The Senate

Select Committee into the Scrutiny of Government Budget Measures

Fourth interim report

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Membership of the Committee

Members

Senator Peter Whish-Wilson (Chair from 15.06.2015)	AG, VIC
Senator Richard Di Natale (Chair until 15.06.2015)	AG, VIC
Senator Sam Dastyari (Deputy Chair until 25.02.2016)	ALP, NSW
Senator Lisa Singh (Deputy Chair from 25.02.2016)	ALP, TAS
Senator the Hon Eric Abetz (from 23.02.2016 – 15.03.2016)	LP, TAS
Senator the Hon Matthew Canavan (from 17.07.2016 – 23.02.2016)	NAT, QLD
Senator Sean Edwards (from 12.10.2.2015)	LP, SA
Senator Sue Lines	ALP, WA
Senator the Hon James McGrath (until 12.10.2015)	LP, QLD
Senator James Paterson (from 15.03.2016)	LP, VIC
Senator Dean Smith	LP, WA
Senator Anne Urquhart	ALP, TAS

Substitute Members

Senator Carol Brown (Substituted for Senator Sue Lines 21.03.2016 – ALP, TAS 30.04.2016

Senator the Hon Kim Carr (Substituted for Senator Anne Urquhart ALP, VIC 21.03.2016 - 10.04.2016 and 18.04.2016 - 10.05.2016)

Senator the Hon Anne Ruston (Substituted for Senator the Hon Matthew LP, SA Canavan 12.12.2014

Senator Scott Ludlam (Substituted for Senator Richard Di Natale AG, WA 12.12.2014)

Participating Members

Senator Carol Brown	ALP, TAS
Senator David Bushby	LP, TAS
Senator Scott Ludlam	AG, WA
Senator Bridget McKenzie	NAT, VIC
Senator Nicholas McKim	AG, TAS
Senator Helen Polley	ALP, TAS
Senator Lee Rhiannon	AG, NSW
Senator Janet Rice	AG, VIC

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List of recommendations

Recommendation 1

1.27 The committee recommends that the Tasmanian Government be fully transparent with respect to the factors which have caused the current energy crisis in Tasmania, the steps being taken to resolve it and the associated costs.

Recommendation 2

1.28 The committee recommends that the Tasmanian Government commission an independent inquiry of the Basslink breakage and other circumstances leading up to the energy crisis.

Recommendation 3

1.29 The committee recommends that the Commonwealth and Tasmanian Governments commission an independent review to consider the financial and practical feasibility of laying another interconnector between Tasmania and mainland Australia.

Recommendation 4

1.30 The committee recommends that the Commonwealth and Tasmanian Governments work together to identify and implement a long-term strategy for development and management of electricity infrastructure to avoid any repetition of the Tasmanian energy crisis, and look at all options for the future energy security of Tasmania.

Recommendation 5

1.31 The committee recommends that the Tasmanian Government support projects which would increase renewable energy generation in the state including facilitating the negotiation of a successful power purchase agreement with the proponents of the Granville Harbour wind farm.

Tasmania's energy crisis

Referral

- 1.1 On 25 June 2014, the Senate resolved to establish the Select Committee into the Abbott Government's Budget Cuts. The committee was established to inquire into the effect of cuts or changes in the Commonwealth budget and provide a final report to the Senate on or before 20 June 2016, with particular reference to:
 - (b) any reductions in access to services provided by the Commonwealth;
 - (c) the provision of other services, programs or benefits provided by the Government affected by the budget;
 - (d) Commonwealth-state relations and the impact of decreased Commonwealth investment on service delivery by the states;
 - (e) the fairness and efficiency of revenue raising;
 - (f) the structural budget balance over the forward estimates and the next 10 years;
 - (g) the reduced investment in scientific research and infrastructure and its impact on future productivity;
 - (h) public sector job cuts;
 - (i) the impact of the budget on retirement incomes and pensions;
 - (i) intergenerational mobility;
 - (k) the impact of the budget on young people and students;
 - (l) the impact of the budget on households; and
 - (m) other matters the committee considers relevant.

Committee name change

1.2 On 11 August 2015, the Senate agreed to change the name of the committee to the Senate Select Committee into the Scrutiny of Government Budget Measures to more accurately reflect the ongoing work of the committee.

Area of inquiry for this report

- 1.3 As per Terms of Reference c, e, f and h, the committee agreed to investigate infrastructure financing and expenditure by the Australian government and its effect on the broader economy, including:
- current trends in the levels of public infrastructure and private capital investment;
- changes to productivity and well-being projected to result from public infrastructure investment;
- long-term economic impact of public infrastructure investment, including private sector investment that leverages off public infrastructure provision;

- capacity for the budget to absorb debt to fund infrastructure;
- potential funding mechanisms for public infrastructure investment, including infrastructure bonds and sovereign wealth funds; and
- potential funding sources for public infrastructure investment, including superannuation funds.
- 1.4 As a case study to inform this investigation, the committee decided to produce this interim report, highlighting the 2016 Tasmanian energy crisis. A hearing was held in Hobart on 14 April 2016 to gather evidence on this matter.

