



Electricity Supply Industry Expert Panel

The Evolution of Tasmania's Energy Sector

Discussion Paper

April 2011

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Discussion Paper

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Glossary

TERM	MEANING WITHIN THE CONTEXT OF THIS REPORT
ACCC	Australian Competition and Consumer Commission
AER	Australian Energy Regulator
AETV	Aurora Energy Tamar Valley Pty Ltd
BBI	Babcock and Brown Infrastructure
BBPS	Bell Bay Power Station
B&BP	Babcock and Brown Power
BDB	Basslink Development Board
BPL	Basslink Pty Ltd
CLP	China Light and Power
COAG	Council of Australian Governments
CPA	Competition Principles Agreement
FCAS	Frequency Control Ancillary Service
FRC	Full Retail Contestability
GPOC	Government Prices Oversight Commission
HEC	Hydro Electric Corporation / Commission / Department
HVDC	High Voltage Direct Current
IRF	IRR Release Framework
IRR	Inter Regional Revenue
MNSP	Market Network Service Provider
MOU	Memorandum of Understanding
MW	Megawatt
MWh	Megawatt Hour (= 1 thousand kWh)
NCP	National Competition Policy
NEC	National Electricity Code
NEM	National Electricity Market
NGMC	National Grid Management Council

TERM	MEANING WITHIN THE CONTEXT OF THIS REPORT
NGPAA	National Gas Pipeline Access Agreement
OEPC	Office of Energy Planning and Conservation
OTTER	Office of the Tasmanian Energy Regulator
SOC	State Owned Companies
SPC	Special Premiers Conference
TEC	Tasmanian Electricity Code
TER	Tasmanian Economic Regulator
TINGP	Tasmanian Natural Gas Pipeline
TVPS	Tamar Valley Power Station

Foreword

In October 2010, the Tasmanian Parliament passed the *Electricity Supply Industry Act 2010* to establish an independent expert panel to conduct a review into, and provide guidance to Parliament on, the current position and future development of Tasmania's electricity industry. As part of the review process, the Panel is releasing a series of Discussion Papers which are intended to foster a shared understanding of the electricity industry's past and present, as a precursor to considering the industry's future.

Reflecting the breadth of energy sector reform undertaken in Tasmania since 1995, this Paper takes a wider view of the market than the electricity industry, incorporating natural gas in its role as both competitor to, and facilitator of, electricity supply in Tasmania.

Under successive Tasmanian Government energy policy platforms since the mid-1990s, Tasmania's energy sector has experienced major structural, regulatory and investment changes. The key drivers of Tasmanian energy policy since then has been to overcome energy constraints (both from load growth and hydrological risk arising from water storage variability) and to provide for greater levels of competition and customer choice, both in the retail and wholesale markets and between energy sources, particularly through the introduction of natural gas.

The purpose of this Discussion Paper is to describe the implementation of this medium-term 'Reform Framework', to identify the rationale for major structural and regulatory reform initiatives and to provide some early observations as to how reform objectives have compared with observed outcomes as a means of commencing discussions in this aspect of the Panel's work program.

Collecting evidence on the extent to which the objectives have, or are being, achieved and the unintended positive and negative implications of them is a very important aspect of the Panel's task. The Panel encourages stakeholders to make submissions on these matters. It is through understanding these matters that the Panel will be able to make recommendations regarding the next steps in the reform journey.

Reflecting the complexities of the energy market, regulatory, structural and market reform initiatives are interlinked and to a great extent interdependent. Any consideration of changes to the current arrangements needs to be informed by an understanding of the interdependencies and the consequences of changes within the broader energy market. It is intended that this Paper will commence discussion on these matters.

This Paper does not seek to discuss the governance around major decisions (who made the decisions and on what basis/considerations decisions were made) or whether at this point in time major investment projects are demonstrated to be sound financial decisions. These are important considerations that the Panel will seek to investigate and understand through separate issues papers.

Accordingly, the Panel would welcome submissions on issues arising from the material contained in this Discussion Paper by 6 May 2011 – these will be of assistance in assisting the framing of the Panel's Issues Paper, which is expected to be released in May 2011.

John Pierce
Chairman
Electricity Supply Industry Expert Panel

1. Highlights

Since the mid-1990s, successive Tasmanian Government energy reform frameworks have progressed the three primary policy objectives established in the 1997 Directions Statement¹:

1. Securing new sources of energy supply to meet load growth including natural gas, both as an energy alternative and for gas-fired generation, Basslink, and the development of renewable resources and co-generation.
2. Mitigating the State's exposure to hydrological risk arising from water storage variability, which is related to, but different from meeting growing energy needs.
3. Introducing greater competition and customer choice into the Tasmanian energy and electricity market to drive lower prices and to maintain a national competitive advantage for Tasmania's economic base. Central to this is the transition to a market based framework.

There has been advancement to a market-based energy sector, beginning with the corporatisation of the Hydro-Electric Commission (HEC), its subsequent separation into generation, transmission and distribution/retail businesses and the operation of those businesses under commercial models. The next major step was the opening up of the Tasmanian generation market to competition and adoption of the NEM arrangements in 2005, including the rollout of retail contestability. Similarly, there has been a progressive transfer of economic regulation of electricity transmission, distribution and retail to independent regulatory bodies.

Noting these advancements towards market-based arrangements, some early observations are that:

- Planned new sources of electricity and energy supply have been delivered:
 - the natural gas transmission pipeline was delivered in 2002 and the distribution pipeline Stage 1 completed in 2005 and Stage 2 completed in 2007;
 - the Woolnorth Wind farm was completed, with Stage 1 (10.5 MW) completed in 2002 and Stage 2 (54.5 MW) completed in 2004;
 - physical interconnection to Victoria via Basslink in 2006 complete which has the capacity to flow southward at 480 MW; and

¹ Directions Statement – Tasmania's Future Energy Strategy 1997.

- the State now has gas-fired electricity generation:
 - initially through the conversion of Bell Bay Power Station Unit1 (120 MW) by Duke Energy in 2003 and Unit 2 (120 MW) in 2004 by Hydro Tasmania;
 - the additional installation of three open cycle gas turbines (35 MW each) by Bell Bay Three Pty Ltd² in 2006; and
 - the construction of the Tamar Valley Power Station which was completed by Aurora Energy in 2009 (210 MW base load with 180 MW peaking, including the three 35 MW turbines above).
- Electricity generation capacity in the Tasmanian market exceeds current and foreseeable Tasmanian demand.
- A central feature of a market-based framework is the role of market prices in allocating resources and informing investment decisions. A notable feature of the development of the Tasmanian electricity generation market is that the Government has continued to make investment decisions, primarily based on securing energy supply in the event of prolonged drought. In this sense hydrological risk has continued to be a dominant policy driver.³
- A central feature of the Reform Framework is the development of competition in the electricity generation market. Although new sources of supply have been achieved, the wholesale market structure in Tasmania does not look fundamentally different to how it looked at the beginning of the reform process - Hydro Tasmania remains the single dominant generator in terms of capacity and the Tasmanian Government retains predominant ownership or control of the competitive sectors of the market through its ownership of Hydro Tasmania (and through Hydro Tasmania 50 per cent of Roaring 40s) and Aurora Energy.
- What has changed is the ability for energy to flow to and from other NEM regions in response to price signals and therefore create the potential for both competitive pressures and opportunities for the Tasmanian electricity generation market. The Panel is keen to more fully understand how effective these pressures have been in delivering the Government's stated policy objectives.

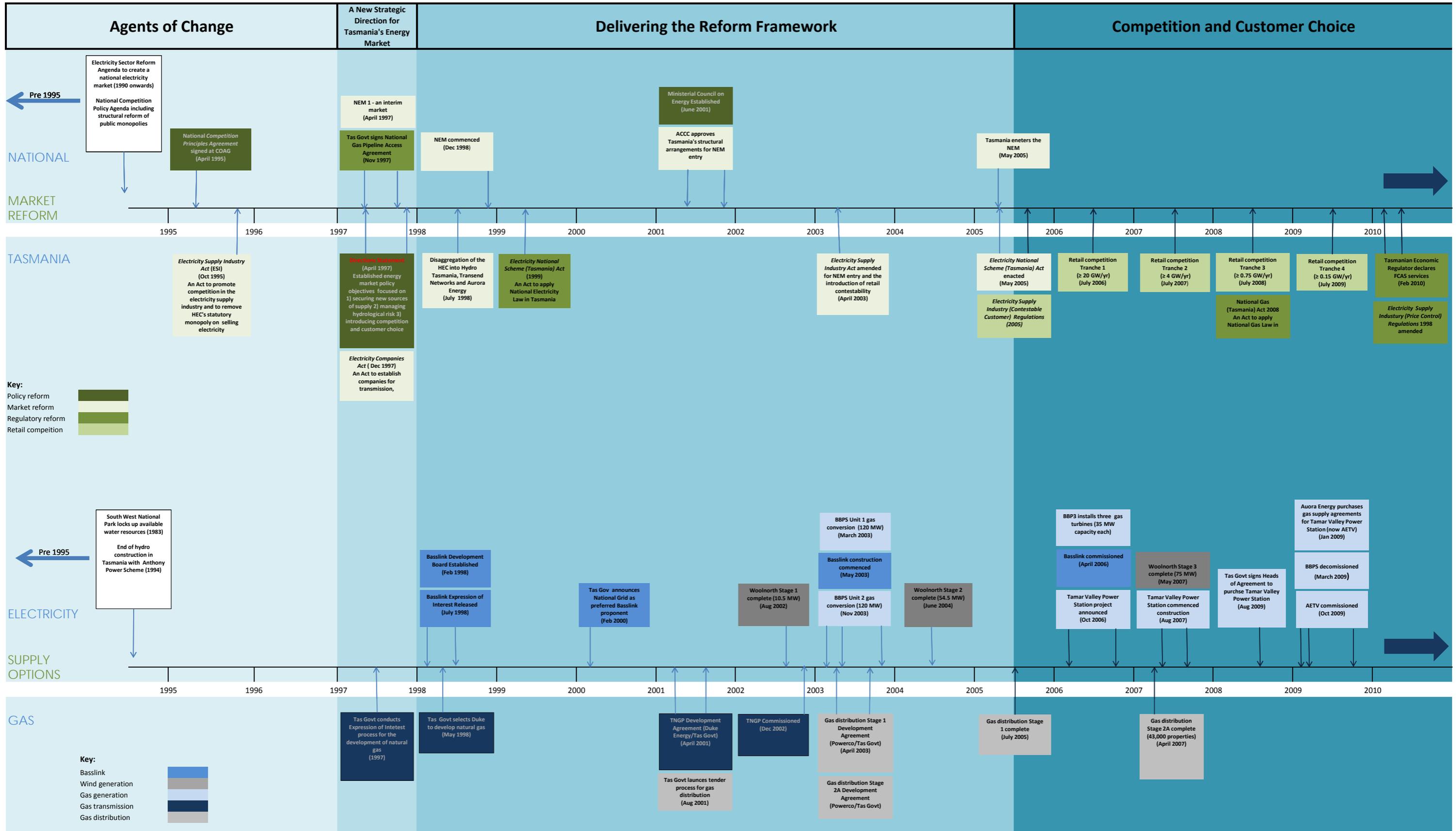
² Bell Bay Three Pty Ltd was a wholly owned subsidiary of Bell Bay Power Pty Ltd – owners of the BBPS.

