Bob Brown Foundation Submissions to Joint Select Committee on Energy Matters Inquiry into Energy Prices and Related Matters

August 2024

Summary

1. Tasmania's energy demand has remained steady for the past decade.
2. There is no threat to energy security in Tasmania.[1]
3. Consumption of energy is 54% by four bulk energy consumers, 19% residential and 23% small business.
4. Supply has increased from new sources, namely subsidised wind farms and from the rollout of distributed energy, ie rooftop solar.
5. Further supply can be accessed via Basslink.
6. The Tasmanian Government and Hydro Tasmania have failed to demonstrate:

   a) the need for a major increase in energy supply
   b) the economic viability of Marinus Link and associated transmission
   c) the economic viability of Battery of the Nation
   d) the economic viability of Bell Bay Hydrogen Hub
   e) economic viability of NE offshore wind
   f) how Marinus Link, Hydrogen Hub, subsidised offshore wind and new transmission together with new subsidised wind energy, fit together in an integrated costed energy plan.

7. There is considerable untapped potential in Tasmania for reduced demand from roll out of energy efficiency and changed consumption patterns of the bulk consumers.
8. If needed, there is considerable potential for increased supply from the rollout of more distributed energy and batteries.
9. Tasmania's energy prices will continue to rise as long as Tasmania is in the NEM. Victoria will continue to set the price.

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10. Mainland prices will continue to rise as the costs of the transition away from coal and gas to renewable energy are reflected in the price.
11. Subsidising the price of power to Tasmanian households to reduce the mainland price to a Tasmanian price, is a cost to Hydro and less dividend to the Consolidated Fund to contribute to the costs of provision of public services like health, education and policing. It is a 'robbing Peter to pay Paul' strategy.
12. New transmission infrastructure will drive up prices further. The cost to Tasmania of Marinus Link (17.7% capital cost) and its fee for use, NW Transmission Extension and Basslink fee for use will be passed on to Tasmanian consumers. The government has failed to indicate what its modelling indicates is total cost.
13. Currently, no wind farm in Tasmania is economically viable without subsidies. They are a drag on Hydro Tasmania and Aurora's profitability. The full cost of the existing power purchase agreements (PPAs) for Granville Harbour and Cattle Hill wind farms will not be revealed until 2030.

Recommendations

1. Tasmania should respond to the needs of Tasmanians now and into the future and explore the opportunities our predominantly state-owned renewable energy generation and transmission system has to offer.
2. Separate from the NEM pricing mechanisms. (Basslink can still operate)
3. Recognise that you can't address the climate by destroying nature.
4. Integrate biodiversity and climate mitigation policies in determining appropriate siting for renewable energy development.
5. Recognise Tasmania's greatest contribution to addressing global warming is to maintain its intact ecosystems and carbon stocks.

6. Adopt circular economy principles to underpin energy policy.
7. Abandon the TRET 200% renewable energy target and adopt 100% renewable energy as government policy, now and into the future, recognising new supply to meet new demand must come from renewable energy sources.
8. Conduct a full cost-benefit analysis of Hydro Tasmania's ageing dams and power stations to determine which should be refurbished and which should be decommissioned.
9. Abandon Marinus Link and associated new transmission infrastructure including the NW transmission extension.
10. Plan for and implement the electrification of transport and agriculture throughout the state.
11. Incentivise the rollout of public and private distributed energy systems and community-scale batteries.
12. Require TasNetworks to facilitate new connection from distributed renewable generation.
13. Cease subsidising privately owned, for-profit, large-scale wind, solar and require full cost recovery for any associated infrastructure.
14. Reveal the full cost of all existing Hydro Tasmania and Aurora PPAs.
15. Release the figures on how much the Tasmanian Government and/or Hydro Tasmania has invested or committed to invest to date in the Hydrogen Hub and offshore wind. What is the loss in the sale of the decommissioned Bell Bay Power Station?
16. Release the cost-benefit analysis regarding Hydro Tasmania's plan to spend $1.6 billion on 5 dams and 10 power stations to 2030.
17. Release the integrated, costed, energy plan for Marinus Link, Battery of the Nation, Hydrogen Hub, Hydro Tasmania's $1.6 billion infrastructure works, subsidised Offshore wind and new transmission, together with new subsidised wind energy, demonstrating total capacity and how the elements all fit together.

Introduction

'*The world has enough for everyone's need but not for everyone's greed.*'
Mahatma Gandhi

There cannot be infinite economic growth on a finite planet. The Tasmanian Government through its 200% Tasmanian Renewable Energy Target is not directing capital towards meeting the energy needs of Tasmanians or our environment and threatened species, but instead directing it into promoting and creating further energy supply and consumption. The pursuit of endless growth in energy production and consumption means more alienated land and water resources and community conflict. It is now butting up against the very finite limits of our Tasmanian ecosystems.

Tasmania's 200% renewable energy target was invented by the Liberal Government, just as the fossil fuel gas rollout was a failed and outdated Labor Government 'vision'. No one knows where the whole 'vision' of a 200% renewable energy target came from. It is not based on demand forecasts and has no evidence base or business plan. It exploited concern about global warming to drive an undisguised 'jobs and growth' megaprojects strategy through the Tasmanian Parliament. It is detached from any economic rationality.

With no interest in, or understanding of climate, biodiversity or emissions reduction, the Tasmanian Liberal Government supported the abolition of carbon pricing even though it was bringing down greenhouse gas emissions and delivering a windfall gain to Hydro Tasmania.
With no understanding of what the rollout of new technology is doing to the cost curve for renewable energy generation, transmission and storage or the costs of the transition from fossil fuels on the mainland, they ploughed on with their idea of 200% renewable energy generation assuming that Tasmania has a competitive advantage in supplying energy services to the mainland via the National Energy Market, when it does not.

The whole 200% renewable energy strategy is purely and simply an extractive, economic development, megaprojects strategy, no different from the Franklin Dam or the pulp mills of the 1990s. It is history repeating itself, back to the future for Tasmania.

It is a classic case of

> *"…Megaproject planners and managers – and their organizations – do not know how to deliver successful megaprojects, or do not have the incentives to do so, and therefore such projects tend to "break" sooner or later, for instance when reality catches up with optimistic, or manipulated, estimates of schedule, costs, or benefits; and delays, cost overruns, etc. follow. Projects are then often paused and reorganized – sometimes also refinanced – in an attempt to "fix" problems and deliver some version of the initially planned project with a semblance of success."* [2]

How many reorganisations, refinancing, manipulated costs and benefits have we had so far with Marinus Link and Battery of the Nation?

Worse still, this megaproject mentality will undermine Tasmania's greatest contribution to addressing global warming and that is to maintain intact ecosystems and carbon stocks.