The Tasmanian energy crisis

- 1.5 The 2016 Tasmanian energy crisis was caused by a combination of two primary issues: record low water levels in Hydro dams (in part, a consequence of below-average rainfall starting in September 2015) and an outage in the Basslink cable connecting Tasmania with the Australian mainland (which occurred on 20 December 2015). A further factor included the state government's decision in August 2015, to decommission the natural gas-based power generating station in the Tamar Valley, thus reducing the speed with which that facility could help meet energy shortfalls.¹
- 1.6 This combination was described by Tasmania's Minister for Energy, the Hon. Matthew Groom MP as:
 - ...extraordinary circumstances—in essence, an extreme weather event combined with the first substantive outage of the Basslink cable—and it is important to put that into context. What we saw through the course of spring last year was the lowest rainfall recorded in Tasmania's history, in over 100 years of record keeping...²
- 1.7 As of 2015, approximately 74% of Tasmania's power generation came from Hydro, with the remainder being made up of: gas turbine (12%); wind (10%); and embedded generation (4%). Supplementing Tasmania's own generation of energy is energy imported via the Basslink cable, which was estimated in the months leading up

See, for instance, 'Tasmania power crisis: Avoiding shortages will be costly, experts say', *ABC News*, 31 March 2016, http://www.abc.net.au/news/2016-02-23/tasmanias-energy-crisis-explained/7194234 (accessed 27 April 2016); 'Power in spotlight', *The Mercury*, 26 April 2016, http://www.themercury.com.au/news/politics/power-in-spotlight/news-story/c4650660fd2ebe99eb5ef031e6c05948 (accessed 27 April 2016); 'Tasmania's energy crisis: Keep calm and carry on', Energy Matters, 25 March 2016, http://www.energymatters.com.au/renewable-news/tasmania-electricity-crisis-em5399/ (accessed 27 April 2016).

² Committee Hansard, 14 April 2016, p. 52.

³ TasNetworks Annual Planning Report 2015, http://www.tasnetworks.com.au/TasNetworks/media/pdf/our-network/2015-Annual-Planning-Report.pdf (accessed 27 April 2016), p. 22.

to that cable's outage to account for approximately 30% of the energy supply in Tasmania.⁴

1.8 According to Hydro Tasmania, as at Monday 25 April 2016, total energy in storage was 12.8%.⁵ In other words, Tasmania has been left in a perilous situation in terms of its energy security.

Response to the crisis

- 1.9 Hydro Tasmania, the government-owned enterprise responsible for the majority of energy generation in Tasmania, outlined the response to the unfolding energy crisis:
- from October 2015, given the low levels of Hydro storage, additional energy was imported via Basslink;
- in November, the combined cycle gas turbine (CCGT) began the process of returning to functional production (service began on 20 January 2016);
- the Tamar Valley Power Station is being restored to full capacity;
- voluntary load reductions have been made by major industrial users; and
- temporary diesel generation has been added to the network.⁶
- 1.10 The Tasmanian Government's response to the crisis has been insufficiently transparent, particularly in terms of the government's expenditure. Despite speculation in the media that the cost of the crisis is \$400 million or more, the responsible minister, the Hon. Matthew Groom MP, was unwilling or unable to provide an up to date figure for the costs associated with the crisis. In response to a question from the committee about the costs to date, he answered:

I appreciate the question and I think that is why it is important that we ensure a proper process for collating all of these financial impacts and ensure that they are put into the public domain. We have been very upfront that this will be significant and the costs that are being incurred at the moment by Hydro Tasmania are necessary costs.⁷

^{4 &#}x27;Tasmania power crisis: Avoiding shortages will be costly, experts say', *ABC News*, 31 March 2016, http://www.abc.net.au/news/2016-02-23/tasmanias-energy-crisis-explained/7194234 (accessed 27 April 2016).

⁵ Hydro Tasmania, *Energy supply situation and response*, http://www.hydro.com.au/energy/energy-supply-situation-and-response (accessed 28 April 2016).

Combined Cycle Gas Turbines produce electricity and capture waste heat from the gas turbine to increase efficiency and electrical output. - See more at:

https://powergen.gepower.com/resources/knowledge-base/combined-cycle-power-plant-how-it-works.html; Hydro Tasmania, Energy supply plan update: current as at 11 April 2016, http://www.hydro.com.au/system/files/www.hydro.com.au/News/Energy_Supply_Plan_updated_11_April_2016.pdf (accessed 28 April 2016), p. 3.

⁷ Committee Hansard, 14 April 2016, p. 53.

- 1.11 Similarly, the committee was told that major industrial users of energy were not consulted or informed in advance of the Tasmanian Government's decision to decommission the Tamar Valley Power Station in August 2015, shortly before the period of below-average rainfall began.⁸
- 1.12 The Hon. Bryan Green MP, Leader of the Opposition in the Tasmanian Parliament, argued that the entire situation had been poorly and secretively handled by the Tasmanian Government:

The decision making has been secretive. I do not think they engaged with their major industrials in the first place—I understand that that has been evidence that has been given today—that people were not told effectively that the Tamar Valley Power Station was to be decommissioned and that decision had been made. They were not told of the impact on gas prices as a result of that happening, and then, from that point on, since Basslink went down. Of course, remember, the failure of Basslink became public as a result of a tweet by a person using the name of the fake 'Don Challen', informing the Tasmanian people in the first place that there was a problem with Basslink.

Long-term planning

- 1.13 A key issue to emerge as a consequence of the 2016 energy crisis is that of ensuring better long-term infrastructure planning in order to avoid a repeat of the confluence of events which caused the crisis.
- 1.14 Beyond the immediate effects of shortfalls in power supply, the committee heard evidence that longer-term economic problems could arise for Tasmania as a result of the voluntary reductions in power use agreed to by several of the state's largest industrial groups. For instance, Mr Raymond Mostogl of Bell Bay Aluminium and the Tasmanian Minerals and Energy Council, estimated that Bell Bay Aluminium's reduced production would equate to approximately \$22 million in lost revenue; further, in being unable to fulfil international contracts in the competitive aluminium market, they will 'have to re-earn the right' to those contracts in the future. ¹⁰
- 1.15 Minister for Energy, the Hon. Matthew Groom MP, acknowledged the importance of forward planning to ensure Tasmania's ongoing energy viability and the role the Tasmanian Government could take in this planning:

It is important that we recognise these circumstances as an opportunity to reflect on Tasmania's energy requirements and make judgements about the

⁸ Mr Greg Zooeff, Tasmanian Minerals and Energy Council, *Committee Hansard*, 14 April 2016, p. 31; Mr Raymond Mostogl, Tasmanian Minerals and Energy Council, *Committee Hansard*, 14 April 2016, p. 32.