³ Tasmanian Government Ministerial Statement 16 June 2010 – Hansard.

- Market outcomes in the Tasmanian wholesale generation sector may be impacting on the development of retail competition. Hydro Tasmania has been reported on by the Australian Energy Regulator (AER) and investigated by the Australian Competition and Consumer Commission (ACCC). While not in breach of the National Electricity Rules or the *Competition and Consumer Act 2010*⁴, the actual or potential exercise of market power may impact on the development of competition and reduce the overall effectiveness of the Tasmanian electricity market. This is a key matter the Panel will continue to explore through the Review.
- In 2010, the TER declared a number of frequency control ancillary services (FCAS) provided by Hydro Tasmania in the Tasmanian market.
- The contestability timetable has largely been achieved, with Tranches 1 to 4 contestable. This is equivalent to around 80 per cent of the market in terms of energy use; however, in terms of customer numbers, a majority of customers are households and small business, and these remain non-contestable. Although there are five electricity retailers licensed in the Tasmanian market, only two indicate current interest to service smaller contestable customers. Competition between two market participants may be relatively effective, although this outcome cannot be predicted at this time. The Panel is seeking to understand the intensity and effectiveness of competition at all levels in the retail market and what can be done to improve it.
- The Tasmanian Government has retained considerable influence and/or control over the wholesale energy allowance for non-contestable customers through pricing regulations, which drives 40 per cent of retail prices. Initial investigations indicate that market forces have had little impact on how this key driver of retail prices has been set, and the Panel will be further exploring the efficiency and effectiveness of this element of the regulatory framework.
- The Tasmanian Economic Regulator's (TER) public benefit assessment of full retail competition noted that effective competition in, or governance of, the wholesale generation market is necessary to capture the full benefits of competition.

⁴ Formerly the *Trade Practices Act 1974*.

The Evolution of Tasmania's Energy Sector



2. The Tasmanian Electricity Market - Agents of Change

The structure of the Tasmanian electricity market is unique in Australia. Due to the predominance of high rainfall and steep terrain, Tasmania's early energy policy was based on the development of hydro resources, which in turn stimulated extractive industries, including the processing of mineral ore and pulp and paper products.

As a consequence, electricity supply is dominated by hydro generation and up to 60 per cent of electricity demand is from a small number of major industrial users, who typically have a "flat" load profile. That is, demand by major industrial users does not vary a great deal through the day, week and year. While customers with this type of load pattern are generally less expensive to supply and easier to supply from an operational perspective, the high concentration of such customers within Tasmania and the variability of rainfall makes electricity supply and demand less predictable to balance than is the case in the rest of the National Electricity Market (NEM). Supply is influenced by the variability of rainfall and demand is largely determined by business decisions of major industrial customers, whether through changes to load profile or continued operation in the State.

Managing hydrological risk and ensuring there is sufficient energy supply to meet the State's needs has been, and continues to be, the dominant influence on Tasmania's energy policy.⁵ This risk has presented in both the availability of appropriate water resources to develop additional hydro schemes and the periodic depletion of water in storage in existing schemes due to extended periods of low inflows. More recently, capacity and energy issues have been addressed by gas-fired generation and interconnection.

Risk management is a dominant theme in the management of all electricity supply industries throughout the developed world. As the consequences of periods of over-supply are quite different to the consequences of under supply, all systems supply costs reflect an "insurance" component so that reliability can be maintained despite the variability of demand and available supply capacity. Debates around the way the sector is managed invariably centre on this risk management task and reflect different understandings and valuation of the risks impacting on a system's ability to continuously match demand and supply.

⁵ Directions Statement 1997- objective 2, Meeting Tasmania's Energy Needs for the 21st Century, Energy Policy Statement 2009, Ministerial Statement – Tasmanian Energy System 16 June 2010.

The impact of hydrological risk is evident from the power rationing events in 1967-68. Following a period of drought Tasmania experienced extreme low water storages⁶. Over 1967-68, low water storages required progressive rationing to major industrial customers (initially 25 per cent and then 35 per cent of load), through to commercial retail customers (restricting the use of electricity for such activities as advertising and display) and then to households (requiring consumption to reduce to 80 per cent of the previous year's corresponding quarter). Every third street light was disconnected. By March 1968, water storages had fallen to a record low of 14.3 per cent. Electricity rationing lasted for twelve months and called into question the State's reputation for reliable energy which had provided the basis for hydro industrialisation that underpinned the Tasmanian economy.⁷ As a result of power shortage events during 1967-68, the Bell Bay Power Station (BBPS) was commissioned in 1971 to provide system security and drought relief in Tasmania's hydro based system.

At the same time, major industrial customers had increased, or planned to increase, consumption of power, requiring additional supply capacity to be installed in the system. On 1 May 1967, the HEC completed its report on the Gordon River Power Development Stage One, which included the damming of Lake Pedder. Gordon River Power Development Stage Two identified further opportunities to extend the generation capacity across available water resources. However, attempts to develop these water resources were countered by the community revaluing the conservation significance of these sites resulting in the creation and subsequent World Heritage Listing of the South West National Park.

The outcome of the Gordon below Franklin debate in the late 1970s and early 1980s essentially signalled an end to the development of new major hydro generation capacity in the State, as it was acknowledged that there were a limited range of economic options for further power scheme developments outside the South West National Park.

The Australian Government provided compensation to Tasmania for the loss of the Gordon below Franklin Scheme, by subsidising 'Tasmania so that the 112 MW of energy generated by the King and Anthony schemes would cost no more than if the Gordon below Franklin development had gone ahead. This cost differential was assessed at \$200 million'.⁸

⁶ It was this same period of drought that led to the horrific bushfires that ravaged southern parts of the State in February 1967.

⁷ *Lifeblood – Tasmania's Hydro Power* – Roger Lupton, page 235.

⁸ *Lifeblood – Tasmania's Hydro Power* – Roger Lupton, pages 334 and 335. 'The estimated cost of producing energy from the Gordon below Franklin has been 1.67 cents per unit. The estimated cost of energy produced by the King would be 2.63 cents per unit and from the Anthony 2.5 cents per unit.'

The commissioning of the Anthony Power Development in 1994 was the end of large scale hydro electric developments in the State and the end of the construction era for the HEC.

More broadly and around the same time, at the national level, the electricity sector was subject to two significant competition reform initiatives, the Council of Australian Governments (COAG) electricity reform agenda and the broader National Competition Policy reform agenda.

The **COAG electricity reform agenda** was initiated at the October 1990 Special Premiers Conference (SPC) with the key objective of developing a fully competitive national electricity market across the interstate electricity network covering NSW, Victoria, Queensland, South Australia, Tasmania and the ACT. Subsequently, in May 1991 the Australian Government commissioned an Industry Commission Inquiry into energy distribution and generation, which identified major economic benefits to the Australian economy from the restructuring and reform of publicly owned electricity monopolies.

In 1991, the SPC established the National Grid Management Council (NGMC) to identify opportunities for interstate trading in electricity across the south east Australian grid and progressively develop concepts for a National Electricity Market (NEM). In preparation for a NEM, participating jurisdictions made a number of arrangements relating to electricity sector reform. One such reform was the structural separation of transmission and generation elements of the electricity supply industry.⁹ Although Tasmania was a participant to the early reforms, it was not a relevant jurisdiction for the purposes of the NEM until 2005, eleven months prior to the completion of Basslink, at which time it was required to meet the NEM reform requirements.

The COAG electricity reform agenda was aligned with the broader national **Competition Policy Agenda** arising from the Hilmer Review.

In August 1993, the Hilmer Committee Report delivered to Heads of Government which advocated, amongst other things:

- extending the reach of the *Trade Practices Act 1974 (Cwth)* to government owned businesses;
- the provision of third party access to nationally significant infrastructure;
- the introduction of competitive neutrality so that government businesses would not enjoy unfair advantages when competing with private businesses;
- restructuring public sector monopoly businesses to increase competition; and

⁹ COAG Perth December 1992 *Communique* "The relevant Heads of Government reaffirmed their commitment to the principle of separate generation and transmission elements in the electricity sector ..."

- extending price surveillance arrangements to government businesses.

In April 1995, COAG agreed to the National Competition Policy (NCP) package of measures to implement the Hilmer proposals and to meet previous reform commitments in the areas of electricity, gas, water and road transport. Specifically, the Competition Principles Agreement (CPA) set out the principles of prices oversight, structural reform of public monopolies, review of anti-competitive legislation and regulation, third party access to services provided by essential facilities and the elimination of net competitive advantages enjoyed by government businesses where they compete with the private sector.

This process saw the disaggregation of vertically integrated public electricity entities and subsequent privatisation of many, moved from regulation within the industry and/or government to independent regulators; and in the case of the NEM, introduced intra and interstate competition in the generation and retail sectors.

Tasmania was an early participant in the COAG electricity reform agenda and was pro-active in progressing broader reform initiatives under the NCP reform package. From 1995 the Tasmanian electricity supply industry regulatory framework was progressively reformed to position the Tasmanian market for competition and participation in the NEM, pending physical interconnection with Victoria.

In 1995, the Tasmanian Government introduced the following suite of legislation (the Electricity Supply Industry Legislative Package) to facilitate the CPA regulatory reform initiatives:

- The *Electricity Supply Industry Act 1995* removed the HEC's statutory monopoly on generation and paved the way towards preparing Tasmania for future participation in a fully competitive NEM, by:
 - setting the framework for the participation of new entrants in the Tasmanian electricity industry;
 - providing for non-discriminatory access to other participants to the Tasmanian transmission and distribution network; and
 - providing for licensing of participants in the Tasmanian electricity market.

The Act took effect from November 1996, with the exception of Part 3 – Division 3 which governs wholesale trading in electricity. While the Act established the concept of a contestable customer, at the time regulations did not exist prescribing which customers would be contestable.

- The *Government Prices Oversight Act 1995* established the Government Prices Oversight Commission (GPOC) to independently assess the pricing and pricing policies of public monopolies (including the HEC) to ensure that monopoly power is not abused. GPOC made recommendations to relevant Ministers on the pricing of Government monopoly services. In 1998 amendments to the GPOC Act removed electricity services from its scope and this function was transferred to the Tasmanian Electricity Regulator (TER), reversing the Government's role in setting electricity prices.
- The *Energy Co-ordination and Planning Act 1995* created the new statutory position of 'Director of Energy Planning' to provide advice to the Government on energy policy matters, transferring this function from the HEC as was formerly the case. The Act also provides the Director of Energy Planning with extensive information gathering powers.
- The *Hydro Electric Corporation Act 1995* was established to corporatise the legislation under which the business operated (formerly the Hydro-Electric Commission) and to provide for it to continue as a Government Business Enterprise with its internal governance subject to the *Government Business Enterprises Act 1995*.

3. A New Strategic Direction for Tasmania's Energy Market – the 1997 Directions Statement

The Rundle Government's **Directions Statement – Tasmania's Future Energy Strategy** in 1997 was a turning point in the strategic direction of the Tasmanian energy market. With the end of development of economic hydro resources in Tasmania and the emergence the national electricity market reform agenda, the Directions Statement identified the need to re-examine Tasmania's energy policy, particularly around the availability of new energy options and the broader strategic direction of the State.

