

SNOWY 2.0 PROPOSAL – OBJECTIONS TO EIS MAIN WORKS AND BUSINESS CASE.

THIS OBJECTION IS LODGED BY JACOB GROSSBARD OF 22 MANNING AVENUE,
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I commend strongly the report by the National Parks Association of N.S.W. titled “SNOWY 2.0
DOESN’T STACK UP” which I agree with and support.

Lack of time meant I only read in detail the NPA of NSW report, and only glean over the EIS of Snowy
Hydro Ltd. and associated documents, which are vast in scope.

It is self-evident that the EIS and all other documents submitted to the Planning NSW are written by
authors paid for by Snowy Hydro Ltd to laud its proposal. Independent scientists, engineers, ecologists
and economists must be given the task to investigate the documents in depth and re-run the calculations
and assumptions on which it is based and examine alternative scenarios. Sufficient time should be made
available and final decision must not be made until such studies are complete.

The NSW Government was a major shareholder of Snowy Hydro Ltd until Snowy 2.0 was announced and
is a beneficiary of the scheme. It appears to be a conflict of interest for its own Planning Department to
assess this proposal.

It is particularly disturbing that works are already progressing and contracts signed without the project
EIS Main Works being approved. It appears to be contempt for due process. Any works and contracts
should be suspended pending approval, or refusal.

THE SUBMISSION IS DIVIDED INTO TWO PARTS:

1. OBJECTIONS TO PROPOSED WORKS DUE TO DAMAGE TO SNOWY MOUNTAINS
NATIONAL PARK ENVIRONMENT, WILDLIFE AND NATURAL RESOURCES. AND
DAMAGE TO DOWNSTREAM RIVER SYSTEMS, WATER FOR IRRIGATION AND
TOWN WATER SUPPLY.
2. OBJECTIONS TO ECONOMIC VIABILITY, BENEFITS, MODE OF OPERATION,
ALTERNATIVE TECHNOLOGIES AND SITES, AND OTHER ISSUES OF PROPOSAL.

BACKGROUND:

1. I am a member of the National Parks Association of NSW, a regular long term visitor to Kosciuszko National Park since 1970's, including camping, touring, hiking, much in the Long Plains area, Yarrangobilly, Thredbo, etc. The virtues of Kosciuszko National Park do not need repeating, it is an area of extraordinary national significance for its natural values, wildlife, alpine environment and store of snow and water and the source of some of the great rivers that dominate this country. This vast, flat and driest continent has no other environment like it, unlike Europe, Asia or Americas. Even New Zealand is awash with water and snow.
2. I am a retired Electrical Contractor with Associate Diploma in Electrical Engineering and decades experience in large scale industry such as mining, manufacturing, etc. I studied electrical energy theory and practice, including transmission lines and generation, etc. I worked on major construction projects, including power generation, commercial and manufacturing plants for nearly 50 years.

SUMMARY OF RECOMMENDATIONS:

1. The proposed works should be rejected on the grounds of unacceptable damage to the environment, wildlife, ecology and natural resources of Kosciuszko National Park. The EIS should be subject to independent scientific investigation regarding potential damage to the environment during construction and long term damage to Kosciuszko National Park and downstream river systems in case the project is approved.
2. Independent investigation of potential reduced availability of water with the Snowy Mountains becoming dry due to climate change. Reduction of water availability due to pond evaporation, seepage and lack of rain or snow melt. The reliance of this scheme on snow and rain precipitation (as there is no alternative source of water which is the "fuel" of this power generation proposal), puts it at risk of failure (the project lifetime is stated at least 100 years). At the time of writing, this country is facing its worst draught in many decades and no sign of it coming to an end. Predicted Climate Change modelling warns of deteriorating climate with increasing extremes. The proposal does not account for the price of water used by Snowy Hydro Ltd. on commercial terms as are charged to primary producers downstream. The proposal is a money making business getting its resources for free. It also appears that Snowy Hydro Ltd. pays a pittance in lease to National Parks of NSW for the land which they currently use or intent to expand into (e.g. new

transmission lines, roads, etc.) as a commercial business. The project should be rejected if these arguments are valid.

3. The economic viability of the project should be assessed by independent economists and engineering specialists not bound to the Snowy Hydro Ltd or its sole shareholder, the Federal Government. Potential for lack of external energy at “low” cost for uphill pumping requirement, extremely low efficiency of the scheme due to unacceptable losses in long distance transmission both for pumping and delivery to main population centres. Extremely inefficient pumping uphill for a distance of 29 km from the storage pond to the generating pond. Market manipulation by Snowy Hydro Ltd. Due to its exclusive control of the high demand contestable market, a practice it employs now. Additionally, the extremely high cost project may have little use, as it may be required only for a few days a year and maybe unable to operate when required to do so when upper pond is empty. \$10 billion for that?!!! It is not base load, just emergency supply! The project should be refused if economics of operations are incorrect.
4. The proposal completely ignores potential alternative technologies such as very cheap storage batteries now or in the future being developed, alternative sites and multiple sites for stored hydro, tidal power, hydrogen extraction technologies, etc. It makes cost assumptions that cannot be enforced as the supply of electricity is a free market enterprise that cannot be legislated.

