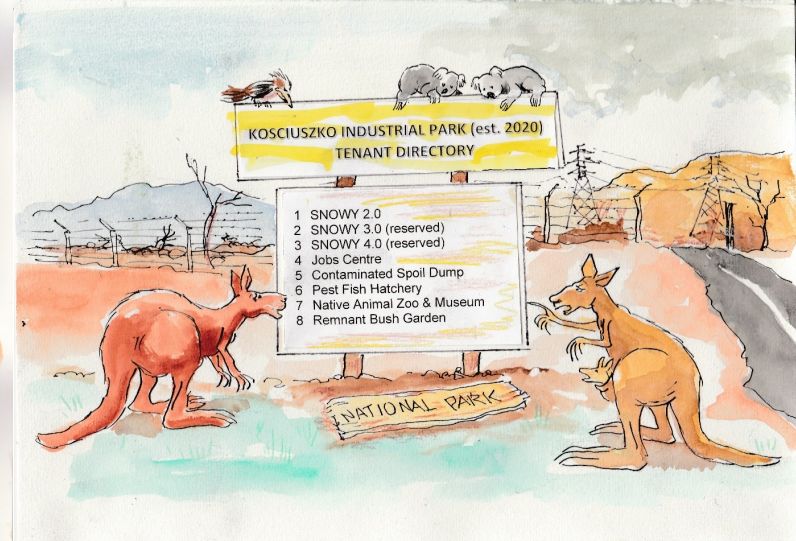
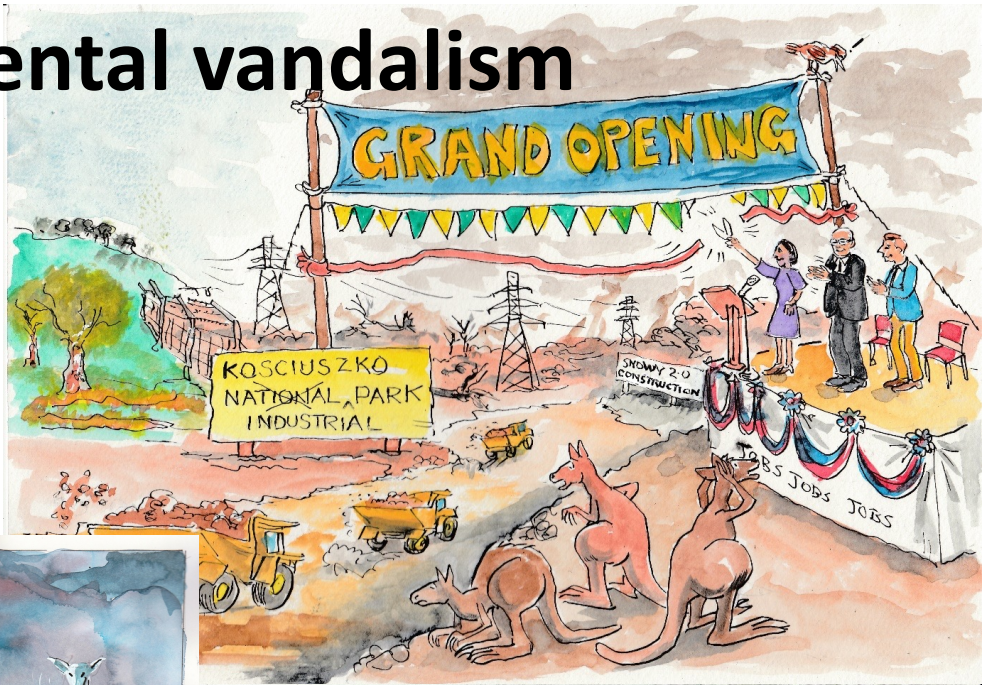
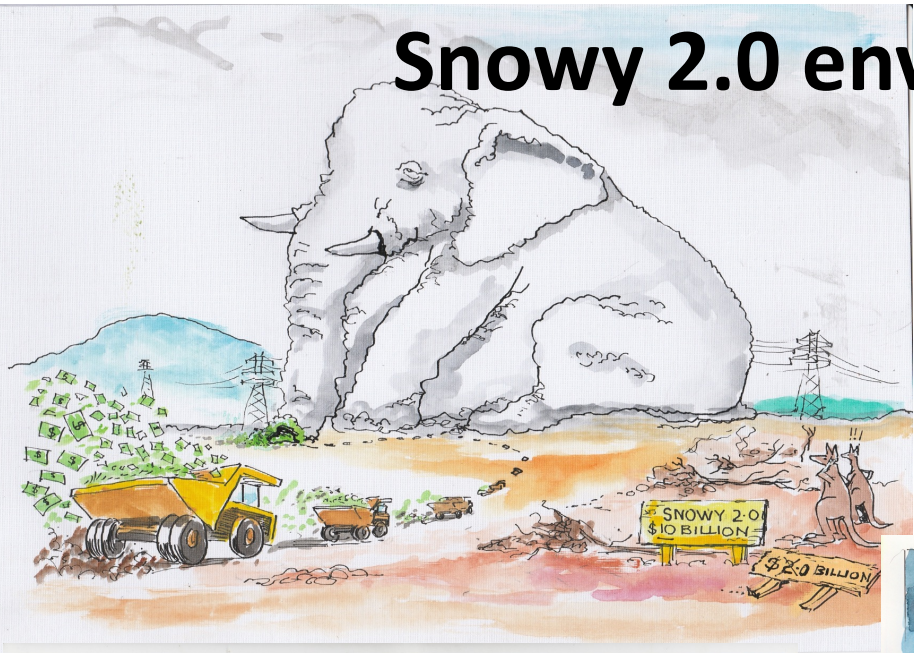


# Snowy 2.0 environmental vandalism



"Sorry Premier, someone messed up. This 20 million tonnes of excavated spoil was intended for Kosciuszko National Park. Mr Stokes, are you still prepared to sign off?"

