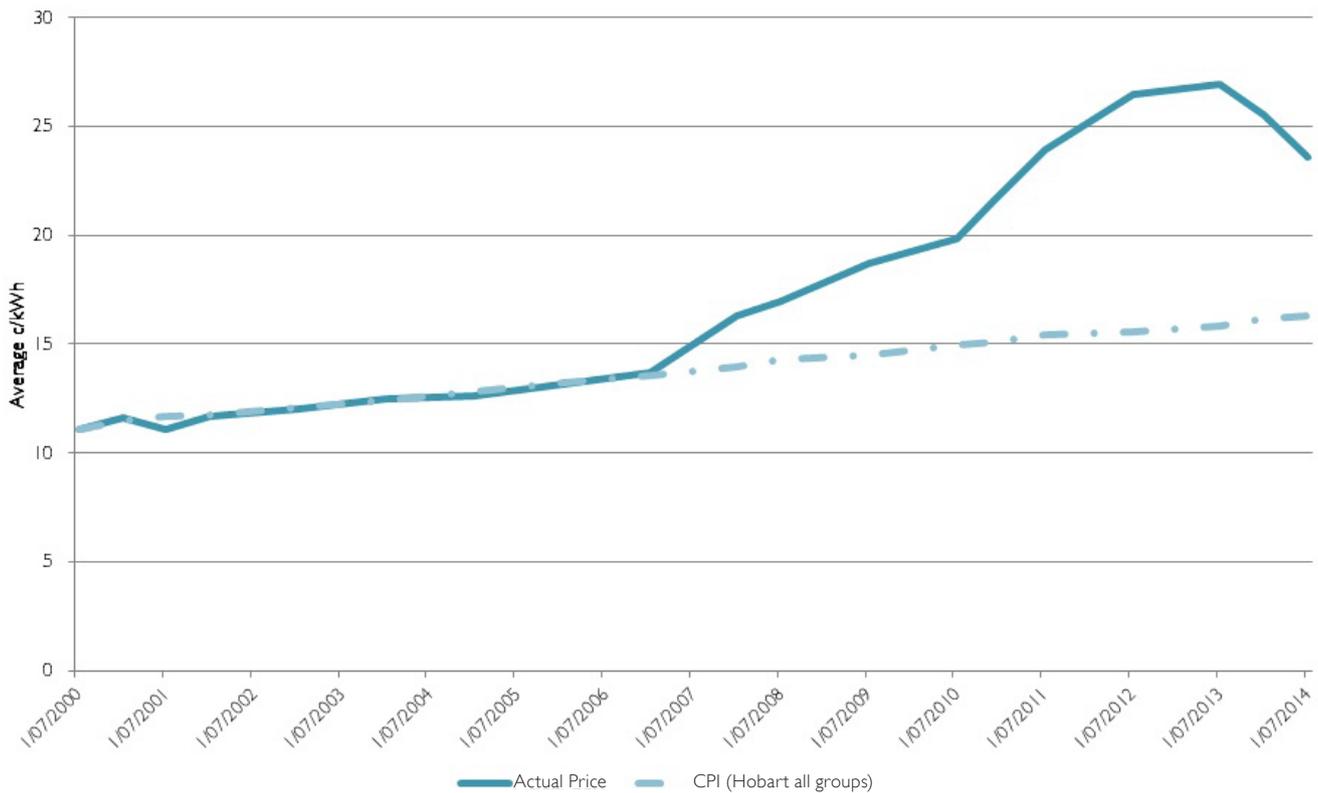
Increases in electricity prices have been a key concern for many Tasmanian consumers. Australian average electricity prices increased at approximately the same rate as CPI from 1990 until around 2008, after which time prices increased at a significantly higher rate across all jurisdictions including Tasmania.⁵

Figure 2 indicates how average electricity prices faced by Tasmanian residential consumers have changed since 2000, and clearly shows where price increases diverged from CPI.



⁵ ABS 6401.0 – Consumer Price Index, Australia, March 2014. Table I and II.

Figure 2 Average electricity prices faced by a typical Tasmanian residential customer over time ⁶



Much of the increase in prices nationally after 2008 was a result of significant increases in capital expenditure on the network systems across the country. This has been the subject of significant public debate in recent times. Essentially, some of the capital expenditure was based on forward projections of demand increases made before the Global Financial Crisis that subsequently proved to be overestimated.

Increased expenditure also followed on from serious supply interruptions in a number of jurisdictions, particularly in Queensland and New South Wales, and the prevailing view at the time was that significant investment was required to improve electricity supply security and reliability. In Tasmania, there was significant investment to replace equipment in poor condition that was largely built in the 1950s and 1960s.

However, while electricity prices increased because of the above factors, consumption levels have actually

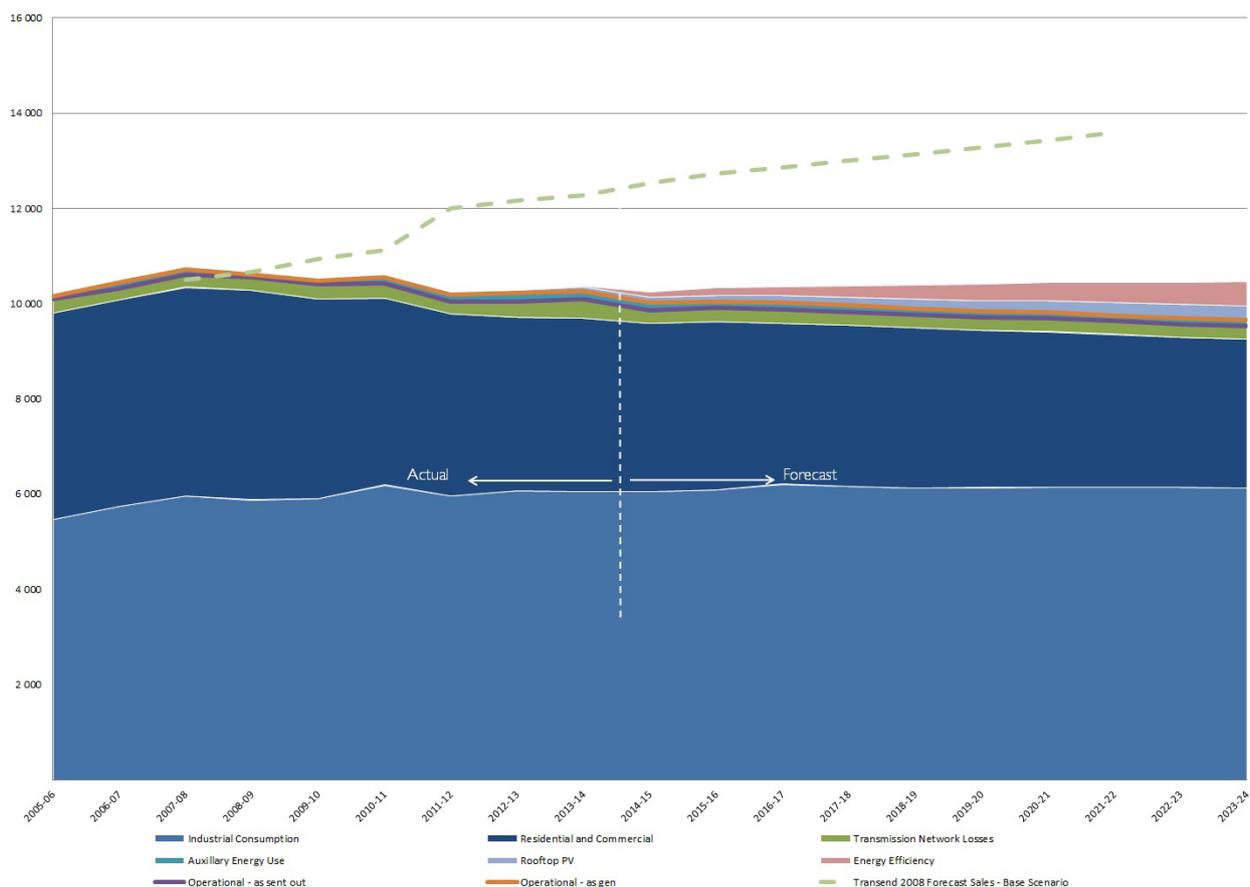
been declining, with reductions attributable to reduced economic activity following the global financial crisis, consumer response to higher electricity prices (including through improved energy efficiency), increased levels of micro embedded generation⁷, and fuel switching.⁸ Figure 3 shows Tasmania’s actual versus forecast load growth.