⁹ The Hon. Bryan Green MP, Leader of the Opposition, Tasmanian Parliament, *Committee Hansard*, 14 April 2016, pp 45-6.

¹⁰ Mr Raymond Mostogl, Tasmanian Minerals and Energy Council, *Committee Hansard*, 14 April 2016, pp 32-3.

future. That is why we have announced the establishment of the Energy Security Taskforce to undertake an assessment of things like the impact of climate change on inflows; the potential for renewable development in Tasmania; the energy supply and demand profile that is likely to exist into the future; our approach to prudent water management; and issues such as gas price risk. These are all matters that are going to be looked at as we undertake an energy security assessment to identify the steps that need to be taken in order to ensure that we do not confront these circumstances ever again. ¹¹

1.16 Asked about potential future risks to Tasmania's energy supply, Minister Groom noted that the state's capacity to generate energy would have to consider, amongst other factors, the implications of climate change:

I am extremely concerned, and I think the extreme weather event that Tasmania has experienced in recent months should be a wake-up call for everyone in relation to the issue of climate change... We need to understand it more and we need to respond to it better, and that is one of the reasons why I have asked the Energy Security Taskforce to look at that issue. 12

1.17 The committee also received evidence that the opportunities for private companies to invest in clean energy sources in Tasmania are limited because of the government's control of the energy market. Mr Jack Gilding, Executive Officer of the Tasmanian Renewable Energy Alliance, noted that:

...because the market is so heavily controlled by government instrumentalities in Tasmania, a lot of private developers have concerns about making investments which do take decades to generate an income or to repay the investment. Unfortunately, we do not have a competitive market. In the absence of a competitive market, the government does need to take action to provide the certainty that would allow the private investment on every scale—from solar panels on people's houses to the Granville Harbour Wind Farm. ¹³

1.18 Dr Vicki Gardiner, General Manager, Tasmania, of Engineers Australia, reflected on the likelihood of another energy crisis in years to come and suggested that failure to prepare now for such an eventuality would be short-sighted:

The Hon. Matthew Groom MP, Minister for Energy, Tasmanian Parliament, *Committee Hansard*, 14 April 2016, p. 52; see also the Minister's Statement announcing the Taskforce: Matthew Groom, Minister for Energy, *Ministerial Statement on Energy Security*, 8 March 2016, http://www.premier.tas.gov.au/releases/ministerial statement on energy security (accessed 28 April 2016).

12 The Hon. Matthew Groom MP, Minister for Energy, Tasmanian Parliament, *Committee Hansard*, 14 April 2016, pp 61-2.

13 Mr Jack Gilding, Executive Officer of the Tasmanian Renewable Energy Alliance, *Committee Hansard*, 14 April 2016, p. 9.

- ...can we afford not to change the way we think? We need to look at government energy strategies at both state and federal levels and develop both mid- and long-term plans in order to protect the community.¹⁴
- 1.19 Professor Michael Negnevitsky, Director of the Centre for Renewable Energy and Power Systems, noted his 'surprise' at the failure to plan contingency solutions to possible crises such as the 2016 energy crisis: 'It is a failure in making decisions. As a result, they made decisions which were not informed decisions'. 15

Need for an independent inquiry

1.20 The Leader of the Opposition in the Tasmanian Parliament, the Hon Bryan Green, argued:

...there should be a full independent inquiry into the energy crisis, what has led to it—and I do not care how many years that goes back—and what we need to do into the future. I say that in the context that in my humble opinion the government has played Russian roulette with the state's economy and has potentially put at risk our major industrials and, therefore, our economy overall. ¹⁶

1.21 Professor Negnevitsky agreed that an independent inquiry into the circumstances of the crisis should be undertaken, and that this inquiry should also provide the basis for longer-term planning:

We need to have a plan, not just to fix this particular problem today and hope it will never happen again, because it will happen again. It is guaranteed—maybe not tomorrow, but in five years' time you will have the same crisis if you do nothing now. So it has to be planned now. I really see this as a good opportunity for all of us. ¹⁷

Committee view

- 1.22 The committee has grave concerns that Tasmanians will suffer from excessively high energy prices as a result of the emergency measures necessitated by the current energy crisis. In addition to this direct impact on Tasmanians, it was clear from the evidence provided to the committee that the voluntary load reductions made by major industrial users have damaged the commercial reputation of important Tasmanian businesses.
- 1.23 The committee is concerned that these serious effects of the Tasmanian energy crisis have been exacerbated by the Tasmanian Government's lack of transparency on a range of issues including its plans to decommission the Tamar Valley Power Station, the timeframe for repairs to the Basslink cable and the costs

¹⁴ Dr Vicki Gardiner, General Manager, Tasmania, Engineers Australia, *Committee Hansard*, 14 April 2016, p. 65.

¹⁵ Professor Michael Negnevitsky, *Committee Hansard*, 14 April 2016, p. 67.

¹⁶ The Hon Bryan Green MP, Leader of the Opposition, Tasmanian Parliament, *Committee Hansard*, 14 April 2016, p. 45.

¹⁷ Professor Michael Negnevitsky, *Committee Hansard*, 14 April 2016, p. 68.

that will be borne by Tasmania as a result of the emergency spending required to deal with the crisis.