In a world of accelerating global heating and biodiversity collapse, Tasmania has a world-leading opportunity to abandon the fallacy of disproportionate dependence on infinite economic growth, protect and restore Nature and develop a circular economy.

Poor and uncoordinated infrastructure planning and spending in Tasmania is increasing debt to an unmanageable level, risking a fall in credit rating, an increase in interest repayments and rising power prices for consumers. Energy infrastructure is at the core of this government-driven debacle.

The fact is Tasmania's competitive advantage in the 2020s is that we can disconnect from the pricing mechanisms of the National Electricity Market and free ourselves from the expensive but necessary coal and gas transition upheaval in energy production on the mainland. We can meet our own energy needs – we can build resilience and self-sufficiency on our island.

We can do it, without in any way compromising the mainland's ability to meet its own renewable energy needs or the climate imperative.

We can protect our ecosystems, electrify agriculture and our transport system, improve the quality of life for the people who live here and bring down energy bills at the same time, without incurring the economy-breaking costs of Marinus Link, subsidised new generation and unnecessary transmission.

The infrastructure spending envisioned by Hydro and TasNetworks for Marinus Link and associated transmission infrastructure and subsidised private generation has never been examined from a Tasmanian cost-benefit perspective.

Nor has Hydro Tasmania's plan to spend $1.6 billion to maintain 5 ageing dams and 10 power stations to extend the operational life of the stations and dams. The Tasmanian community has not been consulted as to whether or not there are other and better options. Might it not be more efficient to decommission some of these dams and power stations and generate energy in another way or reduce demand through energy efficiency?

The Serpentine, Scotts Peak and Edgar dams hold the waters of the Serpentine impoundment. Two of the dams are 'high risk' because of earthquake risk.

They must be decommissioned or strengthened and largely rebuilt at a cost of over $100 million.

The impoundment is a storage lake to Lake Gordon. The water fed into Lake Gordon contributes on average 57 MW of energy to the Tasmanian grid each year.

Could 57 MW be produced more cost-effectively? Could a restored Lake Pedder and Serpentine Valley be of far greater value to the Tasmanian environment and economy than the rebuilt dams?

Could it be a pillar of the Circular Economy and a flagship project in the United Nations decade on Ecosystem Restoration?

Where is the economic analysis that such a spend is justified compared with alternatives? Where is the comparison between the cost and benefit of rolling out residential and commercial scale rooftop solar with infrastructure spending on Marinus, new transmission and subsidising private sector wind?

Mega projects, linked by new transmission lines and industrialising the whole of the north of Tasmania, are the wrong way to approach the challenges of the 21st Century.

As Einstein said, doing the same thing over and over again and expecting a different result is the definition of insanity.

Background

<u>Hydro Industrialisation as an Economic Growth Strategy Phase 1 (1911-1994)</u>

Tasmania's economic development throughout the 20th century was based on the strategy of building dams for the generation of hydroelectricity. Energy was needed for households and business but soon it went beyond

building what was necessary to meet demand to building forward, with megaprojects, larger than anything ever built before in the region and at a cost of multi-millions, in anticipation of government-created/incentivised demand. It was a ‘build it and they will come’ scheme.

The conditions, outlined below, which facilitated mega-project development existed in Tasmania in the 1960s and 1970s but tragically have not changed.

> *CONDITIONS FAVORING OR OPPOSING MEGAPROJECT DEVELOPMENT*
> *Based on a review of experience in several parts of the world, the appeal of the megaproject philosophy is likely to be particularly strong where the following conditions are present: [3]*
> *(1) resources are abundant;*
> *(2) environmental protection is subservient to an overwhelming de sire for economic development at almost any cost, sometimes referred to as "the frontier mentality";*
> *(3) governments are willing to offer major concessions to developers in the form of provision of infrastructure or the offer of electric power at rates well below costs;*
> *(4) substantial regional unemployment in the area where the project would be built, and especially if the government wishes to maintain or increase its political support in that region;*
> *(5) industries with substantial capital resources and large international markets are attracted by the prospects;*
> *(6) project review procedures allow considerable administrative and political discretion, and tradition tends to discourage appeal to legal recourse.*
>
> *In the case of hydropower, megaproject development is more likely to have a high profile when responsibilities are in the hands of a large public utility which is firmly supported by the government, and where the prevailing economic philosophy is that of "hydro-industrialization.*

"' In such circumstances, there tends to be a symbiotic relationship between the electric power utility and the government, in which the former obtains support from the latter for schemes it wants to build on grounds of "the promotion of economic growth" and the latter obtains support from the former as a result of the government making possible the continued expansion of the utility's staff, operations, and sphere of influence. [4]

The same mentality is being relied upon now to legitimise the next wave of extraction.

The rationale was to generate enough energy to supply large heavy manufacturing at a discount price. The ecological and financial cost was deemed, by successive Tasmanian governments, to be of little consequence compared with the jobs that were created in building the dams, power stations and transmission infrastructure and the jobs in the industries that were the beneficiaries of the bulk power contracts.

Building dams for jobs became an end in itself. The flooding of Lake Pedder in 1972 to build the 'biggest sheet of water in the Southern Hemisphere' was the extreme expression of hydro industrialisation as an unquestioned development strategy. The community questioned the environmental damage, the economics and the rationale for the project, protests followed and led to the Franklin Blockade in 1982-83 and the High Court decision to stop the dam. The Hydro Electric Corporation lost its political influence as the defacto Government. The last dams and power stations built in Tasmania were completed in 1994.

The debt incurred by the Hydro Electric Corporation, through its dam construction activities and its borrowing off-budget to pay politically directed dividends to the Consolidated Fund to disguise low revenues, was not fully understood until 1989. When revealed, it led to serious austerity in the 1990s. It is happening again. This time it is not just borrowing to

pay into the Consolidated Fund but also to enable subsidies to be paid to monetise private sector development.

The megaproject mentality has persisted. The likelihood and risk of time and cost overruns, corruption and community dissent have increased.

Hydro Industrialisation as an Economic Growth Strategy Phase 2 (2000 - present)

More than half of the energy generated by the Hydro supplied a small number of large industries that insisted on bulk contracts at low prices. These industries started to shed workers and wind down operations but continued to pressure Hydro to renew bulk power contracts.

In these circumstances, the neoliberal push for privatisation of energy generation, transmission and distribution and breaking up of government-owned utilities had appealed to Liberal Governments in Australia in the late 1990s. Tasmania was no exception. The privatisation of the Hydro was defeated by the Greens in the balance of power and Labor in opposition. But the Hydro was broken into three parts because Labor was as enthusiastic as the Liberals to enter the new National Electricity Market with Basslink in 2005.