# Snowy 2.0 pumped hydro battery

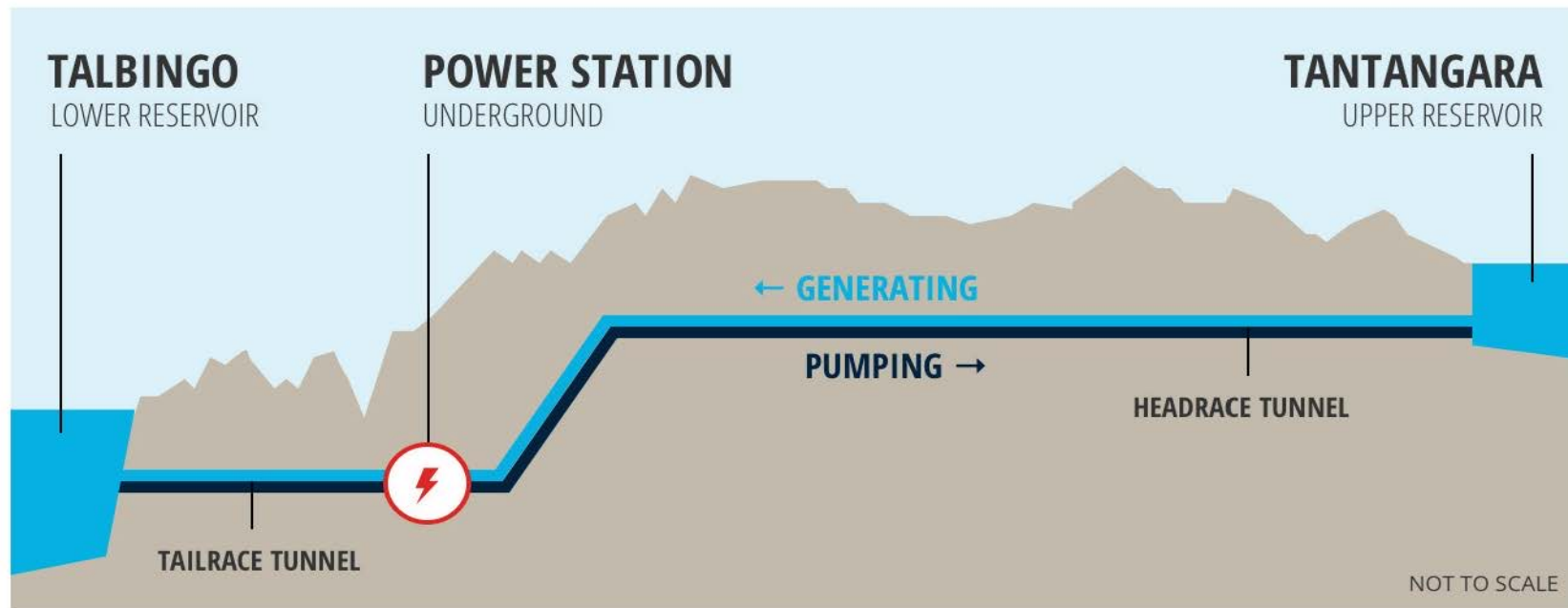
*“The Turnbull Government will start work on an electricity game-changer: the plan for the Snowy Mountains Scheme 2.0. This plan will increase the generation of the Snowy Hydro scheme by 50%, adding 2000 megawatts of renewable energy to the National Electricity Market”*

[Malcolm Turnbull, Prime Minister of Australia](#) (15 March 2017, less than two weeks after being proposed by Snowy Hydro)

| <i>Expectation (March 2017)</i>      | <i>Reality (August 2023)</i>                                     |
|--------------------------------------|--|
| <b>\$2 billion</b>                   | <b>&gt;\$20 billion (incl. transmission)</b>                     |
| <b>built in 4 years (2021)</b>       | <b>13+ years (2029+)</b>   |
| <b>no taxpayer contribution</b>      | <b>\$1.4 billion so far</b>                                      |
| <b>bring down electricity prices</b> | <b>will increase prices</b> <a href="#">(Snowy Hydro Report)</a> |
| <b>add 2000 MW renewable energy</b>  | <b>Snowy 2.0 is a battery not a generator</b>                    |