- 1.24 The importance of a full independent inquiry is further supported by the fact that this committee was barred from questioning relevant organisations, specifically the energy businesses. Minister Groom's appearance before the committee on behalf of the Government and all of the energy businesses frustrated the hearing process which would have been best served by being able to direct questions to the relevant organisations. In the interests of transparency and accountability these organisations must be able to provide evidence to an independent inquiry.¹⁸
- 1.25 The committee has not had the opportunity to forensically examine all of the factors which contributed to the current crisis though it seems clear that, in addition to the factors beyond the Tasmanian Government's control, the government made a range of miscalculations which both contributed to the crisis and prevented it being managed effectively. The committee is convinced that only an independent inquiry into the factors that contributed to the crisis and the Tasmanian Government's response will ensure that this crisis is not repeated and that a durable, long-term plan to secure Tasmania's energy future can be identified.
- 1.26 Finally, the committee considers that the energy crisis clearly demonstrates the need for Tasmania to bolster its generation capacity and thus reduce reliance on power sourced via the Basslink cable. As a result, the committee considers that the Tasmanian Government should give a high priority to supporting projects which would increase renewable energy generation in the state. This should include the state government facilitating the negotiation of a successful power purchase agreement with the proponents of the Granville Harbour wind farm in order to allow the company to secure investment and move into the construction phase of the project.

Recommendation 1

1.27 The committee recommends that the Tasmanian Government be fully transparent with respect to the factors which have caused the current energy crisis in Tasmania, the steps being taken to resolve it and the associated costs.

Recommendation 2

1.28 The committee recommends that the Tasmanian Government commission an independent inquiry of the Basslink breakage and other circumstances leading up to the energy crisis.

Recommendation 3

1.29 The committee recommends that the Commonwealth and Tasmanian Governments commission an independent review to consider the financial and practical feasibility of laying another interconnector between Tasmania and mainland Australia.

¹⁸ Tasmanian House of Assembly, *Proof Hansard*, 5 April 2016, 10:46 am, p. 14.

Recommendation 4

1.30 The committee recommends that the Commonwealth and Tasmanian Governments work together to identify and implement a long-term strategy for development and management of electricity infrastructure to avoid any repetition of the Tasmanian energy crisis, and look at all options for the future energy security of Tasmania.

Recommendation 5

1.31 The committee recommends that the Tasmanian Government support projects which would increase renewable energy generation in the state including facilitating the negotiation of a successful power purchase agreement with the proponents of the Granville Harbour wind farm.

Senator Peter Whish-Wilson

Chair

Dissenting report from Government Senators

- 1.1 The Senate Select Committee into the Scrutiny of Government Budget Measures inquiry into the Tasmanian energy supply challenges was a thinly veiled attempt by the Labor and Greens political parties to politicise the current energy supply challenges facing the Tasmanian community.
- 1.2 Government Senators are critical of attempts by the Green and Labor members to use this committee as a means to engender uncertainty in the Tasmanian community, based on a number of factual inaccuracies and misrepresentations of the underlying circumstances that have contributed to the current challenges.
- 1.3 Government Senators also note that the Labor and Green members of the committee failed to articulate how the Terms of Reference of the committee were relevant to the nature of the inquiry.
- 1.4 Government Senators note that the Tasmanian Government is currently dealing with a unique and unprecedented combination of events, namely record low rainfall and an extended outage of the BassLink interconnector.
- 1.5 The combination of these events has meant that water storage levels in the hydro catchments have been progressively declining over more than 6 months.
- 1.6 However, Government Senators note that the Tasmanian Government has responded decisively and appropriately with the implementation of the Tasmanian Energy Supply Plan to ensure that energy security can be assured for the Tasmanian Community.
- 1.7 The Tasmanian Energy Supply Plan incorporates the progressive installation of approximately 220mw of temporary diesel generation, restoring the gas generating units at the Tamar Valley Power Station to full operating capacity and negotiated load reductions with Tasmania's major industrial users.
- 1.8 The Tasmanian Government has clearly stated that forced power rationing or load shedding is not required under its Energy Supply Plan, but nevertheless has encouraged Tasmanian households and businesses to be prudent with regard to energy consumption.
- 1.9 Government Senators appreciate that costs associated with the Energy Supply Plan will be considerable, but also recognise that the cost of doing nothing and introducing alternative measures such as forced power rationing as advocated by the Tasmanian leader of the opposition will create greater risks and uncertainty for the Tasmanian community and economy.
- 1.10 Government Senators note that the costs associated with the Energy Supply Plan will be borne by Hydro Tasmania and acknowledge the advice that regulated prices, which cover the vast majority of households and small businesses, will not be impacted by the actions in the Energy Supply Plan.
- 1.11 Government Senators are also concerned that the majority report fails to reflect on the water management decisions made by the previous Labor/Green Government of which it should be noted that Senator McKim was a Cabinet Minister

and at one stage had Ministerial responsibility for some elements of the energy portfolio.