An interconnector to Melbourne was Hydro's insurance plan. It meant they had leverage of another market to try to secure a better energy price from the bulk consumers and they had another market if any of these old industries closed, leaving Hydro with no market at all for a large amount of energy. The Hydro proposed Basslink. Its argument then was exactly the same as Marinus Link now. They would profit from selling into high peak prices in Melbourne and be able to import energy at low prices at other times. It failed. The cost of the facility fee for the interconnector was too high. The same will happen again with the cost of Marinus Link. Hydro Tasmania lied at the Basslink hearings deliberately minimising the estimated fee. Basslink went into administration.

But Tasmania joining the NEM meant Victoria set Tasmanian electricity prices and has done so ever since. Promising a Tasmanian price, whilst in the NEM with Victoria setting the price, means Hydro has to subsidise Tasmanian consumers. It is a cost Hydro has to absorb, reducing its dividend to the Tasmanian Government for essential services. Tasmanians might secure energy bill relief but schools, libraries and hospitals will have reduced funding and reduced services.

Just as with Hydro Industrialisation Phase 1, Phase 2 is based on exactly the same mentality. It is a megaprojects philosophy of 'jobs and growth'. It is based on all the conditions of Phase 1 cited above. It is a build-forward energy generation supply strategy in the hope that the energy will eventually be needed and affordable at the price it has cost to build.

All the rhetoric about building energy generation in Tasmania to address global warming and assisting in the transition to renewable energy on the mainland is just talk and not supported by any evidence. Mainland Australia does not need Tasmania's renewable energy. Renewable energy generation and battery storage are cheaper on the mainland than Hydro Tasmania can offer given the cost of the interconnector Marinus Link and the cost of its use.

The justification by AEMO for assessing Marinus Link as viable is fatally flawed. AEMO says that the wind farms in Tasmania would be built anyway so there is no capital cost to be calculated whereas to build them on the mainland would cost millions. Therefore, the cost of the cable is less than the cost of building the wind farms on the mainland and so is viable.

What utter nonsense. Even the Tasmanian minister admitted in parliament that in the absence of Marinus Link, the wind farms would not be built. Tasmania is about to repeat the mistakes of the last century. We have not learned that pursuing growth for its own sake and driving mega infrastructure projects for which there is no demonstrated need or positive

business case and which adversely impacts the environment will generate community resistance and result in debt.

It is the lesson of the Franklin dam that neither the Liberal Government or Hydro Tasmania have learned. But the community has. No one wants to see places like Robbins Island or Takayna destroyed, the Tasmanian Devil driven closer to extinction, migratory birds and eagles killed. No one wants to subsidise corporate profit to the detriment of Tasmanian community and our schools and hospitals.

Addressing the climate must be with policies that integrate, not repudiate biodiversity and ecosystems.

Does Tasmania need more energy?

The Tasmanian Government's whole Marinus Link and energy generation economic growth plan is based on the contention that Tasmania does not have sufficient energy to meet demand.

Is that true?

No. Tasmania's Energy Security Report says that Tasmania is not facing energy insecurity or blackouts.

Energy consumption in Tasmania has been steady for a decade.

Furthermore, 54% of all energy generated goes to four industrial users, 23% to business and 19% to residential users.

Tasmania could meet its energy needs, and electrify agriculture and transport, with more rooftop solar, batteries and energy efficiency.

There are no incentives for businesses, especially rural businesses, to invest in more solar and batteries and at the same time there is resistance

from Tas Networks, Hydro Tasmania and Aurora to connect medium-scale PV systems.

Furthermore, with 54% of all energy generated used to meet demand from four heavy industries, the potential to access more of that energy for other purposes is high, especially as these industries age or are sold.

The Labor Party in Tasmania argues that industry needs more energy but has failed to identify the demand except for Norske Skog. It needs to meet its EU targets and should invest in its own plant upgrades towards decarbonisation and not rely on public subsidies, especially since it has received $4 million from the federal and state governments in recent years in addition to its ongoing heavily subsidised bulk power price.

Does the mainland need Tasmania's wind energy or its long-duration storage (Hydro)?

No.

1. Hydro Tasmania has not provided evidence for the case that the mainland is prepared to pay what it will cost to generate or transmit energy from Tasmania across Bass Strait.

Bob Brown Foundation (BBF) commissioned the Victorian Energy Policy Centre to investigate the economics of Marinus Link and Battery of the Nation and it concluded that neither is economically viable. The rollout of new renewable energy projects, including offshore wind and the rollout of batteries on the mainland, make it much more expensive to access energy from Tasmania.

Marinus Link Report - Wrong Way, Go Back
Marinus Report 2021 Update

2. The cost of use of the Marinus Link cable and the Basslink cable will drive up energy prices in Tasmania. It will increase the transmission costs.

Basslink has sought a determination from the Australian Energy Regulator (AER) as to what cost it can recover from the use of the cable. Under the current Electricity Market rules, the cost will be split 50% each between Victoria and Tasmania. TasNetworks can absorb that cost or pass it on to consumers. It will pass it on to consumers and that can only drive-up energy prices in Tasmania as one-third of the cost of energy is transmission. If the rules change then the percentage of cost will change but it will not be zero. What is the estimated cost of use of Basslink to TasNetworks? What percentage of that cost will be passed on to Tasmanian consumers?

Marinus Link will drive up those prices further. It is a $5.9 billion project. The Commonwealth owns 49%, Victoria owns 23% and Tasmania owns 17.5% of Marinus Link. The AER will determine what can be recovered from consumers. Since the Commonwealth has no consumers, the costs will be distributed between Vic and Tas and if so in what %? What % of that cost to TasNetworks will be passed on to Tas consumers?

Marinus' CEO acknowledges that the transmission costs will go up but argues that the cost-to-generation ratio will go down, hence power bills will be cheaper. How is that so with the subsidised power purchase agreements?

3. The transmission extensions in Tasmania to link the proposed private wind farm projects to the grid and to the Marinus/Basslink cables are not being built for Tasmanians. The cost of the transmission lines, including the NW Transmission extension ($0.8 billion), is an infrastructure cost that is a direct subsidy to private business. It will be a cost to the Tasmanian people.

4. None of the existing wind farms in Tasmania would have been financially viable without subsidies. They are all a cost to the public purse.

Hydro Tasmania and Aurora have incurred considerable costs and debt to enable these projects to be monetised. The Tasmanian community does not know how much it has cost us or how much it will cost us by 2030. It is critical this inquiry requires Hydro Tasmania, Aurora and TasNetworks to reveal these costs.