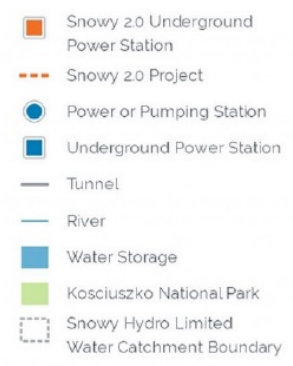
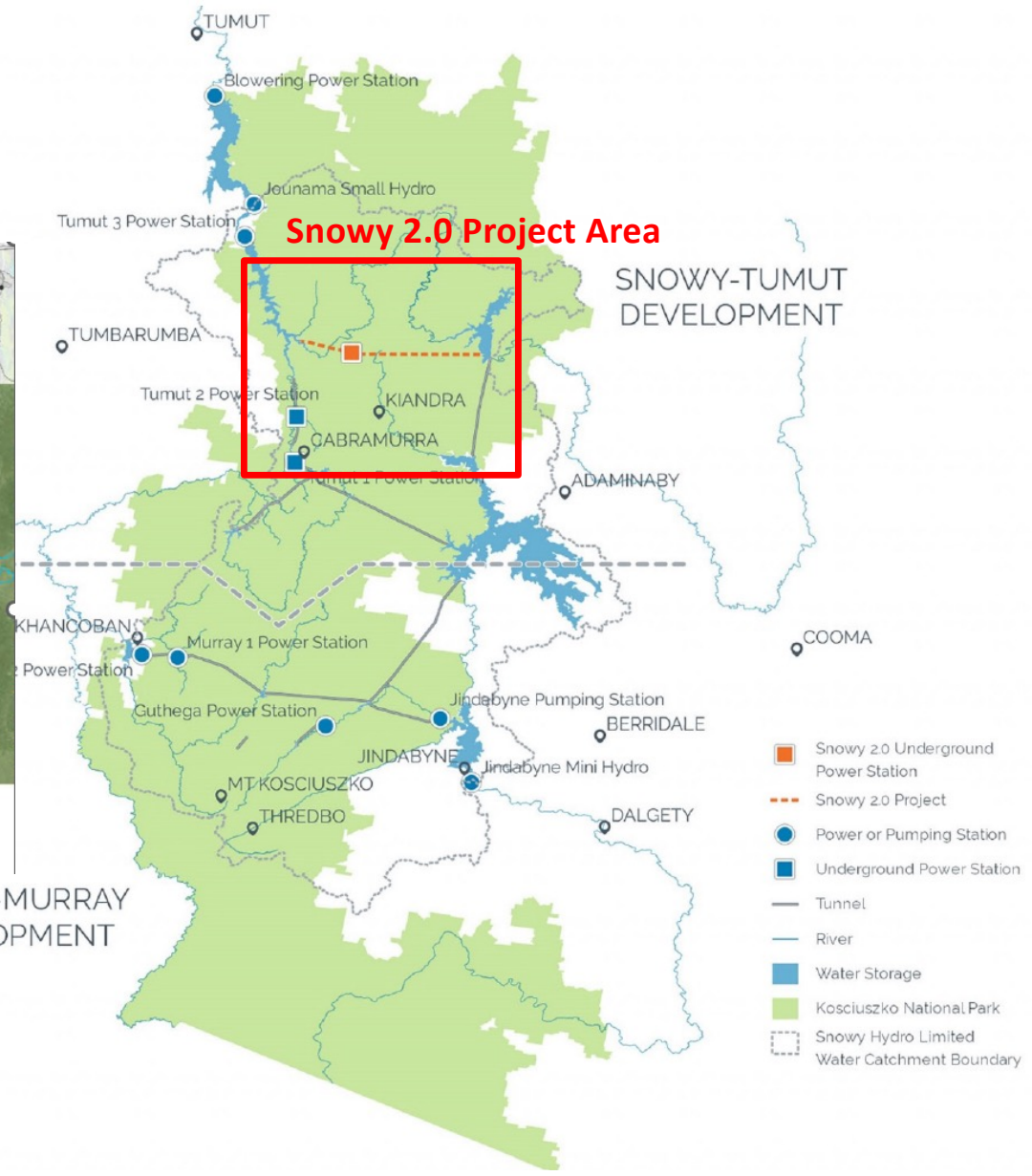
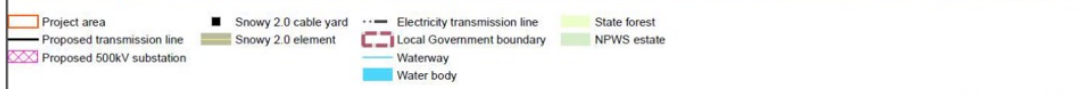
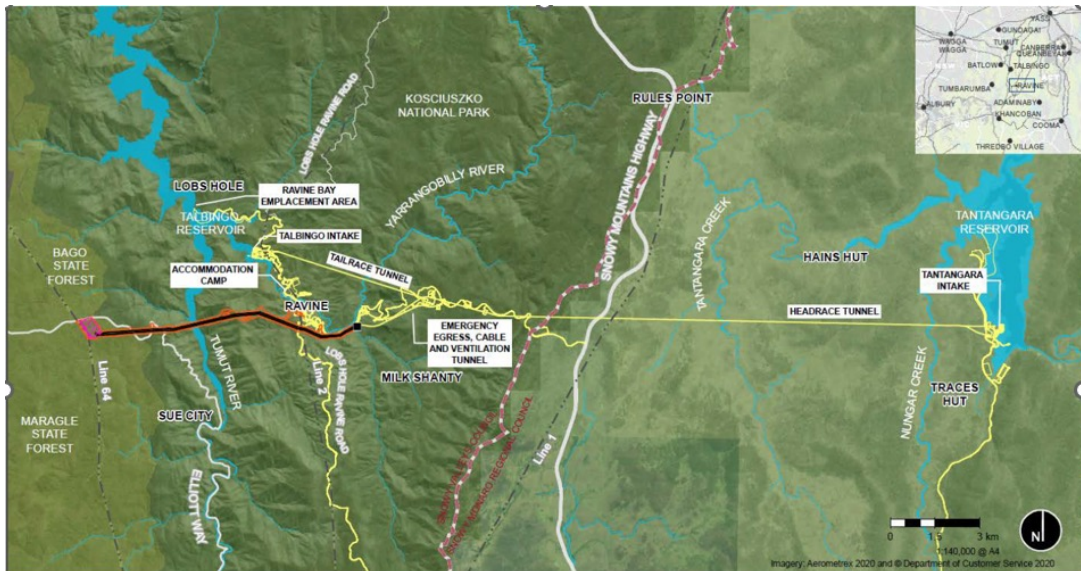
# Snowy 2.0 is NOT renewable NOR 'green'

- 'conventional hydro' is renewable, pumped hydro is not
- Snowy 2.0 is simply a water battery
- loses >25% in the pumping/generation cycle (+ transmission losses, two-ways)
- 1.5 MWh of pumping produces 1.0 MWh of generation
- a net load, not a net generator
- more inefficient than other pumped hydro (27 km between reservoirs – world's longest) and chemical batteries