- 1.12 In particular Government Senators are critical of the Labor/Green strategy to exploit the Carbon Tax between 2012 and 2014, resulting in water storages in the Hydro catchments reducing from 60% total energy in storage to 30%.
- 1.13 This strategy was further exacerbated by the decision under the Energy Minister at the time, Mr Bryan Green, to reduce the prudent water management levels from 30% to 25%. Clearly this was a strategy designed to maximise profits from the Carbon Tax at the expense of energy security.
- 1.14 Government Senators note that in providing evidence to the Committee the opposition leader, Mr Bryan Green stated that these matter were operational decisions by the Hydro
- 1.15 However, when further pressed on whether Ministerial approval was required, it was concerning that Mr Green equivocated and told the committee it may have been part of a document he signed.
- 1.16 It is also important to note that during the period of the Carbon Tax Tasmanian households and businesses were paying almost 10 % more for power generated from renewable sources
- 1.17 Government Senators also consider it is important to correct a number of false assertions in the majority report, particularly in relation to the Tamar Valley Power Station. The Tasmanian Government is clearly on the record that following a request from Hydro Tasmania permission was given for Hydro Tasmania to investigate a possible divestment of the Combined Cycle Gas Turbine, subject to strict conditions particularly in relation to energy security.
- 1.18 At no stage was the Combined Cycle Gas Turbine divested and is now making a significant contribution as part of the Tasmanian Government's Energy Supply Plan.
- 1.19 **In response to Recommendation 1**, Government Senators saw no evidence to suggest the Tasmanian Government has not been fully transparent. On the contrary, Government Senators believe the Tasmanian Government has been keeping the Tasmanian community fully informed in regards to the implementation of the Energy Supply Plan, including regular weekly updates.
- 1.20 In fact, it should be acknowledged that Minister Groom voluntarily agreed to appear before the committee on behalf of the Tasmanian Government and the Chair thanked the Minister for being generous with his time.
- 1.21 **In response to Recommendation 2**, Government Senators note that the Tasmanian Government has moved to establish an independent Energy Security Taskforce, comprising experts with considerable expertise in the energy industry.
- 1.22 In addition the Public Accounts Committee of the Tasmanian Parliament has recently established its own terms of reference to specifically look at the circumstances underlying the current energy security challenges in Tasmania. The

Public Accounts Committee has an influential oversight function in the Tasmanian Parliament with significant powers to call for witnesses and evidence.

- 1.23 It should be noted that in relation to the second interconnector both the Australian and Tasmanian Governments have agreed to the establishment of a joint taskforce to specifically advance the business case for a second interconnector. This will build on work already undertaken by the Tasmanian Government and Hydro Tasmania.
- 1.24 **In response to Recommendation 3**, Government Senators note that there are already frameworks in place to develop national approaches to the development and management of electricity infrastructure including the Australian Energy Market Commission, the COAG Energy Council, the Clean Energy Financing Corporation and Infrastructure Australia.
- 1.25 **In response to Recommendation 4**, Government Senators note that the Tasmanian Government has stated that one of the key activities of the Energy Security Taskforce will be to examine the potential for further renewable energy development.

Recommendations

Recommendation 1: That the Committee commends the extraordinary effort of all those involved in the Tasmanian Government's response to the challenging energy supply situation, particularly the employees and contractors of the State's energy businesses.

Recommendation 2: That the Public Accounts Committee established by the Tasmanian Parliament closely examine the impacts of the Carbon Tax on energy security in Tasmania, in particular:

- (i) the extent to which the Carbon Tax encouraged the draw-down of water storages to maximise profit, and;
- (ii) the extent to which the former Labor/Green Tasmanian Government used revenue from the Carbon Tax to underpin State Government expenditure.

Senator Dean Smith

Senator Sean Edwards

Senator James Paterson

APPENDIX 1

Submissions and additional information received by the committee

Submissions

1	Queensland Association of Independent Legal Services
2	Mr Chris Hamill
3	Mr Frank Stilwell
4	Association for Good Government
5	Aboriginal Legal Service (NSW/ACT) Limited
6	Reconciliation Australia
7	Youth Connections National Network
8	Australian Medical Students' Association
9	Isolated Children's Parents' Association of Australia Inc.
10	Australasian Railway Association
11	National Aboriginal and Torres Strait Islander Legal Services
12	St Vincent de Paul Society
13	United Services Union
14	Victorian Principals Association
15	Federation of Ethnic Communities' Councils of Australia
16	National Family Violence Prevention Legal Services
17	Australian Parents Council
18	Australian Council of Trade Unions
19	South West Group
20	Australian Manufacturing Workers' Union
21	National Association of Community Legal Centres
22	Australian National Audit Office
23	Equity Practitioners in Higher Education Australasia
24	Refugee Council of Australia
25	The Australian Psychological Society Limited
26	Australian Council of Social Service

27	Mr Rodger Gibson
28	The Australia Institute
29	People for Public Transport
30	ABC
31	Australian Medical Association
32	Queensland Nurses' Union
33	Australian Council of State School Organisations
34	Community and Public Sector Union
35	Australian Nursing and Midwifery Federation
36	ACT Government
37	Universities Australia
38	Australian Education Union
39	Australian Nursing and Midwifery Federation
40	COTA
41	United Voice
42	Associate Professor Philip Laird
43	Aboriginal Peak Organisations Northern Territory
44	Grattan Institute
45	South Australian Government
46	National Union of Students
47	Australian Automobile Association
48	Mr Andrew Herington
49	Public Transport Users Association
50	Reclink Australia
51	Free TV Australia
52	Save Our SBS Inc
53	Mr Quentin Dempster
54	National Sea Highway
55	Australian Womensport and Recreation Association
56	Womensport and Recreation Tasmania Inc
57	Mr Colin H.Howlett
58	Mrs Susan Macdonald
59	Ms Val Sterling

60	Professor John Freebairn
61	Local Government Association of South Australia
62	South Australian Government
63	Standard & Poor's Ratings Services
64	Professor Steve Keen
65	Marion Terrill, Transport Program Director, Grattan Institute
66	Dr Robert Bianchi, Associate Professor of Finance, Griffith University
67	Prosper Australia
68	Industry Super Australia
69	City of Ballarat
70	The Tasmanian Polar Network
71	Mr Robert D M Cotgrove
72	Western Australian Local Government Association
73	Australian Airports Association
74	Mr George Burrows
75	Hobart Airport
76	Citi Research
77	Scientia Professor Trevor McDougall
78	Dr Barrie Pittock PSM
79	Associate Professor Stephen Wilson, Associate Professor Clare Murphy and Professor David Griffith
80	Professor Neville Nicholls
81	Tasmanian Polar Network
82	Australian Meteorological and Oceanographic Society (AMOS)
83	Ms Mary Voice
84	National Growth Areas Alliance (NGAA)
85	Dr Paul Fraser
86	Dr Paul Durack
87	CSIRO Staff Association
88	Mrs Mary Wilkinson
89	UNSW Climate Change Research Centre
90	Young Earth System Scientists Community
91	Dr Alex Sen Gunta

