

## Abandoned Aussie gold mine to become renewable energy hub

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Kidston mine's two large mine pits will be turned into a pumped hydroelectric energy storage (PHES) system. (Image courtesy of [Genex](#))

Australia's Kidston gold mine, which ceased operations in 2001, is about to be turned into a massive and novel renewable generation plant, [thanks to Genex](#), a company run by the great-great-grandson of a former Queensland premier from the turn of the century, William Kidston.

Backed by [funding from the Australian government](#), Genex plans to reuse the two 300 metres-deep craters on site for a world-first pumped hydroelectric energy storage (PHES) system, combined with an integrated solar farm.

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"We're not aware of any examples anywhere else in the world where there is a large pumped storage system, or any efficient storage mechanism, with a renewable generation component attached to it – not on the scale we're talking about," Genex executive director, Simon Kidston, [told Energy and Mines](#).

The project, located in Northern Queensland, consist of two facilities. One is a 50-megawatt solar farm, currently under construction, which is expected to generate the necessary power to pump water in the reservoirs to store the energy, besides supplying enough energy to power about 27,600 homes. It will cost roughly \$100m and is scheduled for completion by the end of 2017.

The other is he PHES system itself, which is expected to supply a maximum of 2,250 MWh of continuous power generation in a single generation cycle.



Satellite image of the Kidston site. (Image courtesy of [Genex](#))

Together, the production and storage systems will make the Genex project in Kidston the first large-scale off-river solution.

Pumped hydro is one of the most affordable and commonly used forms of industrial-scale energy storage globally, [accounting for nearly 99% of the market](#). The technique allows the storage of renewable energy from wind and solar, instantly transmitting it to the grid during periods of peak demand, or in the event of an unplanned network outage.

There are already 72 renewable energy projects in Queensland, mostly biomass using sugarcane waste. Only 10 are solar, 11 are hydro, two are wind-powered and there is also one geothermal project at Birdsville.