

13 October 2023

The Secretary
Legislative Council Sessional Committee Government Administration A
Parliament of Tasmania
Parliament House
HOBART TAS 7000

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Dear Secretary,

**Hydro Tasmania's submission to the
Legislative Council Sessional Committee Government Administration A:
Inquiry into Energy Prices in Tasmania**

Hydro Tasmania has been generating hydro electricity since our first power station was opened at Waddamana in 1916. Today, with 54 major dams, 30 hydropower stations and two wind farms, we are Australia's largest generator of renewable energy.

As a Government Business Enterprise, we are proud to return up to 90 per cent of our profits to the Tasmanian people through dividends to the State Government, and to apply the remainder to delivering sustainable value to Tasmania, communities, customers and clients.

We submit the following for consideration of the Inquiry's Terms of Reference:

- 1. Factors that impact energy prices for Tasmanian household and small and medium business customers, with particular reference to energy generation, distribution and retail costs.**

Hydro Tasmania's principal purpose is to efficiently generate, trade and sell electricity in the National Electricity Market (NEM).¹ Tasmania is part of the NEM and is currently connected to the mainland through a single interconnector, Basslink. Hydro Tasmania and other generators (primarily wind farms) generate electricity in Tasmania; transmission of electricity within Tasmania is managed by TasNetworks; and retailers sell electricity to Tasmanian households and small and medium businesses. Tasmania has some unique regulatory arrangements due to the large involvement of State-owned businesses in the electricity industry.

¹ *Government Business Enterprises Act 1995*, Ministerial Charter, November 2012, Hydro Tasmania.

Prices set by the independent Regulator

The *Electricity Supply Industry Act 1995 (Tas) (ESI Act)* requires the Tasmanian Economic Regulator (the Regulator) to determine the maximum prices that may be charged by a regulated offer retailer for small customers under standard retail contracts in Tasmania. These prices are referred to as the Standing Offer prices. Of the retailers in Tasmania, Aurora Energy is the only regulated offer retailer. Small customers in Tasmania are customers who consume less than 150 MWh per year.

The Standing Offer prices determined by the Regulator are reflective of the costs of providing a retail service to customers. The Regulator adopts a ‘building block’ approach whereby the various costs are summed together to produce a total value for supplying electricity to small customers.

Diagram 1, published by the Regulator, outlines the various cost components and values for Standing Offer customers in 2023-24.

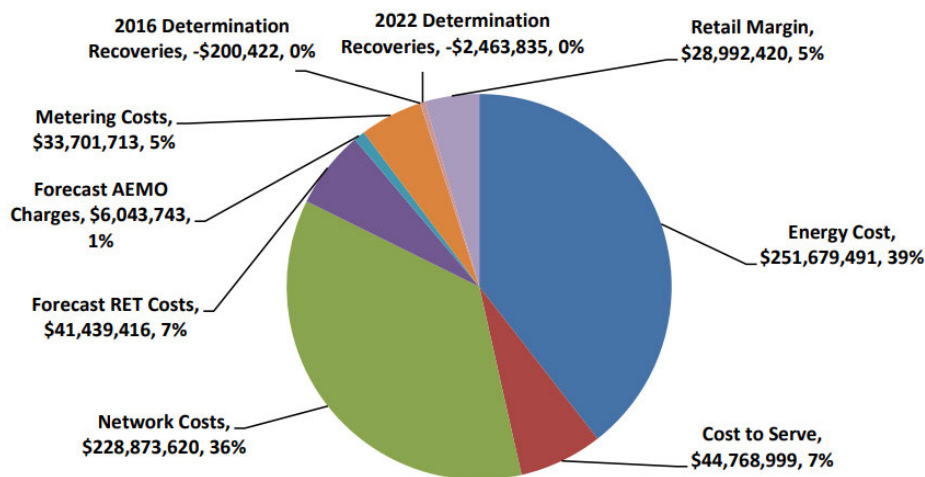


Diagram 1: Breakdown of cost components for Standing Offer customers for 2023-24. Source: Office of the Economic Regulator.

The wholesale electricity cost – titled “Energy Cost” in Diagram 1 – made up 39 per cent of the cost for Standing Offer customers in 2023-24.

The energy costs that go into the Standing Offer set by the Regulator are based on prices determined under the Wholesale Contract Regulated Instrument (WCRI) under which Hydro Tasmania is required to offer wholesale electricity contracts to authorised retailers in Tasmania. The Regulator calculates a wholesale electricity price (WEP) based on the load following swap (LFS) prices offered by Hydro Tasmania through the WCRI over a two-year period. The WEP is then used to calculate the wholesale electricity cost shown in the diagram above.