⁶ Prices represent average electricity costs faced by a typical Tasmanian residential customer (based on a medium consumption customer using a combination of tariff 31 and 42 – refer OTTER Information Paper Typical Electricity Customers May 2014). The consumption level of 8,310 kWh/annum is assumed to apply across the time series, with input tariffs based on published Aurora tariff schedules.

⁷ Predominantly household solar PV. Clean Energy Regulator figures indicate approximately 25 000 homes have PV currently installed in Tasmania.

⁸ For example, switching from electricity to natural gas for heating and cooking requirements, and switching from electricity to wood for heating.

Figure 3 Actual and Forecast Tasmanian Load ⁹



Regulatory changes have been recently implemented that are intended to reduce future network cost increases.

Another consequence of declining demand is that Tasmania now has enough generation supply to meet expected forecast demand growth for the foreseeable future (possibly until 2030 or beyond according to the latest Australian Energy Market Operator¹⁰ (AEMO) forecasts). However, further network augmentation may be needed to resolve local reliability and supply issues reflecting uneven growth in demand across the network.

Customer expenditure is a combination of consumption levels and prices. Consequently despite increased prices, household expenditure on energy used within the home as a proportion of gross household income

has remained steady at around three per cent for average Tasmanian households (reflecting our relatively cold weather and low gas penetration) and two per cent for average Australian households.¹¹

⁹ Based on AEMO National Electricity Forecasting Report 2014 and Transend 2008 Annual Planning Report

¹⁰ AEMO – May 2014 Supply Demand Snapshot

¹¹ ABS 6530.0 – Household Expenditure Survey, Australia (88/89 to 09/10), and ABS 4670.0 – Household Energy Consumption Survey, Australia 2012.

Because of our higher usage, Tasmanian electricity bills are relatively high by comparison to consumers interstate. With respect to prices, regulated and standing offer comparisons have until very recently put Tasmania more towards the mid-range of prices nationally.

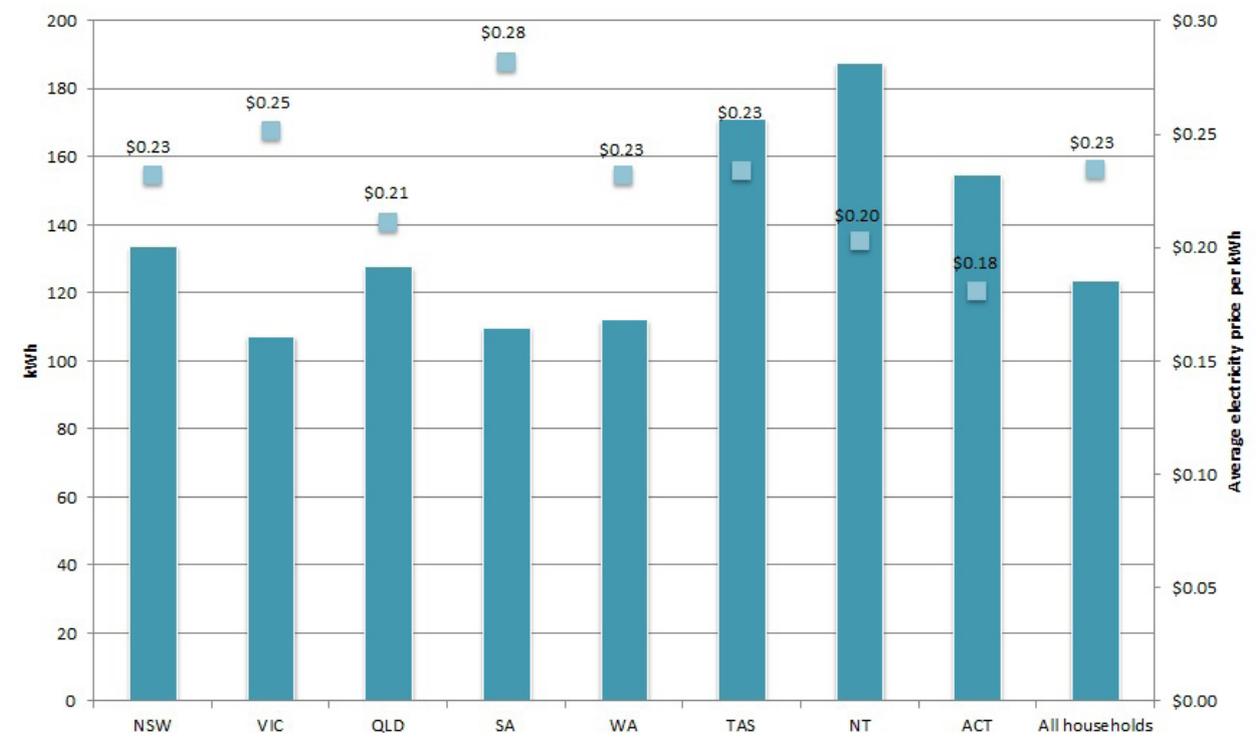
Figure 4 indicates that in 2012, average electricity prices faced by Tasmanian households were the same as the national average. This was based on a survey of customers irrespective of whether they are on regulated offers, standing offers or market contracts, and reflects net “out of pocket” private expenditure (after concessions have been taken into account), divided by total consumption.

