



**snowyhydro**

**NEWS**

ISSUE 47 • SUMMER 2019

# 70 YEARS YOUNG

- ▶ Bushfire season is here
- ▶ Immerse yourself in the Snowy Scheme
- ▶ Mythbusting Snowy 2.0 – know the facts



# INSIDE

- 3 CEO UPDATE
- 4 70 YEARS YOUNG  
REUNIONS ACROSS THE REGION
- 8 BUSHFIRE SEASON IS HERE
- 9 NEW BRIDGE IMPROVES SAFETY
- 10 IMMERSE YOURSELF IN THE SNOWY SCHEME
- 12 MYTHBUSTING SNOWY 2.0  
– KNOW THE FACTS
- 13 SNOWY 2.0 PROJECT UPDATE
- 14 PART OF THE COMMUNITY

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Contact us:

📞 1800 623 776

✉ [communityfeedback@snowyhydro.com.au](mailto:communityfeedback@snowyhydro.com.au)

## CEO UPDATE

### CEO Paul Broad gives an update on our key activities

As we head towards the end of the year I think you'll agree it's been extremely tough for our community. The region is battling through consecutive years of severe drought and across the State, communities are facing a terrible bushfire season.

At Snowy and Red Energy we're trying to do our bit to help out. If you, your family or friends are Red Energy customers impacted by bushfires or the drought, please get in touch with the customer team to discuss the financial assistance we can provide you.

In terms of the impact of the drought and low inflows on Snowy Hydro, we are proactively planning around it. We are strategically managing our water resources so that we continue to meet our water release obligations and remain well-placed to keep the lights on this summer – just as we have done for decades before.

Recently, we were privileged to see many of you as we celebrated the Snowy Scheme's 70<sup>th</sup> birthday with more than 1,500 former workers and their families. People came from far and wide to attend reunion events in Cooma, Khancoban and Talbingo, and shared wonderful stories of their times 'on the Snowy'.

It's fitting that in this anniversary year, Snowy Hydro's role in the energy market is more relevant than ever and we're looking ahead to the next 100 years as we embark on our next exciting chapter with Snowy 2.0.

In recent months we have reached another important stage of the project, lodging Environmental Impact Statements for the Snowy 2.0 Main Works and for the associated concrete segment factory proposed for Polo Flat. Following the public exhibition periods, we are now responding to submissions and hope to receive planning approvals next year.

Of course, visionary projects (just like the original Scheme) attract a few critics. You may have seen some claims that Snowy 2.0 is crowding out the market - this is total rubbish. The Australian Energy Market Operator has said we'll need eight times Snowy 2.0 to deliver the energy storage needs of the future.

We have responded to some of the misinformation being spread by those with vested interests with a statement of facts. You can read it in full on our website and there is a summary in this edition of Snowy Hydro NEWS.

In our first newsletter next year we'll outline some of the emerging trends we're seeing in the rapidly-changing energy market. One of the trends we'll explore is the impact that high solar energy output is having on the system and how it's pushing the wholesale energy prices low and even negative for significant periods. Low prices create more opportunities for us to run our pumped-hydro capabilities at Tumut 3. Pumping water allows us to reuse all available inflows multiple times, which is a valuable capability for us, especially in dry years.

As the energy market transitions we continue to strongly advocate for transmission upgrades to be made across the energy system. Transmission is needed today to connect new energy supply and add to competition in the National Electricity Market. To demonstrate the urgent need for transmission upgrades, you only have to remember the blackouts faced in Melbourne last summer, while at the same time Snowy had idle capacity in NSW which it could not deliver to Victoria because of transmission constraints.

Our Board of Directors recently visited some of our regional assets and thoroughly enjoyed the dinner in Tumbarumba with the community and local businesses. Snowy Hydro and the Board highly value our strong community relationships. We are a proud Snowy Mountains employer and remain committed to the local region.

