Autumn 2019

snowy hydro NEWS

Work commences for Snowy 2.0

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ISSUE 44


Wallaces Creek Lookout

Work commences

CEO Paul Broad provides an update on our key achievements at Snowy Hydro in the last few months...

What a few months it has been since our last edition of Snowy Hydro NEWS. Since December we have named our preferred tenderers for Snowy 2.0, received the NSW Government's planning approval for the Exploratory Works program, achieved shareholder approval of the project and following all of that we commenced construction.

At Snowy we have a proud history and a strong vision. Snowy Hydro, supercharged by Snowy 2.0, will underpin Australia's renewable energy future and keep the lights on for generations to come.

It's an exciting time for our Company. Snowy 2.0, like the original Snowy Scheme, is a nation-building project that is vital to Australia's economy and our energy transition.

This significant expansion of the Snowy Scheme will provide the storage and on-demand generation needed to balance the growth of wind and solar power and the retirement of Australia's ageing fleet of thermal power stations. In short, it will keep our energy system secure.

Snowy 2.0 is not only a sound business investment for Snowy Hydro, with more than 8% return on investment. It also represents the most cost-effective way to ensure a reliable, clean power system for the future.

When it is completed, Snowy 2.0 will be able to deliver 2000 megawatts (MW) of on-demand generation, up to 175 hours of storage, and deliver more competition that will keep downward pressure on prices.

Last year Snowy Hydro contracted 888MW of wind and solar projects which gave us incredible insights into energy pricing. This process confirmed many of the assumptions of Snowy 2.0's business case, including that the NEM has passed a tipping point. New renewables are now the most economic form of new generation, even when firmed by hydro or gas.

In late February we welcomed the Prime Minister, Scott Morrison and Ministers Angus Taylor, Mathias Cormann and Melissa Price to Tumut 3 Power Station to announce Shareholder approval for Snowy 2.0.

for Snowy 2.0

Snowy Hydro's existing fast-start assets, and increased capacity with Snowy 2.0, will firm up large amounts of intermittent renewables by coming in and out of the system to 'fill the gaps' by generating energy at times of peak demand.

Snowy Hydro has a strong track record when it comes to pumped-hydro. For decades we've been successfully operating our pumping capability at Tumut 3 and that has been invaluable, especially in years of drought.

Snowy Hydro is the fourth-largest energy player in the NEM, providing much-needed competition in the market. Snowy 2.0, along with other developments, will add to a diverse portfolio of generation that operates efficiently and reliably in a highly unpredictable NEM.

So, after a two-year journey of research, planning, project design, preparation and a lot of hard work, we are excited and incredibly proud to be underway with the Snowy 2.0 project.

Reaching this point is a massive achievement for everyone at Snowy Hydro.

I'd like to thank the many teams that have contributed to the project, and all our staff for their efforts across the broader business. I would also like to express how grateful we are to have such strong support for our business from local governments, business groups and the wider community. We're a business born and raised here and look forward to expanding in the region.

Of course, while Snowy 2.0 is commanding attention nationwide, we are still successfully operating our Snowy Hydro business, whether it be through generating electricity to meet the demands of the market today, or serving our more than one million retail customers.

Our retail companies are the best in the market, and we have numerous awards to prove it.

In an industry first, Red Energy has topped Canstar Blue's customer satisfaction ratings for electricity providers in NSW for the fifth year in a row. Five stars were achieved across most research categories, including customer service, bill and cost clarity and value for money. Red also won the 2018 Most Satisfied Customers awards for Gas in NSW.

Lumo Energy has returned to the top of the customer satisfaction ratings for electricity providers in South Australia. Five-star reviews were achieved across most research areas, most notably customer service and value for money. Lumo leads the way, showing up in front of competitors Alinta Energy, Origin Energy, Simply Energy, EnergyAustralia and AGL.

We continue to upgrade the cornerstone of our business, the mighty Snowy Scheme, with works ongoing at our Murray 1 Power Station near Khancoban, and at the first station of the Scheme, Guthega Power Station. I'll share more about these projects in the next quarterly newsletter.

This is a momentous time for Snowy Hydro, and for our region - almost 70 years after the first sod was turned on the mighty Snowy Scheme, we will do it all again.