Pricing for contracts offered by Hydro Tasmania under the WCRI is calculated in accordance with a methodology specified in the WCRI that is based on the price of financial risk contracts offered in Victoria with certain adjustments made that are intended to account for the difference between the Victorian and Tasmanian regions. These adjustments consider factors including the forecast wind and hydro mix, Basslink flows and loss factors; Hydro Tasmania’s storage levels and the cost of constructing alternative peaking generation.

The WCRI and associated framework, which requires the Regulator to periodically determine regulated wholesale contracts, was introduced by the Government in 2013 to provide a safety net contracting option for retailers to support the commencement of full retail competition in Tasmania, which occurred in 2014. The WCRI is administered by the Regulator, who has approved four types of financial risk contracts under the WCRI. Each week Hydro Tasmania is required to offer these contracts to authorised retailers at prices calculated using a model that applies the formulae and principles set out in the WCRI.

In June 2023, the Regulator approved the regulated retail electricity prices for 2023-24. Standing Offer prices increased on average by 9.51 per cent for residential and small business customers in Tasmania. The Regulator noted that the increase for Tasmanian regulated customers was “amongst the lowest in the country with regulated prices in NSW, Victoria and Queensland and South Australia increasing by between 17 and 29 per cent in 2023-24”.²

Market linked wholesale pricing is an important feature of any regulated pricing arrangements to provide appropriate signals for efficient investment by new energy developers.

Hydro Tasmania generation of electricity

Some of the key factors that inform Hydro Tasmania’s operations include:

- **Water and storage dynamics**
Rainfall patterns and seasonal weather patterns are one of the foundational considerations that inform our operational decisions. In managing our resources, we are constantly balancing the immediate benefits of generation with potential future gains or potential shortfalls in water availability.
- **Investing in our assets**
Ensuring the long-term reliability and efficiency of our energy supply necessitates significant investment in maintenance and upgrades of our assets. This is particularly important considering the age of many of our assets and to ensure they continue to deliver secure and reliable power now and for future generations. Every year, Hydro spends ~\$175 million in maintaining and operating our assets. The business is also undertaking a significant upgrade of West Coast assets, spending ~\$300 million across five power stations. This work will commence in 2025, and is expected to be completed in 2029.
- **Operational complexity**
Hydro Tasmania manages an extensive portfolio of assets including 54 major dams and 30 hydropower stations. Our portfolio makes us Australia’s largest renewable energy generator and largest water manager. The Tasmanian hydro system is complex given the number of relatively small and inter-dependent storages that have been built up over a century. We generate electricity and operate our system to balance a variety of obligations including, for example, environmental, stakeholder and irrigation demands.
- **Trading in the National Electricity Market**
Hydro Tasmania’s focus is generating a reliable supply of electricity for our Tasmanian customers. We participate in the National Electricity Market over the Basslink interconnector, utilising the link to build our water storages by importing when energy is cheap, and exporting when prices are high – creating value for our hydropower. On average, Tasmania imports as much energy as we export. Trading over the interconnector allows us to use the same resources in a more economical way.

² [Media Release \(economicregulator.tas.gov.au\)](https://www.economicregulator.tas.gov.au)

- **Balancing commercial and community needs**

As a Government Business Enterprise, Hydro Tasmania operates with a commercial mandate, but we're also acutely aware of our broader responsibilities to the State. The Government Business Enterprises Act 1995 underscores our commitment to aligning commercial objectives with the overarching commitment to the people of Tasmania. Our water resources are utilised for a variety of purposes that are critical to the lives of Tasmanians including irrigation, stock and domestic use, as well as recreational uses such as paddling, boating, and angling. Some of these commitments come at a cost to the business through lost capacity to generate and export to the NEM, or reduced efficiency of generation.

2. Opportunities and challenges for the State of Tasmania as owners of power generation and transmission infrastructure.

Opportunities

The Tasmanian electricity system is expected to develop significantly over the next 10 years, driven by a range of factors including:

- The transition of the national energy market away from fossil fuels to increasing levels of renewable energy supply.
- Increasing electrification of the Tasmanian economy, leading to increased electricity demand from the existing customer base (organic demand growth).
- Significant interest in investment in Tasmania by large industrial load proponents, taking advantage of Tasmania's low-carbon grid status.
- Significant interest in development of on-island renewable wind and solar energy.
- Increased interconnection, such as Marinus Link 1 and Link 2, between Tasmania and mainland Australia.