92	Dr Sophie Lewis
93	Mr Gavin A. O'Brien
94	Dr Nerilie Abram
95	Mr James Ricketts
96	Mrs Elly Spark
97	Climate Alliance Limited
98	Royal Zoological Society of NSW
99	Professor Peter Banks
100	Ms Kate Summers
101	Mr David Arthur
102	Associate Professor Irene Penesis
103	World Climate Research Programme
104	Mr Michael Davis
105	Mr John Curnow
106	Friends of CSIRO (ACT)
107	Mr Brian Thomas
108	Dr Gösta Lyngå
109	Ms Joanna Jones
110	Dr Fiona Bruce
111	Ms Angela Lindstad
112	Friends of CSIRO (VIC)
113	Friends of CSIRO (QLD
114	Ms Robyn Erwin)

Additional information

- 1 Additional information from Reclink Australia, received 5 February 2015
- 2 Correction to evidence from Canberra Public hearing, 18 March 2015, provided by the Department of Treasury, received 15 April 2015
- Correction to evidence from Hobart Public hearing, 8 March 2016, provided by CSIRO, received 15 March 2016
- 4 Advice provided by the Clerk of the Senate, received on 15 March 2016
- 5 Correction to evidence from Canberra Public hearing, 7 April 2016, provided by CSIRO, Dr Larry Marshall, received 21 April 2016

6 Correction to evidence from Canberra Public hearing, 7 April 2016, provided by CSIRO, Ms Hazel Bennett, received 21 April 2016

Correspondence

1 Correspondence received from CSIRO, dated 3 May 2016

Answers to Questions on Notice

- Answers to questions taken on notice from Canberra Public hearing, 16 October 2014, provided by the Australian Council of Social Service, received 14 November 2014
- Answers to questions taken on notice from Canberra Public hearing, 16 October 2014, provided by the Australian Education Union, received 14 November 2014
- Answers to questions taken on notice from Canberra Public hearing, 16 October 2014, provided by the Australian Council of Trade Union, received 14 November 2014
- Answers to questions taken on notice from Canberra Public hearing, 16 October 2014, provided by Anglicare NSW South, NSW West and ACT, received 14 November 2014
- Answer to question taken on notice from Canberra Public hearing, 25 November 2014, provided by Reclink Australia, received 9 December 2014
- Answers to questions taken on notice from Canberra Public hearing, 26 March 2015, provided by Australian Securities and Investments Commission, received 14 March 2015
- Answer to question taken on notice from Melbourne public hearing on 11 March 2016, provided by Dr Peter Craig, received 16 March 2016
- 8 Answers to questions taken on notice from Hobart public hearing on 8 March, provided by CSIRO on 17 March, 6 April and 22 April 2016
- 9 Answer to question taken on notice from Melbourne public hearing on 11 March 2016, provided by Professor Karoly, received 20 March 2016
- Answers to questions taken on notice from Canberra public hearing on 7 April 2016, provided by CSIRO, received 16,18, 20, 21, 26 and 27 April 2016
- Answers to written questions taken on notice following Canberra Public hearing, 7 April 2016, provided by CSIRO, received 15, 18 and 26 April 2016

Tabled documents

Planning Institute Australia, Tabled Document 1, Melbourne 13 November 2014

18	
2	Planning Institute Australia, Tabled Document 2, Melbourne 13 November 2014
3	Mr Andrew Herington, Tabled Document 1, Melbourne 13 November 2014
4	Australian Broadcasting Corporation, Tabled Document 1, Canberra 12 December 2014
5	Friends of the ABC, Tabled Document 1, Canberra 12 December 2014
6	Mr Saul Eslake, Tabled document 1, Sydney 14 August 2015
7	Western Australian Members of the National Growth Areas Alliance WA, Tabled document 1, Perth 09 October 2015
8	Professor Peter Newman, Tabled document 1, Perth 09 October 2015
9	Pracsys Consultants, Tabled document 1, Perth 09 October 2015
10	Professor Snow Barlow, Tabled document 1, Melbourne 11 March 2016
11	CSIRO Opening Statement, Tabled document 1, Canberra 7 April 2016
12	Digital Tasmania, Tabled document 1, Hobart 14 April 2016
13	Tasmanian Labor, Tabled document 1, Hobart 14 April 2016
14	Engineers Australia, opening statement, Tabled document 1, Hobart 14 April 2016
15	Tasmanian Unions, Tabled document 1, Hobart 14 April 2016
16	CSIRO, Tabled document 1, Canberra 27 April 2016

APPENDIX 2

Public Hearings

Thursday, 16 October 2014 Senate Committee room 2S3 Parliament House, Canberra

Witnesses

Australian Council of Social Service

Dr Cassandra Goldie, Chief Executive Officer Ms Jacqueline Phillips, Director of Policy

Anglicare ACT Youth Connections

Ms Jennier Kitchin, Director, Community Services ACT Ms Shyanne Watson, Coordinator, Youth and Educational Support Services Canberra

National Tertiary Education Union (NTEU)

Mr Paul Kniest, Policy and Research Coordinator

Women in Adult Vocational Education (WAVE)