The Snowy Hydro team at the sod turning

First sod turned on Snowy 2.0

Excitement was in the air in early March as Snowy Hydro celebrated a historic day, turning the first sod to mark the start of Snowy 2.0.

A week after our Shareholder announced it had approved the major pumped-hydro project, Snowy 2.0 was officially underway.

After a two-year journey of careful planning, research and design, it was an exciting moment for Snowy Hydro and the wider Snowy Mountains community.

When it is completed, Snowy 2.0 will increase our generation capacity by 2000 megawatts and provide a massive 175 hours of energy storage for the National Electricity Market.

Along with the mighty Snowy Scheme, Snowy 2.0 will underpin Australia's renewable energy future for many generations to come.

So what happen's next? Pre-construction activities for Snowy 2.0 Exploratory Works are now underway, after planning approval was granted by the NSW Government in February. Read on to understand what these works involve.

Exploratory Works - roads

The first task involves marking work boundaries, including fencing of identified heritage and environmentally-sensitive areas along existing tracks in the Lobs Hole area of Kosciuszko National Park.

Sections of existing tracks and roads will be upgraded, and around 2km of new road constructed. These upgrades will provide safe and reliable access into the construction site for the remainder of Exploratory Works.

The road work will be challenging due to the hilly terrain and the need to make access suitable for large vehicles to transport large equipment to the construction site. All works have been designed to create the least possible impact on the environment. The studies conducted for the planning approvals process identified changes to the project plans that improved environmental outcomes and which were adopted (for example changing access roads to avoid impacts to flora and fauna).

Adelaide-based firm, Leed Engineering and Construction, has been contracted for the road upgrade activities as part of Exploratory Works.

The road and track upgrades are required so the rest of the Exploratory Works package - which includes excavating an exploratory tunnel approximately 3 km in length - can go ahead.

For public safety reasons, Lobs Hole Ravine Road and the Lobs Hole camping area in Kosciuszko National Park are now closed for Snowy 2.0 Exploratory Works.

Exploratory Works - tunnelling

The purpose of constructing an exploratory tunnel is to gain a greater understanding of the geological conditions about 800m underground at the proposed site of the Snowy 2.0 power station complex.

While we have conducted extensive geotechnical investigations from the surface, tunnelling will enable horizontal geotechnical investigation drilling, deep below ground.

This critical work includes testing to confirm that the power station complex location and orientation are suitable for the geological stress conditions at depth.

Excavation of exploratory tunnels is common practice for hydro-electric power projects worldwide and was also carried out during construction of the Snowy Scheme's Tumut 1 and Tumut 2 underground power stations.

Tumut 2 Power Station tunnel

Exploratory Works - other elements

While the exploratory tunnel is the major construction activity of Exploratory Works, other important elements include the establishment of a construction compound with a portal construction pad and worker accommodation camp, and provision of supporting infrastructure such as power, communications and water.

The rock excavated during tunnelling will be carefully managed and reused wherever possible, including at the portal and in road construction and upgrades. Excavated rock that is not suitable for reuse will be temporarily stored in designated areas at Lobs Hole.

Final placement of the excavated material will be determined following the results of scientific and technical studies currently being undertaken. During Exploratory Works there will be a trial placement of some excavated rock in Talbingo Dam.

Planning and environmental approval

Planning approval for Snowy 2.0 Exploratory Works was delivered after a rigorous environmental and planning assessment process that included submission of a highly-detailed Environmental Impact Statement and input from stakeholders including the community.

The approval included a number of conditions, such as development of management plans and offset funding of $10.5 million, to be provided by Snowy Hydro.

The NSW Government has allocated this offset funding to National Parks and Wildlife Service, to support environmental and recreational initiatives in Kosciuszko National Park.

Snowy Hydro has a long and proven record of responsibly operating the Snowy Scheme within the national park. We will continue to do everything possible to avoid or minimise impacts from construction of the Snowy 2.0 project.

More information on Snowy 2.0 available on our website

- Snowy 2.0 overview and business case

  A summary document outlining the project and the business case.

