



THE COLONG FOUNDATION FOR WILDERNESS LTD.

Tuesday November 5th, 2019

Snowy 2.0 Main Civil and Hydro-electrical Engineering Works
NSW Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Sir/Madam,

Submission as an Objection to the Main Works for Snowy 2.0 as outlined in the Environmental Impact Statement (EIS) of September 2019 - SSI-9687

Snowy Hydro has a poor environmental track record. The company's existing 16 dams, aqueducts, waste heaps, towns, roads and powerlines have severely fragmented and permanently degraded Kosciuszko National Park. Snowy 2.0 extends the damage to national park integrity in the northern third of the park. There is nothing intrinsically environmentally friendly about the establishment of an industrial hydro power generating plant in a national park, as the proponent would like readers of its EIS to accept.

This proposal described in the EIS for major civil and hydro-electrical engineering works must have further significant adverse environmental impacts as major part of a staged series of proposals that deliver Snowy 2.0. Subsequent proposals include four large transmission powerlines to connect the Snowy 2.0 hydro power proposal to the electricity grid and for a significant upgrade of the existing power grid to enable distribution of the power proposed to be generated by this project. These impacts are shown in illustrations 1 to 3 taken from the EIS and appended to the end of this submission.

The exploratory stage of the project has already been approved to dump 750,000m³ of rock, some of which is acid forming, some 50 metres from Booroolong Frog (*Litoria booroolongensis*) habitat in the Yarrangobilly River. This frog is a nationally listed endangered animal and recorded 56 times in streams that will be seriously impacted by the approved exploratory development. However, these 'exploration' works that will bulldoze 95 hectares of Kosciuszko National Park for a 4.4 kilometre reach of the Yarrangobilly River, pale to a lesser impact compared with the current scale of proposed works for this stage of the project. It will dump a further 5,250,000m³ of rock waste, mostly beside this river, as well as on the Marica plateau and beside the Tantangara reservoir. The chances of this population surviving are low (see page 10 of this submission for an image of this frog). Yet these dumps are a minor fraction of the rock waste, and a further 8,000,000m³ will be dumped in the storage of Talbingo and Tantangara Reservoirs.

This EIS for the Snowy 2.0 proposal fails to take steps necessary to:

- Minimise its environmental footprint; and
- Adequately assess, avoid or minimise the development's environmental impacts.

The main civil and hydraulic engineering works presented in this EIS are a matter of Ministerial determination, but that decision must be informed by an independent planning inquiry and Departmental review, that must also consider submissions to the EIS. The Snowy Hydro prestige and cachet, however, has so far got in the way of objective consideration of the facts for the project at the highest levels of state and federal government. Further, this proposal is deemed to be so politically important, media coverage has made it a *fait accompli* before it is even assessed. The Colong Foundation for Wilderness has little confidence that the assessment and determination of this proposal will be objective, as media coverage has prejudiced these processes.

Why refuse Snowy 2.0 development consent?

The Snowy 2.0 proposal must be rejected because it shall return Australia a pittance for the huge political, economic and emotional investment that will be sunk into it. If approved, this project will become a monument to economic recklessness, energy inefficiency, and environmental harm.

The consolidated after-tax profit earned by Snowy Hydro last financial year was \$210.2 million for its entire hydro power generation output of 4,349GWh. Even if Snowy 2.0 generates its proposed 350GWh, which we believe is unlikely, surely this project will only provide a minor increase in profit margins in proportion to the additional power generation it is offering. Given the lack of a business case, this simple analysis should be sufficient to justify its refusal.

The proposal can't pay back monies invested in it even at a very low rate of interest, let alone financially compensate for the environmental damages it will cause to a heritage listed national park.

Snowy 2.0 is not a pump-storage closed system and will generate less than 350GWh

Snowy 2.0 is not a closed system, as claimed. Water stored in the Tantangara and Talbingo dams must serve at least two other masters, the existing hydro scheme and downstream water customers. Limited water availability and competing demands will combine to greatly reduce the theoretical operational performance of 350GWh presented in the EIS.