The government must tell Tasmanians whether it intends to encourage or direct Hydro or Aurora to subsidise new wind farm like Robbins Island, St Patrick's Plains, Jim's Plains Whale Back Ridge with generous PPAs in addition to paying for the proposed interconnector Marinus Link and the extended transmission lines?

<u>Case study 1: Economics of the development of wind farms in Tasmania</u>

Under the federal Renewable Energy Target (RET) legislation which operates until 2030, renewable energy generators create Large Generations Certificates (LGCs) which retailers of electricity are obliged to buy before surrendering them to the Clean Energy Regulator as required. Generators like Hydro Tasmania don't normally buy LGCs from another generator. Why would they when they can create their own and are under no obligation to buy any?

A contract by Hydro to buy LGCs is a financial arrangement that needs to be recorded in Hydro's financial accounts. If contracted future prices are less than the expected future market price, the contract will be recorded in Hydro's accounts as an onerous contract.

On the other hand, energy retailers, like Aurora are obliged to buy LGCs.

To make a proposed windfarm or solar farm investible, project proponents try to secure a PPA from a customer (Hydro or Aurora for example) thus giving security to lenders and guaranteed returns to investors from what are usually highly leveraged investments.

PPAs usually consist of two parts.

1. An agreement to purchase LGCs at a contract price over the contract period. For every MWh of electricity that is produced, one LGC is created.
2. An agreement to purchase electricity (the MWh) from that business for a contract price over the contract period.

If the spot price of LGCs is lower than the contract price, then Hydro/Aurora have to pay a top-up to the company. The reverse may occur.

If wholesale energy prices are lower than contract prices then Hydro/Aurora pays another top-up. Again, the reverse may occur.

The only time Hydro or Aurora may secure a positive return is if spot prices for LGCs and wholesale energy spot price are higher than the contracted price.

The expectation from energy analysts revealed by the graphs of forward prices is that LGCs will decrease in value and the prices will fall as we head towards 2030 as all the renewable energy eligible for LGCs comes on stream and the current inventory of unsurrendered LGCs gradually diminishes.

Hydro and Aurora are almost certain to face the reality that by 2030, LGCs will be selling on the spot market for considerably less than the contracted price and any top-up required will be substantial. This is why the project developers were keen to lock in a subsidised price with government-owned entity such as Hydro and Aurora rather than risk the vagaries of the market in future years.

This context is critical to understanding the economics of the development of wind farms in Tasmania. Going forward, new wind farms won't be eligible to produce LGCs unless the project was registered by the cut-off date in 2020.

The Tasmanian Government legislated the 200% renewable energy target which it intends to meet with Battery of the Nation and wind farms. The latter, in the government's view, will be built in Tasmania stimulated by access to the National Electricity Market via a publicly funded interconnector, Marinus Link and publicly funded extended transmission lines to deliver their product to market.

Generous PPAs with Hydro and Aurora, Marinus Link and the NW Transmission Development are all direct subsidies to private wind farm developers.

It is possible some of the new wind farms may be eligible to produce LGCs. Otherwise, they'll have to rely on a PPA covering electricity prices only.

As to the idea that a 'green' hydrogen hub at Bell Bay will provide a market for new wind farms, that remains a question of price. Hydrogen developers need huge quantities of renewable energy so will not want to pay a commercial price for that energy which means a privately owned wind farm couldn't survive and prosper.

Hydrogen developers are only interested in electricity from Hydro at rock-bottom prices. For example, Twiggy Forrest's Fortescue Future Industries and Origin Energy both tried to secure electricity from Hydro at a heavily discounted bulk power contract price to make their proposed hydrogen projects profitable. Hydro refused because a) the volume of energy was too great and b) Hydro can sell its energy for a higher price over Basslink.

Premier Gutwein tried to persuade Hydro to the contrary but stopped short of directing Hydro to make that energy available at a huge loss. His was reported by ABC News. [5]

"It's worth noting that Mr Forrest wants to pay Hydro only whatever energy-intensive major industrials like Rio Tinto, Nyrstar and Norske Skog hand over for their power. How Mr Forrest seems to know a price long deemed commercial-in-confidence is one question — what his plan could cost the state in subsidies is another entirely. Professionals Australia state director Luke Crowley said senior Hydro employees were worried the pursuit of Mr Forrest's plan could cost the business — and ultimately taxpayers — millions of dollars per year. Members estimate that every dollar per megawatt hour saved by Twiggy could cost Tasmanians taxpayers $2 million per year," he said.'

It would be a ludicrous double subsidy for the Tasmanian community through Hydro to enter into uneconomic PPAs with private sector wind farms to enable them to be built and make a guaranteed profit, and then for Hydro to sell that energy at a bulk discount price to subsidise a hydrogen project at Bell Bay. The loss to Hydro and the community would be huge. It would be an even greater subsidy if Marinus Link and the NW transmission extension were built at public expense as well.

The problem Tasmanians have is that the extent of the existing subsidies paid by Hydro and Aurora through PPAs is unknown and deliberately kept secret by Hydro and Aurora, despite them both being owned by Tasmanians. We deserve to know exactly what the figures are.

The only hint we have is from Woolnorth Windfarm Holdings (WWF)'s publicly released accounts which not only discloses the changes in the value of LGCs (in WWF they are recorded as financial assets) but also the top payments made or received for electricity. We can extrapolate from those to guess what is likely to have been agreed by Hydro and Aurora in their contracts with Granville Harbour and Cattle Hill wind farms. But it's only a guess.

We know, in the case of Granville Harbour wind farm, that minister Matthew Groom, under the Gutwein Liberal Government directed Hydro

to enter into a loss-making PPA with Granville Harbour windfarm in order to make the windfarm investible. [6]

We know it's a loss maker because it is recorded in Hydro Tasmania's accounts as an 'onerous contract'. In addition, Hydro makes a point of including it as Community Service Obligation (CSO) because it wasn't a commercial arrangement entered into voluntarily.

Hydro Tasmania defines onerous contracts as:

> 'Present obligations arising under onerous contracts are recognised and measured as provisions. An onerous contract is considered to exist where the Group has a contract under which the unavoidable costs of meeting the obligations under the contract exceed the economic benefits expected to be received from the contract [7]

Hydro further noted [8]:

> Onerous contracts include gas contracts and Large Generation Certificates valuation.

HT refers to community service obligations as [9]:

> Formalised directions issued by the Minister for Energy and Renewables and Treasurer to Hydro Tasmania to perform community service obligations (CSOs) pursuant to section 65(1) of the Government Business Enterprises Act 1995 (Tas) (GBE Act) as required by section 55(2)(a) of the GBE Act.