Ms Linda Simon, National Convenor Ms Jozefa Sobski, Member

Australian Education Union

Mr Angelo Gavrielatos, Federal President Ms Jennifer Devereaux, Federal Research Officer

Ballarat Grammar

Mr Stephen Higgs, Headmaster

St Vincent de Paul Society

Dr John Falzon, Chief Executive Officer

Australian Medical Students' Association

Ms Jessica Dean, President Mr Kunal Luthra, Vice President External

National Union of Students

Ms Deanna Taylor

Australian Council of Trade Unions

Mr Dave Oliver, Secretary

Mr Matt Cowgill, Economic Policy Officer

Ms Pat Forward, ACTU National VET Committee

Mr Tim Shipstone, Industrial Officer

Mr Ian Curry, National Coordinator, Skills, Training & Apprenticeships,

Mr Arthur Rorris, NSW South Coast Labour Council

Mr Lance McCallum, National Policy Officer, Electrical Trades Union of Australia

Australian Chamber of Commerce and Industry

Ms Jenny Lambert, Director, Employment, Education and Training Mr John Osborn, Director, Economics and Industry Policy

Thursday, 13 November 2014
Legislative Council Committee Room
Parliament House, Melbourne

Witnesses

Victorian Local Governance Association

Councillor Sebastian Klein, President of the Victorian Local Governance Association

Mr Andrew Hollows, Chief Executive Officer

Professor Jago Dodson, Professor of Urban Policy, RMIT University

Mr William McDougall, Private capacity

Eastern Transport Coalition

Councillor Peter Lockwood, Chair

Mr Matthew Hanrahan, Manager of Sustainable Infrastructure, Knox City Council

Public Transport Users Association

Ms Cait Jones, Campaign Director

Planning Institute Australia

Mr Brendan Nelson, President Elect, President Elect

Mr Andrew Herington, Private capacity

Professor Peter Newman, Private capacity

McKell Institute

Mr Sam Crosby, Executive Director

Tuesday, 25 November 2014 Senate Committee room 2S3 Parliament House, Canberra

Witnesses

Reclink Australia

Mr Rod Butterss, Director Mr John Ballis, Interim Chief Executive Officer Mr Peter Cullen, Founder Mr Brian Millett, Participant

Friday, 12 December 2014 Senate Committee room 2S3 Parliament House, Canberra

Witnesses

Australian Broadcasting Corporation

Mr Mark Scott, Managing Director Mr Michael Millett, Director, Corporate Affairs Mr David Anderson, Director, Corporate Strategy and Planning

SBS

Mr Michael Ebeid, Managing Director Mr James Taylor, Chief Financial Officer

Community and Public Sector Union

Mr Michael Tull, National President Ms Sarah Hunt, Lead Organiser for Public Broadcasting (ABC)

Media, Entertainment and Arts Alliance

Mr Christopher Warren, Federal Secretary Mr Paul Murphy, Director, Media

Mr Quentin Dempster, Journalist, author and broadcaster

Dr Andrew Ford, Radio National broadcaster, writer and composer

Department of Communications

Ms Nerida O'Loughlin, Deputy Secretary

Dr Simon Pelling, First Assistant Secretary, Consumer and Content Division Ms Ann Campton, Assistant Secretary, Media

Creative Industries Faculty, Queensland University of Technology (via teleconference)

Professor Brian McNair, Professor of Journalism Dr Adam Swift, Senior Research Associate Dr Ben Goldsmith, Senior Research Fellow

ABC Friends (via teleconference)

Ms Glenys Stradijot, National Spokesperson

Save Our SBS (via teleconference)

Mr Steve Aujard, President

Wednesday, 18 March 2015 Senate Committee room 2S1 Parliament House, Canberra

Witnesses

Department of Treasury

Mr Nigel Ray, Deputy Secretary, Fiscal Group Mr Matthew Flavel, General Manager, Budget Policy Division Mr Matt Crooke, Principal Adviser, Budget Policy Division

Thursday, 26 March 2015 Senate Committee room 2S3 Parliament House, Canberra

Australian Securities and Investments Commission

Mr Carlos Iglesias, Chief of Operations

Friday, 14 August 2015 Jubilee Room Parliament House, New South Wales

Witnesses

Mr Saul Eslake, Economist

Professor Phillip O'Neill, Director and Professorial Research Fellow, Centre for Western Sydney, University of Western Sydney

Dr Joseph Drew, Research Fellow in Local Government, Business School, University of New England

Professor John Hewson, Professor/Chair, Tax and Transfer Policy Institute, Australian National University

Mr Martin Locke, Adjunct Professor, Faculty of the Built Environment, University of New South Wales

Friday, 9 October 2015 Cliftons Perth, WA

Witnesses

Western Australian Members of the National Growth Areas Alliance WA Outer Metropolitan Councils

Mr Mike Foley, Chief Executive Officer, City of Swan Mr Ray Tame, Chief Executive Officer, City of Armadale Dr Ian Martinus, Economic Development Manager, City of Wanneroo

Professor Peter Newman, Professor of Sustainability, Curtin University Sustainability Policy Institute (via teleconference)

Ms Jemma Green, Research Fellow and Doctoral Candidate, Curtin University Sustainability Policy Institute

Urban Development Institute of Australia (WA Division)

Ms Debra Goostrey, Chief Executive Officer Mr Jeremy Cordina, Chair, UDIA (WA) Infrastructure Committee

Associate Professor Paul McLeod, Director, Economic Research Associates

Property Council of Western Australia

Mr Lino Iacomella, Property Council of Australia Deputy Executive Director Ms Rebecca Douthwaite, Policy Advisor

Pracsys Consultants

Mr Michael Chappell, Managing Director and Founder Mr Jason McFarlane, Principal Consultant (WA)

