

### Snowy 2.0 Project Update

It's all systems go with Snowy 2.0. We have formally appointed our contractors for the civil and electrical and mechanical works – Future Generation and Voith Hydro.

The Future Generation Joint Venture has been created specifically for Snowy 2.0 and brings together the combined engineering expertise and experience of three companies: Australian-based Clough, Italy's Salini Impregilo and US-based Lane Construction.

Future Generation is the principal contractor responsible for the design and construction of Snowy 2.0. Voith Hydro, a world leader in hydropower engineering and equipment supply, will deliver the latest hydro-generation technology in the Snowy 2.0 power station, including its six pump-turbines.

With Snowy 2.0 in the early construction stages, Future Generation, who is responsible for hiring the project's construction and services workforce, has begun recruitment for a small number of roles. You can enter the keyword "Snowy" on the SEEK website or click here to explore the opportunities.

Businesses interested in being involved in the project can find available packages directly on the Industry Capability Network website or the Future Generation website. If you have registered with the Snowy 2.0 Business Directory, you will also need to apply separately to Future Generation.

Meanwhile, the roads component of Snowy 2.0 Exploratory Works is in progress, after completion of a range of pre-construction activities such as boundary marking and fencing heritage and environmentally-sensitive areas at Lobs Hole.

Archaeologists have been identifying, recording and salvaging a small number of heritage items known to be where buildings at Lobs Hole once stood, so work can commence in that area.

Roads contractor Leed Engineering and Construction is upgrading sections of existing roads and tracks and establishing 2km of new road so that there is safe and reliable access into the construction site.

Leed has more than 70 personnel on-site carrying out works including establishment of stormwater drainage and installation of erosion and sediment controls to protect the Yarrangobilly River and catchment areas. Other elements of Exploratory Works to get underway in coming months include establishment of a workers' accommodation camp and a construction compound with a portal construction pad.

The portal will be the entrance to the exploratory tunnel, which will be excavated using the drill and blast method to the likely site of the underground power station.

This important work must be completed to ensure the power station cavern – which will house the 240m–long machine hall and the 200m–long transformer hall about 800m underground – is situated in a location suitable for the geological stress conditions at depth.



## A time for celebration and reflection

This year we celebrate our 70th year of the Snowy Scheme.

In October 1949, the then Governor-General Sir William McKell, Prime Minister Ben Chifley and Snowy Mountains Hydro-electricity Authority Commissioner William Hudson fired the first blast at Adaminaby to commence construction on the mighty Snowy Scheme. As part of our 70th anniversary celebrations we have developed a commemorative logo to complement our existing Snowy Hydro logo.

The 70th logo brings together our past, present and future with symbols that piece together energy, people, history, assets and the vision we have always had.

Watch the video to see the story behind the brand and keep an eye out for upcoming events and activities.



#### Guthega continues to make history

The Snowy Scheme assets were always designed for longevity and durability. A comprehensive maintenance and upgrades program has seen the Scheme exceed all expectations, operating more efficiently now than when it was new. Current work to replace the Unit 1 generator at Guthega Power Station will enable even higher functionality and performance from the Scheme.

Unit 1 is 64-years-old, having been commissioned in 1955, and is still in sound working order. This is the first generator replacement across the Snowy Scheme, demonstrating the long life of the assets. It also highlights the original design and construction of the power station and the expertise of Snowy Hydro maintenance staff, past and present.

Guthega, the first station in the Scheme, generates electricity from the waters of the upper Snowy River diverted from Guthega Dam, through the Guthega pressure tunnel. The two units at Guthega have a generating capacity of 60MW.

The generator is connected to the turbine and is the part of the machine that converts the power produced by the spinning turbine into electrical energy for consumers.

So what work is occurring?

The Guthega upgrade, which kicked off in October 2017, is certainly not your average flat pack project. Over the last few months the original stator and current rotor have been removed from the generating unit.

You may have seen huge, specialised trucks travelling through the mountains carrying the new rotor shaft and stator. These items are so big they had to be transported in two halves all the way up to Guthega.

The new generator will be assembled from many individual components and when complete, will weigh in at 230 tonnes. The new Unit 1 generator is set to be commissioned in August 2019 and will reduce the duty requirement for Unit 2, thereby extending its operating life.

#### Looking back at the history of Guthega

The concept of the Snowy Scheme came about in the 1880s as a way to help offset the disastrous effects of droughts by diverting water from some of Australia's best-known rivers – the Murray, Murrumbidgee, Snowy and Tumut Rivers inland for irrigation. To help pay for this massive irrigation scheme, and to create electricity for the growing population, hydro power stations were built.

The construction for the Guthega Power station started in November 1951 and continued through until April 1955. Mrs Eileen Hudson (wife of SMHEA Commissioner William Hudson, and later Lady Hudson) cut the ribbon to officially open Guthega Tunnel in 1954.

The design for the generator and turbine was based on a power station at Loch Sloy in Scotland. The civil works contract was awarded to a Norwegian company, Selmer Engineering, which had extensive experience with similar projects in Norway – where at the time all power was hydro–generated. The contractor for the generators and turbine was awarded to English Electric.

The then Prime Minister Robert Menzies opened the intake valves at Guthega to start up the turbines and moved a switch to bring the generators up to load. The fact that the Scheme was at last producing electricity dispelled public doubts about the project. In his speech, Prime Minister Menzies predicted that the Scheme would contribute more to Australia than any other enterprise in the entire history of the continent. We think he was pretty spot on.

The first power from Guthega was sent to the New South Wales grid to boost supply at times of peak demand. As output increased, it also became a valuable back-up during thermal station breakdowns or other emergencies. In the first year of operation, the quickly available power averted 47 blackouts in Sydney.

The station has many claims to fame. Apart from being the first station in the Scheme, its location at 1,330 metres above sea level makes it the highest power station in Australia. Guthega operates almost continuously during spring to move water from the snowmelt further downstream into the bigger storage lakes. The

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station consists of two 31.3MW Francis turbines and English Electric generators and is the only power station in the Scheme that can be connected to both NSW and Victoria.

# PART OF THE COMMUNITY



Photos: (Top) Students from the Clontarf Foundation's Tumut Academy (which Snowy Hydro sponsors) toured our T3 Power Station to learn about the Snowy Scheme. (Left) We attended the opening of the upgraded Jindabyne boat ramp road, a project part-funded by Snowy Hydro. (Right) Our support for STEM in the community includes a recent visit by Monaro High School year 12 physics students to Guthega Power Station.



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