This combination of factors, paired with Tasmania's abundance of renewable energy resources, means Tasmania is well-placed to enable and benefit from Australia's renewable energy transition.

Today, and into the future, solar and wind will be the lowest cost forms of energy and are expected to be the dominant sources of electricity in the future NEM. However, due to variability of weather systems, wind and solar require additional back-up to provide continuous electricity to consumers. This makes the full cost of transitioning to renewables higher than the cost of renewables alone.

As a flexible electricity generator, hydropower can ramp up or down to complement variable renewable energy (VRE) from wind and solar – this is called 'firming'. Energy generated by large-scale solar and wind developed interstate can be imported when it is cheapest, and Tasmania's flexible dispatchable hydropower capacity can be exported when it has greatest value in the NEM. This combination of VRE and firming is generally accepted to be the cheapest current and future source of wholesale energy supply in the NEM.

Hydro Tasmania is uniquely positioned to provide a firming role. This will provide benefits for Tasmania through supporting economic growth and increased revenue to our state. Further, new on-island projects in other sectors will stimulate economic investment and jobs and attract more valuable investment to the state.

Hydro Tasmania's Battery of the Nation (BotN) initiative aims to capitalise on this opportunity by:

- Redeveloping Tarraleah Power Station and associated infrastructure to increase efficiency, energy output and overall capacity to Tasmanian customers.

- Developing pumped hydro at Lake Cethana to provide deep storage (this is storage that has a long duration and outperforms the duration of battery energy storage systems).

Additional interconnection will open up greater two-way access to the NEM, to take advantage of abundant renewable energy potential in wind and hydropower. Together, interconnection, hydropower and low-cost wind and solar will put downward pressure on prices across the NEM.

Challenges

The following challenges are noted:

- **Tasmanian market size**
Tasmania is a concentrated energy market with few energy buyers and sellers, and has times of price separation from Victoria when Basslink flows are at full capacity. Greater interconnection with the mainland, through Marinus Link 1 and 2, will reduce the frequency of such price separations and the result in closer alignment with the Victorian market.
- **Cost of firming**
As stated above, while wind and solar are the cheapest forms of new energy, the transition to renewables will not, of itself, make electricity cheaper in the short-term given the substantial firming capacity that is required to support high levels of renewable penetration. Ensuring the most cost efficient new generation projects that have firming capacity are developed, such as the BotN projects, will allow the cost of electricity to be minimised in the long term in both Tasmania and the NEM.
- **Water management**
Water inflows into Hydro Tasmania's storages are highly variable from year to year. Longer term, changing weather patterns associated with changes in climate have a potential to impact water availability and distribution which can affect lake storage levels, hence our ability to use this water effectively.
- **Ongoing maintenance and investment**
Tasmania's energy generation and civil assets are ageing and require continual maintenance and significant annual investment to ensure their ongoing reliability. Hydro Tasmania continues to invest in our Strategic Asset Management Plan to ensure reliability, minimise asset performance and environmental risks and increase flexibility of assets.

3. Any other matters incidental thereto.

Hydro Tasmania notes the Committee's concern that Tasmanian consumers should be informed of the factors that influence energy prices.³

³ Media release, Legislative Council, Tasmania, 23 August 2023,
www.parliament.tas.gov.au/__data/assets/pdf_file/0015/73401/230828-EPR-Media-Advisory.pdf

Hydro Tasmania engages with Tasmanians through a range of channels, including face-to-face community events, education programs in schools, sponsorships, and mentoring programs. We also provide regular information through social and traditional media channels.

In 2022, Hydro Tasmania conducted research which found half of the respondents erroneously believed that energy prices were higher in Tasmania compared to other states. Respondents also expressed a low level of interest in renewable energy developments (two-thirds reported 'low or moderate' (61%) or 'no' interest (9%)). Opinions were almost evenly split on whether low prices (48%) or protecting the environment (52%) was more important.

Hydro Tasmania is investing in educational campaigns, sharing more information about hydropower and energy generation in Tasmania in the past, present, and future. This includes information about major initiatives like Battery of the Nation and Marinus Link and how they will help meet Tasmania's growing demand for energy, while putting downward pressure on prices over the longer term.

Hydro Tasmania would welcome further engagement with the Committee. If you have any questions about this submission, or wish to organise an appearance before the Committee, please contact Amy Breen (amy.breen@hydro.com.au or 0408 037 390).

Yours sincerely,



Ian Brooksbank
Chief Executive Officer