

Department of Planning, Industry and Environment  
Major Projects Team  
Attention: Anthony Ko

25 November 2019

**National Parks Association of NSW submission on the EIS  
for Snowy 2.0 Exploratory Works Modification 2**

The National Parks Association of NSW (NPA) was formed in 1957 to advocate for the creation of National Parks and other protected areas as the primary means of safeguarding natural places for generations to come. More than sixty years later, we regard the Snowy 2.0 proposal as an extremely serious threat to the world-class conservation reserve system that grew from our advocacy.

Kosciuszko National Park (KNP) was gazetted in 1967 to ensure that Australia's rare alpine landscapes are protected in perpetuity. The concept of perpetual protection is not simply a function of the *NSW National Parks and Wildlife Act* (NPW Act) but represents an internationally binding commitment to future generations. NSW has played a major role in establishing the international stature of the concept, with Royal and Ku-ring-gai Chase National Parks holding place as the second and third oldest national parks in the world.

National Parks are not held in trust for undefined future purposes. The act of declaring a national park confirms that area's essential role in conserving our nation's natural and cultural heritage. Proposals that diminish a park's conservation, recreation and education values are inherently inconsistent with the purposes for which National Parks are declared. In planning terms, this imposes an especially high level of sensitivity to any proposals that threaten the ecosystem processes or conservation values.

NPA has carefully reviewed Snowy Hydro's case for Snowy 2.0 and issued a comprehensive Research Paper 'Snowy 2.0 doesn't stack up' (attached), which concludes that Snowy 2.0:

- will permanently destroy an excessively large area in Kosciuszko National Park
- it's claimed benefits are wildly overstated
- is uneconomic, and
- there are far better alternatives

Snowy 2.0 represents the single largest and most destructive development ever proposed for a NSW National Park. Approval would undermine the integrity of the state's reserve network and set a powerful precedent for large-scale development in conservation reserves. We are particularly concerned by the implication that reserves are available for development provided a project makes claims for climate abatement.

We refer to our previous submissions objecting to the issue of approvals for the Exploratory Works, the Exploratory Works Modification 1 and the Main Works. NPA objects to the Snowy 2.0 project in total and in relation to each individual component, including the Exploratory Works Modification 2.

There is no compelling case for the excessive environmental damage to KNP proposed by Snowy Hydro.

**NPA objects to the proposed modification and recommends that Minister Stokes refuse approval for the Snowy 2.0 Exploratory Works Modification 2.**

## **SPECIFIC ISSUES**

### **1. Lack of a holistic assessment of impacts**

The staged assessment process for Snowy 2.0 invites the ‘death of a thousand cuts’ and obscures the true scale and impact of the project on the Park.

The exhibition of a second modification to the Exploratory Works EIS, just 4 months after the first modification and 1 month after the Main Works EIS highlights the piece-meal, disorganised and disaggregated process. And there is still the EIS for the transmission lines to come!

The so-called ‘Exploratory Works’ are effectively the first stage of the construction program. This was made obvious with the proposed provision of a permanent power supply through the construction of an electricity substation connected to the grid (in the Exploratory Works Modification 1 EIS). Modification 2 continues down this path, with the proposed use of a tunnel boring machine (TBM) to excavate the access tunnel. The considerable expense incurred by purchasing a TBM can only be justified by its future use on the tunnels between Talbingo and Tantangara Reservoirs. NPA understands that orders for all three TBMs were placed before approval of this modification and the Main Works EIS.

#### **Recommendation:**

- That the Minister defers further assessment until the environmental impact assessments for all stages of the Snowy 2.0 project, including those for the transmission lines, are complete to enable a holistic assessment of the adverse impacts of the project.