Analysis by the Office of the Tasmanian Economic

Regulator (OTTER) indicates below average prices for Tasmanian residential customers in January 2014, and at (for low levels of consumption) or below (for medium to higher levels of consumption) average prices for non-contestable small business customers. This analysis is based on comparisons of regulated and standing offer tariffs. It is worthwhile noting that in jurisdictions where market contracts are available, customers can typically access discounted prices in comparison to base offers (that is, regulated or standing offers).

Tasmanian regulated electricity prices decreased by 5 per cent on 1 January 2014, and by a further 7.8 per cent on 1 July 2014, largely as a consequence of the abolition of the carbon tax (these decreases are clearly indicated in Figure 2).

Figure 4 Mean Weekly Household Electricity Consumption and Average Electricity Prices in 2012

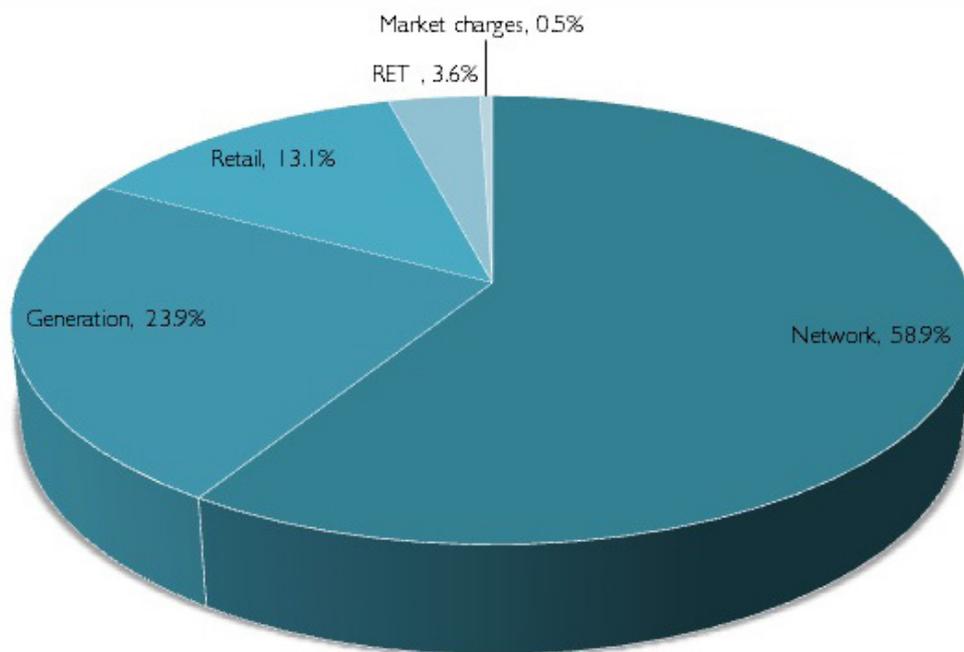


Source: Australian Bureau of Statistics Household Energy Consumption Survey March 2012

A breakdown of electricity supply chain cost components based on current Tasmanian regulated electricity tariffs is shown in Figure 5, and indicates network costs make up the largest component of electricity prices, followed by generation costs, retail costs, and costs of renewable energy certificates.

Transmission costs make up a higher proportion of overall network costs in Tasmania relative to the national average.¹² This in part reflects the connection of a large number of relatively small generators across difficult terrain and a different classification boundary between distribution and transmission assets, compared with other jurisdictions.

Figure 5 Tasmanian Electricity Supply Chain Cost Components for Regulated Tariffs as at 1 July 2014



¹² Transmission costs make up nearly 30 per cent of network costs according to OTTERs Comparison of 2014 Australian Standing Offer Energy Prices March 2014 report.



1.4. Gas

Tasmania's natural gas market is relatively small, reflecting the comparatively recent introduction of natural gas into the State and the limited extent of the reticulation network. It is nonetheless an important component of the State's energy supply and has provided businesses (particularly those needing heat sources in their production processes) and households with productivity or cost savings compared with other available fuel sources, depending on their specific circumstances.

The gas supply industry in Tasmania is a fully contestable, predominantly private market, and subject to minimum regulation. As gas was originally envisaged as being a "product of choice" rather than an essential service, there is no retail price regulation, and no obligation to offer supply.

Gas is provided into Tasmania from Victoria, distributed and retailed to customers by private companies and the State-owned Aurora Energy. There is a gas transmission pipeline from Bell Bay in the North of the State, that runs west to Port Latta, and south to Hobart

with associated distribution networks running off this backbone. The main gas retailer in Tasmania is Tas Gas Retail, with Aurora Energy also having gas customers.

Of the 11,981 distribution connections at 30 June 2014, 11,123 were residential, 804 were business and 54 industrial customers.¹³ The market has been steadily increasing with average growth in customer connections of approximately 8.5 per cent per year over the 4 years to 2012. Since then growth has levelled off. In July 2014, Tas Gas connected the 12,000th customer, representing approximately 28 per cent of premises with access to the current distribution network.

Among this small customer base, levels of consumption are in the mid range when compared to other jurisdictions.¹⁴ Demand in 2012 was dominated by the gas fired Tamar Valley Power Station (63 per cent but this has reduced over the past two years) with large industrial customers (22 per cent) and small commercial/residential customers (15 per cent) making up the remainder.¹⁵

¹³ As provided by Tas Gas

¹⁴ OTTER, Energy in Tasmania Performance Report 2012-13.

¹⁵ Bureau of Resource and Energy Economics data

Tasmanian residential natural gas prices are below the national average at low and medium levels of consumption¹⁶ and the same as the national average at higher levels of consumption.

Business customers pay significantly more than the national average across all levels of consumption. This in part reflects the significant capital expenditure that has been required to bring gas to Tasmania relative to the level of demand.¹⁷

1.5. Role of Government

The role of governments in the energy supply industry has changed in the past two decades and continues to evolve nationally. There has been a general trend toward structural change and varying degrees of privatisation.

The Victorian and South Australian governments no longer own retail, network or generation assets. The Queensland and New South Wales Governments have largely sold their retail businesses, and are in the process of preparing to sell their generation and network businesses.

The role of Government in the Tasmanian energy sector is two-fold.

First, it has a role as a policy maker and regulation setter – ensuring that there are the appropriate frameworks in place so that market participants are required to meet standards, including safety and reliability standards, that the community expects. Some of the regulatory framework is State-based, while other elements are managed under the national frameworks for energy law, including customer protection. The Tasmanian Government, therefore, also has an important role in ensuring that national regulatory arrangements evolve in a way that meets the needs of Tasmanian customers.