Lastly, on behalf of the team at Snowy Hydro, I wish you a happy and safe Christmas and holiday season. Please take extra care when travelling on the roads.







**S**nowy people from far and wide have come together to celebrate the 70 years since construction began on the Snowy Mountains Scheme on 17 October 1949. This historic milestone was marked at community events in Cooma, Khancoban and Talbingo throughout spring.

As former workers and their families shared stories, caught up with old friends and met new ones, their pride in helping to create a scheme that has contributed so much to the nation was evident.

The focus of the celebration events was always about the workers and recognising their hard work, achievements and the sacrifices they made to build the Scheme. Current Snowy Hydro

staff were volunteers and enjoyed hearing stories from the past seven decades. There were also bus tours to some of the Snowy assets and a range of community-hosted activities.

#### Cooma

In Cooma, a crowd of more than 1,500 people gathered on the lawns in front of the Snowy Hydro office. The day featured an official welcome, with speeches from CEO Paul Broad, Federal Minister for Energy (and grandson of Snowy Scheme Commissioner Sir William Hudson) Angus Taylor, NSW Deputy Premier John Barilaro and Snowy Monaro Mayor Peter Beer. A panel of former workers – Charlie Salvestro, Pippa Robinson and Jim Crocker – also spoke at the event and provided colourful insights into the early days of Scheme construction.

Hundreds of people took office tours, visited the Snowy Hydro control centre, watched cloud seeding demonstrations and attended 'Snowy Talks' which focused on Snowy 2.0 and our business today. The Snowy Hydro Discovery Centre was a hive of activity as people flocked to experience the new immersive theatre, view the displays and drink a good coffee.

The Red Energy jumping castle and Tesla were a hit and the 70<sup>th</sup> anniversary merchandise was very popular at the pop-up shop. If you're interested in purchasing some 70<sup>th</sup> merchandise it's available at the Discovery Centre and the Cabramurra shop.

It was also wonderful to have so much community involvement with stalls from Snowy Kids, Monaro High School, the Leo Club

and Cooma North Pre-School, while the crowd was entertained with performances from Monaro High School music students, Cooma School of Music's Guitar Ensemble, the Cooma Harmony Chorus and local musician Michael Horneman.

#### Khancoban

In Khancoban there was a joint celebration for the Snowy 70<sup>th</sup> and an official opening of the newly-renovated Lady Eileen Hudson Rose Garden (Lady Hudson was the wife of Commissioner Sir William Hudson).

The event began in the rose garden, where rainy weather held off long enough for the official proceedings before about 80 guests retreated to the comfort of the Khancoban Alpine Inn for a barbecue provided by the Khancoban Public School.

Lady Hudson's grandson, Duncan Taylor, shared fond stories of his grandmother – a keen gardener – while there were also speeches from former Snowy employee Ken Lister, Snowy Valleys Mayor James Hayes and local member Justin Clancy. Local children joined in for the cutting of the ribbon to officially open the Lady Hudson Rose Garden following significant Council upgrades.

#### Talbingo

The Talbingo 70<sup>th</sup> anniversary event provided another great opportunity for Snowy employees and the local community to come together.

The day was informal, with more than 250 people gathering at Tumut 3 Power Station, enjoying a catch-up and a barbecue lunch cooked by current Snowy Hydro

workers. Proceeds were donated to the Tumut branch of Can Assist, a charity which provides financial assistance and support to people with cancer living in regional NSW.

The Snowy Hydro team from the Lower Tumut region also provided guests with a rare opportunity to visit the T3 viewing gallery.

Many of those who attended the reunion worked on the construction of the station and appreciated the chance to have another look at the results of their hard work.



Seventy years ago we started something many people thought was impossible. The first blast near Adaminaby marked the start of Australia's greatest engineering achievement of the 20th century.

The Snowy Scheme had its origins in the 1880s as a way to counter the disastrous effects of drought, by diverting the rivers of the Snowy Mountains westward to irrigate the fertile inland plains. Its hydro-electric power and irrigation water became the foundation of our modern economy.