Hydro then specifically referred to the Granville Harbour CSO [10]:

> On 5 September 2017, Hydro Tasmania was directed to enter a power purchase agreement with West Coast Wind to facilitate the construction of the Granville Harbour Wind Farm. The power purchase agreement took effect once the wind farm became operational in 2020. In 2021-22, this unfunded CSO direction has an

implied cost to Hydro Tasmania of $1.6m due to the prevailing market price for LGCs.

How is guaranteeing a profit for a private project developer at the expense of the Tasmanian people, a community service? What is the dollar loss to Hydro and hence the people of Tasmania to date from these onerous contracts which require Hydro Tasmania to purchase both LGCs and energy at a fixed price to benefit the project developers of the Granville Harbour windfarm and WWF, majority-owned by the Chinese Government?

Why did the Liberal Government direct Hydro sign the agreement with Granville Harbour promoters against its best commercial judgement?

Why did the Board of Hydro Tasmania sign off on it? Even if it did so reluctantly by making its displeasure known by labelling it a CSO.

Aurora, an energy retailer, hence with an obligation to purchase LGCs, also signed a PPA to make the Cattle Hill windfarm investible for Goldwind, a wholly owned company of the Chinese Government. Details of this Aurora 2018 deal have never been made public. [10]

So how generous was the PPA made up of

a) the LGC price Aurora agreed with Cattle Hill and

b) the contracted wholesale price of energy?

What is the profit or loss to date to Aurora (the people of Tasmania) from this contract?

The publicly released financial statement for WWF helps understand some of the missing bits of the PPA puzzle.

In 2011 Hydro sold 75% of its Woolnorth windfarm (WWF) to a Chinese company, Guohua Energy Investment, a subsidiary of Shenhua (wholly owned by the Chinese Government) for $88.6 million. It was ‘good for

hydro and good for Tasmania' according to Bryan Green, Labor Minister in the Giddings Government at the time. [12]

Hydro said it cleared a debt of $208 million in the deal. What actually happened was HT transferred $147m from Hydro's books to the books of WWF. It had to use the $88 m from Shenhua to complete the Musselroe project which it then transferred to WWF in 2013. Shenhua then paid Hydro another $90 m, representing a 75% interest in the increased value of WWF.

Shenhua only agreed to buy 75% of WWF after Hydro agreed to a PPA that would allow WWF's debt of $420m to be paid, guaranteed by Hydro, leaving the Chinese government with a 75% unencumbered interest in WWF by 2030.

That pre-empts the question, why didn't Hydro hang on to WWF instead of guaranteeing the Chinese government's takeover? The reason, as set out in the appendix, probably relates to the fact that, at the time, Aurora's Tamar Valley gas power station was a disaster and was about to be transferred to Hydro together with another $205 m of debt. Hydro transferred the windfarm assets to another entity WWF (at cost) to get some debt off its books but then sold 75% of that entity with a PPA guaranteed to pay off the debt.

The power purchase agreement between WWF and Hydro was in two parts. One was an agreement to purchase LGCs, which it has no obligation to do, and the other was to purchase energy, both at a fixed price for a fixed period.

Only the effects of the LGCs are recorded in financial statements because they're financial instruments and accounting standards require them to be treated that way.

But top-up payments for wholesale electricity don't arise until the electricity is sold into the market. When payments for wholesale electricity

pursuant to a PPA are made, they are lumped with all other purchases and hence a breakup is impossible.

In addition, accounting standards don't require future liabilities to be recognised. A liability only arises for accounting purposes when the electricity has been produced. So even though we might be able to make a reasonable guess about what a future liability might be, accounting standards don't require it and hence Hydro doesn't divulge it.

There is nothing in Hydro's financials to indicate future possible top-up payments expected when PPA electricity contract prices exceed spot prices, either for WWF or Granville. Nor is there in Aurora's books re Cattle Hill.

We know from WWF's publicly released financials what happened in 2021 when Hydro paid WWF a subsidy of $24 m just for electricity because spot prices were so low. But we don't know what happened with electricity for Granville or Cattle Hill.

Hydro includes its 25% share of WWF as having a value of $58 million at 30 June 2022, much the same as it was back in 2013. But if the onerous contract re LGCs was offset against the asset value, Hydro's investment in WWF would be negative. And if we knew the contingent liability for future top-up of electricity prices, the value would be an even larger negative value. That's the risk we run with more PPAs in the future.

Both Hydro and Aurora are wholly owned subsidiaries of the Tasmanian Government, holding assets in trust for the people of Tasmania. It is unacceptable they keep secret the real cost of PPAs. This is the ongoing problem with PPAs. We never know to what extent our electricity companies are subsidising these largely foreign-owned customers at our expense.

The secrecy must end. The government must require Hydro and Aurora to reveal the dollar figure for profits and losses from their PPAs.

Case Study 2: Bell Bay Hydrogen Hub and Energy Demand

The Bell Bay Hydrogen Hub is another ill-considered megaproject, 'jobs and growth', energy-hungry, brainchild of the Tasmanian Government.

> 'The Tasmanian Government is leading a consortium of partners (TasPorts, TasNetworks, TasWater, TasIrrigation and the Bell Bay Advanced Manufacturing Zone) to seek grant funding from the Commonwealth Government's Activating a Regional Hydrogen Industry – Hydrogen Hub Implementation scheme.'

The government has never made clear the scale of the new generation it intends to facilitate beyond stating a 200% target of 21,000 GWh. Tasmanians and the Tasmanian Parliament were kept in ignorance of just how much land and sea area would be alienated for these projects. They were never told how much new renewable energy generation needs to be built to make Marinus Link viable and to supply the hydrogen hub.

On the one hand, Tasmanians are told that we need Marinus Link to send renewable energy to the mainland and on the other, that we need it to supply potential hydrogen export businesses. It is clear the Tasmanian Government intends to do both, notwithstanding the fact that two cables have now been downgraded to one for the same price. But can we afford both of these neoliberal megaprojects?

It is critical that the Tasmanian community now be told exactly;

1. how much new generation is being envisaged?
2. where it is envisaged all these renewable energy developments will be located?
3. what subsidies are being considered or proposed?
4. what is the market for export hydrogen products?
5. have any offtake agreements been signed for the export product?
6. what has Hydro Tasmania been directed or agreed to supply and to whom at what price?

The current policy of approving and subsidising mega-scale private sector renewable energy projects before there is any demonstrated need or community support is anti-democratic. Retrofitting renewable energy zones (REZ) once projects have been proposed is corrupt as inclusion in a REZ comes with generous concessions.

Furthermore, several different stories are told about each project.

