

CASE STUDY

FRENICH, LICK FARM, NEAR PITLOCHRY, SCOTLAND UK



KEY STATISTICS

Commissioning date: May 2013

Location: Loch Tummel

Turbine: Twin Jet Pelton

Intake type: Alpine

Net head: 178m

Catchment area: 8.03km²

Maximum turbine flow: 0.488m³

Maximum output: 730kW

Pipeline length: 2.06km

The Frenich Hydro Project is a 730kW project on the shores of Loch Tummel, not far from Pitlochry, and is a joint venture “JV” between Gilkes Energy and the landowners, the McKerrow family.

A 2km pipe transfers water from the intake to the powerhouse. This vertical drop, known as the ‘Net Head’ of the project is 178m. The pipeline is made of two different materials - in the upper, low-pressure section HDPE (High Density Polyethylene) is used. In the lower, high-pressure section ductile iron (DI) is used. A Gilkes Twin Jet Pelton turbine is used, operating at a design flow of 488l/s. This turbine is an impulse type turbine which is optimised for high-head applications and provides high efficiency across the full range of flows.

Initial feasibility work first started in 2009. Planning permission and SEPA license were received in late 2011 and construction started in earnest in April 2012. The lead consultant was Hydroplan and the lead civil contractor DA MacDonald from Lochgilphead. The project started generating in May 2013 and was delivered on time and budget despite a very cold winter which produced some challenges to access and construction procedures.



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