The grit, mateship and expertise of more than 100,000 men and women turned this bold vision into a reality. It's hard to imagine

Australia today without the mighty Snowy Scheme. The legacy of the Snowy extends well beyond the dams, tunnels and hydro stations to the incredible people behind the power.

Over the 25 years of construction, two thirds of the workforce came to Australia from war-torn Europe. They came to the Snowy in search of a better life and alongside the Aussies, helped build a nation. The Snowy Scheme is the birthplace of the culturally diverse society we know today – with the Italians came one of the nation's first espresso machines.

The Snowy Scheme was one of the nation's first renewable energy projects and it continues to keep the lights on at times of peak energy demand.





# BUSHFIRE SEASON IS HERE



Murray region fire tanker

**B**eing ready for the bushfire season is a major focus for Snowy Hydro.

Fires not only present a significant potential risk for local communities, but also Snowy Hydro staff and regional assets, so we prepare well in advance of the bushfire period and remain vigilant at all times.

Every year we assess our preparedness for bushfires and work through a checklist of items to ensure we are as ready as we can be. We have emergency management plans in place if there is a bushfire emergency.

In our hydro regions, teams of staff trained as first responders undertake regular fire response training and manage our firefighting equipment.

Asset protection zones (where vegetation is actively managed) are established around our power stations and Snowy-owned 11KV transmission lines.

In a bushfire, many buildings are destroyed through ember attack so staff check gutters and remove items stacked around the perimeter of buildings to reduce the risk.

Sites are also prepared to allow for de-energising of some of our 11kV lines on Severe Fire Danger Rating (or higher) days.

Official Fire Danger Ratings issued by the Rural Fire Service provide Snowy Hydro with up-to-date information that guides what activities can and cannot be undertaken, such as outdoor hot works (like welding).

For Snowy 2.0 Exploratory Works, which is being carried out in a remote location of Kosciuszko National Park, a specific bushfire management plan has been developed.

The plan details how work crews will minimise the risk of starting a fire - for example, mulching operations must stop by 1pm on

days where the Fire Danger Rating is high or above – and the activities they will undertake to be able to respond to a bushfire.

These include a plan to evacuate workers from construction sites early in the event of a bushfire, regular emergency evacuation exercises, wildfire awareness training for work crews, firefighting trailers containing 400 litres of water placed at each work location, a fire tanker based at Lobs Hole and all work vehicles being fitted with water-filled knapsacks.

There is also an onsite refuge building at Lobs Hole, surrounded by a steel panel fence to reduce radiant heat, where people can shelter as a last resort.

# NEW BRIDGE IMPROVES SAFETY



Before and after construction of the Jounama pedestrian bridge

**S**nowy Hydro recently completed an important safety infrastructure project, with the construction of a pedestrian bridge from the Jounama Dam wall to the mini-hydro power station.

The station silo, which is located within Blowering Dam, has previously been difficult for staff to access, necessitating a boat trip when water levels were high and a climb up and down steep stairs.

Now there is a 76m-long bridge with handrails and stairs to the dam wall, providing safe, 24/7 all-weather staff access to Jounama Power Station.

The construction project took more than 8,000 personnel hours and 18 months to plan and execute, with much of the timing dictated by the fluctuating water levels in Blowering Dam.

The head contractor selected for the bridge construction – SRG Global – has very strong ties to our region, as it was formed right here in 1961, when the company founder provided Swiss-made post-tension rock anchors during construction of the Snowy Mountains Scheme.

We know the value of using the right combination of global expertise and local services, and this project was no exception. A range of Tumut region businesses provided services and materials for the bridge:

- Excavation for the footings was carried out by Machell Bros (Tumut).
- Bridge platform sections, stairs and handrails were fabricated and galvanised by DJ Lynch (Gundagai).