Iberdrola announced it intended to build 300 MW capacity wind farm to supply the Abel Energy methanol export facility. A CSIRO report in 2024 stated

> 'The energy supply for the electrolysis plant would be through hydro and approximately 700 MW new build wind-based power supply sources.'

What capacity will Hydro Tasmania provide and at what price? Is the other 400 MW coming from offshore wind? Has the Tasmanian Government committed Hydro Tasmania to buy this energy to monetise private offshore wind developments? What offtake agreement has been agreed?

In June 2023, the Tasmanian Government committed to buying energy from an offshore wind farm.[13]

> 'The Equinor-backed plans to develop an offshore wind farm of up to 2GW in the Bass Strait, off the coast of north-eastern Tasmania, have won the backing of the state government through a commitment to source green power from the huge project…A year later, Equinor was cleared to invest in the project, which aims to be sized at around 1GW to start with, with an eye to supplying the big green hydrogen and green ammonia facilities planned by the likes of Fortescue, Woodside, and more recently Iberdrola for Bell Bay.'

Exactly how much energy has the Tasmanian Government committed Hydro Tasmania to purchasing and at what price?

The Tasmanian Government, having received $70 m Commonwealth funding said

> 'This investment will have matching support from the Tasmanian Government working with our GBEs and departments, with proponents paying their fair share of infrastructure costs.'

The Tasmanian Government contributed $500,000 in 2022 towards a feasibility study for ABEL Energy's proposed Green Hydrogen and methanol plant.

In June 2023, it was announced that Hydro Tasmania had signed a term sheet with Bell Bay Powerfuels for the sale of the decommissioned Bell Bay Power Station, following an Expression of Interest process launched by Hydro Tasmania in December 2022. The price or terms have not been made public. The price and terms must be released.

Exactly how much has the Tasmanian Government and/or Hydro Tasmania invested or committed to invest to date in the Hydrogen Hub? What is the loss in the sale of the decommissioned Bell Bay Power Station?

What of the jobs in the 'jobs and growth' strategy?

The jobs component of the 'jobs and growth' strategy is for construction jobs. These are few in number, highly skilled and 'fly in fly out'. There are less than ten permanent jobs in the running of a wind farm. The only people who made money from the Cattle Hill wind farm construction were shack owners who could rent their accommodation to the FIFO workers.

Costs of the Hydro Industrialisation Mega Projects Jobs and Growth Strategy.

1. Industrialisation of the entire north of Tasmania for the benefit of overseas-owned companies resulted in a loss of sense of place and the destruction of habitat, farmland and community amenity.
2. Cost to other services and quality of life in Tasmania as Hydro Tasmania's dividend to the Consolidated Fund decreases.
3. Designing an economic strategy for Tasmania based on Hydro Industrialisation, building megaprojects to supply energy, without demand for the energy or a market means a market has to be identified or created. This creates a huge risk that the megaprojects are economically unviable and Hydro Tasmania, TasNetworks are plunged into further debt.
4. This creates a further risk that the government abandons good governance and undermines existing laws to facilitate these developers just as has occurred at Robbins Island where the Tasmanian Coastal Policy is being retrospectively amended to enable ACEN to build where it is currently prohibited.
5. There is a huge cost to community cohesion as communities rebel against the megaprojects imposed upon them.
6. The opportunity cost of the loss of circular economy, the foregone opportunity to make Tasmanians more resilient, with cheaper power bills, better-insulated homes are all real costs of this debacle.
7. In a climate and cost of living context, the lost opportunity for electrifying agriculture and Tasmania's transport fleet is a mega blow to the future of our economy and quality of life.

Conclusion

We live in an uncertain world, increasingly subjected to the vagaries of global heating, extreme weather events and in which inappropriate

development is sending species to extinction. Whereas once opportunity seemed to lie in going bigger and more connected, the opposite is now true.

We are an island. Self-sufficiency and resilience must be prized in all things but especially in energy. We should take the opportunity to leave the pricing mechanisms of the NEM, pursue what is best for Tasmanian people and our environment, protect and maximise our carbon stocks and show the world how a circular economy can work.

Attachment A

Hydro & Aurora's arrangements with windfarms

The notes in this attachment were prepared by John Lawrence, public policy analyst at www.tasfintalk.blogspot.com.au. For a more detailed discussion of PPAs and WWF see Tasfintalk: Marinus and the case for more Tasmanian wind farms

HT disclosed the value of its onerous contracts in Note 17 of its 2022 Annual Report. Onerous contracts are included as 'Other provisions' as per the cut and paste below from page 57.

Other provisions	Consolidated Onerous contracts(i) $'000	Regulatory schemes $'000	Site rehabilitation (ii) $'000	Total $'000
Balance at 1 July 2021	261,054	27,108	61,316	349,478
(Reduction)/additional provision recognised	(139,187)	76,156	-	(63,031)
(Reductions) arising from payments	-	-	(102)	(102)
(Reductions) from settlement	-	(76,665)	-	(76,665)
Movements resulting from re-measurement or settlement without cost	21,487	-	(10,068)	11,419
Balance at 30 June 2022	143,354	26,599	51,146	221,099

Other provisions	Parent Onerous contracts(i) $'000	Regulatory schemes $'000	Site rehabilitation(ii) $'000	Total $'000
Balance at 1 July 2021	239,916	-	-	239,916
(Reduction)/additional provision recognised	(139,187)	-	-	(139,187)
Balance at 30 June 2022	100,729	-	-	100,729

(i) Onerous contracts include gas contracts and Large Generation Certificates valuation. There is judgment required in estimating the costs and timing of the future cashflows relating to the Large Generation Certificates.
(ii) Site rehabilitation provision represents estimated future cost of demolishing the Bell Bay plant and the Tamar Valley Power Station at the end of its useful life and of rehabilitating the site.

Readers will note the figures are for both the Parent Entity (HT) and for the Consolidated Entity (HT plus its subsidiaries which in this instance means AETV which is the Tamar Valley gas power station transferred from Aurora Energy in 2013).

We can be reasonably certain the onerous contract in HT's books (the parent entity) of $100.7 m relates to the LGCs with Woolnorth Windfarm Holdings P/L (which includes Musselroe) and with Granville Harbour. The additional onerous contract in the books of the Consolidated Group (of $42.6m being $143.3 m less $100.7 m) almost certainly relates to the gas pipeline deal with AETV.

The reduction in the value of onerous windfarm contracts of $139 m in the 21/22 year reflects the movements in LGC prices in the futures markets. The reduction in value for the year is included with 'Fair value gains' in the P&L of $145m (from page 40 of the 2022 Annual Report). At 30th June

2022 the future expected stream of payment to the 2x windfarm operators had a present value of $100.7 m. In nominal terms the level of payments will be much higher, $150m say over the period until 2030, but the stream is recorded in the balance sheet with a lump sum present value of $100.7m.

