Submission to Snowy 2.0 Main Works EIS

by Dr John Burman

Summary

This submission is to register my strong opposition to the proposal known as Snowy 2.0.

My grounds for opposition are:

- It is a large and unjustified use of public money, particularly as Snowy Hydro Ltd is owned by the Federal Government. Snowy 2.0 has a large and as-yet not fully determined finance requirement from its owner, ultimately the taxpayer.
- Pumped hydro is a relatively inefficient means of generating electricity. Its capital and operating costs are higher than many existing available alternatives.
- The cost of the additional transmission and interconnection requirements is likely to be very large and will be a drag on someone's public purse (New South Wales or Victoria or Federal). Without this transmission investment, the Snowy 2.0 proposal will not work out at all. This is not covered adequately in the business case.
- The proposal sets up future major conflict with irrigators and others. Ideally, pumped hydro would have a high reservoir and a low basin with water passing up and down in a closed loop. In the present case, all the Snowy water must eventually flow downstream for civic, commercial, irrigation or environmental purposes – the bath must empty. If the loop cannot be closed, its intermediate use for pumped hydro must not compromise other downstream water uses and users. This is not possible with Snowy 2.0.
- The sensitive Alpine regions of New South Wales and the Kosciuszko National Park will be severely compromised or destroyed by Snowy 2.0.
- The global and local trend is to have diversified, smaller scale and localised electricity generation rather than centralised large generators. Apart from lower costs, this imparts greater stability to the grid.

This project had its genesis as a political stunt by former Prime Minister Malcolm Turnbull, who was having to deal with a fractious party room. He even gave it a trendy high-tech suffix "2.0". He said it would cost $2 bn. It is likely to cost multiples of that, even up to $15 bn. Nothing can disguise the fact that the proposal is turning out to be far more expensive than anticipated and with many adverse effects that were never mentioned.

Elaboration

Large and unjustified use of public money

The Federal Government bought the New South Wales and Victorian shares in Snowy Hydro Ltd in March 2018. Snowy Hydro Ltd had been slated for privatisation but that failed in 2006 after public and political opposition. "The Snowy" has a major place in the Australian psyche.

The Snowy 2.0 proposal requires massive new public funding and sets up a major conflict of interest between the Federal Government as owner and Federal Government as financier. This has never been a good combination (for example NBN Co). Had the Snowy Hydro Ltd privatisation proceeded, it is most unlikely that the Federal Government would be considering financing Snowy 2.0. Why should it now?

To do so uses public money and crowds out equivalent energy investment from the private sector. It only adds to the shambles which passes as "energy policy" in this country.

Pumped hydro is inefficient

Pumped hydro requires, at best, around 1.3 kWh for every 1.0 kWh it provides. By the time we include the massive works of Snowy 2.0 and its long and extensive tunnel systems and transmission losses, the efficiency of Snowy 2.0 slips to requiring 1.8 kWh to produce 1.0 kWh. The power needed by Snowy 2.0 for pumping must be brought from distant places and the power generated must be sent to distant places. Inefficiencies abound.

By contrast, the cost of technical alternatives is falling and their efficiency rising. Solid batteries and flow batteries already beat pumped hydro, unless existing written-down pumped hydro infrastructure is used. The cost of new pumped hydro will only go up, as we have seen already, but the cost of other storage options will decrease.

ANU has identified thousands of suitable pumped hydro sites. Snowy 2.0 has not been judged competitively against most of these. The so-called "Battery of the Nation" in Tasmania is one such and, even with an additional Bass Strait interconnector, is a more compelling offer than Snowy 2.0. A proposed large Queensland pumped hydro project has just been abandoned because of the costs, uncertainties and risks. The same concerns apply to Snowy 2.0.

The Snowy system effectively becomes an energy user rather than an electricity generator under Snowy 2.0, and an inefficient one at that.