# Snowy 2.0 project area

50,000 ha (500 km<sup>2</sup>) of Kosciuszko National Park



# Environmental destruction in Kosciuszko NP

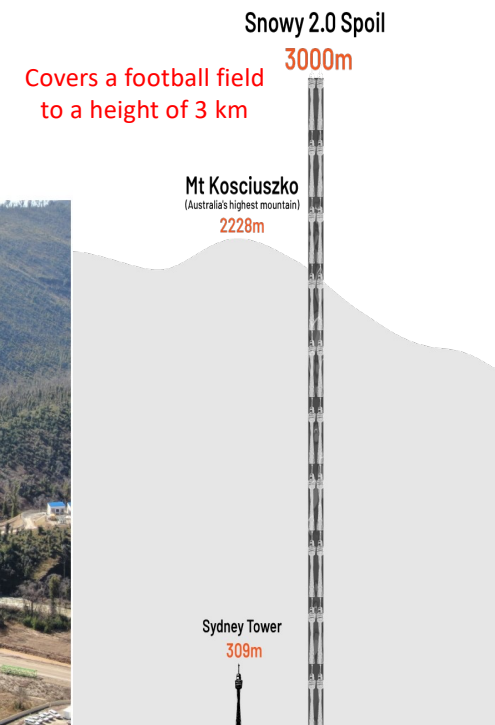
- 50,000 ha project area; 1,680 ha physically disturbed; 1,053 ha totally lost, including 992 ha of habitat for 14 threatened species
- >10 million tonnes of excavated spoil dumped in the Park, four sites, 55 ha
- >100 km of roads and tracks upgraded/built
- four 330 kV overhead lines, 8 km, easement swathe 120-140m
- depressed water table and stream flows above tunnels
- pest fish pumped from Talbingo to Tantangara
  - spread throughout the Snowy Mountains
  - into the Murrumbidgee, Murray and Snowy Rivers
  - devastating indigenous fish stocks and trout fishing
  - wiping out a critically endangered species
- visual blight of infrastructure in pristine bush



Redfin Perch – Class 1 noxious pest



Photograph B.1 Line 2 at Lobs Hole looking north



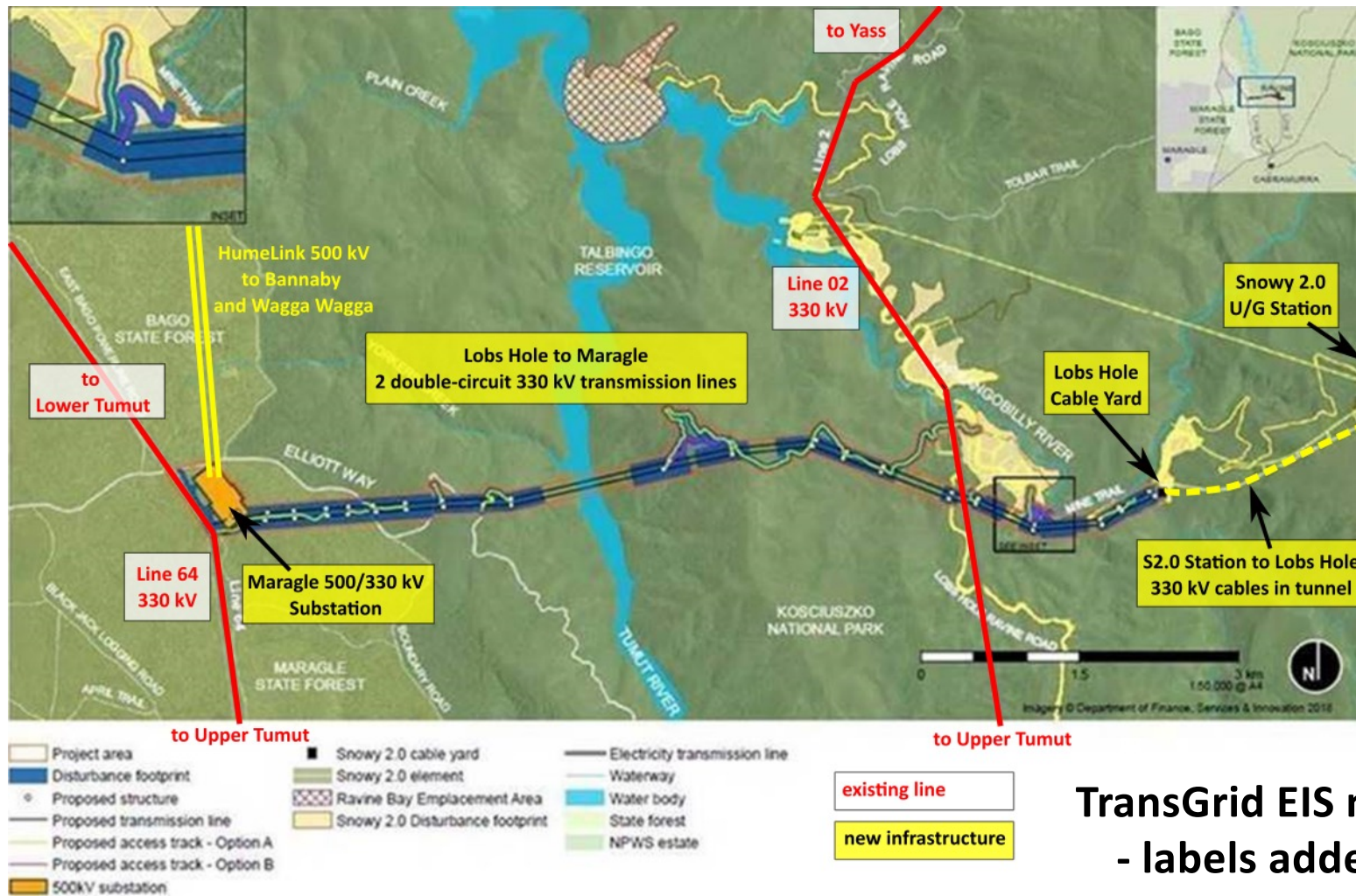
# Florence (the tunnel boring machine)