In any year the level of payments to the windfarm operator depends on LGC prices, whether they are more or less than the contracted price. In 22/23, the reduction in the value of onerous contracts implied there was a reduction in the difference between the market and the contract price for LGCs. Page 101 indicates what it cost HT in 2021/22:

Community service obligations summary

Formalised directions issued by the Minister for Energy and Renewables and Treasurer to Hydro Tasmania to perform community service obligations (CSOs) pursuant to section 65(1) of the *Government Business Enterprises Act 1995* (Tas) (GBE Act) as required by section 55(2)(a) of the GBE Act.

Bass Strait islands

The Hydro Tasmania group provides electricity services to the Bass Strait islands in accordance with the direction to perform an unfunded CSO. Retail services are provided by Momentum Energy. The CSO ensures that consumers on the Bass Strait islands receive electricity at a concessional and regulated price. In 2021-22, the net cost of the CSO to Hydro Tasmania was $10.11 million.

Granville Harbour Wind Farm

On 5 September 2017, Hydro Tasmania was directed to enter a power purchase agreement with West Coast Wind to facilitate the construction of the Granville Harbour Wind Farm. The power purchase agreement took effect once the wind farm became operational in 2020. In 2021-22, this unfunded CSO direction has an implied cost to Hydro Tasmania of $1.6m due to the prevailing market price for LGCs.

Sponsorship of Cricket Tasmania and the Hobart Hurricanes

Beginning FY2020-21, Hydro Tasmania was directed to perform an unfunded CSO to become a major sponsor of Cricket Tasmania and the Hobart Hurricanes BBL cricket team for a three year period. In 2021-22, the cost of the CSO to Hydro Tasmania was $300,000.

It must be noted that HT, by recording its liability to Granville Harbour as a CSO, is indicating that it doesn't regard it as a commercial arrangement that it willingly signed up for, rather an obligation that was imposed on it by the shareholder minister.

Payments to WWFs were not separately mentioned in the Annual Report.

Overall, we know the value of onerous contracts fell by $139 m. mostly as a result of revaluation, with only a small amount due to the actual payment made. In the previous year, things were the complete opposite. Not only were payments made but the future value of expected payments rose, as can be seen, to $239.9 m at 30th June 2021.

How much will be paid in the future depends entirely on how LGC market prices differ from the contract prices.

Power Purchase Agreements PPAs usually cover not only the LGCs but the electricity itself. The LGC deal is a financial instrument and movements are recorded as just described. On the other hand, the liability for a top-up payment of wholesale electricity proceeds doesn't arise till the electricity is sold into the market. The exact liability is not known until that occurs so it doesn't appear as a liability.

Hence there is nothing in HT's financials to indicate future possible top-up payments expected when PPA electricity contract prices exceed spot prices. Accounting standards often produce anomalies. The different

treatment of LGC top-ups versus electricity price top-ups is one such anomaly.

Before the current rises in wholesale prices HT was almost certainly subsidising the 2x windfarms' electricity prices. In the last year, payments may have gone in the other direction. We know from WWF's publicly released financials this was the case. In 2021 HT paid WWF a subsidy of $24 m just for electricity because spot prices were so low.

But we don't know what happens with Granville Harbour because HT refuses to divulge any details about the PPA.

Cattle Hill is analogous to Granville in some respects, although the government entity is Aurora Energy and Aurora Energy doesn't list it as a CSO.

This is from p93 of Aurora's Annual Report for 2021/22:

C9 Provisions (continued)

	2022 $'000	2021 $'000
Current employee provisions (note D1)	3,426	3,386
Current onerous contract provision*	3,862	5,043
	7,288	8,429
Non-current employee provisions (note D2)	2,180	2,769
Non-current onerous contract provision*	2,927	17,873
	5,107	20,642
Opening balance	22,917	28,934
Provision reassessment	(13,136)	(2,392)
Utilised	(4,313)	(5,360)
Unwinding of discount	1,321	1,735
Closing balance	6,789	22,917

* Aurora Energy has a long-term contract for the purchase of an energy related product that was assessed as onerous in 2018-19 due to the forward market prices and the economic value that Aurora Energy could obtain from the product being less than the total cost of the contract at the time. Increases in the forward market prices has led to favourable reassessments of the provision, which are included in the line item energy and network purchases on the statement of comprehensive income.

The liability for the onerous contract with Cattle Hill at the end of the 2022 years was only $6.8 m having reduced significantly during the 21/22 year due to rises in future LGC prices. It's not just movement in current LGC prices, but rather how the prices for future LGCs, say 2026 LGCs and 2027 and beyond, which determine the overall value of LGC contracts in the 2022 financials.

But again we don't know how that part of the PPA covering wholesale electricity markets impacted Aurora, what it cost them in 2021/22 to make top-up payments. Or maybe it received payments from Cattle Hill? We just don't know.

Why does Hydro Tasmania, a renewable energy generator, buy LGCs? These certificates are created by generators of electricity and sold to energy retailers who have an obligation to buy them. HT includes under Other financial assets (Note 11 in the 2022 Annual Report) includes

unsold LGCs, described as ‘environmental energy products’. At 30th June 2022 HT had $59 m worth of unsold LGCs.

Maybe it makes sense for Aurora as a retailer to do a deal with Cattle Hill. It buys LGCs which are then handed over and cancelled by the Regulator as required. At 30th June 2022 it only had $3 m worth of LGCs (included under Inventory in Note C2 of the 2022 Annual Report.)

At best we know only a fraction of the story, and that is the value of the onerous contracts that relate to LGCs. They are recorded in financial statements because they’re financial instruments and accounting standards require them to be treated that way.

But the other half of a PPA relates to a contract for wholesale electricity. When payments for wholesale electricity pursuant to a PPA are made, they are lumped with all other purchases and hence a breakup is impossible. In addition, accounting standards don’t require future liabilities to be recognised. A liability only arises for accounting purposes when the electricity has been produced. So even though we might be able to make a reasonable guess about what a future liability might be, accounting standards don’t require it and hence HT doesn’t divulge it.

Finally, just a comment on WWF. HT transferred Woolnorth and Musselroe windfarms to WWF together with a large amount of debt. At that stage HT owned all the shares in WWF. It then sold a 75% interest to Shenhua, a Chinese government owned entity in two tranches, $88 million in 2011 and $90 million in 2013 totalling $178 m approximately. It retained a 25% interest worth just under $60 million. Essentially the assets were transferred to WWF at cost so there were no gains on disposal.

