

Woodside Petroleum in battery breakthrough

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Chief technology officer Shaun Gregory (centre) and the Woodside team working on the battery project. **Trevor Collens**



by [Angela Macdonald-Smith](#)

Woodside Petroleum is set to break new ground for the offshore oil and gas industry by installing a large battery on one of its offshore platforms in a move that will save costs as well as cut carbon emissions.

Chief executive Peter Coleman revealed the decision to install the battery is part of a wider effort at Woodside to improve its record on greenhouse emissions and came after studying a range of options to deploy power from wind, solar and waves, as well as batteries.

"We've put together a list of alternative ways of operating our business that put us into a lower carbon world," Mr Coleman said in an exclusive interview in which he also disclosed Woodside's keen interest in work in Japan to develop a hydrogen-based energy system.

"We see actually batteries have the best application for our business because they are storing energy and we are already doing things to ensure the reliability of our business."

The 1 megawatt-hour storage system to be set up early next year on the North West Shelf venture's Goodwyn platform off the Western Australian coast will eliminate the need for a spare generator to be constantly kept spinning in reserve to avoid the risk of a costly interruption of gas production.

The lithium-ion battery, to be supplied by Swedish-Swiss engineering giant ABB, will replace one of four gas turbine generators used on the platform.

"We are in a process of implementing a project to replace that fourth generator with battery storage, so that if a generator trips it will come straight off the battery and operators will have one hour to go out and restart the generator that tripped," Mr Coleman said.

Improving efficiency

Chief technology officer Shaun Gregory said the battery would cut carbon emissions from the Goodwyn platform by about 5 per cent, while gas used to fuel it could instead be used for LNG, improving efficiency.

"Spinning reserve is an insurance bridge to maintain continuity to power and the battery now becomes that insurance bridge instead of a turbine running, burning fuel gas, creating carbon emissions when we don't need to," Mr Gregory said.

Woodside wouldn't say how much the battery investment is costing. However, the declining costs of power storage combined with improvements in performance have only recently opened up the opportunity to use the technology offshore. The removal of some other equipment on the Goodwyn platform will free up space for the two 20-foot containers that house the battery bank and control modules.

Mr Gregory said that the successful deployment of the battery would see Woodside consider using storage at a larger scale on bigger offshore facilities such as the NW Shelf venture's North Rankin platform. It could also be deployed within the onshore generation facilities at Woodside's Burrup Hub plants.

Mr Coleman said Woodside is also examining options to use renewable energy to power part of its operations near Karratha, where the North West Shelf and Pluto LNG projects use about 400MW of power capacity between them.

He revealed that Woodside is "actively looking" at longer-term potential in hydrogen, given work in Japan around converting methane into ammonia and then hydrogen for fuel cells.

"There's not a commercial market for it yet but we think that by 2030 the technology may have advanced so there may be a commercial market," Mr Coleman said.