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Business

Queensland's Snowy 2.0 pumped hydro expands

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Energy

Australia's largest pumped hydro storage project has taken a step forward, increasing its storage potential to 2000 megawatts hours.

Genex Power has completed a technical feasibility study into stage 2 of its Kidston project, slashing construction time and changing its design to increase operational capacity to eight hours of 2000 megawatt hours of continuous generation.

"The Kidston renewable energy hub is currently the most advanced, lowest-cost large-scale energy storage project in the country," Genex Power managing director Michael Addison said.

"The optimisation study outcomes have been developed in response to direct feedback from potential energy partners amid the ongoing backdrop of the national debate on energy policy, and the importance of ensuring dispatchability of renewable energy via energy storage," he said.

The pumped storage hydro project can provide up to 250 megawatts, ramping up to full generation capacity in less than 30 seconds.

Genex Power director Simon Kidston told Fairfax Media: "This project is shovel ready, and is the only large-scale pumped hydro energy storage in the country at this stage. This is the Snowy 2.0 of north Queensland.

"We're ready to go now, whereas the Snowy Hydro 2.0 project still has to conduct feasibility. Construction will begin next year, although we are still finalising financing."

The company is negotiating with a range of energy buyers and offtake partners.

"We're proposing to partner with major energy groups, such as Origin or AGL, giving them all our energy generated for a fixed fee that increases over a 10-year period," Mr Kidston said.

While building costs were originally slated at $330 million in November 2016, the new study has reduced this figure, although not significantly. The feasibility study's findings have also helped scale down construction time.

"The construction timeframes were previously three years, and now we've shaved six months off this, so construction is now planned to run for 2½ years from 2018," Mr Kidston said.

The pumped hydro project is unique in that it repurposes two former mine pits, one up to 300 metres deep, in a completely closed loop system, and utilises the mine's existing transmission infrastructure

- in this case a 132 kC transmission line connecting it to a substation near Townsville - to supply energy directly to the National Electricity Market.

"What Queensland needs is fast, reliable energy storage, the beauty of pumped hydro storage is that is provides this," he said. "By recycling an old gold mine it decreases costs, and the site is also fully permitted for these operations."