Regulation comes at a cost which is ultimately borne by consumers and should be viewed as a last resort to achieve outcomes. This can be justified when the benefits of that regulation outweigh the costs (ie through accepted safety and reliability standards, and appropriate levels of customer protection). However, regulation should routinely be reviewed to consider if it

is still required, to ensure that it remains contemporary and continues to meet the needs of the community and any duplication is removed.

The second role of the Tasmanian Government is as owner of market participants in electricity generation (Hydro Tasmania), the regulated monopoly networks business (TasNetworks) and energy retailers (Aurora Energy, and Hydro Tasmania's subsidiary Momentum Energy).

These businesses have stewardship of a significant proportion of community wealth through the value of the assets they manage. In this regard, the benefit of this wealth is realised through the earnings that are generated, which are reflected in the dividends that are returned to Government. These dividends and other returns to Government are an important source of revenue that helps fund core public services, such as health and education.

It is not in the long term interests of the Government or the economy for the State owned businesses to be 'inefficient', as this lowers overall productivity in the economy. In this regard, it is also the role of Government to make clear to its businesses that they should operate efficiently. Government should hold them to account for doing so. This role is also assisted by economic regulatory frameworks, in which regulators limit the revenue regulated businesses can recover on the basis that they should operate in an economically efficient manner.

This is not a new subject and was most recently considered by the Electricity Supply Industry Expert Panel. Chapter 6 of the Expert Panel's report is publicly available.

¹⁶ Particularly at lower levels of consumption due to the relatively lower fixed charges in Tasmania (around 21 cents per day) relative to the national average (around 64 cents per day)

¹⁷ OTTER March 2014 – Comparison of 2014 Australian Standing Offer Energy Prices

2. Sustainable Electricity Prices

The previous section sets the context for what has occurred with electricity prices generally, what drives prices, and how Tasmanian prices compare nationally. This section is intended to discuss current and possible policy influences to put downward pressure on electricity prices.

One way in which prices are 'controlled' is through regulation. While there has been much debate regarding whether regulated prices provide better outcomes for customers than a mature, competitive and unregulated market, it is currently the case that price regulation is a key feature of Tasmania's electricity supply chain.

The Tasmanian Energy Regulator (TER) is responsible for the approval of retail Standing Offer Prices for residential and small business customers. These prices do not apply to market offerings or to larger customers.

TER is also responsible for the regulation of a range of safety net products offered by Hydro Tasmania. These safety net products were introduced in response to concerns expressed by potential new entrant retailers regarding Hydro Tasmania's dominant market position in the generation sector. In essence, the contract price of the safety net products in Tasmania is linked to Victorian market prices with some adjustments for hydrological outcomes. Victoria is the most competitive region in the NEM and includes diverse generation and retail participation including low-cost coal.

The Tasmanian electricity market remains part of the NEM operated by AEMO. Tasmania's transmission and distribution networks business (TasNetworks) is regulated by the Australian Energy Regulator (AER). Under this arrangement, transmission and distribution pricing are approved by the AER. In Victoria, AEMO undertakes the transmission planning function that in other states is done by the network businesses.

Tasmanian price setting remains heavily the domain of independent regulators who are independent from political influence in pricing decisions. However, where Governments are responsible is in setting the regulatory

framework in which regulators operate, and this can influence how prices are set.

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

Question 2 - Given both the State and Commonwealth Government are committed to reducing red and green tape, and that the electricity market is highly regulated and complex, what opportunities are there to reduce or remove regulation?

2.1 Retail Competition

Contestability began to be introduced in Tasmania after it entered the National Electricity Market. The first market contract was entered into by one of Tasmania's largest industrial customers in 2006. Each year since then more and more customers have become "contestable". ERM Retail has been the most active new entrant retailer, specialising in business customers.

Full Retail Contestability (FRC) for all electricity consumers commenced in Tasmania on 1 July 2014. The intended benefit for consumers relates to the choice from a broader range of offers, which could be provided by other retailers entering the market. Competition does not mean just price competition, but choice about products and services.

Small customers, which includes business customers with consumption under 150 megawatt hours per year, and all residential customers regardless of level of consumption, are able to be supplied with electricity under a Standard Retail Contract, and at regulated prices. Retailers may also offer Market Retail Contracts, which differ from the Standard Retail Contracts, including possibly lower prices, to these small customers. Large customers are only able to access market offers.

It had been intended by the previous Government to facilitate an uptake of competition in the retail market through a sale of the Aurora customer list. For various reasons the proposed sale process was discontinued in October 2013. The new Government remains committed to a sale of Aurora's retail customers at an appropriate time in the future.

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

2.2 Efficiency of electricity businesses

In a mature, competitive market, multiple participants would be expected to provide downward pressure on prices through ensuring their cost structures are as efficient as possible to compete with one another. While it remains to be seen what occurs in the retail sector following FRC, in Tasmania the network business is a natural monopoly and generation is dominated by Hydro Tasmania.

Government, through its ownership role, can set clear objectives for its businesses about operating efficiently, and hold its businesses to account for performance. There is also public accountability, through Parliament, regarding the performance of Government businesses, and this provides an opportunity for transparency in reporting on how the businesses are performing, including how efficient they are.

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

2.3 Industrial Customers

For an energy intensive industry with a long term planning horizon, one of the challenges of the current market arrangement is an inability to obtain long term certainty for delivered energy pricing. Major industrial customers have been able to obtain certainty with respect to the energy component but not the network component.

The key issue is the capacity of the network business to balance the pricing variability risk that it faces compared with providing a relatively stable price to one or more of its major customers. In the Tasmanian context, this risk is ultimately borne by Tasmanian taxpayers, in one form or another. Any lack of long-term price certainty impedes investment because these capital intensive businesses compete globally for finance based on the quantum and security of expected returns.

In addition, Tasmania has a number of energy intensive industrial customers that are trade exposed to global markets. For these customers in particular, a price increase in one input requires offsetting efficiency gains as they cannot pass on price increases to their customers.

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

2.4 Energy Reliability

Reliability is important because it provides confidence to businesses that a key input will nearly always be available to keep production or services operating. Without it, most businesses either cease to operate, or operate at less than optimal productivity. The longer any supply outage or reliability problem, generally the greater the impact on businesses. Reduced reliability can have a significant cost on a business.

At the household level, disruption of supply is mostly an inconvenience, though it can be a significant one (ie customers on life support machines, loss of heating or hot water during winter). However, there are also economic costs, such as lost perishables in fridges and freezers, and lost productivity in home based businesses, which represent an increasingly significant proportion of small business.