- The bridge sections were assembled onsite by Roddy Engineering (Tumut) and lifted into place by Riverina Cranes (Wagga Wagga).
- LED lighting in the handrails was installed by Sturt Electrical Services (Tumut).

The bridge is designed for long life, with approximately 280 cubic metres of concrete used for the piers and 25 tonnes of steel reinforcing.

Each of the three bridge spans are approximately 25m long and weigh 13 tonnes!

Snowy Hydro fire response training



Workers onsite at the Jounama access bridge





# IMMERSE YOURSELF IN THE SNOWY SCHEME



Visitors to the Snowy Mountains and local community members can now experience the mighty Snowy Scheme as never before. Our brand-new immersive theatre experience is now open to visitors at the Snowy Hydro Discovery Centre in Cooma. The interactive, state-of-the-art theatre is a new attraction for tourists to the region and showcases the Scheme like never before. It's a world-class experience here in the Snowy Mountains!

Snowy Hydro has been working with the Queensland University of Technology (QUT) to incorporate the latest technology into the theatre. A massive 14m-wide projection screen standing 4m tall is complemented with floor projection to welcome visitors into the interactive space. Motion sensors integrated into the theatre allow visitors to interact with content on both the wall and floor projections.

Guided across the magnificent mountain ranges by one of the Discovery Centre staff, visitors

take a virtual flyover of the Snowy Scheme and delve into the Snowy story, which highlights our past, present and future. The experience takes visitors behind the scenes to view our tunnels, dams and hydro-power stations, and to look back at where the Snowy story began.

The current feature experience reflects on our proud history and shows Snowy Hydro's bright future. Visitors are treated to amazing vistas and never seen before archival imagery and film, thanks to our partnership with the National Archives of Australia.

According to the QUT technical experts, there is nothing like this anywhere else in Australia.

The combination of projection with full 3D people-tracking technology means the options for visitor experiences are endless. Our immersive theatre will continue to evolve, providing the community and visitors with new experiences, showcasing different assets across the Scheme and the many sides of our business. We encourage locals to visit often and check out our website to see what's happening at the centre.

This a great attraction for the whole Snowy Mountains region and just another reason to drop into the Snowy Hydro Discovery Centre in Cooma.

The centre's cafe area has been extended so more people can enjoy the delicious coffee and light refreshments available. Visitors can also join a guided and interactive tour through the Discovery Centre by joining a Discovery Session with one of our experienced staff members.

Discover more about the Scheme's past, present and

future and hear some of the stories behind the engineering and our people. Our 20-minute Discovery Session will ignite your imagination and expand your knowledge of the mighty Snowy Scheme.

To book, or for more information, please call our Discovery Centre on 1800 623 776 or visit [snowyhydro.com.au](http://snowyhydro.com.au)



# MYTHBUSTING SNOWY 2.0 – KNOW THE FACTS

**A**s part of the approvals process for Snowy 2.0, Environmental Impact Statements (EIS) for the Main Works and Segment Factory were lodged with the NSW Government. The public exhibition period has now closed and a response to submissions is underway.

In recent months, you may have seen some totally incorrect and disingenuous claims about the environmental impacts of Snowy 2.0 that were made by a peak lobby group.

The Main Works EIS is a comprehensive study of some 10,000 pages that has been informed by more than a dozen scientific and technical studies. Snowy 2.0 has been purposefully designed to avoid and minimise the project's footprint and we continue to look further to minimise the disturbance area.

## The facts about the Snowy 2.0 environmental footprint are:

- ▶ The disturbance footprint is about 1,680 hectares, which is 0.25% of Kosciuszko National Park (or 16.8 km<sup>2</sup>, not 100 km<sup>2</sup> or one third of the park as incorrectly claimed). This is the maximum disturbance expected during construction.
- ▶ Importantly, construction sites will be rehabilitated and some new recreational landforms will be created for enjoyment by park

users. Once construction finishes, the operational footprint for Snowy 2.0 is just 99 ha, or 0.01% of the park.