- commissioned 22 March 2022
- designed to excavate 30 to 50 metres/day
- currently 'paused' under a 9 metre deep 'surface depression'
- bored 150 metres in 17 months, 300 millimetres/day
- boring the 15-kilometre-long headrace tunnel will take:
  - 150 years at current 'speed', or
  - 7 years at the 'speed' of Eileen and Kirsten (6 metres/day)



# Snowy 2.0 Transmission Connection

through Kosciuszko National Park



TransGrid EIS map  
- labels added

# Overhead lines will dominate Kosciuszko landscape



(TransGrid photomontages)



- four 330kV circuits
- 8 km through KNP, 1 km through Bago SF
- two sets of side-by-side steel lattice towers up to 75m tall
- 26 wires per tower (52 in total)
- cleared easement swathe 120-140-200m wide
- 10 km of access tracks

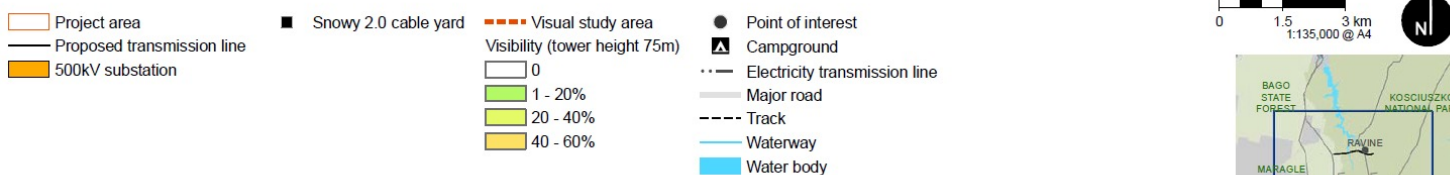
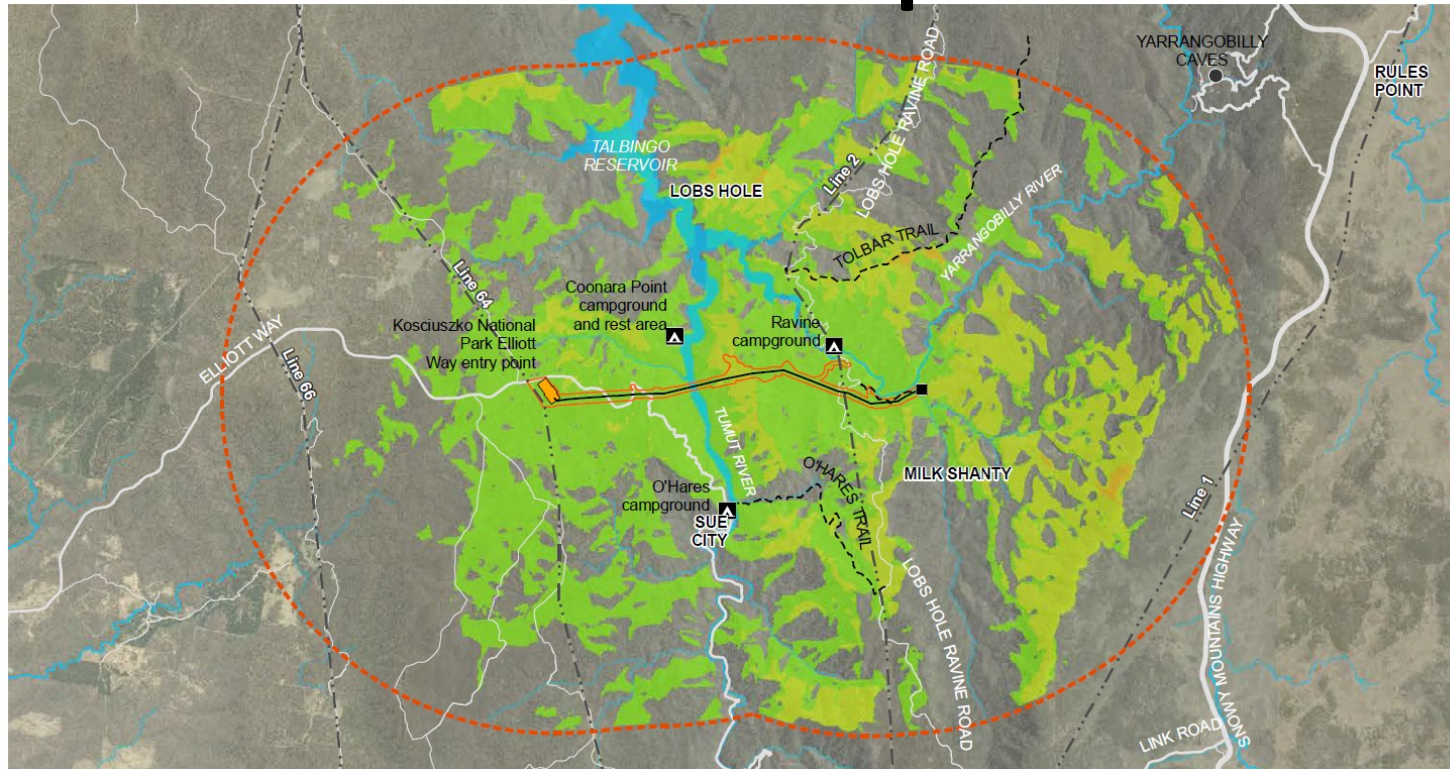


