

Case Study 6 – Wind Power Generation

Client: Falkland Islands Government

Project: Wind Power Generation

Project Outline:

The Falkland Islands have two main load centres, the civil capital town of Port Stanley and the military camp at Mount Pleasant. Both sites derive electrical power from diesel generating power stations.

Due to the age of plant at Port Stanley and the projected growth in power demand, the Falkland Islands Government was keen to explore options for meeting the future growth. Options for consideration were:

- Additions to diesel generating plant capacity
- Wind power generation
- HV interconnection between Port Stanley and Mount Pleasant.

Renewable Energy Consultants Role:

Renewable Energy Consultants undertook a Feasibility Study of the three options. A team of three engineers visited the Falkland Islands to study the situation, gather data and assess options.

Wind data collected from an anemometer mast at wind turbine hub height was analysed to establish the annual distribution of wind speeds. From this data, assessments were made regarding the performance of wind turbine combinations in conjunction with the existing power generation plant at Port Stanley.

The study concluded that use of wind turbines in units of 300-600 kWe and total installed capacity of up to 1,800 kWe together with power smoothing UPS systems would make a beneficial contribution to the Port Stanley grid system.

Interconnection of the Port Stanley and Mount Pleasant load centres, some 30 km apart, was technically feasible but not economically attractive.

Outline arrangements for adding additional diesel power generation plant were identified for re-consideration as the power demand increased and subject to adoption of wind power.

As a result of the Renewable Energy Consultants Report, the Falkland Islands Government proceeded with the installation of wind power generation.