

24 MARCH 2021

## **ARENA commits \$47 million to Queensland pumped hydro plant**

Australia's first pumped hydro plant in 37 years is one step closer, after the Australian Renewable Energy Agency (ARENA) committed to support Genex Power's Kidston Stage 2 Pumped Hydro Energy Storage (PHES) project.

On behalf of the Australian Government, ARENA today announced it has conditionally approved up to \$47 million in funding to Genex for the pumped hydro facility, which will be co-located with the existing 50 MW solar farm.

The proposed \$777 million project (including required transmission infrastructure) will be the first pumped hydro plant to be built in Australia since 1984, and the first to be used specifically to support the integration of variable renewable energy generation from solar and wind.

Located at the former Kidston Gold Mine at the Kidston Clean Energy Hub in North Queensland, the project is a 250 MW / 2,000 MWh PHES, equivalent to eight hours of energy storage.

Two existing mining pits at the former gold mine will be utilised as the upper and lower reservoirs for the PHES to minimise construction time and costs. During peak power demand periods, water will be released from the upper to the lower reservoir, passing through reversible turbines. During off peak periods and when the sun is abundant, water will be pumped back from the lower reservoir to the upper reservoir using electricity imported from the National Electricity Market (NEM).

Genex also has approval for up to \$610 million in concessional debt finance from the Northern Australia Infrastructure Facility. Genex and key shareholder J-POWER will provide equity to the project. EnergyAustralia is to be the project offtake partner for a period of up to 30 years. A joint venture of John Holland and McDonnell Dowell is the EPC contractor.

A 187 kilometre transmission line, supported by the Queensland Government and Genex, will be required to connect the Kidston Renewable Energy Hub to the NEM. This transmission line is also expected to facilitate the connection of further renewable generation projects in the region.

Construction is expected to be completed by 2024. The project is expected to generate 500 construction jobs and a further 20 ongoing operation roles.

ARENA CEO Darren Miller said this funding would enable Genex to create a PHES plant that can provide reliable, dispatchable and affordable renewable energy to the grid.

"This is a landmark project for all involved and paves the way for renewables to play a larger role in Australia's electricity grid. Genex will be delivering the first pumped hydro project in Australia since 1984 and the first to be used solely for energy storage and generation rather than water management.

The Australian Government's first Low Emissions Technology Statement has highlighted the importance of large scale energy storage solutions to facilitate more low cost solar and wind generated electricity into the grid.

Large scale storage will play a key role in ensuring security and reliability of Australia's electricity system as we transition to renewables. Pumped hydro is expected to be a key technology enabling us to store abundant solar and wind energy when it is available and dispatch this energy back into the grid during the evening and other times of peak demand, so it is imperative these projects get underway," Mr Miller said.

ARENA previously provided \$8.9 million towards Genex's 50 MW Kidston Solar Project in 2016. ARENA also already provided funding for feasibility and development totalling \$9 million towards the pumped hydro portion of the project.

"Having championed this project from conception, and having supported pumped hydro feasibility studies across Australia, we are very excited to see this project reach financial close and commence construction," he said.