The active storage capacity in Talbingo is 160 GL, but the operational pump-storage capacity for Snowy 2.0 is less, as Talbingo reservoir must also meet the pump-storage operational needs of the 1800MW Tumut 3 pumped-hydro power station (in addition to the loss of capacity from dumping of waste rock in the active storage volume). The actual power generated will be far less than the 350GMWh claimed, that is apparently determined in the EIS by the 239GL volume of Tantangara Dam. There is a reduction in generation capacity by the limited storage of Talbingo reservoir, that can only hold two thirds of the Tantangara reservoir. The 'closed circuit' storage capacity must in reality be around 160GL and the consequent annual power generated around 230GWh, a third less

than the alleged yield. Additional reductions for Talbingo reservoir storage set aside for 'closed circuit' storage for Tumut 3 pump-storage generation and loss of storage from dumping waste rock into the reservoir have not been factored into the EIS's calculations, casting further doubt on the proposal's power generation yield and economic viability.

Talbingo Dam's storage limitations and competing Tumut 3 water demands are not detailed by Snowy Hydro in this EIS report. The Minister, the independent assessors of this proposal and the Department of Planning Infrastructure and Environment, will accordingly find it difficult to grasp the net benefit (loss) of the project because the total power proposed to be generated has been overstated by these omissions.

Excessive relative cost of the pump-storage scheme

Pump-storage schemes around the world are usually connected by shorter, more efficient water pipes or water tunnels of up to about four kilometres in length, but not Snowy 2.0. Its plumbing is on gigantic, impractical scale, and even if costs are saved by the avoidance of dam construction, it is a monumental project, with correspondingly proportionate, massive environmental impacts on a National Heritage listed national park.

The EIS should afford Kosciuszko National Park higher levels of environmental impact consideration and mitigation than it does. Unfortunately, the national park is treated in a tenure neutral fashion where it will be smothered in rock waste and cleared for work camps, roads and powerlines, as if it were any other land. The Colong Foundation finds this treatment repugnant – surely the scale of the proposed roading and number of work camps can be reduced?

The 27 kilometre length of tunnelling through hard rock makes Snowy 2.0 an exceptionally egregious proposal, with costs and environmental impacts beyond common-sense bounds. If approved, unreasonably large environmental impacts will be foisted on the top third of Kosciuszko National Park.

Significant adverse impacts include: a new road through old growth forests and woodlands at Marica down an escarpment to Lobs Hole; the dispersal of a pest species from the Murray into the Murrumbidgee River system; and millions of tonnes of hard rock dumped on the national park.

The fact that Snowy 2.0 will provide small, delayed economic returns while causing such extensive environmental impacts, attacks the very idea of national parks as protected areas set aside for nature. Snowy 2.0 is unlikely to pay off its large borrowings and will be required to recover these costs through additional charges on electricity rate payers and taxes on taxpayers. The national park has also been undervalued.

Due to its excessive costs, Snowy 2.0 shall burn the political capital that Australia needs to build efficient, effective and less environmentally damaging energy storage projects. Snowy 2.0 will discourage the adoption of other projects that better address the climate emergency. Alternative energy storage projects will be denied future political support, for fear of repeating the costly errors of the Snowy 2.0 proposal.

Engineering works with linear environmental impacts have a greater overall impact on national park lands

The linear nature of the proposed works will cause significantly greater aesthetic and ecological impacts on the national park than if this was a proposal of a more compact nature. The infrastructure shall be seen from many points within the northern third of the national park. Smaller animals, such as the Smoky Mouse, will not cross the cleared easements and barren wastes that the proposal will create (see page 11 of this submission). Presenting the damage that will occur as a percentage of the national park, or in raw hectares, i.e. 1,053 ha of native vegetation lost, significantly understates the degree of environmental impact.

