

Rembrandt and the Dutch Golden Age  
GICLEE PRINT COLLECTION



THE *Stove*  
BY FAIRFAX

VIEW NOW

[Home](#) / [Opinion](#) / [Columnists](#)

**OPINION**

Jan 8 2018 at 11:00 PM  
Updated Jan 8 2018 at 11:00 PM

Save Article

My Saved Articles

Print

License article

# Why we can't do without the power of Snowy 2.0



Prime Minister Malcolm Turnbull and his political colleagues hope power generated by Snowy 2.0 will fill a gaping hole in the National Electricity Market, namely the lack of storage. Alex Ellinghausen

by Josh Frydenberg

**Snowy 2.0** will make renewables reliable, reduce volatility in the electricity market and help to bring down rising electricity costs.

It builds on the foundation of the Snowy Mountains Scheme, which nearly 70 years ago then opposition leader Robert Menzies described as a "great national work" that was "vital to the real industrial development of this country".

With only 2 per cent of construction visible above ground, the scheme involved 16 major dams, seven power stations, a pumping station and 225 kilometres of tunnels, pipelines and aqueducts.



Rembrandt and the Dutch Golden Age  
GICLEE PRINT COLLECTION

VIEW NOW

THE *Stove*  
BY FAIRFAX

Advertisement



For Sale via EOJ Closing 23rd November at 4pm



For Sale



Prime Minister Malcolm Turnbull tours the Snowy Hydro Tumut 2 power station, with plans for Snowy 2.0 set to be 'a game-changing, nation-building, renewable energy project'. Alex Ellinghausen

It was an engineering feat of international renown that provided a platform for Australia's economic development for decades to come.

Now history is repeating itself.

Snowy 2.0 is the Turnbull government's plan to expand the original scheme with an additional 2000 megawatts of capacity and 350,000MW hours of storage.

It represents the largest energy storage project in the southern hemisphere and the largest renewable energy project in Australia.

Creating up to 5000 jobs and producing enough power for 500,000 homes, it will link the Tantangara and Talbingo reservoirs and involve 27 kilometres of tunnels and a new power station that will be up to one kilometre underground.

Ten-and-a-half hours of pumping the 650 metres uphill from Talbingo to Tantangara, will deliver eight hours of generation downhill. Cheap energy in the middle of night – especially windy nights – will be used to pump uphill and then on a hot afternoon, Snowy 2.0 will be providing electricity right when it is most in demand.

## Making renewable reliable

It is a giant battery that makes renewables reliable.

With the capacity to store enough energy to run for seven consecutive days at its maximum output, Snowy 2.0 will be Australia's biggest battery.

To put it in perspective you would need the equivalent of 2700 of South Australia's big batteries or spend \$180 billion on Tesla power walls to match the output of Snowy 2.0. Not to mention the longevity issue. Standard batteries big and small last up to eight to 10 years while Snowy 2.0 is expected to last at least 60 years.

With the power generated by Snowy 2.0 supplying household and business demands in New South Wales, Victoria and South Australia, it will fill a gaping hole in the National Electricity Market, namely the lack of storage.

As more intermittent renewables, namely wind and solar, penetrate the grid more backup supply is needed to boost reliability and prevent price volatility. This is a point that was highlighted by the Energy Security Board's recent *Health of the NEM* report, which found that despite more than 5000MW of committed renewables being delivered before 2020, "very few megawatts of power that can always be dispatched has been added to the NEM".

2 Meredith Street BANKSTOWN NSW

Offices 13,728m<sup>2</sup>

**CBRE**

Contact agent



For Lease

8 Clunies Ross Street GREYSTANE...

Offices 1,000 - 10,500m<sup>2</sup>

## Related Articles

**Canva a start-up champion**

**Merkel in last-ditch effort to create grand coalition**

**From energy dealmaking to solar start-up**

**An energy policy without evidence**

**Don't believe Wolff's trashy efforts**

The shortfall in storage and dispatchability is playing out painfully today in Victoria and South Australia. Expensive, polluting diesel generators using up to 80,000 litres of fuel an hour have been called in just to keep the lights on this summer.

While storage can come in many forms, including lithium-ion batteries and hydrogen fuel cells, pumped hydro technology is the most dominant, responsible for 97 per cent of the world's energy storage.

Indeed, in a recent report on energy storage by Australia's Council of Learned Academies, pumped hydro it was said is "the most cost effective for delivering energy reliability".