Energy market policy objectives focused on:¹⁰

1. **Securing new sources of supply to meet load growth;**
2. **Mitigating the State's exposure to hydrological risk; and**
3. **Introducing greater competition and customer choice into the Tasmanian energy and electricity market to drive lower prices and to maintain a national market competitive advantage for Tasmania's economic base.**

A number of key initiatives were identified to deliver these policy objectives:

- The introduction of natural gas (the Tasmanian Natural Gas Project) and a Tasmanian-Victorian electricity connector (Basslink) were considered to be the only two options for significant new energy supply. However, both were not simply supply options, but were intended to bring wider benefits:
 - natural gas would also introduce greater customer choice in the energy market;
 - Basslink would have a trading function by allowing energy to flow to and from Tasmania and other NEM jurisdictions;
 - Basslink was the only policy option that could mitigate the loss of a major industrial load by providing flexibility for surplus energy to flow to customers outside Tasmania;
 - Basslink would enable Tasmania to be a participating jurisdiction in the NEM; and

¹⁰ Directions Statement - Tasmania's Future Energy Strategy April 1997 page 11.

- increased supply capacity would provide insurance against periods of sustained below average rainfall.
- Establishing a competitive market within generation and retail, transmission and distribution being monopoly services.
- Introducing full retail competition with the intention of improving customer choice and lower prices for households and small business.

During the late 1980s and early 1990s, the Tasmanian Government carried a high level of debt that was the basis for the Directions Statement strategic objective of withdrawing some of the equity in the HEC, with particular emphasis on the sale of the distribution and retailing businesses.¹¹ There was also particular concern to mitigate the financial risk to the HEC (and consequently returns to the State) resulting from drought or the loss from the State of a major industrial customer.

The combination of the COAG reform principles, the desire for the development of competition in the wholesale and retail levels of the electricity industry and the privatisation agenda all shaped significant changes to the regulatory and structural framework of the Tasmanian electricity supply industry, which are discussed below.

¹¹ Directions Statement 1997 and the Tasmanian 1998-00 Budget Speech.

4. Delivering the Reform Framework

4.1. Structural Reform of the Hydro-Electric Commission

Prior to 1998, the Hydro-Electric Commission (HEC)¹² operated as a statutory monopoly with responsibility for all aspects of the electricity supply industry. The *Electricity Companies Act 1997* provided for the establishment of State-Owned-Companies (SOCs) in respect of transmission, distribution and retailing of electricity in Tasmania. On 1 July 1998, the HEC was structurally disaggregated into three separate businesses: generation and system control (Hydro Tasmania); transmission (Transend Networks); and distribution and retail (Aurora Energy).

The rationale for the disaggregation of the HEC and the resulting form of that disaggregation was informed by the following¹³:

1. The Tasmanian Government's commitment to obligations under NCP reform, including access to NCP reward payments of \$123.5 million between 1997-98 and 2005-06, and COAG electricity agreements.¹⁴
2. The proposed entry of Tasmania into the NEM with the prospective completion of Basslink.
3. The development of competition in the Tasmanian electricity supply industry.
4. Business imperatives for the HEC – disaggregation as a means to achieve better focus and increased efficiency.
5. The broader government policy objective of privatisation to realise the value within the HEC for other purposes.

To comply with the NCP Agreement the Government commissioned the following two structural reviews prior to disaggregation of the HEC:

¹² Between 1995 and 1998 the Hydro-Electric Commission was renamed the Hydro-Electric Corporation which currently trades as Hydro Tasmania.

¹³ Rational for disaggregation sourced from 1) 'Disaggregation of the Hydro-electric Corporation and Other Related Matters – Parliamentary Standing Committee of Public Accounts Interim Report on Disaggregation 1998 chapter 3 and 2) Tasmania's Future Energy Strategy – Directions Statement April 1997.

¹⁴ Tasmanian Government National Competition Policy Progress Report June 2005. These reward payments were for the broad suite of NCP reforms being implemented in Tasmania, including but not limited to electricity-related reform.

1. 'National Competition Policy, Review of the Structure of the Hydro-Electric Corporation's Distribution and Retail Businesses' (the Reeves/Breslin Report) - December 1997¹⁵

The Reeves/Breslin Report recommendations related to the form and separation of distribution and retail, the nature of pricing and third party access regulation to the distribution network, the powers of the pricing regulator, the consolidation of regulatory functions relating to the Tasmanian electricity supply industry and the regulation of retail prices.

The Report's recommendations in relation to establishing appropriate regulatory arrangements for the distribution and retail business were accepted by Government and reflected in the Electricity Supply Industry Act, the regulations under that Act and in the Tasmanian Electricity Code (TEC).

In relation to the structural separation of the HEC's distribution and retail businesses, the Report concluded that prior to the introduction of a fully competitive electricity market in Tasmania the distribution business could be conducted as a ring fenced business within an integrated distribution/retail business. The Report further recommended that following the introduction of competition, distribution and retail should be carried out by separate legal entities. The central issue for the structural separation of distribution and retail related to the controls that were required to ensure that the existence of an integrated distribution/retail business did not inhibit the establishment of new retailers in Tasmania.

The Government did not accept the recommendation to structurally separate the distribution and retail functions, and Aurora Energy was subsequently established as a single distribution/retail business.

The Government identified the following reasons in rejecting the separation of distribution and retail:

- Separation was not consistent with the structure in other States yet there still was clear evidence of a high degree of retail competition emerging in the NEM.
- The then-current local and national requirements relating to the ring-fencing of distribution and retail activities within combined electricity businesses, together with the open access regime for transmission and distribution networks, were considered sufficient to ensure that other retailers were able to effectively compete with integrated distribution/retail businesses.

¹⁵ Information for this section sourced from the National Competition Policy Progress Report April 1999.

- Separation would result in the initial distribution and retail businesses in Tasmania being comparatively small relative to the firms against which they would have to compete, leaving them at a competitive disadvantage in the NEM.
- There was nothing to prevent a stand-alone distribution business from seeking a retail licence in another NEM jurisdiction and then operating that retail business in Tasmania in conjunction with the distribution business.
- The recommended separation would have imposed additional costs, which, in the context of the prevailing privatisation policy, was expected to lead to a lower sale price for the distribution and retail businesses.

2. National Competition Policy Review of the Structure of the Hydro Electric Corporation's Generation & System Control Function's – Final Report (the Garlick Report) May 1999

The prospective development of Basslink, discussed in Section 4.2.2, and the State's entry into the NEM, discussed in Section 5.2, were seen to facilitate the introduction of competition into what was at that time the HEC's monopoly generation business. This provided the trigger under the NCP Agreement for a review of the HEC's generation activities and system control function.

The Garlick Report was "required to investigate and make recommendations to the Tasmanian Government on the appropriate structure of the Tasmania's generation sector and the arrangements for system control in preparation for the competition that will be introduced with Basslink and the State's entry into the NEM."¹⁶

The Report identified that three independent trading generators, not necessarily requiring structural change to the physical generation business, in addition to Basslink, should deliver a workable level of competition and competitive price outcomes. It was proposed that each trader be backed by a generating portfolio to comprise a storage hydro scheme with a run of river scheme, with the suggested groupings being¹⁷:

- HYDRO 1 – Great Lake and Pieman – 857 MW and 406 MW avg yield;
- HYDRO 2 – Gordon and Mersey Forth – 740 MW and 352 MW avg yield; and
- HYDRO 3 – Derwent and King – 666 MW and 346 MW avg yield.

This grouping would result in a portfolio of similar size and energy yield and each would have a broadly similar energy capability as a 300 MW Basslink.

¹⁶ The Garlick Report page 3.

¹⁷ The Garlick Report page 48.

The Report noted that the HEC's submission to the review placed particular emphasis on the need to maintain firm yield in the hydro system and asserted an estimated 5 to 7 per cent reduction in firm yield as a result of the proposed structure. However, the Review Team concluded that a reduction in firm yield, if it did occur, was not a critical issue as Basslink would allow replacement energy from other regions of the NEM.¹⁸

The Report also recommended the creation of an independent system controller outside the HEC. The Government accepted this recommendation, with the system control function transferring to Transend Networks on 1 July 2000.

The Government did not accept the recommendation to create three independent trading generators within the HEC parent entity and subsequently retained the HEC as a single generation and trading business.¹⁹ It was the Government's stated view of the time that "...the competitive elements of the NEM and the resultant consumer benefits would deliver greater long term benefits to Tasmania than any benefits arising from disaggregation of Hydro Tasmania". In reaching this conclusion the Government took into account the negative impact alternate generation structures would have had on:

- the ability of the State to secure Basslink, and therefore, participate in the NEM²⁰;
- the ability of the Tasmanian hydro-generation sector to compete in the NEM and the ability of the State to capture the benefits of Basslink;
- security of supply in the hydro-system; and
- efficiency gains and customer benefits arising from Basslink and NEM entry relative to those available from disaggregating the integrated generation business.

As part of the broader work program, the Panel will seek to understand whether the Government's objectives for the disaggregated entity structures have been achieved.

¹⁸ The Garlick Report page 48 and 49.

¹⁹ Information for this section sourced from the report 'Meeting Tasmania's Energy Needs for the 21st Century – A Competitive Future' November 2000 Appendix 4.

²⁰ The Government's policy position that Basslink would be a private sector investment. Developers' preferred development strategy was to pursue the project as a Market Network Service Provider under the National Electricity Code. Given the scale of the investment and the uncertain returns available from the MNSP model, Basslink developers required a counter-party with sufficient scale and financial capacity to match the investment required to deliver the project.

The key drivers for the market structures Tasmania has today

As identified above, a number of structural separation options were considered by Government during the late 1990s. Reviewing the available documentation, the principal stated rationales for the structure of the Tasmanian electricity sector were:

- **Splitting of HEC** – NCP and the desire to pursue market based competition outcomes. Separating natural monopoly elements (transmission and distribution) from contestable activities (generation and retail) was a central requirement. Further, COAG requirements for entry into the NEM included the structural separation of transmission from generation.
- **A single transmission business and an integrated distributor/retailer** - the Directions Statement strategy of withdrawing equity from the HEC by selling or leasing the transmission and distribution/retail business and using the proceeds to retire General Government debt and to fund new initiatives.²¹ This resulted in the bundling of distribution and retail to create a stand-alone entity with sufficient value in the market.
- **A single integrated hydro generator and trader** – maintaining the productive capacity of the hydro system, securing Basslink and best positioning Tasmania's generation sector for competition in the NEM.

4.2. The Development of Supply Options

The Tasmanian Government's framework for the development of energy choice was founded upon the introduction of natural gas to the State (via the Tasmanian Natural Gas Project) to provide inter-fuel competition and the introduction of a competitive wholesale electricity market through interconnection with the NEM via Basslink.

These two strategies were linked through the then-anticipated conversion of the Bell Bay Power Station to gas, which provided the foundation customer for the development of the gas project. In addition, other energy initiatives including the development of wind resources and the introduction of competition between electricity and gas in the broader energy market were also important considerations in the overall 'market design'.

