Island Electricity Generation
Isle of Eigg

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http://www.inforse.org/europe/seminar08_Energy21.htm

Isle of Eigg

- 8 km x 6 km 10 miles west coast of scotland
- Population 87
- 45 residential properties and 5 commercial properties
- The Isle of Eigg Heritage Trust was formed in 1997
  -Island residents, highland council and scottish wildlife trust

Island Electrification Project

- Island was relying on age old diesel generators
- Eigg Electric was formed as a subsidiary company under the trust.
- New Island Electrification project operational on February 2008
- Voluntary effort by the islanders with the help of Scottish Hydro and various contractors.

Finance

- The total cost of the scheme was £1.6 million.
- European Regional Development Fund, Big Lottery, Highlands & Islands Enterprise, HIE Lochaber, Highlands and Islands Community Energy Company, Scottish Community Household Renewables Initiative, Energy Saving Trust, Highland Council, Isle of Eigg Heritage Trust & The Residents of the Isle of Eigg.

Island Electrification System

- integration of multiple renewable energy sources -Wind, hydro and solar
- Each of these sources has been sensitively sited to cause minimum visual and physical impact upon the island
- 11km of buried high voltage cable
- Limited the demand with the approval of the residents; domestic and small business supplies have been capped at 5kW, and larger business supplies at 10kW.
- Electricity charges are collected via pre-payment card operated meters.

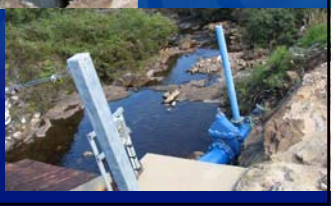
Wind turbines

4 Nos. of 6 kW
Proven wind turbines

Hydro Electric

The major renewable energy source is a 100kW Hydro Electric Generator.

This is supported by two smaller Hydro Electric Generators of 10kW and 9kW.



Independent hydro schemes

Solar Photovoltaic

- 10 kW PV

Electricity Distribution

Control Room

Twelve Sunny Island 5kW inverters are used connected in four three phase clusters to give a total output rating of 60kW.

A MultiCluster Box communicating inverters and provides contactors for the connection to the island grid and the back-up generator.

Control Room

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Batteries

Each cluster is connected to a 48V 2242 Ah (C10) battery bank consisting of 24 batteries

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Metering System

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