Due to the linear nature of the proposal more accurate assessment of permanent aesthetic and ecological damage is more like 10,000ha of Kosciuszko National Park, than the disturbance footprint of 1,680 ha stated in the EIS. The consultants who helped write the EIS would know these arguments, but neither a true picture of the environmental impacts nor means of mitigation have been provided in relation to linear activities, for example the examination of alternative route options.

Visual scarring will be produced by million tonnes of rock waste proposed to be dumped in large piles at Lobs Hole, Tantangara and Marica. Add the scarring of the national park from the greater variability of water levels in Tantangara Dam. The loss of groundwater along the length of the tunnel will expand environmental losses, including the alteration of the Eucumbene River headwaters to an ephemeral stream, which will cause a significant loss of aquatic life. The significant linear impacts of the scheme appear to have been brushed aside, rather than minimised through active consideration of alternative engineering options.

Assessment of the proposal's impact on the overall integrity of the national park

There has been no assessment of the proposal's impact on Kosciuszko National Park's overall naturalness or its ecological integrity. The Department of Planning, Industry and Environment should make such an assessment mandatory for a major linear project in an environmentally sensitive area.

The EIS should have undertaken an assessment of the loss of values such as remoteness and biophysical naturalness that will be visited on the national park and reported on the project's landscape scale impacts. Any assessment of these indicators would reveal a significant loss of ecological integrity and the loss of the park's natural character.

Abusing Kosciuszko National Park in this fashion will make it a national park in name only. The EIS acknowledges the proposal will destroy 992ha of threatened species habitat (threatened fauna, threatened flora and Threatened Ecological Communities), the largest ever in a national park.

If Snowy 2.0 is approved, national parks will be perceived by more in the community as land that is no longer sacrosanct and set aside for nature. Changes in community attitudes will encourage more visitors to behave badly towards national parks, perhaps driving off road, or taking other actions that will negatively impact the ecological integrity of our reserve systems. If Snowy Hydro can intrude

and alter a national park in this way, surely the door will be further ajar to other commercial and development interests.

Poor timing of environmental impact assessment in relation to the overall project

The Snowy 2.0 project is a case of construction first and assessment later. Investment has been locked in before adequate consideration of the main stage of the proposal has been undertaken. The full extent of this proposal's impacts will not be understood until the major powerline developments, subject to three more separate EIS reports, are assessed and determined. Of course it will then be too late to curtail this proposal.

The Snowy 2.0 project has come forward in a piecemeal and ad hoc fashion. Its extent will not be fully appreciated until governments are already fully committed to it. The exploration stage, for example, was to initiate the Snowy 2.0 project before the current main proposal for the civil engineering and hydro-electrical work was determined.

Snowy 2.0 must now be considered inappropriate, having major economic and logistical flaws, massive environmental impacts, and a modest energy return.

Further, Snowy Hydro does not intend to pay the NPWS a fair rent for what is effectively leasehold occupation of areas over which it has claimed exclusive possession. The proposed offset payment is demonstrably unreasonable and inequitable, for what amounts to an exclusive national park land grab.

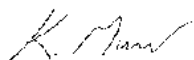
The determination process for this project is reminiscent of the repealed "Part 3A approval" process for major projects; a notorious NSW Planning provision that allowed state Planning Ministers to determine a proposal and not be challenged regarding the scope, form and nature of the determination.

Similar factors which apply to Critical State Significant Infrastructure listing for Snowy 2.0 will cause administrative 'errors' such as the regional extinction of the Booroolong Frog and the loss of perennial flows in the Eucumbene River headwaters, introduction of Redfin Perch through the national park, extensive losses of natural wild landscape and much more.

The Colong Foundation objects to this proposal as inadequately assessed and incomplete. Those parts of the proposal that are described in this EIS shall cause significant environmental impacts on Kosciuszko National Park. The Snowy 2.0 proposal should be refused consent on these grounds.