The electricity system in Tasmania is managed to a very high level of reliability. The target for generation in the NEM,¹⁸ is 0.002 per cent of unserved energy or 99.998 per cent reliable system. During the past 10 years, there has been no unserved energy. The target effectively translates into approximately 10.5 minutes on average per year of unserved supply. In terms of the distribution system, the average length of an outage in the Tasmanian system has been approximately 200 minutes per annum over the past 10 years with on average less than 2 outages per year per customer.¹⁹

¹⁸ NEM Level of Reliability Standard

¹⁹ Energy in Tasmania – Performance Report 2012-13 OTTER, page 82, Figure 7.3 Historical SAIDI and Figure 7.4 Historical SAIFI

While it is clear that reliability is highly important for both economic and amenity reasons, it must be recognised that reliability standards come at a price. Increasing levels of reliability over recent years have contributed to increased prices and, as discussed above, there is now debate as to whether the cost of this investment being borne by consumers is too high.

There is, therefore, a trade-off between cost and reliability and this can vary for different end users that could be better understood.²⁰ For example, some consumers may be willing to accept a lower level of reliability for lower prices. It should be noted that if there were any changes to reliability standards, this could take some years to flow through to reduced customer prices.

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

2.5 Cost Reflective Pricing

The current regulated tariff structures do not send accurate price signals to customers about the cost of using electricity at different periods throughout the day. This may be contributing to inefficient use of the system and increased network costs. It also has an impact on the control customers have over their usage and electricity costs.

While larger customers generally are able to negotiate supply arrangements that are more tailored to their needs and usage, small customers are limited by constraints on metering arrangements and the lack of more flexible retail offerings by retailers. These could include for example time of use pricing and demand based (capacity) pricing.²¹

This has been the subject of much national debate, and some jurisdictions and most industry bodies are strong advocates for 'smart meters' which provide more sophisticated usage information and can support different pricing structures. Previous analysis indicated that a mandated roll out of smart meters in Tasmania would come at a higher cost than the benefits it would deliver. However, with technological developments

and changing consumer preferences and responsiveness to price signals, smart meters to support tariff reform could become viable.



²⁰ It is worth noting that network reliability standards are set under Tasmanian law, while generation reliability is set at a national level.

²¹ A number of recent studies (Energy Networks Association, Grattan Institute and AusGrid's Smart Cities) have suggested capacity or demand based network charges are likely to be more efficient.



A related issue is the way tariffs are structured between fixed and usage charges. There is a case that the proportion of fixed charges to variable (usage) charges are not reflective of the costs to deliver electricity, and this results in inefficient investment and cross subsidisation between customers. However, higher variable charges provide a stronger price signal and, therefore, capacity to influence consumer behaviour.

Tariff reform, supported by appropriate and cost effective technology, has the potential to give greater control to consumers regarding their electricity usage and how they pay 'fairly' for that use, compared with other customers.

Question 7 - Would a review of tariff structures be desirable, in terms of minimising total network costs and allocating costs fairly?

Another issue is charges for augmenting the network for new developments. These charges cover the cost of enlarging the capacity of the network to accommodate the new connection. The charge towards augmenting the network only applies to large customers and developers. The contribution from large customers towards the augmentation component is discounted using a 10 year Net Present Value of the customers projected tariff payments. However, this payment

can still be a significant cost and may inhibit growth opportunities.

The AER released a Connection Charge Guideline in 2012 which prescribes the approach to recovering the costs of new and altered connections to the network. Significantly, the AER guideline introduces a cost-revenue test which is anticipated to reduce upfront connection costs, particularly augmentation charges, with the remaining costs recovered through network tariffs.

A related issue is the contestability of connection works. At present augmentation works related to new connections are not contestable. It may be possible that augmentation costs could be reduced through contestability for this work, which would help lower the upfront connection costs. Both the manner in which augmentation costs are charged and the potential opportunity to reduce the augmentation cost through contestability could result in improving development prospects.

2.6 Solar PV and Tariff Considerations

The uptake of rooftop solar PV systems has been very strong across the country in recent years. This has been due to a combination of sharp decreases in solar PV prices, large increases in electricity prices

provided through the traditional electricity networks, and government subsidies. All of these factors have provided significant incentives for the take up of solar PV.

Solar PV provides broader societal benefits through increasing the level of emissions free generation. However, for Tasmania arguably this benefit is weaker as generation is already predominantly emissions free. Further, while a household with solar PV is able to offset the overall amount of electricity imported from the grid, peak demand on the network is not reduced. Peak network demand in Tasmania typically occurs on cold winter mornings and evenings, when solar PV output is negligible. Peak demand is the primary driver of network investment but this is not reflected in current tariff structures that are disproportionately based on consumption charges.

Tariff reform could address this issue and ensure consumers pay fairly based on the costs they impose. Note that it is not just households with solar PV that are benefitting under current tariff arrangements. Households with higher than average load during peak times²² also benefit, and are effectively being cross subsidised by consumers that contribute less to peak load.

The introduction of more cost reflective prices is likely to encourage consumer behaviour that will in the long term reduce network charges through reducing peak load. In the case of solar PV for example, incorporation of battery storage technologies, in the presence of a cost reflective tariff, is likely to encourage storage of PV output for later use during the evening or morning peak.²³

High levels of localised solar PV penetration can also have detrimental impacts on the stability of the distribution network, which can be costly to overcome. This is discussed further in the Future Preparedness section.

²² For example, a household with a high heating and appliance load on cold winter mornings and evenings.

²³ Note that it can also be argued that, the current feed-in-tariff arrangements for exported solar PV encourage behaviour which may reduce peak demand through discretionary load shifting from the morning / evening to the daytime to minimise the amount of exported PV.

3. Vulnerable customers

Energy affordability is a significant issue for low-income households. While approximately 3 per cent of an average Tasmanian household's gross income is spent on energy, recent analysis by the AER indicates that 7.8 per cent of a Tasmanian 'benchmark' low income household's annual disposable income is spent on electricity (after concessions).

Approximately one in three Tasmanian residential customers receives an electricity concession of 125.71 cents per day (equivalent to \$458.84 per year) which is the most generous in the NEM. The concession effectively removes the fixed daily charge component of residential tariffs, particularly benefitting customers with low levels of consumption.

It is sometimes argued that concessions should also apply to other fuel sources that are substitutes for electricity. However, all vulnerable customers in Tasmania use electricity, even if some of them also use natural gas or wood for heating, for example. As such, they still receive the same level of electricity concession regardless of how much electricity they use. In this sense, implicitly the concession applies across all substitutable fuels for electricity. Targeting the concession through electricity is administratively efficient and equitable for vulnerable customers.

There are other ways assistance can be provided to vulnerable customers, in addition to concessions, such as through energy efficiency measures (which is discussed in the next section).