ARGUMENTS AGAINST PROCEEDING WITH PROPOSAL:

ENVIROMENTAL: Kosciuszko National Park and adjoining Victorian Alps are the only Alpine high country in Australia, a unique situation compares to massive and many alpine areas in Europe, Asia, Americas and Africa with altitudes multiple times that of Snowy Mountains, vast permanent snow field and glaciers and far more abundant water resources. Australia is the flattest, driest continent on this planet and has unique and irreplaceable flora, fauna and climactic conditions. This situation is recognized in its protection as National Park for many years. It is the source of major river systems that play a vital role in the economic and habitable viability of most of the population centres, including food production, drinking water and ecology. At the time of writing, the Darling River and its sources and tributaries has practically been destroyed by draught and overuse – an emergency not going away any time soon. Australia must avoid destruction of the Murrumbidgee River and the fertile land it supports.

The proposed works will have a hugely detrimental effect on internal and international tourism to the region which is a major part of the economy of many towns. This is likely to last many years and past construction phase if allowed to proceed. Many parts of the Snowy Mountains National Parks will become inaccessible to visitation and tourism for years to come.

OPERATIONAL AND ECONOMIC: Since the introduction of the National Energy Market some 25 or so years ago, Snowy Hydro Ltd. ceased being a base load generator (if it ever really was!). Using its advantage of very fast “turn on” ability which is measured in minutes – as compared to coal fired (base load) or even gas fired generators, it has become a market manipulator and in essence a “black mailer”, selling electricity only when there is critical shortage in the National Grid at extremely high prices to prevent “brown outs” or “blackouts” which can be disastrous to certain continuous industrial operations, computer systems, security and hospitals, etc.

This proposal will make Snowy Hydro Ltd. the sole source of electricity when there are supply shortages, due to wind, solar shortages, or even coal or gas generation failures, putting it in a position to charge what it likes. The whole proposal is about getting electricity “cheap” and selling it “expensive” to make a profit, with no alternative market suppliers. The rest of the energy market is made up of multiple suppliers competing with each other for contracts.

The whole proposal assumes three elements:

1. The purchase by Snowy Hydro Ltd. of “cheap” electricity during “low” demand periods, from supposedly Wind and Solar farms – but more likely from Coal fired power stations for many years to come. Snowy Hydro Ltd. does not own these facilities and these generating companies may not be willing to supply the electricity at prices that will make the operation of Snowy 2.0 viable. The energy is only cheap until Snowy 2.0 need gigawatt hours of it for pumping operations – which makes it expensive.
2. The Wind and Solar generating companies may develop their own storage battery systems with new technologies. Solar energy production today is a fraction of the cost it was just a few years ago, ditto its huge expansion for residential and commercial solar farms. In the same way, current research into storage batteries is aiming to produce huge batteries extremely cheaply and on very large scale. Just in the last few decades Lead Acid batteries have been replaced by much more efficient Nickel-Cadmium batteries used in electrical vehicles and now Lithium Ion batteries are available with storage densities unimagined just a few years ago. Research is advancing quickly into other battery chemistries promising to be cost fractional of current technologies, and water conversion into Hydrogen as fuel (an efficient and clean fuel) and many other technologies.
3. Snowy 2.0 may be redundant by the time of project completion or not long after, due to alternative technologies and energy storage and conservation. The take up of residential solar power and storage, local area energy networks with local trading, etc., modern home insulation, efficient homes and appliances are changing the market in unprecedented ways. Commercial

buildings are being retrofitted to be extremely energy efficient and almost self-sufficient. All not even imagined a few years ago.

4. It is concerning that the Commonwealth Government is both the sole owner of Snowy Hydro Ltd. the proponent of the scheme, and effectively the determining authority of its viability. There is a clear conflict of interest in the decision making process, in particular the hasty announcement by Prime Minister Turnbull in 2017 of the project as “fait accomplie” (done deal) without any independent investigation of the proposal both from its environmental, technologic and economic viability.
5. The efficiency of this system is extremely poor. The transmission of electricity in overhead wires has a cost, a large cost when large distances are involved. That is why generating plants are close to population and manufacturing centres, such as Hunter Valley in NSW and similar generating centres in Victoria’s Latrobe Valley and close to their “fuel” sources. The proposed 29 kilometers tunnel to transfer water from the post generation pondage uphill to storage pond is an example of staggering waste of energy and treats energy as if it is free. Once built, the cost of running this system cannot be changed as percentage cost and may even become unviable in future. The report by National Parks Association estimates 30% wasted energy to produce energy, it may even be higher at 40%. That is staggering and unheard of in generating systems. Hydro generating systems are famous for very high efficiency. Once built, Hydro generation is extremely efficient, but not in this case, it uses more energy than it manufactures.
6. The economic margins must be huge to pay for all these works, loans, equipment, maintenance and operational costs, and a need for some profit. Unless Snowy Hydro Ltd. plans to become a charity subsidized by the tax payer forever. It is already being subsidised by huge grants and loans which are unaccountable.

I SUBMIT TO THE PLANNING DEPARTMENT THAT IT RECOMMENDS THE MINISTER TO STOP ALL WORKS FORTHWITH AND REJECT ALL THIS PROJECT AS ENVIROMENTALLY AND ECONOMICALLY UNVAILABLE AND UNDESIREABLE.

Respectfully yours,(signed)

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