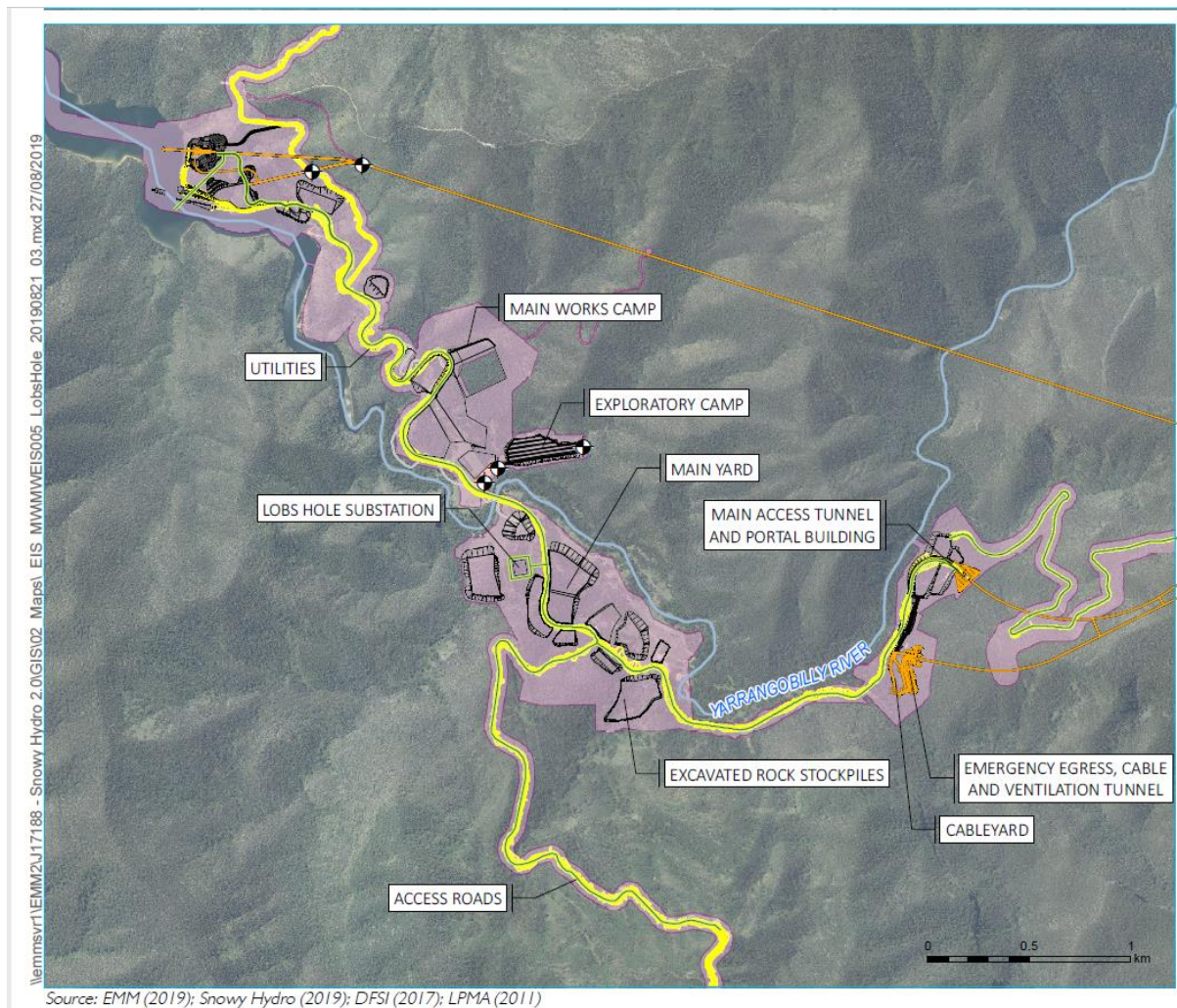
Thank you for the opportunity to make a submission.