It's wilfully misleading to ignore transmission costs

Snowy 2.0 conveniently steps away from the extra costs required to expand and reconfigure the New South Wales and Victorian grids. This element alone almost equals the total cost originally touted by the former Prime Minister. Someone must pay for the connections to receive and transmit power because the project is useless without them. To omit such an important element from the business case is wilfully misleading – the business case must be a system-wide appraisal.

Just imagine if someone came up with a subsidised electricity generating system in Antarctica and justified it on the basis that, *"yes, it is a bit expensive and I'll need government support and also I'll have to get someone else to build the transmission system"*. They would be laughed out of play. Yet, in principle, that is what Snowy 2.0 is proposing.

Conflict with other water users

The existing Snowy system is designed to provide a controlled flow for environmental, civic, commercial and irrigation purposes. Water availability and its allocation and use is already the cause of great angst and conflict within the community.

Overlaying that with a demand for Snowy 2.0 water pumping to-and-fro, and needing to be available in all seasons to meet peak electricity demand, will only exacerbate the tensions. It is an argument you can be sure that irrigators and the domestic community and environment will win every time, over the demands of Snowy 2.0. Rainfall and precipitation shortages are predicted to worsen with climate change. This makes the business case for Snowy 2.0 even poorer and riskier.

It's interesting that Snowy Hydro Ltd already has a pumped hydro capacity at Tumut 3 but it rarely uses it because it is so inefficient.

The environment

The Australian Alps are unique. They are a more-or-less pristine and precious place.

It's incomprehensible that further alienation and destruction of the Kosciuszko National Park and its ecology is being contemplated. The Park is already under threat from climate change and noxious pests, feral animals and weeds. You can never unmake the adverse environmental impacts of a scheme such as Snowy 2.0.

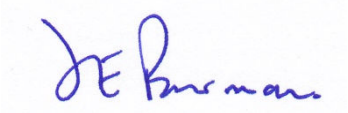
There are many adverse environmental impacts (which environment bodies have expounded at length, so I'll summarise just a few). They include:

- Transmission line easements which are long and wide;
- Extensive new tunnelling will risk water table depletion;
- The project will allow access to noxious pests, feral animals and weeds;
- Access is required to build and maintain infrastructure, and this means more roads and tracks. This further compromises the environment in this sensitive Park;
- The very nature of pumped hydro exchanges water between usually separated places. This will allow further upstream penetration of pests and exotic and non-endemic species;
- There are many threatened species in the Park and their existence will be further compromised;
- Visitors will hate the conversion of a National Park into an Industrial Estate;
- The excavated spoil from the tunnelling program is proposed to be dumped in Talbingo and Tantangara reservoirs. Not only will this lead to contamination and acidification of the dammed water, it will reduce the storage capacity and buffering capacity of the existing system; and
- The Snowy 2.0 proposal says that surplus soil will be used to "landscape" the Park. No-one wants the Park landscaped with spoil to satisfy Snowy 2.0's version of public enjoyment. It is enjoyable, just as it is, in its natural state.

As well as the huge cost and high risk, this proposal is at least a decade away from completion and the world will have passed it by. It is highly capital intensive, uneconomic, inefficient, old technology, old thinking and environmentally damaging. It promotes conflict with and between other water users. It takes on huge future impairment risks as better energy production and storage solutions emerge, as they are doing rapidly. It should not proceed.

I note with concern that Snowy Hydro Ltd takes a very aggressive approach to criticism (for example the implied threats to Universities and their staff who don't agree with Snowy 2.0). Snowy Hydro seems to forget that damage to "the Snowy" will be unforgiveable to Australians.

I commend my submission for your consideration.



John Burman PhD BE
Port Macquarie, 5 November 2019
Conflict of interest declaration: I am a customer of Red Energy which is owned by Snowy Hydro Ltd.

cc Mr Pat Conaghan, Federal Member for Cowper
cc Ms Leslie Williams, State Member for Port Macquarie