

# Attachment C

## Snowy 2.0 cost is considerably more than \$5B

### 1. Snowy Hydro's assertion

Unbelievably, Snowy Hydro continue to assert that the cost of Snowy 2.0 will be no more than \$3.8 - \$4.5 billion, despite overwhelming evidence to the contrary:

*"We reject any claims that there have been cost over-runs on this project. Our projected capital cost remains within the 2017 Feasibility Study cost of \$3.8 billion to \$4.5 billion."*

### 2. Original estimate of \$2 billion

The original estimate provided at the announcement of Snowy 2.0 on 15 March 2017 was \$2 billion. This was confirmed by Mr Broad two months later on 24 May 2017 at a Senate Estimates Hearing when, in answer to a question of "how feasible" the \$2 billion estimate was for the tunnelling and civil works needed, he replied<sup>1</sup>

*"We believe that is a reasonable estimate at the moment."*

Mr Broad admitted on the ABVTV 7:30 Report on 14 October 2019 that he advised the Prime Minister that the cost was estimated to be \$2 billion:

*"It's my fault. I take responsibility for that. I advised the then Prime Minister based on that original model that's what it would cost [\$2 billion], but we had to do the feasibility study."*

### 3. Feasibility Study doubles estimate to \$3.8 billion

On 21 December 2017 the Feasibility Study was released, doubling the estimated cost to \$3.8 - \$4.5 billion. Mr Broad elaborated and stressed that the expected cost was at the lower end of the range – i.e. \$3.8 billion:

*"the costs have increased from the initial \$2 billion price tag, to somewhere between \$3.8 and \$4.5 billion ... we expect [the cost] is at the lower end of the spectrum. It's expensive, but it stacks up economically ... stressed the cost estimates were conservative."*

### 4. But that estimate excluded certain costs

What was not made clear then or has been since is that this estimate excluded major uncoded items, as stated in the Feasibility Study:

*"The following items have been excluded from the estimate:*

- *Land and development costs;*
- *Foreign exchange fluctuations or hedging costs;*
- *Funding or financing costs;*

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<sup>1</sup> "Snowy Hydro expansion could cost double initial \$2 billion estimate" 24 May 2017. The Guardian <https://www.smh.com.au/politics/federal/snowy-hydro-expansion-could-cost-double-initial-2-billion-estimate-20170523-gwb0vy.html>

- Snowy Hydro Project Management and operational ramp-up costs;
- Validation of project uncertainty in association with risk profile;
- Operational spares; and
- GST”

These excluded costs have not been referred to nor assessed. When account is taken of these excluded costs, the estimate would be considerably higher than \$3.8 - \$4.5 billion.

## 5. A \$5.1B contract exceeded the estimate for the whole project

However, the Feasibility Study’s (understated) estimate was eclipsed by a (single) \$5.1 billion contract for the Civil and Electro-mechanical Works, awarded on 9 April 2019. The article<sup>2</sup> “Snowy 2.0 cost blows out to \$5.1b” commented:

*“The Federal Government’s Snowy 2.0 project faces a significant cost blowout and delay from the original estimate detailed in a feasibility study a little over a year ago.*

*Major Perth-based construction and engineering firm Clough confirmed it had been awarded a \$5.1 billion contract with its Italian joint venture partner, Salini Impregilo, for the civil and electro-mechanical works for the Snowy 2.0 Project. “The value includes future escalation of prices through the eight years of the project,” Clough said.*

Snowy Hydro claim that the \$5.1 billion cost is somehow within the \$3.5 - \$4.5 billion range<sup>3</sup>:

*“The \$3.8-4.5 billion range in the Feasibility Study is expressed in real 2017 dollar terms and is therefore not inclusive of escalation. The \$5.1 billion contract for Civil and Electro-mechanical Works is a lump-sum EPC contract price. The key fact is that it is expressed in nominal dollars from 2019 to the commissioning of Snowy 2.0. It therefore includes 100% of all CPI-related cost escalation for the project.”*

It is a bit of a stretch to claim that a contract for \$5.1 billion in nominal dollars from 2019 is equivalent to \$3.8 billion (or even \$4.5 billion) in real 2017 dollars.

Nevertheless, and most importantly, it is not an apples-vs-apples comparison. The \$3.8 - \$4.5 billion estimate is for the whole project (though significantly understated and not including excluded costs mentioned earlier), whilst the \$5.1b figure is for only one (albeit the largest single) component of the project.

## 6. The Main Works EIS has introduced another estimate of \$4.6+B

A new cost estimate has been revealed in the Main Works EIS:

*“Snowy 2.0 Hydro Main Work Capital Investment Value of \$4,609 million made up of the following components:*

1. *A ‘Lump Sum Fixed Price EPC Contract’ with a mechanism for adjustment of price associated with unforeseen geotechnical conditions (EPC deed) for the Project of \$4,609 million (excluding GST) (base dated December 2018) which comprises the following:*

<sup>2</sup> “Snowy 2.0 cost blows out to \$5.1b”. ABC News 9 April 2019 <https://www.abc.net.au/news/2019-04-09/snowy-hydro-2.0-cost-and-timeline-blows-out/10983998>

<sup>3</sup> “Snowy 2.0 Response to Incorrect Claims” <https://www.snowyhydro.com.au/our-scheme/snowy20/faqs20-2/>

- a. *Electrical and mechanical equipment of \$790 million; and,*
  - b. *Civil excavation and construction of \$3,819 million*
2. *The Main Works Capital Investment Value excludes exploratory works, segment factory, SHL, advisors, funding, approvals, GST, land acquisition and escalation costs.”*

So, the EIS estimate is \$4.6 billion, excluding a host of costs (listed in 2.), which again are uncoded.