Figure 5-2 Indicative concept design for the transmission structures



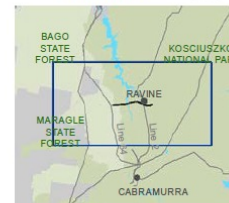


# Visible over 200 square kms



## TransGrid EIS diagram

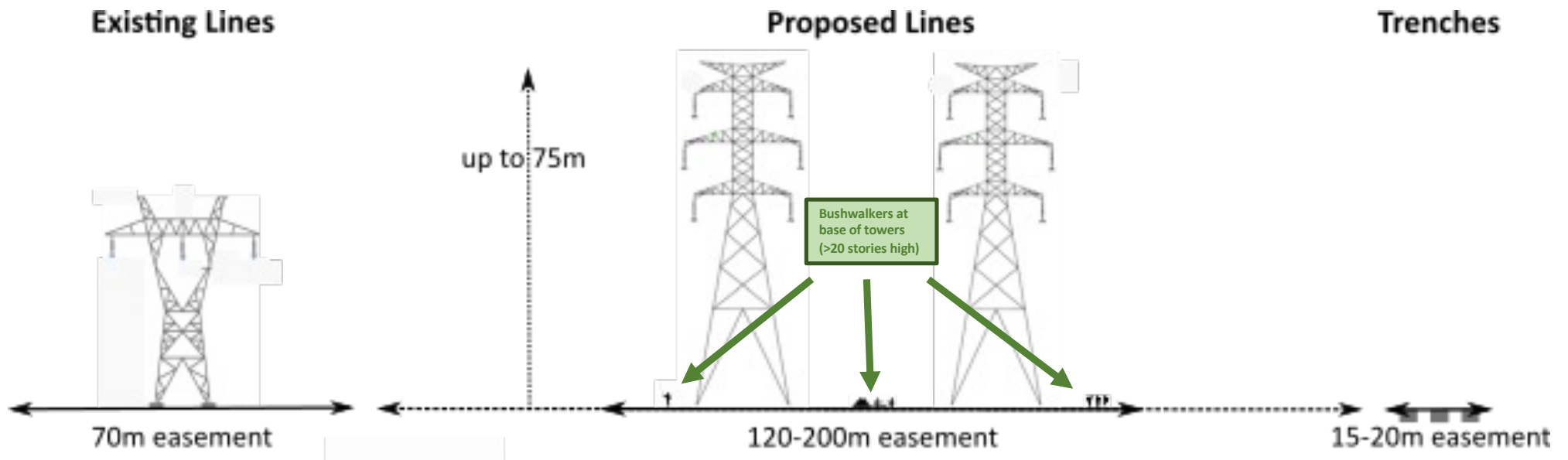
Figure 3-5 | Viewshed analysis



Data source:  
Jacobs 2020, TransGrid,  
© Department of Customer Service 2020

# 4x more intrusive than existing lines

- proposed lines will be 4 times the bulk of existing 330 kV lines in KNP
- easement for overhead lines will be ~8 times width of underground cable trench (worst U/G option)
- no easement or access tracks required for tunnel (best U/G option)



# Universal opposition to overhead lines

- [Open Letter \(Jan 2021\)](#) from 24 environmental organisations and 50 experts called for underground lines
- Labor Party, Greens and most opposition parties and independents called for lines to be underground
- *“Of the 40 [EIS] submissions, 65% opposed the project, 35% provided advice/comments and no submissions (0%) provided support for the project”* (TransGrid RTS extract)

Open Letter  
18 January 2021

The Hon Rob Stokes MP  
Minister for Planning and Public Spaces

The Hon Matt Kean MP  
Minister for Energy and Environment

Snowy 2.0 transmission must be underground

Dear Ministers,

You will soon be presented with an Environmental Impact Statement (EIS) proposing high-voltage overhead transmission lines through Kosciuszko National Park for the Snowy 2.0 pumped hydro station. We believe overhead transmission lines would cause extensive, unnecessary, and entirely unacceptable damage to the Park.


We urge you to insist on a comprehensive analysis of underground alternatives prior to the submission of the EIS, in accordance with regulatory requirements. The proposed option in the EIS must be for underground cables, not overhead lines. Overhead lines would cause environmental impacts that are totally incompatible with the national and international significance of Kosciuszko National Park.

In the absence of your intervention, we understand that four 330 kV overhead transmission lines will be proposed, suspended on two sets of steel lattice towers (up to 75 metres high). The lines would traverse eight kilometres of Park within an easement up to 200 metres wide. One square kilometre of National Park would be permanently cleared. The lines would be visible over a vast area, totally destroying the ambience and integrity of this remote and largely pristine region. This proposal is far more intrusive than any of the single tower lines constructed in Kosciuszko before the Park was established in 1967.

Underground cables may be more expensive, but they have several offsetting benefits including minimal environmental impact, higher reliability, reduced maintenance, and less vulnerability to outages from lightning, storms and bushfires.

Kosciuszko National Park is a special and irreplaceable place on our National Heritage List. Despite the damage of the past and present, it is one of the most majestic areas in Australia and one of our planet's natural icons. It has fundamental cultural significance for Indigenous peoples and is very much loved and enjoyed by all Australians.


The unique character and values of Kosciuszko must not be sacrificed for the cheapest transmission option, overhead lines, when viable and far less damaging underground alternatives are available, as outlined in the accompanying Paper.