### **2. Inappropriate Development in a National Park**

The EIS fails to reflect or account for the implications of proposing a major infrastructure project on land gazetted under the NPW Act. It applies the standard environmental impact assessment process and shows little recognition of the purposes for which National Parks are gazetted, nor the expectation that natural processes will be allowed to continue without disruption by development. Section 30E(2)(a) is particularly pertinent, stating that the central purpose of National Parks is ‘*the conservation of biodiversity, the maintenance of ecosystem function, the protection of geological and geomorphological features and natural phenomena and the maintenance of natural landscapes*’.

The essential purposes of National Parks include ensuring that common species do not become threatened and protecting cultural sites in their full landscape setting. The proposal ignores the fact that the proposed development site has been expressly set aside for the conservation of the full spectrum of environmental values. Instead the assessment focuses primarily on threatened species and fails to adequately consider the significance of impacts across the full spectrum of the Park’s natural and cultural heritage.

#### **Recommendation:**

- That the Minister considers the commitments to future generations, the nation and international community, embedded in the declaration of KNP as a National Park.

### **3. Proposed changes to the transport strategy**

Condition 45 of the approval for the Exploratory Works was intended to maximise the use of barges for transportation of machinery, equipment and materials to the Lobs Hole work site. Modification 2 proposes dispensing with that condition.

The modification cites 5 main reasons for the proposed change, none of which NPA considers compelling. Our reasons for reaching this conclusion in relation to the first four reasons are detailed in Attachment A. The fifth is the assertion that shifting from reliance on barges to road transport will reduce the environmental impact of the project.

The proposed shift to increased reliance on road transport involves:

- upgrading the two Lobs Hole Ravine access tracks over some 40 kms
- widening the tracks to accommodate oversized loads up to 7m wide
- extensive track side vegetation clearance
- substantial cuttings and civil works along steep sections of the tracks
- constructing dozens of passing bays along the tracks
- permanent damage and ongoing impacts on the roadside and verge environment
- increased animal roadkill and potential for pollution spills, rubbish, weeds, pests and pathogens.

The proposed amendment does not assess the relative environmental costs and benefits of the two transport modes (ie. road and barge). In the absence of such an assessment, NPA concludes that the desire for cost savings is the primary factor driving a significant increase in the net environmental impact of the proposal. The intent to save costs by reducing impact mitigations is evident in the proposed removal of obligations relating to the recreational facility, which is designed improve the recreational amenity of Talbingo.

Contrary to Snowy Hydro's assertions, NPA considers that the proposed roadworks and higher traffic load would increase the intensity of permanent, significant impact on KNP.

**Recommendation:**

- That the Minister refuses the proposed amendment of Condition 45 of the Approval on the grounds of increased environmental impacts.

**4. Increased risks to human safety and environmental health**

The amendment asserts that there are major safety risks associated with the transport of equipment by barge. It proposes substantial changes to the approved works along the Lobs Hole Ravine Road. In the case of the northern section the stated objective is *"to provide improved access and egress to Lobs Hole"*. No information is provided to explain the imperative for such changes. In the southern section NPA remains concerned about the lack of information about the extent, design and impact of the roadworks that would be required to enable heavy vehicles to traverse the extremely steep section down to Lob's Hole.

The documents fail to assess the increased hazards that would result from transporting heavy equipment over the precipitous road route into Lobs Hole. Those hazards are not simply to human safety, but include the potential for pollution and other forms of environmental damage in the event of a major incident on the roads.

- That the Minister refuses the proposed changes to Condition 45 of the approval on the grounds of increased risks to human safety and environmental health.

**5. Additional Diesel Usage and CO2 Emissions**

Modification 2 proposes the use of an additional 4,320,000 litres (L) of diesel to generate electricity for the TBM until the proposed electricity substation is constructed (based on 24,000 L per day for 6 months). Table 6.8 provides an estimate of the CO2 emissions as 12,358 tonnes. This diesel is

additional to the 8,690,000 L previously predicted for the duration of the Exploratory Works. In the context of the climate change abatement claims of the proponent it is remarkable that there is no formal assessment of the significance of the increased emissions.

**Recommendation:**

- That any approval to use a tunnel boring machine be conditional upon such use being solely supplied by grid electricity.