- Snowy 2.0 Final Investment Decision chapters

  Snowy Hydro forensically and methodically scrutinised every aspect of Snowy 2.0. This rigorous and comprehensive analysis is available in these Final Investment Decision chapters.

- Independent market modelling

  Marsden Jacob Associates reports outlining independent market modelling of the future NEM.

- Interactive Snowy 2.0 project map

  An interactive map outlining key aspects and locations of the project.

www.snowyhydro.com.au/snowy20

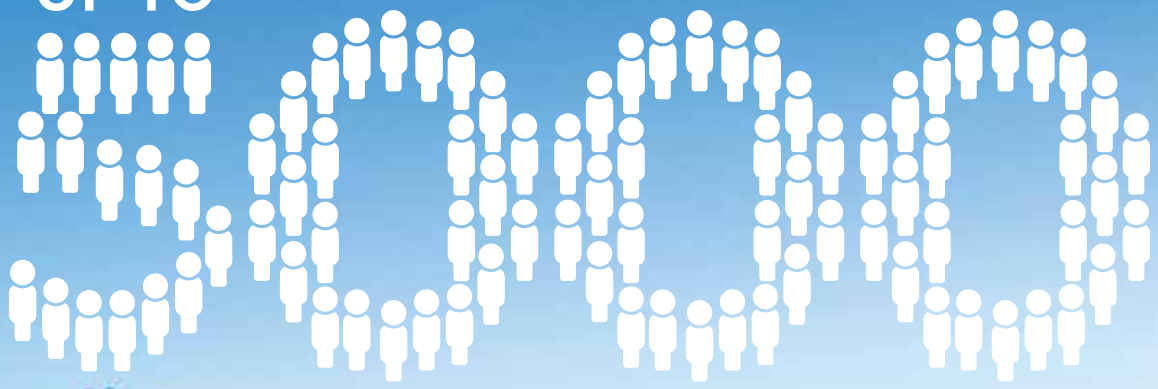
Snowy 2.0 fast facts:

Up to 175 hours of large-scale energy storage at full capacity.

2000 MW of energy

enough energy to power 200 million LED light globes

UP TO



direct and indirect jobs over the life of the project.

About 8,000 shipping containers of equipment and materials are needed for Snowy 2.0.

About 2.2 million meals will be served a year during peak construction.

The generator will spin up to speeds of 500rpm, in less than 70 seconds.

More than 135,000 concrete segments will line the tunnels.

Tunnel diameter of 10m is as high as a three-storey building.

ABOUT 36km of 'high-vis' fabric for safety clothing each year during peak construction.

ABOUT 600 vehicles and trucks will be bought for the project

Introducing Leed Engineering

Leed Engineering and Construction has been selected by Snowy Hydro to deliver the Exploratory Works roads package during the pre-construction stage of the Snowy 2.0 project.

The award of this contract continues the partnership between Leed and Snowy Hydro that led to the successful delivery of the Geehi River Aqueduct project. The team from Leed is looking forward to returning to the Snowy Mountains, and to developing relationships with the local community, subcontractors and suppliers.

The Exploratory Works will involve the construction or upgrade of roads to allow access to the exploratory tunnel portal and construction site by the main Snowy 2.0 civil works contractor. The roads span 26km over two main sites located within Kosciuszko National Park and are therefore subject to strict environmental controls.

Leed is an award-winning, privately-owned Australian engineering and construction company that has delivered key infrastructure projects and been recognised for its expertise in water and road projects.

Founded in 2001, Leed has grown to become a national provider, with offices in Adelaide, Melbourne and Bendigo, working on projects in metropolitan, regional and remote areas throughout Australia.

Leed also has an excellent reputation for delivering projects on time and working collaboratively with clients, stakeholders and the wider community.

The company's experience, capability, financial stability, proven team and excellent track record make Leed an ideal partner for important infrastructure projects such as the Snowy 2.0 Exploratory Works.

L-R: Tex Davidson, Leed Project Manager and Rory Goodsell from the Snowy 2.0 project team at the sod turning.


PRIME 7
NEWS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snowy2.0

Tailem Bend solar farm, SA

Tailem Bend powers up

In an exciting development, the Tailem Bend solar farm delivered its first energy to the National Electricity Market in February.