Photomontage (TransGrid)  
Lobs Hole, Kosciuszko National Park



|   |   |
|---|---|
| John Anderson<br>BE(Hons), MEngg, MIEAust<br>Prof Simon Barthel AM<br>BE, BSc, FIEAust, FISE, FAICD | Structural Engineer, former Project Manager major road and tunnel projects (MS East Lane Cove Tunnel), Transport NSW<br>Former Australian Chair of Electricity Transmission, University of Queensland, Chief Operating Officer, Powerlink QLD, Director ElectraNet SA, Australian Professional Engineer of the Year 2009, Member of the Order of Australia for services to Australia's Power Industry |
| Steve Blamey<br>MAE, MAMS, MAICD  | President, Smart Energy Council, Director, Australian Institute of Energy, Director, Global Solar Council, Chair, Steering Committee, Asian Photovoltaic Industry Association   |
| Emeritus Prof Russell Bridge<br>BE(Hons), PhD, FEAust, FASCE  | Foundation Chair of Civil Engineering, Western Sydney University; major contributor to Australian Standards for steel and concrete constructions, former Director, Centre for Construction Technology Research  |
| Dr Matthew Broadbent<br>Asst(DipAppSc, BSc(Hons), PhD)  | Senior Lecturer, former School of Environment and Society, Australian National University, Project Leader, snowgum dieback  |
| Tim Buckley<br>BEng, FRSA Series 7, Series 24   | Director, Energy Finance Studies Australasia, Institute of Energy Economics and Financial Analysis; former Managing Director, Head of Equity Research, Citigroup  |
| Alan Bull<br>MIEAust, MAMS<br>Lorraine Cairnes<br>BSc, GDPSM, Member WCPA                           | former Operator and AI/Network Controller, TransGrid; System Control Division, Electricity Commission of NSW<br>Author "Australian Natural Heritage Charter"; former Chair, Independent Scientific Committee, Kosciuszko National Park Plan of Management, CEO The Pathfinders Consulting Group; Senior Executive, Sydney Water   |
| Bob Debus AM<br>BA LLB  | former Minister for Environment, Attorney General, Minister for Energy and Minister for Environment Services (NSW); Chair, Colong Foundation for Wilderness   |
| John Dembecki<br>BE(Hons), ME, FEAust   | former System Control Engineer, Electricity Commission of NSW; Member, Snowy Mountains Council Operations Committee; Chair & General Manager, Energy Authority of NSW; Professional Fellow, University of Sydney School of Electrical Engineering   |
| Bruce Donald AM<br>LLM(Hon)   | Media and environment lawyer; former Partner, Allen; General Counsel, ABC; Chair, Environmental Defenders Office; Australian Heritage Commissioner  |



11 February 2021

The Hon. Rob Stokes MP  
Minister for Planning and Public Spaces  
CPO Box 5341  
SYDNEY NSW 2001

Dear Minister

**Snowy 2.0 Transmission Infrastructure**

We write to you regarding the Snowy 2.0 project in the Kosciuszko National Park and ask you to ensure that the transmission infrastructure for the project is buried underground.

Kosciuszko National Park is a place of significant environmental, scenic and cultural value. It supports threatened and vulnerable species, rare ecosystems, majestic landscapes and Aboriginal heritage. It is a world-class national park.

We were recently alarmed to learn that TransGrid proposes to connect Snowy 2.0 with overhead transmission lines through this pristine national park wilderness. We understand the transmission lines will be suspended on sets of massive steel lattice towers up to 75 metres high and require easements up to 200 metres wide, meaning one square kilometre of national park is to be cleared.

Such an impact on rare national park is unheard of anywhere else in any modern progressive democracy and in the absence of every effort being taken to avoid the use of overhead transmission, to proceed, could be seen as willful vandalism.


Technology exists to bury the infrastructure underground and significantly reduce the project's environmental impacts. We understand there are a number of ways to do this, including connecting a tunnel to existing substation infrastructure at Lower Tumut. This option also opens up opportunities to shorten and rationalise the proposed HumeLink project, significantly reducing its impacts on local communities and landholders over hundreds of kilometres, as well as Bago State Forest. Not only would there be substantial community and environmental benefits, but New South Wales electricity consumers would face lower costs.

Any additional costs incurred from undergrounding transmission infrastructure must be assessed in the context of massive long term savings from lower maintenance and higher reliability, without risks from bushfires or lightning. The recent black summer bushfires took out the connection between New South Wales and Victoria and burnt electrical equipment in the Snowies, causing tens of millions in damages and losses from constrained generation. Overhead lines also threaten to complicate fire-fighting efforts by interfering with road and air operations.


We believe it would be short-sighted to build such industrially intense infrastructure through this scenically beautiful and biodiverse-rich national reserve, leaving a greatly diminished legacy for future generations.

**We urge the NSW Government to direct TransGrid to underground the transmission infrastructure for the Snowy 2.0 project.**


Yours Sincerely




Greg Piper, MP  
Member for Lake Macquarie



Alex Greenwich, MP  
Member for Sydney

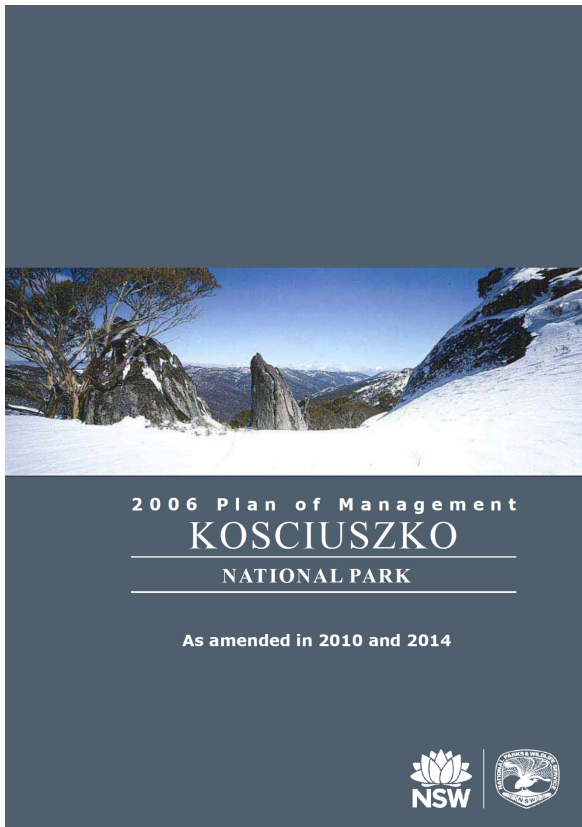


Dr Joe McGirr, MP  
Member for Wagga Wagga



Justin Field, MLC  
Member of Legislative Council

# New overhead transmission lines were prohibited in 2006 Kosciuszko Plan of Management



## **12.6.1 Management Objective**

***Telecommunication and electricity infrastructure are managed in ways that minimise adverse impacts on the values of the park and other users.***

## **Policies and Actions**

4. Wherever possible, the Service [NPWS] will seek agreement on:
  - The rationalising, undergrounding or rerouting of high impact lines or sections of lines; and
  - The removal of all redundant infrastructure and the rehabilitation of disturbed easements and roads no longer required.
  