4. Productivity and Efficiency

Aside from price, the other factor that influences how much businesses and households pay is their energy usage. Improved energy efficiency results in better outcomes for customers - both directly, and potentially indirectly, via reduced demand on the network.

Energy efficiency reduces the cost of delivering a given level of benefit.

- At the domestic level, it means that consumers either get the same level of benefit for a lesser amount, or an improved level of benefit for the same amount.
- For businesses, energy efficiency measures reduce the cost of a key input, meaning that the same level of output can be achieved at a lower cost, or increased output can be achieved at the same cost. Either way, there is increased productivity.

A particular focus of this section is on small to medium business and residential customers. It is assumed that larger commercial and industrial customers (particularly those in energy intensive industries) should be already aware of the measures required to improve energy efficiency and generally have the resources to implement them as 'standard' cost control measures.

There are three key elements to achieving a good standard of energy efficiency, and they apply equally to households or businesses. They are building energy efficiency, energy efficient appliances and/or processes, and behavioural change.

4.1 Building Energy Efficiency

For new housing, the Building Code of Australia includes information on energy efficiency standards for residential buildings, measured as a "star" rating. This covers performance of the house, including the building fabric, glazing, shading, sealing, and the effects of air movement, appropriate to the climatic region. It also covers the performance of the house's domestic services, such as hot water supply, insulation of duct work and water pipes, space heating, and artificial lighting.

Tasmania adopted the 5 Star rating for new houses in 2010, and moved to 6 Star in 2013. Tasmania lagged behind other regions of Australia in adopting these higher star ratings.²⁴ While higher star rating buildings require less energy and can be cheaper to run with improved levels of comfort, they can have higher initial construction and associated costs. Jurisdictions have yet to move to an even higher Star rating.

Tasmania, however, has a high proportion of relatively old housing stock, and a high proportion of timber houses, which generally have a lower thermal efficiency.

Recent ABS data indicates that 79 per cent of Tasmanian houses are insulated.²⁵ However, the data do not indicate the quality of the insulation.

The cost of retrofitting to achieve a high Star rating can be expensive. However there are a number of relatively inexpensive measures that can be taken to improve energy efficiency. The most cost effective measures include installation (or augmentation) of ceiling insulation, the use of thermally efficient curtains, and improved airflow (draught protection).

The Building Code of Australia also applies to commercial buildings. While the stated objective of these provisions is to reduce greenhouse gas emissions, if it is assumed that reduction in emissions is achieved by more efficient energy use, then the measures will contribute to greater productivity.

Question 8 - What approach, including non-regulatory ones, should Government consider for improving the thermal efficiency of our buildings?

4.2 Energy efficient appliances

Tasmania is a signatory to the intergovernmental agreement on Greenhouse and Energy Minimum Standards (GEMS). GEMS are set nationally, and specify a minimum level of energy performance that certain appliances, lighting and other electrical equipment must meet or exceed before they can be offered for sale or used for commercial purposes. These standards specify a minimum, but do not necessarily provide that the appliances are the most efficient. The standards apply to a range of appliance types, including air conditioners and hot water systems.

²⁴ Victoria adopted 5 Star in 2005, and 6 Star in 2011. SA adopted 5 Star in 2004, and 6 Star in 2010

²⁵ Australian Bureau of Statistics Household Energy Use 2012

4.3 Behavioural changes

While much can be done about minimum standards for buildings and appliances, and information disclosure about energy efficiency of appliances, one of the key success factors in achieving energy efficiency is the behaviour of the consumer. A house that is designed to meet high levels of energy efficiency may not necessarily achieve optimum efficiency, depending on the behaviour of the consumer.

As with residential energy consumption, there are behavioural elements in commercial and industrial applications that can achieve greater efficiency and result in greater productivity. Some are generic, particularly in relation to heating/cooling/ventilation, while others may be tailored to specific business processes.

4.4 Improving efficiency and productivity

Most regulatory measures associated with building and appliance standards have been developed on a national basis. As with national standards, development of local regulatory obligations, either in place of or additional to national obligations, needs to be considered carefully to ensure that any additional compliance costs are outweighed by clear benefits to consumers.

The value of energy efficiency and productivity programs for consumers is widely recognised. As part of the Energy Strategy development, the Government will consider what the best approach is going forward, to assist improving opportunities for businesses to realise productivity gains, and for households to manage their energy bills.

Three recent Tasmanian energy efficiency programs aimed at low-income households are Power Savings for Tenants; Stay Warm, Save Money; and Energy Champions. Some programs have been evaluated, and some are still in the process of being evaluated. Early indications are that direct savings are in the vicinity of up to \$190 per year per household. The Department of Premier and Cabinet has also been tracking the uptake of the No Interest Loan Scheme (NILS) for energy efficient whitegoods and heaters, although there has been very little uptake of this scheme.

The Energy Ready program for small businesses has also not resulted in significant uptake, despite having been reframed several times to encourage take up in that market. Run by the then Department of Economic Development, Tourism and the Arts, the program initially provided workshops, then later offered energy efficiency coaching by phone or email, and finally offered energy efficiency resources through the Government's online business portal.

One of the themes that emerge from the wide range of research undertaken is that behavioural change is a key element of success. Further, while there is a lot of general material available on steps that can be taken to improve energy efficiency, many households and businesses are yet to implement some of the relatively easy and inexpensive measures that would save money and improve productivity. It appears that upfront costs, even when relatively small compared with the long term benefit, are a barrier to uptake.

One approach that appears to improve uptake is the use of direct contact with customers, and the offering of energy audits. This is a key element of the Stay Warm, Save Money program, Power Saving for Tenants, and the Energy Champions program run by Housing Tasmania.

There have been, and continue to be, many different program approaches nationally and internationally, aimed at stimulating the uptake of energy efficiency measures. An example of a different approach is the United Kingdom's Green Deal financing model, where loans are paid back through energy bills and stay with the property, not the occupant.

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?



5. Broad Economic Development Opportunities

During the last century, Tasmania's electricity system was developed in order to attract energy intensive industry. This coincided with the modernisation of the Tasmanian economy and a period of economic and population growth that occurred, particularly in the post war period. This policy of "hydro-industrialisation" has resulted today in four large energy intensive users dominating Tasmania's demand (as discussed above).

National competition reforms in the 1990s (resulting in disaggregation of the Hydro Electric Commission into separate generation, network and retail companies, and subsequent entry into the NEM) and the absence of further large scale hydro potential effectively ended the era of using energy pricing as a plank of industry policy. Nonetheless, given the increase in energy security delivered by the Tasmanian Gas Pipeline, Basslink and new on-island generation, together with recent declines and forecast slow growth in demand, Tasmania has the potential to absorb significant load growth in areas where the network is relatively robust.