**6. Claimed benefits of Snowy 2.0 are overstated**

Section 4.1.1 of the EIS repeats the key benefits of Snowy 2.0 as listed in previous EISs, that is

*“In terms of the future energy market, the key benefits of Snowy 2.0 are summarised as follows:*

- i) Snowy 2.0 provides low emission on-demand energy and will underpin the continued decarbonisation of the economy;*
- ii) Snowy 2.0 provides deep storages to allow more flexibility to respond to seasonal variability when compared to other VRE and batteries;*
- iii) Snowy 2.0, being a closed system, can move water between reservoirs and not rely on natural inflows that may vary seasonally, offering valuable seasonal storage and insurance against drought risk. This is because Snowy 2.0’s pumping capabilities work in a ‘closed’ system - water is recycled between the two dams so the same water can be used to generate power more than once, making the most of available water;*
- iv) Snowy 2.0 will have the capability to run for over seven days continuously before it needs to be ‘recharged’. By comparison, small and large-scale batteries have limited storage (typically one to four hours);*
- v) Snowy 2.0 will improve the overall efficiency of the NEM by absorbing and storing excess energy from the system at times of excess demand (through pumping) and generate at the critical times of peak times; and*
- vi) Snowy 2.0 has a 100-year design life and will generate power for the generations to come.”*

NPA contends that these claimed benefits are overstated or false for the following reasons:

- i) Snowy 2.0 will not provide low emission energy or make a significant contribution to the decarbonisation of the economy for at least 10 years:
  - Snowy 2.0 will consume 40% more energy than it generates
  - Snowy 2.0 also incurs transmission losses of 10%
  - for the next decade or so most of Snowy 2.0’s pumping electricity will come from coal- fired generators, not renewable generators
  - perversely, Snowy 2.0 will increase coal-fired generation and emissions and extend the life of coal-fired generators
- ii) Snowy 2.0 does have ‘deep storages’ but it will not improve the overall efficiency of the National Electricity Market (NEM) compared to VRE and batteries:
  - pumped hydro is one of the least efficient forms of energy storage (e.g. batteries are over 90% efficient, incurring one-third the losses of Snowy 2.0)
  - Snowy 2.0 is not ideally located (i.e. not close to a load centre for energy storage to limit transmission losses)
- iii) Snowy 2.0 is not a closed system. The amount of water that can cycle up-and-down its reservoirs generates considerably less than its claimed 350 GWh:
  - Talbingo (the lower storage reservoir) has only two-thirds the active storage volume of Tantangara Reservoir. Also, it is normally kept full to provide maximum capacity as the head storage for the 1,800 MW Tumut 3 pumped hydro station

- Hence, Snowy 2.0's 'closed circuit' capacity, based on the volume of the 'same water' that can be cycled up-and-down between its two reservoirs, is between 40 and 200 GWh (not 350 GWh).
- this equates to between 1 and 4 days of operation at 2000 MW (not 7 days as claimed)
- iv) Snowy 2.0 could run for 7 days at 2,000 MW (provided Tantangara Reservoir started full), but:
  - most water would be 'lost' downstream from the Snowy 2.0 cycle, due to very limited capacity in Talbingo Reservoir
  - it would take many months to recharge, due the limited replenishment flows into Talbingo from Eucumbene and opportunities to purchase cheap power for pumping
  - recharging will require 500 GWh of pumping energy, incurring a cyclic loss of 150 GWh
- v) Like all storage systems, Snowy 2.0 would absorb excess energy and generate at critical times, but its role in the NEM is overstated:
  - Snowy 2.0 adds just 4% capacity (usually for only a few hours a day) and 1% energy to the NEM
  - prior to 2040 Snowy 2.0 will operate at full capacity for less than 87 hours/year (Feasibility Study)
  - but is a net consumer, incurring far greater losses than other forms of storage – its losses to the NEM are estimated to be 600 GWh/year
- vi) Snowy 2.0 should have a 100-year life as claimed, but:
  - Snowy 2.0 is not needed till Tumut 3 pumped hydro station is operating at full capacity - for the past decade T3 has pumped on average for 281 hours/year at a capacity factor of just 1.6%
  - Snowy 2.0 is definitely not needed now, contrary to recent claims by Snowy Hydro
  - who can foresee, even over just a decade or two, what technological advances may evolve that could render Snowy 2.0 redundant, especially with its poor efficiency and distance to major loads