4.2.1. The Tasmanian Natural Gas Pipeline and the gas distribution network

Natural gas has provided some Tasmanian industry, businesses and residents with an alternative to electricity, coal, wood and other energy sources. It also provided a new energy source for electricity generation.

²¹ 'Directions Statement – Tasmania's Future Energy Strategy' April 1997 page 11.

Consistent with national electricity market reforms, under the NCP gas reform arrangements a National Third Party Access Code for Natural Gas was finalised in late 1997. Tasmania was a signatory to the National Gas Pipeline Access Agreement (NGPAA) applying a uniform national framework to access natural gas transmission pipelines between and within jurisdictions, at the 7 November COAG meeting. Although at the time of signing Tasmania did not have an established natural gas industry, the introduction of natural gas to Tasmania was a key feature of the Government's stated energy policy.²²

In order to comply with the NGPAA, the Government introduced the following legislation:

- the *Gas Act 2000* was enacted on 20 December 2000 to regulate the distribution and retailing of gas and to provide for safety and technical standards for gas installations and gas appliances;
- the *Gas Pipelines Act 2000* was enacted on 20 December 2000 to facilitate the development of a natural gas supply industry and to require that pipelines and pipeline facilities in Tasmania are constructed, maintained and operated to high standard of safety and in a manner that protects people and property;
- the *Gas Pipelines Access (Tasmania) Act 2000* was enacted on 5 April 2001 to apply the National Third Party Access Code for Natural Gas Pipeline Systems in Tasmania. On 1 July 2008, this Act was repealed by the *National Gas (Tasmania) Act 2008* applying National Gas Law (as set out in the Schedule to the *National Gas (South Australia) Act 2008 (SA)*) and establishing the framework to enable third parties to gain access to natural gas pipeline services; and
- on 20 June 2001, GPOC was appointed as the Tasmanian Gas Regulator under the Gas Act.

Following an investigation of the potential of the Yolla gas field in Bass Strait that determined that reserves were too low for commercial development, in 1997 the Tasmanian Government conducted an Expression of Interest process for the development of a natural gas supply to Tasmania.

In May 1998, the Government announced the selection of Duke Energy as the preferred developer of natural gas supply to Tasmania. Under the Memorandum of Understanding, Duke Energy was required to undertake a feasibility study for the potential to develop a natural gas industry in the State and report back to the Government in early 1999. This study was closely linked to a separate proposal to construct a magnesite mine and associate smelter in northern Tasmania, potentially

²² 'Directions Statement – Tasmania's Future Energy Strategy' April 1997 pages 13-14.

providing the necessary initial base load. Duke Energy subsequently expanded its proposed project to include the supply of gas to existing industries with transmission pipelines providing gas to potential customers in the Bell Bay area, the North West Coast and the South, rather than being based on a single foundation customer. The study included the conversion of the Bell Bay Power Station to gas and the reticulation of gas to the household sector.

The Tasmanian Natural Gas Pipeline (Transmission)

On 6 April 2001, the Tasmanian Government entered into a Development Agreement with Duke Energy to supply gas from Victoria to Tasmania. The Tasmanian Natural Gas Pipeline (TNGP) was a combination of sub-sea, 305 km connecting Longford in Victoria and Five Mile Bluff in Tasmania, and onshore, 430 km running from Five Mile Bluff to Port Latta in the north-west and Bridgwater in the South, gas transmission pipeline. Gas was to be sourced from ESSO/BHP under a long term contract.

The Development Agreement provided for the reticulation and retailing of natural gas to smaller commercial, industrial and residential customers by one or more parties other than Duke Energy.

In mid-December 2002, the Tasmanian Natural Gas Pipeline (TNGP) was commissioned at an estimated cost of \$440 million (in 2002 dollars) and operated through DEI Tasmania Holdings Pty Ltd. Foundation customers included the Bell Bay Power Station, Australian Bulk Minerals (Port Latta) and Comalco Bell Bay (now Rio Tinto Alcan). In March 2003, the first stage of the BBPS gas conversion (Unit 1 with a capacity of 120 MW) was completed by Duke Energy at its cost.

On 23 April 2004, Alinta (a West Australian based energy company) acquired Duke Energy's assets in Australia and New Zealand, including the TNGP. Subsequently, on 31 August 2007, Babcock and Brown Infrastructure (BBI) acquired ownership of the TNGP and Tasmanian distribution networks through the Alinta takeover.²³ In 2011 the asset owner is Tasmanian Gas Pipeline Pty Ltd (ultimately owned by Brookfield Infrastructure Partners LP). The pipeline and associated assets are managed and operated by Tas Gas Networks on behalf of the asset owner.

It is understood that there remains significant spare capacity in the TNGP at the present time.

The Tasmanian Gas Distribution Network

In addition to the gas transmission project, the Tasmanian Government facilitated the development of gas distribution and retailing in Tasmania. In August 2001 and under the provisions of the National Gas Code, the Government launched a tender

²³ Note that Babcock and Brown Power (a separate but related entity) acquired ownership of Alinta's Tasmanian power station interests through the same transaction.

process to award a five-year exclusive gas distribution franchise. However, the tender process terminated without result on 25 September 2002 and the Government subsequently entered into bi-lateral discussions with multiple parties. On 23 December 2002, the Government announced Powerco Ltd as its strategic alliance partner for the gas distribution network.

In April 2003, the Tasmanian Government entered two development agreements with Powerco Ltd (through Powerco Tasmania Pty Ltd) for the construction and operation of gas distribution networks:

- 30 April 2003 – MOU Stage 1 Development Agreement to develop the backbone network fronting 23 foundation customers. The Tasmanian Government committed \$8 million towards development costs with a further commitment of \$1.2 million to provide the backbone network to Longford. Construction for Stage 1 began in October 2003 and was completed in July 2005 with 100 km of gas pipeline laid out in the urban areas of Hobart, Launceston, Longford, Westbury, Bell Bay, Wynyard and Devonport.
- 30 September 2003 – MOU Stage 2A Development Agreement for a major distribution rollout to front 38,709 properties in the areas of Hobart, Launceston, Devonport and Burnie. The Tasmanian Government committed \$46 million toward development costs. Construction for Stage 2A began on March 2005 and was completed in April 2007 with a further 617 km of gas pipe laid out across Hobart, Launceston, Burnie and Devonport. The distribution network now fronts 43,400 properties – exceeding the original target set out in the MOU (Hobart: 26,500, Launceston: 8,700, Devonport: 7,100 and Burnie: 2,000).

A proposed Stage 2B to extend the distribution network to front 100,000 residential properties was not progressed.

The Tasmanian Government contributed \$56 million in total toward the Tasmanian gas distribution network. Tas Gas Networks has invested over three times this amount in the same asset base.²⁴

On 10 July 2003, the then Minister for Economic Development, Energy and Resources made an order under Section 30(1) of the Gas Act granting Powerco Ltd a limited five year exclusive franchise for the distribution of natural gas in Tasmania. With the expiry of that franchise, it is possible for multiple parties to own and operate parts of the distribution network, should a party other than Tas Gas Networks seek to extend the existing network.

²⁴ Tas Gas Networks.

On 2 March 2009, Powerco Tasmania Pty Ltd changed its name to Tas Gas (Network and Retail) following the sale of 50 per cent of its parent company, Powerco Ltd, by BBI to Queensland Investment Corporation. Tasmanian business operations remained unchanged. In 2011 Tas Gas Networks and Tas Gas Retail are owned by Brookfield Infrastructure Partners LP.

There are currently 8,700 customers connected to the natural gas network.

4.2.2. Physical Interconnection of the Tasmanian and Victorian Transmission Networks - Basslink

Throughout the development of the NEM arrangements during the 1990s, Tasmania's commitment to participate in the national market was conditional on the physical interconnection of the Tasmanian and Victorian networks. The potential for an interconnection between the Tasmanian and mainland power systems had been subject to enquiry since the early 1980s.

In 1991, the Tasmanian and Victorian governments commissioned the Basslink Feasibility Study Report undertaken jointly by the State Electricity Commission of Victoria and the HEC. The study reported that an interconnection would provide net economic benefits by enabling the trading of energy and the deferment of new generating plant in both Tasmania and Victoria. However, around this time the Victorian Government had commenced restructuring its electricity entities and developing State based electricity market arrangements deferring the progression of interconnection.

Following a review of the State's long term energy options²⁵, in April 1997 the Tasmanian Government announced its commitment to Basslink as a key plank of the State's energy strategy.

In facilitating Basslink, the stated goals of the Government included:

1. Improving the security of the electricity supply and reducing the exposure to drought conditions in Tasmania;
2. Providing Tasmania with access to electricity at prices determined competitively in the NEM;
3. Providing a means by which electricity generated in Tasmania can be sold into the NEM and providing a new source of peak generating capacity in the NEM; and

²⁵ Electricity in Tasmania – A position paper on the current market situation and future prospects – April 1997 (Office of Energy Planning and Conservation) – page iv “Basslink is the only option which offers the opportunity to manage both supply needs and demand risks at reasonable cost. It also provides the opportunity to introduce open competition, and its attendant customer benefits, into the Tasmanian electricity market.”

4. Ensuring that, through a competitive selection process, the cost of Basslink to users is minimised.

In February 1998, the Government established the Basslink Development Board (BDB) to facilitate the establishment of Basslink as a commercial opportunity in the NEM and established a competitive selection process for the preferred proponent. A summary of the selection process was provided by the Government in the document "Meeting Tasmania's Energy Needs for the 21st Century – A competitive future" as:

- A call for Expressions of Interest was released in July 1998 and closed in September 1998, with 14 Expressions of Interest received.
- The BDB short-listed four proponents to submit proposals for Basslink in mid-November 1998. However, one consortium subsequently withdrew by mutual agreement with the BDB.
- The Project Brief for Basslink was released to proponents in early December 1998 and proponents submitted proposals for Basslink on 14 October 1999.
- These proposals were evaluated and a final short-list of two proponents was selected in late November 1999.
- The two short-listed proponents then finalised their contractual negotiations with Hydro Tasmania, the State and other parties to the high degree of commercial certainty required by the BDB, for inclusion in their revised proposals submitted on 4 February 2000.
- The revised proposals were subject to a final evaluation by the BDB in February 2000 and the BDB's recommendation on the preferred proponent was provided to Government on 25 February 2000. The preferred proponent, National Grid International PLC (National Grid) was announced by the Government on 28 February 2000.

While the Government set a minimum link capacity of 200 MW, other issues such as the route and whether the link was to be developed as a regulated or non-regulated model under the National Electricity Code (NEC) were left to the proponent to determine.²⁶

²⁶ The difference between a regulated and non-regulated (MNSP) interconnectors is that the costs of regulated interconnectors are recovered from customers via transmission charges whereas MSNP interconnectors bears the cost and earns revenue from the market via Inter Regional Revenue settlements.

National Grid used Basslink Pty Ltd, a wholly owned subsidiary, as the vehicle for progressing Basslink. Basslink was developed as a Market Network Service Provider (MNSP) under the NEC, rather than as a regulated interconnector. In addition to the high voltage direct current (HVDC) cable, a fibre optic communications cable was also installed providing Tasmania with an alternative communications link to the existing Telstra cable.