6. Require all additional telecommunication and transmission lines to be located underground.

**The Amendment approved by the former NSW Government on 1 Sep 2022 replaces 12.6.1.6 with:**

6. Require all additional telecommunication and transmission lines to be located underground, **except those constructed as part of the Snowy 2.0 project.**

# Snowy Hydro knew overhead transmission lines were prohibited in Kosciuszko

- Only reason for going overhead is to save Snowy Hydro the extra cost of undergrounding
- Snowy Hydro ‘knew the rules’ and should have factored underground transmission in its Snowy 2.0 Business Case – it was arrogant not to
- NPWS was complicit in allowing overhead lines:
  - *“TransGrid has consulted with NPWS who advised that the KNP POM would be amended in due course to reflect the requirement to connect Snowy 2.0 to the grid via an overhead transmission connection”* (Snowy 2.0 EIS, 23 Feb 2021)
- Snowy 2.0 is an underground project:
  - power station 800m underground; 40 km of tunnels
  - 3 km transmission connection from Snowy 2.0 underground station to Lobs Hole (tunnel)
  - electricity line from Lobs Hole to Marica (horizontal directional drilling) and extending to Tantangara (trench & HDD)
- underground cables have advantages:
  - far less environmental impact, no visual blight (if in tunnels)
  - less outages
  - no exposure to bushfires, lightning strikes or wild weather
- underground is the norm internationally
- 1967: last overhead line built in Kosciuszko National Park
- 1976: last overhead line built through a NSW National Park

# NATIONAL PARKS AND WILDLIFE ACT 1974

Preparation of Plans of Management and amendments  
(the following sections apply to both)

NATIONAL PARKS AND WILDLIFE ACT.

New South Wales



ANNO SEXTO DECIMO

ELIZABETHÆ II REGINÆ

\*\*\*\*\*

Act No. 35, 1967.

An Act to reserve certain national parks, state parks and historic sites, and to provide for the reservation of further national parks, state parks and historic sites; to make provision for and with respect to the development, use and preservation of, and the care, control and management of national parks, state parks and historic sites; to provide for the appointment of a Director of National Parks and Wildlife and of a National Parks and Wildlife Service and of a National Parks and Wildlife Advisory Council and of a National Parks Advisory Committee of Architects; and to define the powers, authorities, duties and functions to be exercised by them respectively; to abolish the Fauna Protection Panel and the office of Chief Guardian

## 72 PREPARATION OF PLANS OF MANAGEMENT

(1) The [Secretary](#)--

(a) shall cause a [plan of management](#) to be prepared for each [national park](#)

# NATIONAL PARKS AND WILDLIFE ACT 1974

## 72AA OBJECTIVES AND CONTENT OF PLANS OF MANAGEMENT

- (1) The following matters are to be taken into consideration in the preparation of a [plan of management](#) for [land](#) reserved under this Act-
- (a) the relevant [management principles](#),
  - (b) the conservation of biodiversity, including the maintenance of [habitat](#), ecosystems and [populations](#) of [threatened species](#),
  - (c) the protection and appreciation of objects, places and structures of cultural significance, and tracts of [land](#),
  - (d) the protection of [landscape](#) values and scenic features,
  - (e) the protection of geological and geomorphological features,
  - (f) the protection of [wilderness](#) values and the management of [wilderness areas](#),
  - (g) the maintenance of natural processes,
  - (h) the rehabilitation of [landscapes](#) and the reinstatement of natural processes,
  - (i) fire management,
  - (j) in the case of a [plan of management](#) for a [national park](#), [nature reserve](#) or [karst conservation reserve](#), the prohibition of the execution of any works adversely affecting the natural condition or special features of the park or reserve,
  - (k) the potential for the reserved [land](#) to be used by [Aboriginal people](#) for cultural purposes,
  - (l) the provision of opportunities for public understanding and appreciation of natural and cultural heritage values, including opportunities for [sustainable](#) visitor or tourist use and enjoyment of the reserved [land](#),
  - (m) the [adaptive reuse](#) of buildings and structures,
  - (n) the appropriate (including culturally appropriate) and ecologically [sustainable](#) use of the reserved [land](#), including use by lessees, licensees and occupiers of the [land](#),
  - (o) the preservation of catchment values,
  - (p) the encouragement of appropriate research into natural and cultural features and processes, including [threatening processes](#),
  - (q) the identification and mitigation of [threatening processes](#),
  - (r) the statutory natural resource management, [land](#) use management plans and [land](#) management practices of [land](#) surrounding or within a region of the reserved [land](#),
  - (s) the regional, national and international context of the reserved [land](#), the maintenance of any national and international significance of the reserved [land](#) and compliance with relevant national and international agreements, including the protection of [world heritage values](#) and the management of world heritage properties,
  - (t) benefits to local communities,
  - (u) the social and economic context of the reserve so as to ensure, for example, that the provision of visitor or tourist facilities is appropriate to the surrounding [area](#) or that pest [species](#) management programs are co-ordinated across different tenures,
  - (v) the protection and management of [wild rivers](#),
  - (w) the impact of the management and the use of [land](#) acquired under Part 11 on the reserved [land](#)'s management.

# NATIONAL PARKS AND WILDLIFE ACT 1974

## 73A PUBLIC EXHIBITION AND CONSULTATION FOR PLANS OF MANAGEMENT

- (1) When a [plan of management](#) is prepared, the responsible authority must give notice of the preparation of the plan in accordance with the [regulations](#).