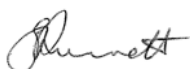
Also, Snowy 2.0 has been touted as reducing electricity prices. However, according to a Snowy Hydro FID Market Modelling Report, Snowy 2.0 will lower NSW spot prices for only 3 of 22 years from 2026 to 2047. Prices are predicted to be similar from 2028 to 2033, but higher for every year thereafter.

Finally, according to a Snowy Hydro consultant's report, the market benefit of Snowy 2.0 is estimated to be between \$4.3 and \$6.6 billion. With the latest escalation in costs, this benefit is less than the cost of the project. Snowy 2.0 will actually come at a net cost to the market and the community.

The proposed impacts on KNP are simply reprehensible when viewed in the light of Snowy 2.0's wildly overstated benefits and net cost to the market and community. There are many alternative options for large scale energy storage. These are described in detail in the NPA Paper (<https://npansw.org/wp-content/uploads/2019/10/191014-Snowy-2.0-doesnt-stack-up-FINAL.pdf>)

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Yours sincerely,



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## Response to claimed grounds for modifying the transport strategy

### Logistics

*"The majority of construction materials required for Exploratory Works, in particular pre-cast tunnel segments, will now be sourced from locations East of the project area."*

NPA contends that most construction materials were always going to be sourced from the east of the project area.

### Cost

*"The cost of establishing and operating barge transport as the main method for delivering heavy machinery, construction equipment and materials to site outweighs the benefits it would provide to the Exploratory Works."*

*Given the limited scope of the Exploratory Works, the capital investment required to establish marine infrastructure that is only required for use over a relatively short amount of time is not effective. The use of barging is not a fundamental requirement for the delivery of the Exploratory Works."*

NPA contends that the Exploratory Works are really the first stage of the project. The barge transport system will not be used just for the 'relatively short amount of time' of the Exploratory Works (though it is noted that those Works will take nearly 3 years). More equipment will need to be transported to Lobs Hole for the Main Works, and hence the capital investment in marine infrastructure should be considered over the whole project.

The barge ramps are still to be constructed and barges will be used to transport some equipment. So, the explanation given on not being able to justify the cost of 'marine infrastructure' on just the Exploratory Works phase is not credible.

If this justification process were applied to the tunnelling method or power supply then neither the use of a TBM or construction of an electricity substation would be viable.

### Constructability

*"The use of barges would increase the handling of material and equipment substantially, requiring road transport at both the Talbingo end and also when it arrived in the KNP. The handling of materials and equipment over the water introduces risks to both environment and the safety of personnel, which although manageable, adds additional risk to an already complex activity. Furthermore, transport on water would also introduce the potential for delays in the event of adverse weather with the potential for high swell, dangerous winds and low visibility."*

It is understood that barges are still to be used for some equipment, requiring road transport via Talbingo. NPA contends that the stated risks for water transport are wildly overstated and double handling is only of minor consequence with appropriate lifting equipment at the two wharves. The wharves are still going to be constructed and used, just not for the largest equipment.

### Safety

*"Removal of the requirement to maximise use of barges results in an improvement to safety due to minimised interference between marine transport movements and recreational reservoir users. Additionally, this reduces the amount of on-water activities and the associated risks to construction personnel and the environment that arise from working over water."*

NPA contends that the issue of safety just shifts from water transportation to road transportation. Also, there would be limited interference with recreational reservoir users, particularly if they are excluded from the area as originally proposed and as is being applied in all other construction areas.