### Game-changing project

Nevertheless projects of the scale and complexity of Snowy 2.0 to use Menzies' words do not come "on the cheap" According to the feasibility study the price tag would be

Menu

— NEWS WEBSITE OF THE YEAR —



While [some commentators](#) are quick to point out that the cost estimates do not include transmission upgrades, this is not uncommon for projects of this kind.

Poles and wires are typically regulated assets that are built by the operator. The government has made clear we are prepared to sit down with the relevant parties and work out the best way forward. Discussions will also need to include the Australian Energy Market Operator as it has a key role in planning a strengthened transmission system, recognising that transmission upgrades to cater for Snowy 2.0 will be available to other generators, thereby incentivising and identifying new renewable energy zones as outlined in the Finkel Review.

With Snowy Hydro saying it can fund 2.0 off its own balance sheet, the question must be what will happen if the project doesn't go ahead.

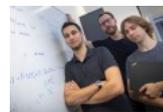
The answer is we will have a weaker and more expensive system and we would have failed to future-proof the grid for the inevitable arrival of more intermittent renewables. Instead of falling electricity prices we will see upward pressure on price as volatility continues, there is less competition and other more costly gas peakers and batteries are pursued to stabilise the system.

Snowy 2.0 is a game-changing, nation-building, renewable energy project. Just as Menzies after some initial hesitations put aside partisan differences and got behind the original Snowy scheme, it is hoped federal Labor will get on board the government's plan and follow their own Mike Kelly, who admits Snowy 2.0 is "an exciting project for our country".

*Josh Frydenberg is the federal Minister for the Environment and Energy*

*AFR Contributor*

### Latest Stories



**Inside the semiconductor industry's meltdown**  
4 mins ago



**GoPro open to sale: CNBC**  
18 mins ago



**Aston Martin IPO value seen at \$8.7b**  
36 mins ago

[More](#)



Rembrandt and the Dutch Golden Age  
GICLEE PRINT COLLECTION  
**VIEW NOW**  
THE STORE BY FRITHAK

Advertisement

### Recommended



**Samsung finds an answer to LG's OLED**



**Bitcoin a financial asset, says Bank of Israel's Nadine...**

### From Around the Web



**What every Australian should know about money**  
Promoted MyBudget



**2 Shares To Buy Right Now**  
Promoted The Motley Fool



New 'liar loan' numbers reveal many borrowers more...



Born Between 1953 and 1969? New Life Insurance Information

Life Insurance Comparison



Trump a liability not a leader



See How an SMSF Could Help You with Your Pension

Esuperfund



Canva follows Atlassian into the \$US1 billion unicorn ranks



Make waves with a conference in New Zealand.

100% Pure New Zealand

powered by plista

Menu

NEWS WEBSITE OF THE YEAR

The 5 best travel destinations for 2018  
An extraordinary story

Podcast: Is the web disrupting the education industry?  
Robots are here but they want to help

Follow your nose to your favourite perfume  
Sydney Festival matches music to Seidler's architecture  
Best of Sophisticated Traveller in 2017  
Best of Life & Leisure 2017  
Gifts for all lovers of style and glamour

### Special Reports

How to safeguard your portfolio in 2018  
Balancing the benefits and risks of cloud computing  
Advanced systems but more work needed  
Responding to a cyber attack  
Scaling up to meet the rising cyber challenge

36 mins ago

More

#### My Premium AFR

- My Alerts Create alert
- Portfolio
- Account
- My Saved Articles (0)

#### Subscription Terms

- Digital Subscription Terms
- Newspaper Subscription Terms
- Corporate Subscriptions

#### Fairfax Network

- The Sydney Morning Herald
- The Age
- Adzuna
- Domain
- Drive
- RSVP
- Essential Baby
- Home Price Guide
- Weatherzone
- Oneflare
- The Store

#### Contact & Feedback

- About us
- Our Events
- FAQ
- Contact us
- Letters to the Editor
- Give feedback
- Advertise
- Site Map
- Accessibility

#### Markets Data

- Markets Overview
- World Equities
- Commodities
- Currencies
- Derivatives
- Interest Rates
- Share Tables



Rembrandt and the Dutch Golden Age

THE GOLDEN AGE FINANCIAL REVIEW Magazine

BOSS GICLEE PRINT COLLECTION AFR Lists

Grantview

Luxury

Rear Window

The Sophisticated Traveller

VIEW NOW

Advertisement