Given the market risks arising from the trading arrangements of a MNSP, National Grid negotiated the Basslink Services Agreement (BSA) with Hydro Tasmania to underpin the commerciality of the project. At a high level, the BSA transfers all the market-based Inter Regional Revenue (IRR) payments²⁷ to Hydro Tasmania in return for the payment of a monthly facility fee which is adjusted up or down depending on such things as the availability of Basslink and based on spot price outcomes in the Victorian region of the NEM. The term of the Agreement is 25 years from commissioning with the option for Hydro Tasmania to extend for a further 15 years.

The Panel is developing a more detailed understanding of the operation of the BSA and its implications for competition in Tasmania as a key element of the Review.

The Basslink interconnector is currently able to flow southward at 480 MW and northward at 500 MW on a continuous basis, although it can operate at up to 630 MW northward for limited periods.

Basslink's trading capacity is reliant on the System Protection Scheme (SPS) and associated market arrangements for load and generation shedding. Without these arrangements, the transfer capacity of Basslink would be reduced. This interconnectedness of market arrangements with transfer capacity is a matter the Panel is seeking to understand further in relation to the capability of Basslink to act as an effective substitute for Hydro Tasmania.

The Panel has identified Basslink as a key infrastructure decision that will be investigated in more detail as part of the Review. This investigation will evaluate the extent to which the Government's objectives for the project have eventuated, based on factors such as Basslink energy flows, its role in delivering competition outcomes, financial returns and the delivery of broader business case outcomes.

²⁷ Inter Regional Revenue (IRR) is the revenue Basslink earns from the market, being the value of price differences multiplied by the volume of electricity flowing across the link.

4.2.3. Conversion of the Bell Bay Power Station to Natural Gas and Separation from Hydro Tasmania

As a result of power shortage events during 1967-68, the Bell Bay Power Station (BBPS) was developed to provide system security and drought relief in Tasmania's hydro based system.²⁸ Unit 1, a 120 MW oil fired generator, was commissioned in 1971.

By this time, export-reliant bulk customers had cut production and power consumption as the world economy declined, which coincided with recovered water storages to between 70 and almost 100 per cent of capacity. This meant that at the time of its commissioning, the BBPS was not required to support the hydro system.²⁹ However, convinced the dip in bulk power demand was temporary, the HEC sought \$14.8 million³⁰ to complete the BBPS by installing its second 120 MW generating set.³¹ Unit 2 was commissioned in 1974. Both units were run intermittently in response to hydrological variability over the subsequent 30 years.

The Development Agreement between the Tasmanian Government and Duke Energy, signed in April 2001, included the conversion of the BBPS Unit 1 from oil to gas fired generation. In addition, Duke Energy negotiated arrangements to maintain and operate BBPS under contract to Hydro Tasmania.

Unit 1 was converted by Duke Energy to run on gas in March 2003 and Unit 2 was similarly converted by Hydro Tasmania in 2004. In 2006, three 35 MW gas turbines (Pratt & Whitney FT8 open cycle units) were installed in light of hydrological inflows and concerns about the State having access to sufficient capacity ahead of Basslink commissioning. The age and reliability of the existing BBPS units was of significant concern at that time.

The repowered BBPS was a key element in the Tasmanian Government's proposed NEM entry arrangements, given its potential for further conversion to a more efficient combined cycle plant and its ability to provide on-island large-scale generation competition to Hydro Tasmania. Conditional on the State's entry into the NEM, the Government committed to separate the BBPS from Hydro Tasmania, through the establishment of a new State-Owned-Company. The *Bell Bay Power Station Bill 2004* was put to Parliament in September 2004 with the purpose of establishing Bell Bay Power Pty Ltd as an independent generating business, separate to Hydro Tasmania. The separation was to be effective with the commissioning of Basslink (at that time anticipated to be late 2005).

²⁸ Lifeblood – Tasmania's Hydro Power page 232 "Legislation authorising the expenditure of ... and \$20.5 million on the Bell Bay Thermal Power Station was adopted without amendment by both Houses of Parliament on 21 August 1967..."

²⁹ Ibid pages 253

³⁰ Equivalent to \$130 million today.

³¹ Ibid page 255

It is understood that the Tasmanian Natural Gas Pipeline Development Agreement provided for the establishment of a joint venture company between the Hydro Tasmania and Duke Energy, to operate the BBPS Unit 2 from 1 January 2006. Under this arrangement, Unit 1 would continue to be owned and operated by the BBPS as a 'stand by' unit while Unit 2 was planned to be repowered to a 220 MW combined cycle gas turbine and operated competitively in the market. The Panel understands that after extensive negotiations between the parties, no landing could be reached on the commercial basis for the development of the joint venture, and those arrangements were not progressed.

On 23 April 2004, Alinta acquired the Australian and New Zealand assets of Duke Energy, including the TNGP and interests in the BBPS.

As an alternative to redeveloping the BBPS site through the proposed joint venture arrangements, Alinta developed a proposal to construct a new power station, the Tamar Valley Power Station (TVPS), on a site adjacent to the BBPS on a stand-alone basis (ie not involving a joint venture with Hydro Tasmania). This project was announced in October 2006 following agreement between Alinta and Aurora Energy to an energy contract, which is understood to have underpinned the financial viability of the development.

As discussed later in this Paper at Section 5.2, in preparation for NEM entry the Tasmanian Government submitted transition arrangements to the ACCC for authorisation under the Trade Practices Act. These included authorisation of a vesting contract between Aurora Energy and Hydro Tasmania for the non-contestable load. As part of the Vesting Contract Determination in the ACCC authorisation, from the commencement of Baslink operation the volume of the vesting contract was reduced to 90 per cent and provided Aurora Energy with the option of reducing this further to a minimum of 75 per cent of the non-contestable load (this option was non-reversible). This requirement to source at least 10 per cent of its energy from an entity that wasn't Hydro Tasmania was an important driver of Aurora Energy's arrangements with Alinta.³²

In March 2007, Hydro Tasmania agreed to sell the BBPS site to Alinta. The sale included the three 35 MW FT-8 open cycle gas turbines as back-up and peaking plant. Alinta subsequently upgraded these turbines to 40 MW capacities. The sale took place in April 2007.

³² Aurora Energy.

As part of the agreement, Hydro Tasmania agreed to decommission and dismantle the BBPS plant when the TVPS was commissioned. Hydro Tasmania has advised the Panel that the decommissioning proposal was driven by a combination of the condition of the BBPS, particularly its projected reliability, limitations on exhaust gas emissions within the Tamar Valley and the fact that it could not commercially compete in the market once the new TVPS was commissioned. The BBPS was retained during the construction of the TVPS as thermal support to the hydro system, which was under stress from low inflows, and was decommissioned on 31 March 2009.

As part of the sale agreement, Hydro Tasmania's Pipeline Capacity Agreement with Alinta³³, under which Hydro Tasmania paid an annual fee of \$8.6 million to transport 10 petajoules of gas, was amended to terminate on 31 March 2009 (the anticipated date of commissioning TVPS), rather than the original date of 2017. The BBPS acquisition value to Alinta was announced as \$75 million comprising \$30 million upfront payment and half the nominal value of the pipeline capacity agreement.

4.2.4. New Gas Fired Generation – Tamar Valley Power Station (TVPS)

In August 2007, Alinta commenced the construction of the TVPS project. Soon after, the project was acquired by Babcock and Brown Power (B&BP) as part of the broader acquisition and distribution of Alinta's assets. Babcock and Brown Infrastructure (BBI), a separate but related entity to B&BP, acquired full ownership of the TNGP.

Due to a range of factors, B&BP reached a point in the project where it argued it could no longer complete the project and elected to pursue a divestment strategy.³⁴ On 19 August 2008, the Tasmanian Government announced that it had signed a Heads of Agreement with B&BP to purchase the TVPS. The Heads of Agreement was conditional on the approval of the Tasmanian Parliament (through the *Tamar Valley Power Station Bill 2008*).

The stated basis of the Tasmanian Government's decision was to maintain a secure supply of electricity in the State. The BBPS site, some generation assets and gas supply had been sold to Alinta in March 2007. In particular, the Government noted:³⁵

³³ This agreement was one of the suite of contracts agreed by Hydro Tasmania and Duke Energy International to underpin the TNGP. The Panel understands that the transfer of this capacity agreement to the proposed Hydro Tasmania/Duke JV was anticipated as a part of those arrangements, and that its status in the context of the JV not proceeding was legally unclear.

³⁴ "Despite initially expecting to secure project finance to fund completion, Babcock & Brown Power has been unable to secure the additional debt funding necessary to proceed. It has also been unable to sell the project due to tight time constraints brought about by the credit crisis, technical issues and complex contractual relationships with State-owned electricity businesses. Babcock & Brown Power have proposed that the Tasmanian Government consider purchasing the Tamar Valley Power Station" Ministerial Statement, Mr Bartlett 19 August 2008 (Hansard).

³⁵ Ibid.

“The Government has been advised that it is likely that there will be a threat to energy security this calendar year. With the continued importing of energy through Basslink and the running of existing Bell Bay thermal units, system security should be maintained through 2009. Given the near-record low level of energy in Hydro Tasmania’s storages, this advice is subject to three very important provisos: that no significant hydro or gas thermal generation plant failure occurs, that Basslink remains virtually continuously in service, and that the State does not experience an extreme low inflow 2009. It in this context the Government has an imperative to do everything within its power to support the timely commissioning of the new Tamar Valley Power Station at Bell Bay.”

The Panel interprets the Government’s decision as one of risk management or insurance. In considering the combined potential risks of an extended Basslink outage, prolonged failure of the Bell Bay Power Station and/or a continuation of extreme low rainfall, the Government came to the view that having a partly completed Tamar Valley Power Station idle was not acceptable to it. The Panel is investigating how the Government reached this decision as a part of the Review.

Following Parliamentary approval of the Tamar Valley Power Station Bill, Aurora Energy was directed by the Government to purchase the power station, which it did through acquiring Alinta Energy (Tamar Valley) Pty Ltd, which was renamed Aurora Energy (Tamar Valley) Pty Ltd (AETV) and is now as a wholly owned subsidiary of Aurora Energy.

The Tasmanian Government provided \$100 million equity to part finance the cost of acquisition and construction and the balance of \$260 million was debt funded by Aurora Energy. In respect of these borrowings the Treasurer provided a letter of comfort to Tascorp to support the overall level of debt that would be held by the company.³⁶

The power station was completed and commissioned on 26 October 2009. It contains Tasmania’s largest single power-generating unit, the combined cycle gas-turbine (208 MW) with back up from a Rolls Royce open cycle gas turbine (58 MW) the three FT-8 (40 MW each) acquired from the BBPS and previously known as Bell Bay Three. TVPS has a total output capacity of 380 MW – 203 MW base load and 178 MW peaking.

Separate to the Direction to acquire, construct and operate the TVPS, Aurora Energy reached agreement with BBP to purchase a range of gas supply and electricity contracts on 13 January 2009. These contracts are central to the current operating regime for the power station and the Panel is seeking to understand them in more detail.

³⁶ Aurora Energy Government Business Scrutiny – Hansard 2 December 2010.

On 1 April 2009, Aurora Energy and AETV entered into a long term tolling agreement to underpin the commercial operation of the power station, under which Aurora Energy provides gas to the power station along with a fee for its conversion to electricity. It is understood that plant availability and reliability are the key drivers of the quantum of the fee paid. Aurora Energy retains the rights to trade that generation capacity in the NEM, and controls the production decisions of the power station.