## 7. Clearly, Snowy 2.0’s cost is much higher than \$5 billion

It is patently clear that the cost of Snowy 2.0 will be considerably more than \$5 billion, even using Snowy Hydro’s various estimates:

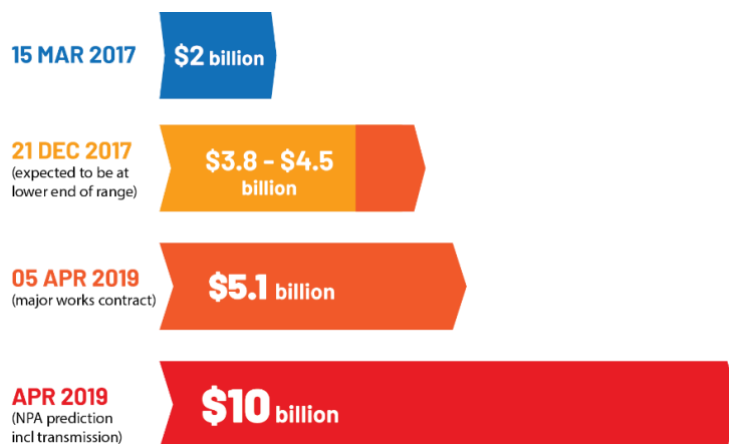
- The Feasibility Study estimate of \$3.8 - \$4.5 billion excluded certain costs
- A single contract was awarded for \$5.1 billion
- The EIS estimate of \$4.6 billion again excluded certain costs

Snowy Hydro have not provided any information on the excluded costs, but they will be substantial.

## 8. NPA estimates total project cost of \$10 billion

NPA estimates the total cost of the hydro component of the project to be approximately \$8 billion – see Section 2.2 of the NPA Paper ‘Snowy 2.0 doesn’t stack up’.

When transmission is included the total cost of the project rises to approximately \$10 billion.



**Ever-increasing Capital Cost Estimate**

## 9. Transmission costs are attributable to the project irrespective of whether Snowy Hydro contributes

Irrespective of whether Snowy 2.0 is ultimately required to contribute to the transmission augmentations, that cost is ultimately borne by electricity consumers and hence a significant portion should be regarded as attributable to the Snowy 2.0 project.

Snowy Hydro have acknowledged that it will pay for the 10 km of transmission lines through Kosciuszko National Park to Maragle Switchyard. It is unclear whether this cost has been included in the above estimates.

Beyond Maragle, the national electricity grid will require substantial augmentation to transmit 2000 MW to and from Snowy 2.0. Whilst these new lines will also strengthen the grid and provide other wider benefits, Snowy 2.0 is a prime reason for their construction, timing and routing.

In accordance with established electricity industry capital contributions policies, Snowy 2.0 should pay an equitable proportion of these extensions, especially as it will gain double the benefit from being both a generator and a ‘load’ (i.e. a consumer of electricity for pumping).

NPA estimates the total cost of the project to be in the order of \$10 billion when transmission is included.

## 10. Snowy 2.0 ‘market benefits’ are half the cost

Snowy Hydro have stated that the market benefit of Snowy 2.0 is \$4.4 - \$6.8 billion:

*“We strongly reject any argument that Snowy 2.0 is not in the national interests. It has demonstrable economic and consumer benefits that have been independently valued at \$4.4 to \$6.8 billion.”*

The estimate comes from a consultant report prepared for Snowy Hydro by Marsden Jacob Associates<sup>4</sup> (MJA) in January 2018. Various expert analysts have questioned the optimistic assumptions and rigour of that Report (see Appendix C of NPA Paper). The benefit range quoted by Snowy Hydro is extracted from Table 17 (page 130) in the report.

Table 17: NEM market scenario modelling results Present value \$M

Scenario	Market Benefits		
	Excluding Optionality	Option for further development	Total
LRET+VRET	4,272 to 4,738	150	4,423 to 4,889
LT Commitment	6,140 to 6,643	150	6,291 to 6,793

Source: Marsden Jacob, 2017.

But Snowy Hydro has, most improperly, quoted the benefits for the ‘Option for further development’. This option assumes that Snowy 3.0 and 4.0 are constructed, involving parallel pumped hydro schemes and increasing the dam height of Tantangara Reservoir. The extra capacity of Tantangara Reservoir provides a piggy-backing benefit for Snowy 2.0.

Such a tripling of Snowy 2.0 and increase in Tantangara capacity are highly speculative. It is most improper for Snowy Hydro to quote figures based on future (most unlikely) developments.

The estimated market benefits of Snowy 2.0 excluding the option, are between \$4.3 and \$6.6 billion, calculated over 50 years. Not much less than the figures with the option, which makes the deceptive behaviour even more puzzling.

Nevertheless, the latest revelations indicating a total project cost of \$10 billion mean that, even if the MJA estimate is accurate, the cost of Snowy 2.0 is approximately twice the market benefit.

How can that be in the ‘national interest’?

<sup>4</sup> “NEM outlook and Snowy 2.0”. Report prepared for Snowy Hydro Limited by Marsden Jacob Associates, 4 January 2018 <https://arena.gov.au/assets/2018/02/National-Electricity-Market-outlook-Snowy-2.0.pdf>