



# Flinders Island

**Location:** Flinders Island, Tasmania

**Client:** Hydro Tasmania

**Role:** Project developer, owner and operator



## Background

Flinders Island is currently heavily reliant on expensive diesel fuel to supply the island's electricity needs.

Electricity on the island was traditionally generated entirely from diesel fuel supplied by the 3 megawatt (MW) power station, serving 6.7 gigawatt hours (GWh) of annual customer demand, peaking at 1.3 MW.

Hydro Tasmania has developed the Flinders Island "Hybrid Energy Hub" with the support of the Australian Renewable Energy Agency.

The hybrid system is capable of displacing 60% of the annual diesel fuel used to generate electricity on Flinders Island. The system is capable of diesel off operation, allowing 100% renewable penetration.

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## Hybrid Energy Solutions

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Wind turbine foundation



Placing containerised equipment

## Solution

The project involves the integration of new renewable generation into the existing power system with the support of Hydro Tasmania's advanced automated Hybrid control system and a range of enabling technologies to ensure ongoing secure and reliable power supply.

Hydro Tasmania constructed a single 900 kW wind turbine and 200 kW solar array. The enabling systems include a 750 kW/300 kWh battery, 850 kVA flywheel, and 1.5 MW dynamic resistor.

Hydro Tasmania has designed a series of scalable modular units to house and ship the enabling technologies.

Hydro Tasmania has worked with local Tasmanian based manufacturers to fabricate these systems which allow off-site manufacture and testing prior to shipping to the remote site.

This ensures a speedy rollout at the final location, reducing the risk, cost and duration of construction. These modular units provide a lower cost and scalable solution that allows easy and rapid transport and installation for hybrid energy projects. These can also serve temporary uses such as in disaster relief or in the mining industry.

## Our Services

Hydro Tasmania developed the project concept and implemented as a turn key EPC Contractor. A number of proprietary technologies were developed by Hydro Tasmania during the project. These included the scalable modular enabling systems.

Major equipment was procured through competitive tender and local contractors were employed as often as possible.

## Outcome

The project is successfully commissioned and in operation contributing towards 60% of reduction in diesel consumption.

## The world's most advanced utility grade hybrid energy solutions



## Hybrid Energy Solutions