Another incorrect and common myth we hear is that Snowy 2.0's purpose could be met more cheaply from other sources (most often the suggestion is to build giant batteries).

Comprehensive modelling conducted by independent expert Marsden Jacob Associates over two years has shown that Snowy 2.0 is the cheapest possible option for the National Electricity Market (NEM), which needs dispatchable (on-demand) generation and large-scale storage to manage intermittent renewable energy sources coming online.

According to the Australian Energy Market Operator, the NEM will need the equivalent of eight times Snowy 2.0.

- ▶ Batteries, on a \$/MWh storage basis, are at least **60 times** more expensive than Snowy 2.0. They will be replaced many times within Snowy 2.0's 100-year design life, and are small-scale in the context of storing bulk energy in the NEM.
- ▶ Matching the storage of Snowy 2.0 would necessitate 2,700 South Australian big batteries.
- ▶ Gas plants provide on-demand energy capacity, but cannot provide large-scale storage.

- ▶ Snowy 2.0 delivers both generating capacity and storage, underpinning cheaper NEM prices by capping price peaks and bringing new wind and solar into the system.

Lastly, we'd like to emphasise that Snowy 2.0 will not impact on downstream water users, irrigation or environmental flows – all water releases will be made just as they are now and any suggestion otherwise is incorrect.

Snowy 2.0 is a pumped-hydro project and will reuse water in a closed loop before releasing it downstream as required under the Snowy Water Licence. Don't forget, we have had pumped-hydro at the Tumut 3 Power Station since 1973 and have always met our water release obligations.

# SNOWY 2.0 PROJECT UPDATE



Left: Future Generation's Ben Hughes presenting at the supplier workshops in Tumut  
Right: Project staff inspect an excavator



**T**he first large plant and equipment have arrived onsite at Lobs Hole for our principal contractor, Future Generation, to start construction of worker accommodation at the Exploratory Works campsite and for preparatory works at the Main Access Tunnel portal.

Snowy Hydro's roads contractor, Leed Engineering and Construction, is progressing the upgrade of roads and access to Lobs Hole, with work continuing on Lobs Hole Ravine Road and the installation of bridges across the Yarrangobilly River and Wallace Creek having been completed.

There is plenty of activity on the project – there are currently more than 200 personnel working onsite.

In other news, local businesses and service providers who want to become involved in Snowy 2.0 recently participated in a series of workshops in Tumut, Tumbarumba and Cooma to learn how to register as a potential supplier and access tender information.

Future Generation partnered with the Industry Capability Network (ICN) NSW to present the workshops, with about 200 people attending. ICN, a national business procurement network, is matching suppliers with Snowy 2.0 sub-contracting and supply packages.

ICN is managing the registration of all potential suppliers and is distributing tender information for Snowy 2.0.

Business owners who want to participate must register, free of charge, on the ICN Gateway at [gateway.icn.org.au](http://gateway.icn.org.au)

To date more than 100 Snowy Mountains businesses have been involved in Snowy 2.0.

For more information about Snowy 2.0 business opportunities visit [futuregenerationjv.com.au](http://futuregenerationjv.com.au)



# PART OF THE COMMUNITY

## SNOWY RIDE 2019



Children enjoy a motorbike ride, the bobsled activity and a get-together at the Snowy Hydro Discovery Centre

The smiles on their faces say it all. Children with cancer, their families and several thousand motorbike riders have come together for a joyful Snowy Mountains experience at the 2019 Snowy Ride.

The annual event has raised millions of dollars for childhood cancer programs and attracts several thousand riders, who fundraise for the Steven Walter Children's Cancer Foundation (SWCCF) and tour through the magnificent mountains landscape and towns.

An integral part of the weekend is the volunteer-led Snowy Hydro Family Program, which provides accommodation in Thredbo, meals, activities and much-needed respite for families with a child enduring cancer treatment at Sydney Children's Hospital.