Back in 2017 Snowy Hydro invested in a battery-ready, 127MW solar facility at Tailem Bend in South Australia to boost our generation capacity and grow our electricity retail business, Lumo Energy.

Tailem Bend is owned and operated by Vena Energy, with Snowy Hydro having a long-term contract agreement to offtake, or purchase, the energy generated from the solar farm.

Located 96km east of Adelaide, the solar farm has 127MW fixed-angle solar panels on its 200-hectare site.

While the solar farm is currently producing 30MW of solar power into the grid, this capacity will continue to increase as more solar panels and inverters come online.

Construction on the Tailem Bend solar farm started in April 2018 and once fully commissioned later this year, it is scheduled to deliver around 195 gigawatt hours of energy per year. That is equivalent to approximately 35,000 South Australian households.

Adding the offtakes of Tailem Bend to our portfolio of assets means that Snowy Hydro now has access to 264MW of generation capacity in South Australia.

We already operate 136MW of diesel power stations located at Port Stanvac, 30km south of Adelaide, and Angaston in the Barossa Valley.

The solar farm represents a significant, strategic investment in South Australia by Snowy Hydro and demonstrates our commitment to growing both our generation business and our Lumo Energy business, which services around 50,000 electricity customers in the state.

Tailem Bend solar farm, SA

The Snowy Hydro/Red Energy truck loaded with hay as part of the Burrumbuttock Hay Run.

Supporting the BHR hay run

Over the Australia Day weekend, Snowy Hydro supported the 14th annual Burrumbuttock Hay Runners.

Employee Shane Blake, from our Murray region, joined the 200-strong convoy of trucks loaded with hay that headed up north to help drought-stricken farmers.

The hay runs started in 2014 when Burrumbuttock farmer, Brendan Farrell, heard about a farmer in Bourke who was struggling with the drought. Brendan got in touch, offering to bring him a truckload of hay. BHR has since helped hundreds of farming families facing the hardship of severe drought conditions.

Snowy Hydro became involved when The Upper Murray Hay Muster approached Shane to see if Snowy could help. Snowy donated a truck and it was loaded with 30 large round bales.

Shane drove the truck 337km from Khancoban to Darlington Point, in the Riverina, where he joined the convoy. The group drove 816km north to Cunnamulla in south-west Queensland before heading to Quilpie in western Queensland. The hay was distributed to the drought-stricken farmers on Australia Day. The convoy was about 5km long when all the trucks were lined up end-to-end and carried about 6,000 bales of hay.

Shane said it was great to be part of the event and that the Snowy Hydro support was really appreciated.

Donating a de-fib

Snowy Hydro recently donated a defibrillator to the Khancoban Pharmacy in our Murray region.

Sudden cardiac arrest is one of the leading causes of death in Australia and defibrillators can increase survival rates by over 70%. A community resilience campaign is currently underway to empower the local community during medical emergencies. The first element of the project is to make defibrillators available publicly, with 24-hour access. The second element is to have a community day where the locals can come and learn CPR and get a rundown on the use of an automated external defibrillator.

The donation shows our continued support and investment in the local community.

Pictured above: Steph Towers and Drew Twigg from Snowy Hydro, Lindsay Smit (VIC Ambulance) Marko Popovic (Khancoban Pharmacy), Marita Harrison (VIC Ambulance).


AUSTRALIAN
TRAINING
AWARDS
2018


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Snowy Hydro's Mick Edwards wins Australian Apprentice of the Year award

Snowy Hydro's very own Michael (Mick) Edwards won the prestigious Australian Apprentice of the Year at the Australian Training Awards gala event in Sydney late last year.

The Snowy support team and Mick's family went wild as he was announced as the winner from a field of eight state-level winners. To get to this stage, Mick had previously won the NSW Regional and NSW Training Awards events.

"Everyone at Snowy Hydro is thrilled for Mick and we could not be prouder of his achievements. It is fitting recognition for someone who is a quiet achiever - deeply humble about his contribution and the positive impact he has on everyone around him," CEO Paul Broad said.