Yours sincerely,

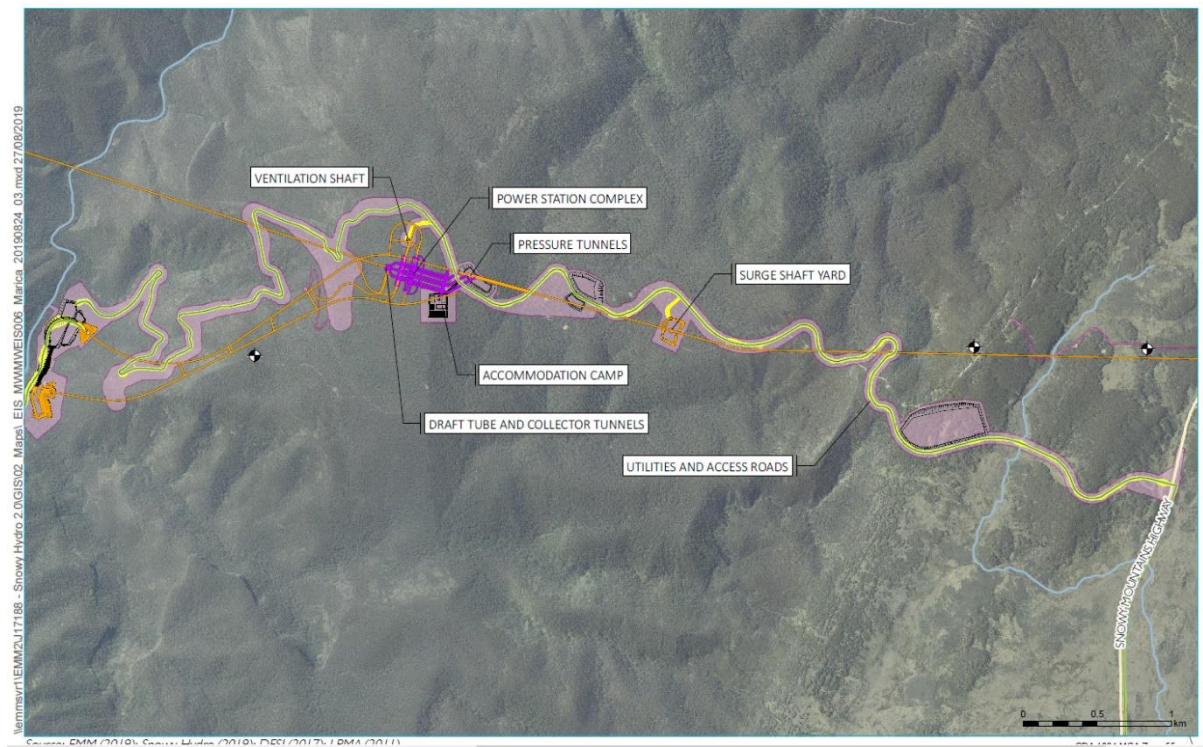


Keith Muir
Director

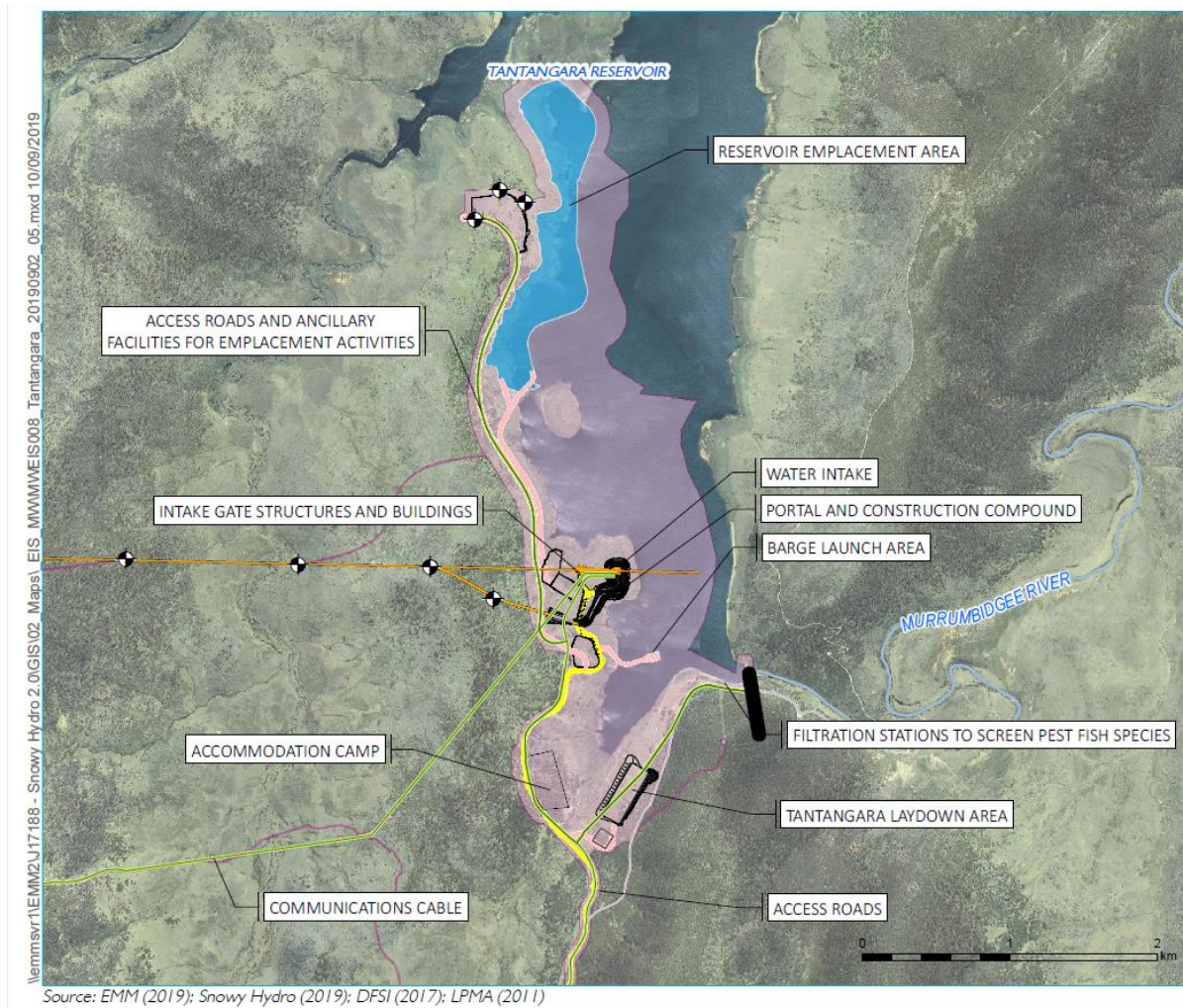
The Colong Foundation for Wilderness Ltd.



EIS Figure – illustration 1 showing the extent of proposed dumping along the Yarrangobilly River (a large proportion of the 6,000,000m³ dumped on Park in addition to that dumped in reservoirs), and clearing caused by the proposal, including for a new road into the river valley from the Marica plateau.



EIS Figure - illustration 2 – showing the extent of roading, facilities, clearing and dumping of road construction materials in the old growth forests of the Marica plateau.



EIS Figure - illustration 3 - showing the extent of proposed dumping and clearing for facilities and accommodation near Tantangara Dam.



Booroolong Frog recorded along Yarrangobilly River during field survey

The chances of the large populations of this frog surviving the proposed extensive works are low.



Smoky Mouse recorded in Marica during field survey

Populations of this threatened mouse will be fragmented by proposed road works at Marica.