



Catchment area above Stank Burn.

Inside the turbine house is a very efficient Pelton turbine (invented by Lester Allan Pelton in the 1870s). The water from the penstock is split and 2 nozzles direct the high-speed water against 2 sets of spoon-shaped buckets mounted around the rim of a drive wheel.

The water impulse energy spins the wheel as the water exits on the outer sides of the buckets at low velocity, having given up its energy and from there is returned to the stream.



The intake, with the screen to filter the water and the outlet on the left hand side to allow the compensation flow.

Don't Complain about the Rain



A Pelton wheel turbine showing the rows of buckets around the rim and the 2 nozzles which direct the water at the wheel.

A generator then converts the mechanical energy of the spinning wheel to electrical energy, which is sent to the electricity grid via a transformer and buried power lines.



Inside the turbine house - the turbine, the generator and in the third photo, the control panels.

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The 425kW scheme is (as at 2015) the largest community owned hydro scheme in the UK. The land is leased from Forestry Commission Scotland for 40yrs, with an option to renew, so it will be here for a long time. It cost £1.6M to build and, by selling all our electricity to suppliers, we expect to be able to return in excess of £3M for community projects over the next 20 years. The output is 1.3GWh/yr and the scheme is maintained by a group of local volunteers.

You can walk up to the turbine house using the path through the Forest Holiday cabins at Ben Ledi. From there carry on up to the intake, following the small path at the turbine house. Turn right at the forest road, then take the next path on the left – and keep going upwards.

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Callander Community Hydro Scheme



For more information please see www.callandercdt.org.uk



Building our turbine house - getting started.....



nearly finished.....



....and shortly after completion.

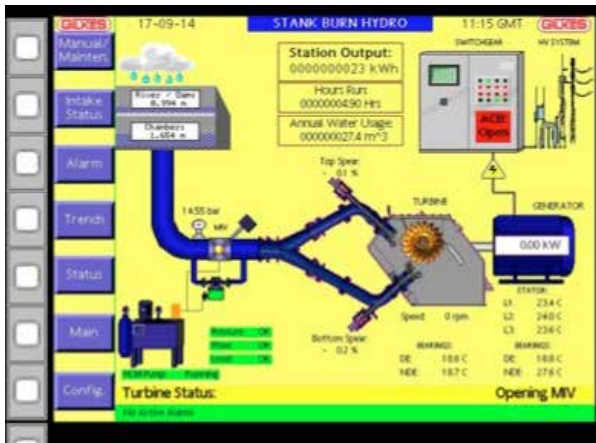
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Laying the pipe down the hill.



The out-take, where the water leaving the turbine house is returned to the stream.



Part of the control system with a diagram of the scheme.

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Callander Community Hydro Scheme



The run-of-the-river hydro electric scheme at Stank Burn was completed in September 2014. It was built by the community of Callander, for the benefit of the community. All profits go towards projects run by the Callander Community Development Trust, who own the scheme. It is the first community developed hydro scheme in Scotland.

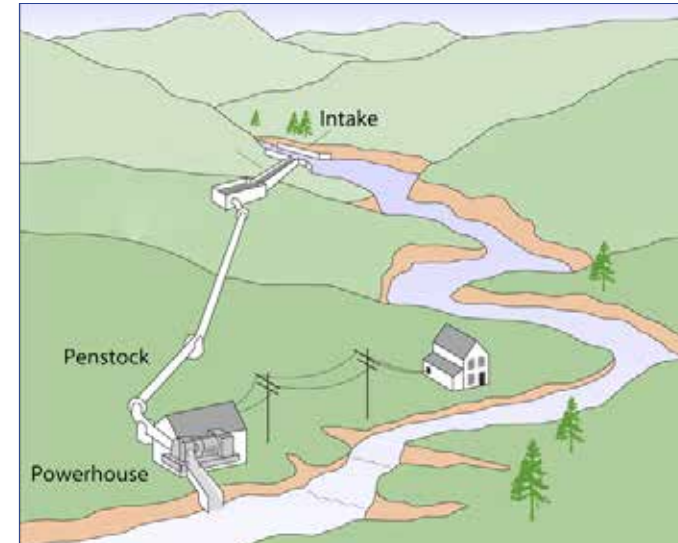


Diagram of a typical run-of-the-river hydro scheme.

At the intake, 146m above the turbine house, there is a small pond which collects the water from the surrounding large corrie area. Some of this water follows the natural path of the burn down into Loch Lubnaig. This is called the compensation flow. Any extra water in the river runs over a screen and into a chamber below, where it enters the penstock. This is a heavy-duty plastic pipe, buried 1m down, which runs down the hillside connecting the intake to the turbine house. Inside it, the water accelerates, converting potential energy to kinetic energy.

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