Mick, a qualified motor mechanic living in Cudgewa, started at Snowy Hydro in September 2010 working on the Cloud Seeding Program. Once the program became operational, an electrical apprenticeship opportunity with Snowy Hydro was offered to Mick that he accepted and subsequently studied at the Riverina TAFE Campus in Wagga. He completed his apprenticeship in three, rather than four, years and became a mentor to other apprentices. Mick also topped his Capstone exam with the highest score recorded in Wagga campus history.

Going back to study was a struggle for Mick in the first 12 months, particularly balancing full-time work, study and family life with three kids aged under six, but he pulled through with support from his wife, Nadia, and workmates.

When it comes to 'what next' for Mick, he has big plans to continue to learn and grow in his trades.

"I would like to continue to learn my trade and gain as much experience in different areas as possible. Fortunately, working at Snowy Hydro is the perfect workplace to do that," said Mick.

"In the longer term I would like to look at electrical engineering. I am also getting involved in the management of Snowy Hydro's apprentice program, which allows me to mentor other apprentices. I would like to continue balancing this work with my trade and I'll be looking at opportunities as they come up."

Congratulations Mick on this incredible achievement, from everyone at Snowy Hydro.

The Snowy Hydro team at the Australian Training Awards gala event in late 2018.

The Red Energy and Lumo Energy leadership team celebrating their win.

Five stars for customer satisfaction

Red Energy and Lumo Energy have both been recognised as leaders in customer satisfaction in the Canstar Blue ratings.

In an industry first, Red Energy has topped Canstar Blue's customer satisfaction ratings for electricity providers in NSW for the fifth year in a row. Canstar Blue are annual awards that recongise leaders in customer satisfaction through extensive national market research.

Red Energy achieved five stars across most research categories, including customer service, bill and cost clarity and value for money. Red also won the 2018 Most Satisfied Customers awards for Gas in NSW.

Lumo Energy has returned to the top of the customer satisfaction ratings for electricity providers in South Australia. Five-star reviews were achieved across most research areas, most notably customer service and value for money. Lumo leads the way, showing up in front of competitors Alinta Energy, Origin Energy, Simply Energy, EnergyAustralia and AGL.

Tumut's Gadara SSP gets a new bus

Red Energy recently partnered with the NSW Rugby League and 'Hogs For The Homeless' to raise much-needed funding to help support Tumut's Gadara School for Specific Purposes.

Gadara School for Specific Purposes (SSP) caters for students from pre-school to Year 12 with a diverse range of disabilities that require individualised planning, and through collaboration the students, parents and staff, work as a team to create a dynamic learning environment.

Gadara SSP was the beneficiary of the 2019 Hogs For The Homeless crusade, with Red Energy contributing funding towards a much-needed new bus for students. Hogs For The Homeless is a charity bike ride that was started in 2013 by State of Origin coach, Brad Fittler, and former Origin great and Parramatta star, Nathan Hindmarsh.

Essentially, a group of Harley-Davidson riders which included league greats such as Red Energy Ambassador and Blues assistant coach Danny Buderus, rode their way around regional NSW, from 15 to 24 February, raising money and awareness for the plight of over 47,000 homeless young people across Australia.

Staff from Red Energy joined in on this amazing Hogs journey for three days, participating in some unforgettable experiences and witnessing some incredible community initiatives. This included the official handover of the brand new, specially-fitted Gadara school bus, to the joy of the students and teachers.

''We are delighted to be involved with a charity that benefits the lives of young people, particularly across regional NSW,'' said Neil Thew, Regional Business Development Manager, Red Energy.

"Our assistance with the Gadara school bus this year will enhance the lives of the students attending the school, providing better learning opportunities for all."

Matt Graham, **Olympic Silver Medalist.**
Red Energy Ambassador.

Behind you every bump of the way.

It takes much more than just technique, ability and talent to be considered one of the world's best. Just ask Aussie mogul skier and Red Energy Ambassador, Matt Graham.

After missing out on the 2014 Winter Olympic finals by just 0.01 of a point, Matt showed grit, courage and determination to climb up the world rankings to number 3. And then, at this year's Winter Olympics, Matt's hard work paid off when he put in the run of his life to pick up the silver medal.

But Matt's far from finished. With his eye on World Championship and Olympic glory, Red is proud to get behind Matt as he continues to chase his dream and do Australia proud.

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