Currently in HT books its 25% interest is worth $58m at 30th June 2022 as per Note 7 in the 2022 financial statements:

7. Investments

	NOTE	CONSOLIDATED 2022 $'000	2021 $'000
(a) Current investments			
Money market investments		132,267	74,700
(b) Non-current investments			
Investment in associates and joint ventures	31	58,038	71,073
Investment in subsidiaries		-	-
		58,038	71,073

HT's 25% share of WWF was worth $60 million in 2013. Little has changed, although it has received some income over the years.

However, if one were to deduct the value of the onerous contract for WWF's LGCs, not to mention the undisclosed contingent liability for future wholesale electricity price top-ups, HT's 25 % share of WWF is probably negative.

The PPAs which the Chinese insisted before agreeing to the deal to buy 75% of WWF, effectively guarantees the payment of WWF's debt by HT. Back in 2012/13 WWF had debt of $420 million. By 2030 WWF's existing debt will likely all be paid, thanks in no small part to the generous PPA.

That pre-empts the question, why didn't HT hang on to WWF instead of guaranteeing the Chinese government to take it over? The answer to that requires a closer look at HT financials. The WWF divestment occurred at roughly the same time as HT was about to be burdened with $205 million of debt when the Labor government forced it to take over AETV, the Tamar Valley gas power station, which HT had to write down by $335 m when it took over ownership on 1st June 2013.

The movement in HT's debt from 2011 to 2013 can be seen in the following table:

HT borrowings 2011/12 to 2012/13

	2011/12	2012/13
Opening balance	$969,876	$850,600
		-
Changes as per cash flow statement	$27,999	$155,600
Add AETV borrowings	$0	$205,000
Less WWF borrowings transferred	$147,275	$0
Closing balance	$850,600	$900,000

In the 2012 year when HT received the first tranche of $88 million from Shenhua, whilst it managed to transfer $147m of debt to WWF, it had to use the first tranche as well as borrow another $28 m to finish building Musselroe, which it did before transferring Musselroe to WWF and receiving the second tranche of $90m from Shenhua in 2013.

HT was able to reduce its existing debt by $155.6 m in 2013 due in part to the $90 m second tranche. But 2013 was also one of HT's best ever years being one of the 2x carbon tax years. Over the 2 years HT's debt only reduced by $70 m.

The LGC scheme is part of government incentives to encourage 33,000 MW of new renewable energy. Eligible projects had to register by 2020, although they were given time to become operational. The scheme ends in 2030. New wind farms proposed after 2020 are not able to generate LGCs and therefore PPAs will probably only cover electricity prices.

Finally a comment on sunk costs.

Sunk costs are costs that have been incurred and can't be recovered and which are ignored when making investment decisions.

It's a familiar occurrence when looking at the economics of investment projects. Projects are unbundled into let's say, 2x sub-projects. Each assumes the other is proceeding and treats the other's costs as sunk costs. That way each sub-project might look ok, but had they been treated as one project a different result may well have eventuated.

Promoters of electricity generation and transmission projects are notorious for using sunk cost assumptions to make their individual projects stack up. A recent article summarised the use of sunk cost trickery in the renewables space. [14] The conclusions are pasted below:

And so this absolutely disastrous circular logic is closed:

1. Politicians build transmission and storage because they think solar and wind are cheap because science says so.
2. Science (i.e. CSIRO) says solar and wind are cheap because high transmission and storage costs required to facilitate these renewable generators are an already built 'sunk cost' and ignored in their calculations.

A government 'scientific agency' is giving its authoritative scientific analysis to economists and politicians, which is actually polluted by a catastrophic economic error.

We've seen examples before where a government agency, so explicitly devoted to doing such detailed analyses correctly, might have made such a simple yet catastrophic error, setting the nation back years, and billions of dollars. It seems perfectly possible that this might be another.

There are plenty of other technical issues that one could and should raise with the rest of the report. But this particular error seems so clear-cut, and massively consequential, that it demands a singular response.

Why should Australians keep accepting the claim that renewables are cheap, even with supporting infrastructure, when the report that justifies this claim explicitly excludes the infrastructure mega-projects by calling them a sunk cost?

If people are unsure, Marinus on one hand, and windfarms and Battery of Nation on the other hand, are classic cases where sunk cost assumptions are used. Most readers are unaware of the built in trickery.

Most people are also unaware that Basslink was based on similar shaky foundations. Basslink was being assessed in the early 2000's at the same time as the gas pipeline interconnector received the go-ahead. Deputy Premier Lennon at the time was an unashamed supporter of both. From Hydro's viewpoint electricity from gas had the potential to compete in the same markets. On the other hand, electricity from subsidised gas had the

potential to generate more on-island electricity. The final Basslink business case agreed to by Hydro's Board in November 2002 assumed 2,000 GWh of electricity from gas would be produced each year, allowing Tasmania to become a net exporter thus reaping the arbitrage advantages thereby justifying the building of Basslink. It never eventuated. Tasmania has been a net importer in most years. It's been a costly lesson, which current policymakers and politicians are only too willing to ignore.

Footnotes

[1]https://www.economicregulator.tas.gov.au/Documents/23%202630%20Annual%20Energy%20Security%20Review%202022-23.PDF
[2] https://www.energizeontario.ca/stories/why-mega-projects-fail-construction-solutions/#:~:text=Megaproject%20planners%20and%20managers%20–%20and,estimates%20of%20schedule%2C%20costs%2C%20or
[3] https://core.ac.uk/download/pdf/151601064.pdf
[4] W. R. D. SEWELL AND H. D. FosTER, ENERGY POLICY FOR AN UNCERTAIN FUTURE (1983). Summer 19871 HYDRO-MEGAPROJECTS
[5] https://www.abc.net.au/news/2021-10-13/what-would-twiggy-forrests-hydrogen-plant-cost-tasmania/100532776
[6] https://tasmanianinquirer.com.au/news/gutwein-directed-hydro-tasmania-to-enter-into-a-loss-making-deal-utility-says/
[7] HT 2022 Annual report page 33
[8] Ibid page 57
[9] Ibid page 101
[10] Ibid page 101
[11] https://cattlehillwindfarm.com/wp-content/uploads/2019/05/Agreement-reached-for-Wild-Cattle-Hill-Wind-Farm-002.pdf
[12] https://www.abc.net.au/news/2011-12-22/20111222-chinese-buy-into-woolnorth-wind-farm/3743874 .
[13] https://reneweconomy.com.au/tasmania-backs-2gw-bass-strait-offshore-wind-farm-proposed-by-norway-oil-giant/
[14] The 'sunk cost' trickery that makes renewables seem cheaper than they are (fresheconomicthinking.com)


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