4.2.5. Emergence of wind generation in Tasmania

The development of Tasmania's wind resources as new entrant generation was identified in the issues papers preceding the 1997 Directions Statement. At that time the wind generation sector was in its infancy in Australia. As discussed above, at that time the Government's new source entrant priorities were the development of Basslink and bringing natural gas to Tasmania.

Hydro Tasmania was at the forefront of wind generation in Tasmania with the initial project located at Huxley Hill on King Island. Three turbines with the combined capacity of 0.75 MW commenced operation in February 1998.

By early 2000, Hydro Tasmania, through its subsidiary company Roaring 40s Renewable Energy Pty Ltd (Roaring 40s), had commenced the development of a much larger wind farm on the Woolnorth property in the North West of Tasmania. This project was developed in three stages across two sites, Bluff Point and Studland Bay. Stage One Woolnorth, comprising six 1.75 MW wind turbines was completed in August 2002. Stage Two, comprising thirty one 1.75 MW wind turbines was completed in June 2004 and Stage Three, the Studland Bay site comprising twenty five 3 MW turbines was completed in May 2009. Total capacity at Woolnorth is 140 MW.

Even with the Woolnorth projects still under development, Hydro Tasmania, through Roaring 40s, was investigating the potential development a number of other sites including Mussleroe (168 MW capacity) on Cape Portland in the North East and Heemskirk (160 MW capacity) on the West Coast. Since then, the Mussleroe project has progressed, but has not yet reached commercial close. In 2008, the Tasmanian Government facilitated an equity transfer from Transend Networks to Hydro Tasmania, of which \$50 million was allocated to facilitate construction of the Mussleroe project.³⁷

In 2005, in part as a response to national policy on renewable energy development in Australia, Hydro Tasmania sought growth opportunities in the Asia region. Hydro Tasmania realised part of its equity in Roaring 40s through a joint venture

³⁷ "It is Roaring 40s but the funding aspect as far as Hydro is concerned in the money that was transferred from Transend was designed to facilitate the actual construction of the Musselroe wind farm." Minister Llewellyn 22 June 2009 (Hansard) and Ministerial Statement – Hydro Tasmania Review of Finances 27 May 2008 (Hansard).

arrangement with China Light and Power (CLP). CLP acquired its interest in Roaring 40s for a cash subscription of \$110 million into the joint venture, with that subscription being used to fund Roaring 40s further developments. The new joint venture company expanded the development of wind opportunities outside of Australia (in particular into China and India).

In April 2009, Roaring 40s refocused its business in Australia and Asia through the sale of its China projects to CLP. Hydro Tasmania JV share received in total \$81.8 million on an investment of \$67.8 million.³⁸ This equity was retained in Roaring 40s for reinvestment in renewable energy projects in Australia with, at the time, the Musselroe wind farm a priority project.³⁹ CLP interests in Roaring 40s are managed through its subsidiary company, TRUenergy.

On 13 April 2011, Hydro Tasmania announced that it was in discussions with CLP about the future of the Roaring 40s joint venture.⁴⁰

In addition to wind development by Roaring 40s, current private development proposals include White Rock Wind Farm, a 220-turbine 400 MW farm located on Robbins Island (North-west Tasmania); and Cattle Hill Wind Farm, situated on the eastern shore of Lake Echo (central highlands) and estimated to be constructed between 50 and 75 3 MW turbines.

In September 2009, the Tasmanian Government announced the establishment of the Tasmanian Renewable Energy Investment Board to proactively promote the development of renewable energy in Tasmania. The Board is currently preparing a Renewable Energy Development Strategy for Government.

³⁸ \$66 million from China portfolio and \$15.5 million from the Khandke wind farm in India.

³⁹ Hydro Tasmania media release 7 April 2009.

⁴⁰ Hydro Tasmania media release 13 April 2011.

5. Competition and Customer Choice

Much of the reform of Tasmania's electricity market discussed in this paper has facilitated Tasmania's participation in the NEM. The central feature of a national market is the role of market prices in allocating resources and informing investment decisions. This is a significant shift away from centralised government-based investment and pricing decisions that existed within jurisdictions previously. Consequently, a competitive market at wholesale and retail levels is expected to offer customer choice and deliver efficient pricing.

5.1. The National Electricity Market

The NEM allows trade in electricity between generators and retailers/wholesale traders and wholesale customers, both within and between participating jurisdictions as well as facilitating competition at a retail level. Further information on the operation of the NEM can be found in the Panel's companion paper 'Tasmania's Energy Sector – An Overview' available on the Panel's website at www.electricity.tas.gov.au and the Australian Energy Market Operator's website at www.aemo.com.au.

The development of the NEM had been discussed between the Governments of New South Wales, Queensland, Victoria, South Australia, Tasmania and the Australian Capital Territory since the early 1990s. This involved reform of the structure, rules and regulation for the delivery of energy to customers.

National Electricity Law was enacted to provide a legal framework for the NEM with South Australia being the lead legislator under the *National Electricity (South Australia) Act 1996 (SA)*. The NEM commenced operations on 13 December 1998 across NSW, Victoria, South Australia, ACT and Queensland, although Queensland did not become physically connected to the NSW transmission system until 14 February 2001. Tasmania adopted NEM arrangements on 29 May 2005, and adopted the NEM arrangement ahead of physical interconnection through Basslink.

5.2. Adoption of NEM Arrangements in Tasmania

As discussed previously, Tasmania had been an early participant in national electricity market reform with the intention of becoming a participating jurisdiction following the construction of an interconnector between Tasmania and Victoria. The adoption of NEM arrangements provided Tasmania with a well understood national framework for the operation of the electricity market within the State.⁴¹

⁴¹ It also provided the regulatory certainty required to secure the Basslink project, as without the NEM arrangements applying in Tasmania, the interconnector could not be established as either a 'regulated' interconnector or a MNSP.

In preparation for NEM entry, the Tasmanian Government submitted transition arrangements to the ACCC for authorisation under Part VII of the *Trade Practices Act 1974*. The transition arrangements included technical derogations to the National Electricity Code and a vesting contract between Aurora Energy and Hydro Tasmania to support the roll-out of retail contestability. Although not forming part of the ACCC authorisation, the transition arrangements were supported by an Information Paper titled 'Meeting Tasmania's Energy Needs for the 21st Century' which set out the Tasmanian Government's Energy Reform Framework.

During the authorisation process, concerns were raised by interested parties and the ACCC regarding features of the energy reform arrangements, particularly relating to interstate trading arrangements, with possible implications for the development of competition in Tasmania's electricity supply industry.⁴² In particular:

- Uncertainties in how Basslink would be bid and the potential for Hydro Tasmania to instruct BPL to bid Basslink to impact on competition in Tasmania and in Victoria; and
- A potential lack of inter-regional price risk management tools in the early years of the market, with consequential impacts on the development of competition in Tasmania.

Consequently, the Tasmanian Government proposed a number of enhancements to the 'Energy Reform Framework' to facilitate the development of competition in the Tasmanian electricity generation and retail markets. In November 2001, and in light of the package of associated arrangements proposed by the Tasmanian Government (including the enhanced arrangements), the ACCC authorised the transitional arrangements required to allow Tasmania to join the NEM and agreement was reached with other NEM jurisdictions in December 2001 on Tasmania's entry to NEM.

To implement the enhancements to the 'Energy Reform Framework', a Ministerial Notice was issued under Section 36 of the Electricity Supply Industry Act on 31 July 2005 with the intent to:

1. Limit the manner in which Hydro Tasmania can instruct or request BPL in relation to bidding for Basslink capacity, such that Hydro Tasmania must not specify:
 - negative transport bids in either direction; or
 - positive transport bids for southward flows, except in the following limited circumstances:

⁴² Authorisation of Tasmania's NEM Entry Arrangements – Enhancements to Tasmania's Energy Reform Framework June 2001.

- o technical (including environmental) reasons associated with the link;
- o short-run marginal costs incurred in operating the link; and
- o to preserve Basslink's dynamic rating.⁴³

2. Develop an Import IRR Release Framework (IRF) such that:

- In the first instance, Hydro Tasmania is encouraged to seek private commercial arrangements (long or short term) under which some or all of the import IRRs are sold directly to a third party or are used as a component of another risk mitigation instrument.
- To the extent private commercial arrangements do not result in sufficient import IRRs being sold, a 'safety net' auction to ensure that import IRRs are made available to the market.

There was low demand for purchasing import IRRs through the auction process. The Ministerial Notice was revised in May 2008 to remove the auction requirement and now requires Hydro Tasmania to:⁴⁴

- Publish on its website high-level information on inter-regional products and pricing;
- Provide a semi-annual confidential report to the Minister on contract market activity and the development of the inter-regional market; and
- Publish on its web-site a semi-annual report on inter-regional trading.

In 2008, after consultation with the AER, the circumstances in which Hydro Tasmania was permitted to specify transport bids were expanded to include some situations where there were counter-price flows on Basslink. This was in response to Basslink being forced in significant counter-price flows in unusual, but recurring, NEM dispatch dynamics, which exposed Hydro Tasmania to large negative inter-regional residues.⁴⁵ The Panel is investigating this matter as part of the Review.

⁴³ Dynamic rating enables Basslink to run above continuous capacity up to 630MW for periods of time.

⁴⁴ FRC Public Benefit Assessment – Final Report page 27.

⁴⁵ Source Hydro Tasmania.

5.3. Introduction of Retail contestability

In addition to improving energy security, a key reason for Tasmania's participation in the NEM was to facilitate the introduction of retail competition.

The Tasmanian Government has introduced retail competition under a phased approach, similar to that undertaken in other NEM jurisdictions. The contestability timetable anticipates full retail competition at some point in the future, but this is heavily reliant on effective wholesale pricing outcomes in the generation sector.

The *Electricity Supply Industry (Contestable Customer) Regulations 2005*, made under the Electricity Supply Industry Act, took effect on 3 August 2005, commencing the roll-out of retail contestability.

Table 1 - Contestability timetable in Tasmania⁴⁶

	Date	Annual Energy Consumption (GWh/yr)	Indicated spend per annum	Number of Installations	Indicative type of customers
Tranche 1	1 July 2006	≥ 20 GWh/yr	\$1 million+	19	Mineral processors/heavy manufacturing plants
Tranche 2	1 July 2007	≥ 4 GWh/yr	\$250,000+	46	Food processing plants and multi-story office complexes
Tranche 3	1 July 2008	≥ 0.75 GWh/yr	\$75,000+	330	Supermarkets, engineering workshops and smaller commercial complexes
Tranche 4	1 July 2009	≥ 0.15 GWh/yr	\$25,000+	660	Fast food restaurants, service stations and large offices
Tranche 5a	1 July 2011	< 0.15 GWh/yr	\$10,000+	3460	Small business customers
Tranche 5b	TBD				Households and small business

Customers who are not yet contestable continue to be supplied by Aurora Energy either through the regulated tariff or through Aurora PAYG.