It is important to recognise that specific energy projects contribute to economic activity at the time they occur. They can provide significant employment opportunities and the capital expenditure 'boosts' economic growth during construction. However, over the long term, these investments only have a positive economic contribution if they enable and support increased economic activity in the general economy. If they do not, they can actually create a 'drag' on the economy through under-utilisation and imposing costs on consumers and/or taxpayers.

Changes in the structure of the economy also have implications for our energy systems. Tasmania, like the rest of the country, has a growing services sector, which represents a greater proportion of the economy than traditional manufacturing industries (which tend to be more energy intensive).

This context must be considered carefully when examining specific opportunities for where energy (and particularly electricity) can help enable Tasmania's economy.

5.1 Load Growth

As the owner of three key companies in the electricity supply chain the Tasmanian Government may have the capacity to use energy pricing to differentiate itself from other jurisdictions (both within Australia and abroad) and potentially attract new industries and, consequently, load growth.

Whether this is a worthwhile pursuit depends on whether lower delivered energy prices leads to increased economic activity within Tasmania. An associated issue is whether the Tasmanian Government should be actively using its own businesses to achieve lower delivered energy prices, and if it did, what risks would this approach place on existing consumers and taxpayers compared with the potential benefits? As discussed earlier, the role of Government in terms of its ownership is to ensure it receives an appropriate return on the wealth invested in its Government businesses for the Tasmanian community, whilst also ensuring that electricity prices are economically efficient.

Lower delivered energy prices could attract new industries and promote greater economic growth for Tasmania, but if it were to come at the cost of lower dividends, it could also come at the cost of reduced public services or higher debt. A clear understanding of the net economic benefit needs to exist before making clear policy decisions either way.

Leaving aside the above debate, a key question is “what energy intensive industries have the most potential for development in Tasmania?” This will be a key role for the new Department of State Growth, working with the Co-ordinator General, to identify and enable investment attraction.

To aid attraction, it would be useful to develop improved information on particular sites in Tasmania that would be suitable, from an energy supply and reliability perspective, for particular industries to be located. This type of information, together with other key information relevant to decision making could be critical to helping not only to produce new economic opportunities for Tasmania, but also to improve the utilisation of our existing electricity system.

However, it is also important to recognise existing large customers, particularly those that take a considerable proportion of the State's electricity load. There would be at least short term, large economic, social and energy supply consequences if one or more of these customers were to leave the State.

As such, it is important that Government and its associated businesses ensure that the business environment is as enabling and supportive as is sustainably possible. This is not to say that Government should subsidise businesses over the long term, but rather that there are no unnecessary barriers or cost pressures that Government can influence that are placed in the way of business.

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

5.2 Renewable Energy Development

5.2.1 Wind and Evolving Technologies

Tasmania clearly has significant wind resources and this is a natural competitive advantage for the State. However, like many other resources that may be in abundance, turning the resource into a commercially viable product is not necessarily a given.

From an emissions reduction perspective, wind energy clearly has the potential to assist in replacing coal or other carbon intensive energy sources. This has been the rationale for favourable regulatory regimes that prioritise wind energy (such as the Renewable Energy Target). Arguably, given that wind energy often relies on regulatory rather than commercial advantages, any investment in wind comes with a degree of regulatory risk.

This raises a difficult question for Tasmania. Given Hydro Tasmania has previously been involved in wind developments, what should be the role of Government owned entities in developing any further new wind generation in Tasmania? Given there are private sector entities interested in new wind development, is there a risk of crowding out private sector developments?

Aside from wind energy, globally there are evolving renewable energy technologies, such as projects that aim to harness wave and tidal energy. While these other technologies have not been seriously explored in Tasmania to date, there may be future opportunities to examine these more closely.

It should be noted that increasing generation supply for Tasmania in a climate of reducing or slow growing demand does not have a strong rationale, unless there is demand in other states for Tasmania's exported energy. As stated earlier, current projections indicate Tasmania will not need further on-island generation for internal purposes until 2030.²⁶

An alternative to export opportunities is load growth in Tasmania, whereby new industries, stronger population growth or other general economic growth drivers result in an increased demand for electricity.

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

5.2.2 Ten per cent extra generation from existing hydro assets

The Government has committed to investigating the potential for generating an extra 10 per cent electricity from existing Hydro assets. As Hydro assets represent a significant proportion of community wealth through continued public ownership, it is important that these assets are managed in a way that current and future generations can continue to benefit from this investment.

The prospects for additional generation are linked to the case for load growth and may be best pursued by examining these opportunities when planning Hydro Tasmania's asset refurbishment program, and/or the case for a second Bass Strait Interconnector. In an environment of no unmet Tasmanian demand, the critical issue is in what external demand circumstances would either a second interconnector or a 10 per cent increase in Hydro output make economic and commercial sense. Given that generation output expansion based on incremental investment in existing

assets should come at relatively low cost (compared with constructing new assets), this work is worth pursuing.

5.2.3 Second Bass Strait Interconnector

The Government has committed to investigating the merits of a second Bass Strait Interconnector, in addition to the existing privately-owned Basslink. The rationale for this investigation is to see whether there is any commercial opportunity and benefit from exporting more Tasmanian electricity into the mainland market. Tasmania could also play a proportionately large role in increasing Australia's renewable energy penetration. These opportunities may potentially arise in the future if, for example, current mainland thermal generation is retired at end life, or as a result of future policy settings.

Key considerations to be taken into account include the risks and benefits of potential exports (particularly where supply in Tasmania is increased beyond local demand specifically for the purpose of export, rather than to meet local load growth). In an environment of dampened national demand, the case for a second Bass Strait Interconnector is likely to develop over the medium to long term. However, it is strategically important that this opportunity is fully understood and explored.

5.3 Gas

Natural gas prices are currently experiencing upwards pressure²⁷ driven by:

- Increases in gas commodity prices associated with greater linkage of the domestic market to higher priced international markets, due to increased exports associated with the development of new LNG export facilities in Queensland; and
- Increases in transmission network prices driven by a likely significant decline in Tasmanian demand for natural gas for electricity generation.

²⁶ AEMO – May 2014 Supply Demand Snapshot

²⁷ For example, commercial natural gas prices offered by Tasmanian retailers increased by approximately 6 per cent in March 2014 from when – taken from OTTER Comparison of 2014 Australian Standing Offer Energy Prices March 2014 report, which doesn't indicate from when.

In such an environment, there is a question over future development opportunities for gas in Tasmania. It may be that the market uptake will plateau with many customers that significantly benefit from gas having already converted.

Alternatively, three quarters of the potential businesses and households that the network passes have not yet connected, and this represents a potential untapped market. In part actual take-up will depend on how easy conversion is. This may be assisted by initiatives like Tas Gas Retail's offer to customers with electric hot water cylinders to replace those cylinders within 24 hours if those cylinders fail. Similarly, future price relativities with substitutable fuels will also continue to be critical.