Thursday, 5 November 2015 Room G1 Parliament House, Melbourne

Witnesses

Grattan Institute

Ms Marion Terrill, Transport Program Director

Industry Super Australia (Submission 68)

Ms Jane McGill, Senior Adviser, Infrastructure

Municipal Association of Victoria (Submission 69)

Mr Anthony Schink, Chief Executive Officer, City of Ballarat Mr Sean Cameron, Manager Economic Development

Standard and Poor's Ratings Services (Submission 63)

Ms Fabienne Michaux, Head of Developed Markets Asia-Pacific Mr Thomas Jacquot, Director, Corporate and Government Ratings Mr Craig Michaels, Director, Sovereign and Public Finance Ratings

SMSF Association

Ms Andrea Slattery, Managing Director, Chief Executive Officer Mr Jordan George, Head of Policy

Prosper Australia

Ms Catherine Cashmor, President Mr Karl Fitzgerald, Project Director

Friday, 6 November 2015 Room 1 Parliament House, Tasmania

Witnesses

Glenorchy City Council

Mayor Kristie Johnston

Southern Tasmanian Councils Authority

Lord Mayor Ms Sue Hickey, Chair of STCA Mayor Deirdre Flint OAM, Board Member of STCA Mr Brenton West, Chief Executive Officer

Hobart International Airport

Ms Melinda Percival, General Manager Corporate Affairs

Luti Consulting

Mr James McIntosh, Transport Planner and Economist

The Tasmanian Polar Network (Submission 70)

Mr John Brennan, Chairman

Hobart Northern Suburbs Rail Action Group (Via teleconference)

Mr Ben Johnston, President

Tuesday, 1 March 2016 Senate Committee Room 2S3 Parliament House, Canberra

Witnesses

Infrastructure Australia

Mr Phil Davies, Chief Executive Officer Mr Adrian Dwyer, Executive Director – Policy and Research

Tuesday, 8 March 2016 Room 1 Parliament House, Tasmania

Witnesses

Integrated Marine Observing System

Mr Tim Moltmann, Director

Department of the Environment

Dr Gwen Fenton, Chief Scientist, Australian Antarctic Division

Institute for Marine and Antarctic Studies

Professor Richard Coleman, Executive Director Professor Nathan Bindoff, Head of the Oceans and Cryosphere Program

Dr John Church, Private capacity

Dr Richard Matear, Private capacity

Scientia Professor Trevor McDougall (via teleconference)

CSIRO

Ms Hazel Bennett, Chief Finance Officer

Dr Alex Wonhas, Executive Director, Environment, Energy and Resources (via teleconference)

Professor Brigid Heywood, Deputy Vice-Chancellor (Research), University of Tasmania

Dr Tony Press, Private capacity

CPSU - CSIRO Staff Association

Ms Jessica Munday, CPSU Regional Secretary Mr Mark Green, CSIRO Tasmania Section Councillor

Tasmanian Polar Network

Mr John Brennan, Chairman

Friday, 11 March 2016 Room G3 Parliament House, Melbourne

Witnesses

Dr Karl Taylor, Private capacity (via teleconference)

Dr Paul Durack, Private capacity (via teleconference)

Antarctic Climate and Ecosystems Co-operative Research Centre Professor Tony Worby, Chief Executive Officer

Professor David Karoly, Private capacity

Professor Snow Barlow, Private capacity

Professor Richard Eckard, Private capacity

Dr Greg Ayers, Private capacity

Dr Paul Fraser, Private capacity

Dr Bruce Forgan, Private capacity

Dr Peter Craig, Director of the Collaboration for Australian Weather and Climate Research

Dr Graeme Pearman, Private consultant and Senior Research Fellow, Monash University

Scripps Institution of Oceanography (via teleconference)

Professor Tony Haymet, Distinguished Professor of Oceanography, Emeritus Vice-Chancellor and Director, UC San Diego

Thursday, 7 April 2016 Senate Committee Room 2S3 Parliament House, Canberra

Witnesses

CSIRO

Dr Larry Marshall, Chief Executive Officer Mr Craig Roy, Deputy Chief Executive Officer Ms Hazel Bennett, Chief Financial Officer

Thursday, 14 April 2016 Hobart Function and Conference Centre Hobart, Tasmania

Witnesses

Digital Tasmania

Mr Andrew Connor, Spokesperson

Tasmanian Renewable Energy Alliance

Mr Jack Gilding, Public and Executive Officer

Mr John Lawrence

Tasmanian Greens

Ms Cassy O'Connor MP, Leader of the Greens, Member for Denison

Tasmanian Minerals and Energy Council

Mr Wayne Bould, Chief Executive Officer (via teleconference) Mr Ray Mostogl, Chair of TMEC Energy Sub Group Mr Greg Zooeff, member

TASICT

Mr William Kestin, Chief Executive Officer Mr Alan Rosevear, Vice President

Tasmanian Labor

The Hon Bryan Green MP, Leader of the Opposition, Member for Braddon

Tasmanian Minister for State Growth, Minister for Energy and Minister for Environment, Parks and Heritage

The Hon Matthew Groom MP, Liberal Member for Denison

Engineers Australia

Dr Vicki Gardiner, General Manager Tasmania Division

Professor Michael Negnevitsky

Unions Tasmania

Mr Steve Walsh, Secretary Mr Trevor Gauld, Secretary CEPU Mr Luke Crowley, Professionals Australia

Wednesday, 27 April 2016 Senate Committee Room 2S1 Parliament House, Canberra

Witnesses

CSIRO

Dr Larry Marshall, Chief Executive Mr Craig Roy, Deputy Chief Executive Ms Hazel Bennett, Chief Financial Officer Dr Alex Wonhas, Executive Director, Environment, Energy and Resources