Currently, there are five electricity suppliers licensed to retail in Tasmania:

- AGL Sales Pty Limited
- Aurora Energy
- Country Energy
- ERM Power Retail
- TRUenergy

AGL, Country Energy and TRUenergy have advised OTTER (which is the licensing authority in Tasmania) that they do not currently intend to offer market contracts to contestable customers who use less than 4 GWh per annum, that is, they are commercially focused on Tranche 1 and 2 customers.

⁴⁶ Aurora Energy Annual Report 2009-10 page 26.

The Panel understands that ERM Power Retail and Aurora Energy are the only active market participants in the smaller portion of the contestable market. The Panel also understand that ERM Power Retail's current business focus is on commercial and industrial customers (in Tasmania and nationally), and that at this time, it is not active in the residential market nationally.⁴⁷

5.4. Public benefit assessment of full retail competition (Tasmanian Energy Regulator)

When the Tasmanian Government made the decision to introduce phased retail contestability, it reserved the decision on extending contestability to the final tranche of customers pending the outcome of a public benefit assessment. In September 2007, under section 9 of the Electricity Supply Industry Act, the then Treasurer requested the TER to prepare a special report on the impact of full retail contestability on residential and small business customers in Tasmania. The TER reported in July 2008.

The TER noted that the full benefits of FRC will not be captured until there is active competition in the wholesale generation sector. This is because the cost of providing retail service is only a small component of the overall cost of electricity. For example, in Tasmania under the nominal regulated tariff the cost of retail is less than 8 per cent. Costs associated with the generating sector make up greater proportion of the total cost. For example under the nominal regulated tariff, the cost of energy is around 40 per cent.⁴⁸

The TER observed that in other jurisdictions, there had been active competition in the generating sector prior to FRC. Conversely, the Tasmanian wholesale market continues to be dominated by a large single generator and the potential for new entrant generators to enter the market is limited by slow demand growth and competition from interstate is limited by the lack of take-up in inter-regional trading from mainland generators.⁴⁹

The TER therefore recommended that the Tasmanian Government seek ways to ensure that the governance of the wholesale market is conducive to the development of competition in this sector.

“At a minimum, this should include a standing terms of reference for an independent review and report on the development of and impediments to competition in the Tasmanian wholesale and retail electricity markets. It could extend to ensuring transparency in pricing in the wholesale market and in offers of inter-regional risk management instruments. Further market

⁴⁷ ERM's website, and a presentation given by ERM Power at the Australian Energy Users Association Tasmanian Conference, 29 March 2011.

⁴⁸ Refer to the Panel's Discussion Paper 'Tasmanian Electricity Pricing Trends'.

⁴⁹ Note that AETV entered the market after the review was completed.

intervention may be required to support competitive conditions for new entrant retailer in the early stages of contestability."⁵⁰

These are key matters for the Panel's Review.

In relation to electricity supply industry matters, the TER recommended that:⁵¹

- The Tasmanian Government implements FRC progressively from 1 July 2010, commencing with extension of competition to all business customers. This included the creation of an additional customer class (50 MWh and 150 MWh), Tranche 5a, as a interim measure until the necessary systems and business processes are established; and
- The above recommendation is made together with proposals that the Government should take appropriate steps to ensure that the governance of the wholesale electricity market is conducive to the development of competition.

5.5. Post NEM-participation Regulatory Reform

A key feature of the national reform initiatives was to transition regulation from within businesses or government to independent authorities. This has seen the progressive transfer of regulation to the TER and the Australian Economic Regulator (AER), including the following milestones:

- In 2003, regulation of transmission was transferred to the ACCC commencing on 1 January 2004; and then subsequently to the AER from July 2005, which reflected Tasmania's intended participation in the NEM.
- On 1 January 2008 economic regulation of distribution transferred to the AER to have effect on 1 July 2012 following expiry of the current regulatory period. The next pricing determination, which will apply from 2012 will be undertaken by the AER. The investigation that will underpin the determination is underway with Aurora Energy due to make its submission to the AER by 30 May 2011.

In the absence of full retail contestability, there has been an ongoing need to establish price controls for electricity prices for non-contestable customers. There have been several changes in the roles of the Government and the TER in determining the wholesale electricity allowance that is factored into non-contestable tariffs.

⁵⁰ FRC Public Benefit Test – Final Report July 2008 page 2

⁵¹ Ibid page i

The changing role of the Tasmanian Government in setting the wholesale energy allowance that is included in tariffs for non-contestable customers is discussed in detail in the Panel's companion paper 'Tasmanian Electricity Pricing Trends'. In brief:

- While the TER had responsibility for regulating non-contestable tariffs, the Government, rather than the TER determined the wholesale energy allowance that underpinned non-contestable tariffs for the period 2008-2010. This reversed the arrangements from the mid 1990s that removed the Government from a price-setting role; and
- For the current regulatory period (1 July 2010 – 30 June 2013), the Government passed back to the TER responsibility for determining the wholesale energy allowance, and specified the methodology that it was to use in determining that allowance.

The June 2010 amendments to the Price Control Regulations also introduced new arrangements to provide the Treasurer with absolute authority to determine the terms and conditions of the contractual relationship between Aurora Energy and Hydro Tasmania for the supply of energy to non-contestable customers.

These powers were not seen to be required previously. The Panel understands that Aurora Energy and Hydro Tasmania agreed commercial arrangements that were consistent with the Government-determined wholesale energy allowance in the absence of the potential for the Treasurer's involvement. These powers have not yet been exercised, as Hydro Tasmania and Aurora Energy commercially resolved the commercial arrangements that underpinned Aurora Energy's non-contestable load for the current regulatory period.

In October 2009, Hydro Tasmania's bidding for frequency control ancillary services⁵² (FCAS) came under review from regulatory authorities, including the ACCC. After investigation and consultation, the TER utilised its powers under the Electricity Supply Industry Act to 'declare' the following services supplied by Hydro Tasmania to meet the local demand, given its concerns about Hydro Tasmania's market power:

- fast raise contingency frequency control ancillary service;
- slow raise contingency frequency control ancillary service; and
- delayed raise contingency frequency control ancillary service.

⁵² FCAS – Frequency Control Ancillary Services are required to maintain the frequency of the power system within the frequency operating standards determined by the Australian Energy Market Commission (AEMC). For more information on FCAS refer to the TER's 'FCAS Pricing Investigation Final Report' December 2010.

While Hydro Tasmania is free to bid FCAS capability as it see fit, the declaration provides for a fallback contract for market participants exposed to FCAS prices, with the pricing under the contract subject to regulatory parameters.

6. How has the Reform Process Delivered Policy Objectives – early impressions

Successive Tasmanian government's energy reform frameworks have had three primary policy objectives:

- Securing new source of supply to meet load growth, including natural gas both as an energy alternative and for gas-fired generation, Basslink, the development of renewable resources and co-generation.
- Mitigating the State's exposure to hydrological risk, which is related to, but different from meeting growing energy needs.
- Introducing greater competition and customer choice into the Tasmanian energy and electricity market to drive lower prices and to maintain a national competitive advantage for Tasmania's economic base.

The Reform Framework is centred on progressive transition to market-based arrangements – both to drive efficiency within the electricity sector and to introduce competition into the generation and retail sectors. The restructuring of the former HEC and adoption of NEM arrangements in Tasmania is central to this market based structure.

In 2011, the Tasmanian electricity sector has been operating within market-based arrangements for six years. This is an appropriate time to consider how the reform outcomes match the policy objectives. At a strategic level, the Panel is keen to understand whether the current market structure and associated regulatory arrangements are effective in delivered, delivering efficient price outcomes for Tasmanian customers and achieving the broad policy objectives stated by Government.

From early discussions with industry participants and a review of contextual information, the Panel is prepared to make some initial observations as to how the electricity market in Tasmania is functioning. The primary purpose of these observations is to stimulate discussion with interested parties and to commence the evidence gathering process that will underpin the Panel's more considered thinking on the extent to which the overall objectives have been achieved and the unintended positive and negative consequences of the key reform measures.

Although it is important to understand the basis for investment decisions and how efficiently projects were undertaken (which will be subject to other work by the Panel), ultimately it is the interaction of market structure and operation, regulation and the impact of broader government policy directions that will influence achievement of energy policy objectives.

6.1. The Development of Supply Options

Planned new sources of electricity and energy supply have been delivered with the natural gas transmission and distribution pipelines, physical interconnection to the Victorian market via Basslink and the construction of gas fired electricity generation (initially through the conversion of BBPS units, the addition of three new turbines and then construction of the TVPS). However, wind generation has not yet emerged as effective competition and at the residential level gas has not been delivered as extensively as anticipated and while some co-generation exists this is understood to be relatively limited.

In this sense, the Reform Framework has been relatively successful in delivering the physical supply options.

6.1.1. Introduction of natural gas

The Tasmanian Government's vision of facilitating the introduction of natural gas into the Tasmanian energy market has been achieved with the commissioning of the Tasmanian Natural Gas Pipeline in 2002. In addition, Stage 2A of establishing a distribution network fronting over 43,300 properties was complete in 2007. However, the preliminary expectation to extend this network to front over 100,000 residential properties has not progressed as anticipated.

There are currently 8,700 customers connected to the natural gas network.⁵³ While connection to major industrial and commercial customers has been successful, residential connections have been very slow.

The Panel is keen to more fully understand the potential for inter-fuel substitution and to establish the short and longer term opportunities for the relatively immature gas sector to reduce cost pressures in the electricity sector. In this regard the Panel would like to understand what substitution has already taken place, drivers of substitution and the full potential of gas as an energy alternative.

In addition, the Panel is seeking further evidence regarding the interplay between the gas and electricity regulatory arrangements in dealing with 'energy' constraints. For example, it has been put to the Panel that further uptake of gas (from the existing network or through additional network roll-out) might materially lower demand on otherwise constrained electricity distribution networks, delaying the need for additional capital spending on those networks.

Gas-fired electricity generation has eventuated, initially through the conversion of the BBPS and more recently with the construction of the TVPS. A key departure from the anticipated reform model is that this has occurred ultimately through public, rather than private, sector investment.

⁵³ Tas Gas Networks

6.1.2. Interconnection to the Victorian market (Basslink)

Similar to the introduction of natural gas, the Tasmanian Government's second major supply option, Basslink, has been delivered.⁵⁴ The hydrological risk management features of Basslink are discussed below.

What is less clear to the Panel is the extent to which the market-based goals for Basslink have been delivered, including:

- The effectiveness of Basslink in facilitating market competition in Tasmania from Victorian generators; and
- Providing trading opportunities for Tasmanian based generators.

From early discussions with market participants, it is understood that access to southbound IRRs through the auction arrangement has not facilitated inter-jurisdictional generation competition as anticipated by Government at the time NEP participation was being contemplated. The Panel is keen to understand why this is the case and what unanticipated barriers to entry may exist within the current Basslink arrangements.

Early feedback to the Panel suggests that market participants in Tasmania face very limited options in dealing with any party other than Hydro Tasmania in relation to risk mitigation arrangements for the Tasmanian wholesale electricity market. The Panel is exploring this matter as a key element of the Review.

6.1.3. Gas Fired Electricity Generation (Tamar Valley Power Station)⁵⁵

The objective of securing a large gas-fired power station has been achieved through the completion of the TVPS.

