Executive Summary

CBD Energy Limited (CBD) via its wholly owned New Zealand subsidiary, Chatham Islands Wind Limited (CIWL) has undertaken a wind generation project in the Chatham Islands.

The project is located on Chatham Island, the largest of the ten islands integrating the archipelago known as the Chatham Islands. The Chatham Islands are part of New Zealand and as such should be considered as sovereign.

The project is now complete and has commenced wind generation operations. The off-take party is the island’s sole electricity utility.

Chatham Islands

The archipelago is made up of ten islands, two of which are inhabited and the other eight uninhabited. The largest island, Chatham Island, has some 700 permanent residents while nearby Pitt Island, 25 km from Chatham Island, has 50 permanent residents. The total population is around 750 permanent residents.

Industry is focused around fishing, pastoral farming and tourism (in particular eco-tourism). The islands enjoy some of the best fishing in the Pacific Ocean, which include lobster, abalone, cod, groper and kingfish. The eco-tourism industry has advanced in recent time with regular air services to and from Chatham Island. The islands exhibit rare species of fauna and flora and eye-catching eco-systems.

The islands are located about 800 km due east of Christchurch. The main island, Chatham Island, is 90 square km and Pitt Island is 6.2 square km.

The Chatham Islands were the last of the major Pacific Islands to be settled by humans, estimated to be about 800 to 1000 years ago. The islands are the ancestral home of Moriori – Polynesian people who share similar roots to the New Zealand Maori but who developed a distinctive lifestyle and culture, which was more pacifism focused, likely due to their undisturbed isolation. European “discovery” and settlement began in 1791 with whaling and sealing activities in the South Pacific. After that, New Zealand Maori settlement soon followed.

Currency is NZ dollar. Due to its “roaring forties” location, Chatham Island has a secure and attractive wind resource. A map of the islands is attached.

Electricity Off-take

CIWL has contracted with the Chatham Island’s sole energy utility, Chatham Islands Electricity
Limited (CIEL) for off-take of the wind energy generated. CIEL operates all electrical distribution throughout the two inhabited islands and also provides most of the (diesel) generation – other than a few larger users that have their own diesel generators.

CIEL is a wholly owned subsidiary of the Chatham Islands Enterprise Trust (Trust). The Trust also owns all other utility type businesses throughout the islands such as ports, transport and communications. The Trust was created in 1991 after an act of the NZ Parliament allowed the execution of the Trust Deed in which the Government of New Zealand (contracting through the Minister for Internal Affairs) executed the Trust Deed as Settlor. The Trustees named under the Trust were senior NZ public servants and business operators in the Chatham Islands. The Trust Deed in 1991 transferred all Crown assets in the islands to the Trust for the administration and advancement of the islands, their industries and their people. The NZ government essentially handed over the day to day administration and running of the islands to the nominated Trustees whom the NZ Government appointed.

Islands’ Generation

Chatham Island and Pitt Island each have an independent diesel power generation facility as the two islands are not linked by any undersea power cable. The CIWL wind project injects power into the larger Chatham Island electrical network, not to Pitt Island.

The Chatham Island power station consists of five (5) Caterpillar diesel generating sets of varying sizes from 120kW to 275kW. Power is distributed on the island using an 11kV overhead and underground distribution network.

The annual power required in the system is approximately 2200 MWh.

The Fishing industry in the islands provides about 50% of the islands’ annual revenues.

The Wind Project

The wind project on Chatham Island was initiated by the Chatham Island Enterprise Trust (described above). Expressions of interest were called for the construction, financing and operation of the wind farm through the BOOT arrangement. CBD offered the most suitable wind system for the island, and subsequently entered into the BOOT contract arrangement with CIEL.

The project consists of two (2) 225kW wind turbines and an innovative control system to manage the power and diesel scheduling on the electrical network.

The two wind turbines are able to be lowered for cyclonic winds and for maintenance within the nacelle.

Excess capacity has been installed on Chatham Island to account for future load growth (in particular the fishing operator), and to maximise wind production during periods of low wind speed.

Turbines

The two (2) turbines were supplied by the French manufacturer, Vergnet.