This year eight families enjoyed a magical few days of fun and relaxation, with

rides on Australian Goldwing Association bikes, snow play at Charlotte Pass, activities at Lake Crackenback Resort, bobsled at Thredbo, a lunch at the Snowy Hydro Discovery Centre, plus the chance to lead the mass ride from Bullocks Flat to Thredbo for the presentation.

Gabrielle Curtin, Snowy Hydro Group Executive – Safety, People, Community and Services, presented a cheque for \$100,000 to the SWCCF, bringing the amount donated by Snowy Hydro to \$1 million since the charity partnership began in 2001.

Snowy Hydro truly values the sense of community the Snowy Ride brings and how important it is for families profoundly affected by childhood cancer to have the chance to relax and enjoy themselves. These families show resilience and optimism in the face of adversity – it's an inspiring event and Snowy Hydro is very proud of its 19-year involvement.

The Snowy Ride, which this year attracted 2,024 riders and pillions

from around Australia and raised about \$250,000 for the foundation, also benefited local communities. Riders stopped in towns and villages to refuel, buy food and drinks at school P&C stalls, and stayed in local accommodation.

### Snowy Ride by numbers

- The Snowy Hydro Family Program has hosted 115 families, or 505 children, mums, dads and grandparents since 2005.
- SWCCF has donated more than \$9 million to childhood cancer research and support programs.
- More than 47,500 registered riders in 19 years.
- Each Snowy Ride boosts the regional economy by an estimated \$3 million.

## RED'S COOMA COMMUNITY BUS



Red community bus

Red Energy has recently renewed its successful partnership with the Cooma Community and Sporting Bus!

The bus allows local schools, sporting clubs and community groups to access a reliable and reasonably-priced bus service to attend games, events and other activities across the greater south-east region of NSW.

The Red Energy Community and Sporting Bus helps to break down the geographical barriers that could restrict participation in important events and make activities that promote health, well-being and personal development more accessible.

## SCIENCE OF THE SNOWY SCHEME

Congratulations to the students from Corryong College and Berridale Primary School, who have won a rare, behind-the-scenes guided tour of a hydro-electric power station as part of Snowy Hydro's 2019 Science of the Snowy Scheme competition.

The tour will help bring science, technology, engineering and maths (STEM) to life as students see a Snowy Hydro station in action!

This year's competition asked years 3-6 students from the Snowy Mountains region to be inspired by the 70<sup>th</sup> anniversary of the Snowy Scheme.

We received some wonderful and innovative submissions on the Snowy's greatest STEM achievement, with entries focusing on cloud seeding, seatbelts, trading, building power stations and SNOCOM, Australia's first transistorised computer.

## SEEING RED AT TARONGA ZOO



Not sure what to do these school holidays? Taronga Zoo in Sydney is the perfect destination for the whole family, especially the iconic Seal Show and Great Southern Oceans exclusively sponsored by Red Energy!

Through this exciting new partnership, Red Energy and Taronga will highlight that by making a few small lifestyle changes, individuals can have a significant, positive impact on oceans and help to protect marine wildlife. Whether it's

reducing your plastic footprint, choosing sustainable seafood, or supporting renewable energy, your choice matters.

Red Energy has also launched a new product called Red Taronga Saver.

Residential customers in NSW who choose Red Energy electricity will receive an annual Zoo Friends membership for one adult and two children (4 to 15 years), providing year-round entry to Taronga Zoo, Sydney and Western Plains Zoo Dubbo\*.

\*Your annual Zoo Friends membership will commence when your electricity is transferred to Red and you will receive a second annual Zoo Friends membership on the 12-month anniversary of the transfer of your electricity. Full terms and conditions available at <https://www.redenergy.com.au/docs/Red-Energy-Red-Taronga-Saver-Terms-and-Conditions.pdf>



Competition entries





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