Having regard to the Energy Reform Framework, a principal objective for large-scale on-island gas generation was to provide a source of effective competition in the spot and contract markets in Tasmania. From initial investigations, TVPS capacity is largely capacity tied to Aurora Energy to meet its variable non-contestable customer load. On this basis it is not clear to what extent that the TVPS provides a source of competition for Hydro Tasmania, even for Aurora Energy, in relation to the contestable market.

These matters are being further investigated by the Panel.

⁵⁴ The decision making processes surrounding the commercial arrangements entered into between Hydro Tasmania and National Grid (the Basslink Services Agreement) will also be investigated by the Panel.

⁵⁵ The Government's decision to acquire the TVPS and the subsequent commercial operation by Aurora Energy will be investigated by the Panel as a major infrastructure decision separate to the current role AETV has in market outcomes.

In relation to the spot market, it is also unclear to the Panel the extent to which the TVPS is effective in addressing Hydro Tasmania's ability to set spot prices. The relative cost structures of the two forms of generation are important in this regard.

- Hydro Tasmania has no fuel cost, but its water does have an opportunity value particularly where it can be stored and used for a future opportunity. The scarcer water is, the higher its opportunity cost. In this context, Hydro Tasmania's bidding behaviour could be reasonably expected to vary significantly with changes in prevailing water storage levels. Where water storage is plentiful, bids would be expected to be relatively low, and where water storage is scarce, bids would be expected to be relatively high.
- By contrast, the cost structure of gas-fired generation is relatively fixed for a given gas price, which can also vary over time, depending on contract arrangements. The ability of gas-fired generation to effectively compete in periods of plentiful water and with abundant installed capacity is a matter the Panel is investigating.

Moreover, the Panel understands that combined size of Basslink and non-Hydro Tasmania generation is insufficient, relative to on-island demand, to displace Hydro Tasmania from the spot market, such that Hydro Tasmania retains the ability to set spot prices in Tasmania. The consequences of this outcome for the Tasmanian spot and contract markets are being explored by the Panel. While customers may be concerned about the ability of a generator to drive up prices, potential new entrant generators will also be concerned about the ability of a rival driving prices unsustainably low.

It is, therefore, unclear to the Panel the extent to which the original market design in 2000 of a large-scale on-island gas-fired generation providing effective competition to Hydro Tasmania has been delivered.

6.1.4. Wind

In relation to installed capacity, the development of Tasmania's wind resources has not progressed substantially over the past decade. The Panel understands that there is material private sector interest in pursuing wind opportunities and the Tasmanian Renewable Energy Investment Board has been chartered with the role of proactively promoting the development of a renewable energy industry in Tasmania.

The contribution of renewable resources (both large and smaller scale) to the development of competitive pressures in the Tasmanian energy sector is not, at this stage, clear to the Panel. Certainly, renewable developments present volume risk for the existing generators, but its role in driving competition in spot and contract prices is less clear.

6.2. Hydrological risk management

A key stated benefit of Basslink was the management of hydrological risk.

It is well documented that the period between 2005 and 2008 was one of sustained below-average rainfall and this had serious consequences on the hydro system capacity.⁵⁶ During this period Tasmania's use of Basslink was primarily on delivering energy into Tasmania to secure supply (though some exports were achieved, capturing transitory market opportunities in Victoria). In this regard, the benefits of Basslink in security of supply appear to be well demonstrated.

Basslink had been operating for around two years when the Government formed the view that the combination of the BBPS and Basslink was insufficient physical 'insurance' of being able to be confident of energy supply adequacy, and determined that Aurora Energy should acquire and complete the TVPS.

It would, therefore, appear that the Government formed the view that, on the basis of reliability (although no significant issues had been encountered) Basslink was not a fully effective hydrological risk management tool in its own right. The Panel will investigate the Government's decision making process to further explore this matter.

In the Panel's view, the central issue in relation to hydrological risk management is how much insurance is sufficient, at what cost and how are the costs of insurance recovered from Tasmanian electricity customers. The Panel has yet to identify sufficient evidence to make any early observations on this matter.

6.3. Broad Wholesale Market Issues

In order to meet Tasmania's current electricity demand, generation capacity of approximately 1200-1800 MW is required.

- Hydro Tasmania has generation capacity of 2280 MW (1180 MW average).
- TVPS 380 MW (203 MW base load and 178 MW peaking) (200 MW average).
- Roaring 40s 140 MW (60 MW average).
- Basslink has an import capacity of 480 MW and export capacity of 500 MW peaking for short periods at 630 MW (it is argued by some stakeholders that Hydro has effective control over the link, and this claim is being examined by the Panel).

⁵⁶ For example refer to the Panel's Discussion Paper 'Tasmania's Energy Sector – An Overview'.

In short, Tasmania is well serviced with electricity generation capacity exceeding current and foreseeable demand until around 2020, noting that adequate water storages rather than generation capacity is the real issue in the Tasmanian context.⁵⁷ Additional market-based new entry generation is not therefore required in the short to medium term⁵⁸, indicating that competition will not develop in the generation market organically through new entry within that timeframe.

The Panel would like to understand in making the decision to acquire the TVPS, what consideration was given by the Government to wider market design and potential commercial implications of operation, given the supply/demand balance discussed above.

Potentially, the most effective measure of competition is not market structure per se, but the pricing outcomes from the structure. Recent experiences of pricing outcomes in the Tasmanian wholesale energy pricing market are discussed below.

6.4. Effective wholesale energy pricing outcomes

Informed observers, including the TER, have made observations that efficient market outcomes are not being achieved in the Tasmanian wholesale generation sector and this might be impacting on the development of retail competition. For example, the issue of market power in the NEM has been raised by ACCC Commissioner and AER Member Ed Willet, who has observed:⁵⁹

“An emerging concern is that over the past couple of years we have seen an increasing incidence of generators exercising market power in the electricity market. This is not an everyday event. Indeed, the market was designed to minimise the risk of market power...”

Further, in relation to the Tasmanian region, Mr Willet noted that:

“since 1 June 2009, the Tasmanian spot price has exceeded \$5000/MWh on 13 occasions. None of the spikes were forecast. They occurred when Hydro Tasmania made sudden and repeated cuts in the output of its non-scheduled (mini hydro) generators – forcing the dispatch of higher priced generation in its portfolio. The strategy was so sustained it led to administered pricing being applied for four days in June – the first time ever for Tasmania.”

⁵⁷ 2010 Statement of Opportunities for the National Electricity Market – AEMO

⁵⁸ Note that the proposed Gunns Pulp Mill biofuel generator has a proposed grid contribution of 60 MW. Electricity generation is a product of mill residue and wood waste. Similarly, the development of wind resources is not anticipated to be demand based but driven through the Australian Government's renewable energy targets and the price of RECS.

⁵⁹ 'State of the Energy Market' Ed Willett 8 September 2009 – speech to energy 21.

The AER is required to investigate and report on specific circumstances where the spot price exceeds \$5000/MWh. Reports on the circumstances of the 13 occasions in which the Tasmanian spot price has exceeded \$5000/MWh are available on the AER website (www.aer.gov.au).

In the 19 November 2010 report, the AER observed:

“On 19 November 2010, the spot price in Tasmania reached \$12,400/MWh for the 7am trading interval, the equal highest spot price ever recorded in the NEM. The high price resulted from Hydro Tasmania's bidding strategy and its control of the non-scheduled generation output.” Further,

“Hydro Tasmania has employed the same strategy on most occasions where the price had exceeded \$5000/MWh in Tasmania”.

Importantly, in his speech Mr Willet notes that offering capacity at above competitive prices is not in breach of the Electricity Rules and that the Rules explicitly leave the regulation of anti-competitive conduct to the then *Trade Practices Act 1974 (Cwth)*.⁶⁰

The Panel is keen to understand the impact of this and other commercial behaviour by Hydro Tasmania may have on competition (at both the wholesale and retail level) and the extent to which it may reduce the overall effectiveness of the Tasmanian electricity market and potentially within the Victorian NEM jurisdiction. The outcome on customers is less apparent as wholesale spot prices do not necessarily directly flow through to customer prices depending on contract positions.

More broadly, the Panel is keen to investigate whether the NEM arrangements deliver the intended outcomes in Tasmania given the unique Tasmanian profile of a large predominantly flat industrial load and a single dominant generator. This is a highly complex area, and the Panel will focus on exploring the nature and effectiveness of competition in the Tasmanian wholesale electricity market, identifying the areas within which there may exist material market power issues and developing recommendations to address shortcomings, which may include, structural, regulatory and/or governance changes.

The Panel is seeking submissions regarding the level of effective competitive outcomes in the Tasmanian electricity spot and contract markets (supported by evidence of uncompetitive outcomes where they are claimed) and views on mitigation measures to curb or moderate that market power.

⁶⁰ Now the *Competition and Consumer Act 2010*.

6.5. Customer Choice

An early observation is the contestability timetable in Tasmania has largely been achieved with tranches 1 to 4 contestable. This is equivalent to around 80 per cent of the market in terms of energy use. However, in terms of customer numbers the majority of customers remain non-contestable (households and small business).

The Panel notes the presence of alternate retailers within the Tasmanian market; however, of the five retailers licensed only two indicate current interest to service small customers. The Panel is keen to understand why this is the case and how effective retail competition is with two retailers in the small-medium end of the contestable market.

The Panel is keen to understand the experience of contestable customers in the roll-out of retail contestability and the potential barriers to entry to retail competition (in addition to wholesale market matters).

The Panel is also keen to understand the extent of effective competition within the large major industrial customer base. The Panel understands that in some cases, these large customers negotiate wholesale arrangements with Hydro Tasmania directly and these are effectively 'passed on' to retailers. Given the relative size of these contracts, the Panel is seeking to understand how the experience of major customers compares with that of retailers seeking contracts to cover contestable loads.

6.6. Post NEM-participation Regulatory Reform

Tasmania has undertaken a significant regulatory reform agenda that has seen the progressive transfer of economic regulation away from Government to the TER (retail) and the AER (transmission and for future determinations, distribution). That said, the Government has retained considerable control over the wholesale energy allowance, which drives 40 per cent of regulated retail prices. As discussed in the Panel's Discussion Paper 'Tasmanian Electricity Pricing Trends', increases in wholesale costs have been a major contributor to higher retail prices for non-contestable customers.

Within the broader economic regulatory framework, the TER retains significant jurisdictional power under the Price Control Regulations to declare services where, in the TER's opinion there is substantial market power in the supply of that service and where the promotion of competition, efficiency or the public interest warrants that intervention. In this regard the TER declared in late 2010 a number of FCAS services provided by Hydro Tasmania in the Tasmanian market.

The impact of the NEM and Tasmanian regulatory frameworks will be the subject of a future issues paper for public comment. To inform the development of the matters raised in this paper, the Panel is seeking to investigate:

- In the context of Tasmania's prevailing supply and demand balance, the appropriateness of the of the 2010 amendments to the Price Control Regulations that eventuated in the energy allowance for non-contestable customers being set at least equal to the long run marginal cost (LRMC) of a notional new generator supplying electricity in Tasmania and the way in which this estimate was made.
- The potential impact of the national regulatory framework for transmission and in the future, distribution, on the Tasmanian market. Amongst other things, the Panel is keen to understand appropriateness of the national reliability and performance standards to the Tasmanian market, the necessary level of investment to meet those standards and the potential impact on pricing outcomes.