When gas was first introduced to Tasmania to stimulate take-up, the Government took on a facilitation role to create a natural gas supply industry in Tasmania. Now that gas is established, the key issue is what further role, if any, is there for Government. One area that has been identified is inconsistencies between electricity and gas customers with respect to minimum customer protections. While this is mainly a social issue, it is also an economic development one from the perspective of improved certainty for businesses.

Any regulatory change, however, would clearly need to be considered within the context of the Government's red tape reduction agenda, with the benefits of any proposed changes having to clearly demonstrate that it outweighs the costs.

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

6. Future Preparedness

Rapidly developing technologies and increasing levels of consumer participation in the provision and use of energy are already having profound effects upon energy markets and consumers around the globe, including in Australia. While there is a high degree of certainty that rapid change is set to continue into the future, there is

less certainty over what these changes will look like and what their impacts, both positive and negative, will be.

It is important to understand what the potential impacts of likely "energy futures" may be, both to ensure preparedness and to take advantage of beneficial opportunities. Much will also depend on national policy settings, both current and future. Ensuring State-based strategies are flexible to adapt to evolving national developments will be important.

At a fundamental level traditional energy supply models are already being challenged. For example, electricity networks were traditionally built to supply power from centralised generators to distributed users. As a consequence, high levels of distributed generation (embedded generation) such as solar PV can cause technical issues on the network which are costly to overcome.

Traditional models of network cost recovery are also being challenged. As previously discussed, network costs are largely fixed, however network cost recovery is largely based on consumption charges. Falling network consumption - which is exacerbated by increasing levels of solar PV generation²⁸, energy efficiency improvements and other demand side measures - places upward pressure on per unit charges which can become self-perpetuating (commonly known as the "death spiral"). Ultimately this could result in some consumers leaving the grid altogether.

Smart grid technologies may reshape how networks are managed and how electricity costs are recovered. For example, smart meters can enable cost-reflective tariffs which will help reduce peak demand (a key driver of electricity costs) and are likely to result in more efficient utilisation of electricity supply infrastructure. Smart grid technologies will also increase the flexibility of the network, for example in enabling higher levels of embedded generation. Smart grid technologies such as these have the potential to provide clear benefits, although these need to be balanced against the costs of implementation.

²⁸ Currently 71 MW in Tasmania with future growth rates of approximately 15 per cent forecast over the next decade (under AEMOs National Electricity Forecasting Report 2014 medium growth scenario).

Historically, it has been prohibitively expensive to use batteries to “store” electricity, particularly at scale. However the costs of battery storage are rapidly falling, driven primarily by the rapidly developing electric vehicle sector, with costs projected to continue falling substantially over the coming decade. It is likely batteries will increasingly be used for storage applications, for example by householders with solar PV to help store PV output for use during peak periods.²⁹

Electric vehicles have the potential to add significant load in Tasmania. It is estimated that if all vehicles were electric vehicles, this would add approximately 10 per cent to existing load. However it is essential that appropriate incentives are in place to ensure recharging does not significantly increase peak load. The Australian Energy Market Commission investigated the potential impacts of electric vehicles on electricity markets as part of its Power of Choice Demand Side Participation review and concluded that unmanaged electric vehicle charging could significantly increase network costs. In addition to increasing Tasmanian load, increased electric vehicle uptake in Tasmania would reduce dependence on imported fossil fuels (in which Tasmania is a price taker) and reduce transport carbon emissions.

These changes are likely to attract a vast array of new entrants, particularly to the electricity market. Non-traditional energy providers are expected to become increasingly prevalent. These may include telecommunication companies, Internet Service Providers and main stream retailers, and other specialist businesses targeting niche markets or offering specialist services, such as home energy management. This will result in a more competitive market, resulting in increased private sector participation.

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

²⁹ Thereby increasing the value of PV generation where PV export tariffs are lower than evening peak tariffs.

7. Tasmanian Energy Strategy Objective and Outcomes

The Tasmanian Government has clearly described the key objective of the Tasmanian Energy Strategy in the Government's election policy document – “*Looking to the future with energy*”.

“The key objective of the Tasmanian Energy Strategy will be to identify ways in which energy can once again be utilised as an economic driver, including by securing a stable and sustainable price path for power that can provide relief to consumers and help grow the economy and attract new investment.”

Having now explored key themes, the Department seeks input and views into the types of outcomes that could support this key objective.

As a starting point, the Department has drafted for consideration the following outcomes. These are provided on the basis of assisting respondents to consider what outcomes they might like to see.

1. Tasmanian electricity prices will be sustainable and amongst the lowest in Australia.
2. Highly efficient Tasmanian energy supply industries will ensure lowest possible energy prices on a sustainable basis.
3. Consumers will continue to have choices about how to meet their energy supply needs and will pay fair prices for those choices.
4. Consumers' energy needs will be met through a safe, secure, and reliable supply, supported by the minimum necessary regulatory arrangements.
5. Tasmanian businesses and households will achieve improved productivity and reduced costs through improved energy efficiency.
6. The contribution of energy costs to cost of living pressures for the most vulnerable customers will be reduced.
7. Economic development opportunities that are either enabled by energy supply, or are a result of direct energy investments, will create long-term economic growth.

Once the target outcomes are finalised, the next step will be to determine the strategies and actions the Government can take to achieve these outcomes. Consideration will also be given to what performance measures can be put in place to transparently track progress toward the outcomes.

Question 14 - What could be some outcomes for the Tasmanian Energy Strategy, and what actions can Government, or energy providers and consumers, take to achieve them? How could success/performance be measured?

8. Other Issues

If there are issues or themes, or different perspectives on what has been presented in this paper, the Department welcomes submissions which identify these so that they can be appropriately considered in the formation of the State's Energy Strategy.

Appendix I - Summary of questions

The following is a summary of the questions contained in this paper. Responses to these questions will be considered against the final outcomes for the Energy Strategy. Any suggestions for strategies and actions will be assessed according to the following criteria:

- They should be practical and implementable, including being manageable in terms of cost; and
- They can positively contribute to economic growth and community wellbeing.

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

Question 2 - Given both the State and Commonwealth Government are committed to reducing red and green tape, and that the electricity market is highly regulated and complex, what opportunities are there to reduce or remove regulation?

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

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

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

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

Question 7 - Would a review of tariff structures be desirable, in terms of minimising total network costs and allocating costs fairly?

Question 8 - What approach, including non-regulatory ones, should Government consider for improving the thermal efficiency of our buildings?

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?

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

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

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

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

Question 14 - What could be some outcomes for the Tasmanian Energy Strategy, and what actions can government, or energy providers and consumers take to achieve them? How could success/performance be measured?



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