



# **WIGTON WINDFARM - CDM ARRANGEMENT**

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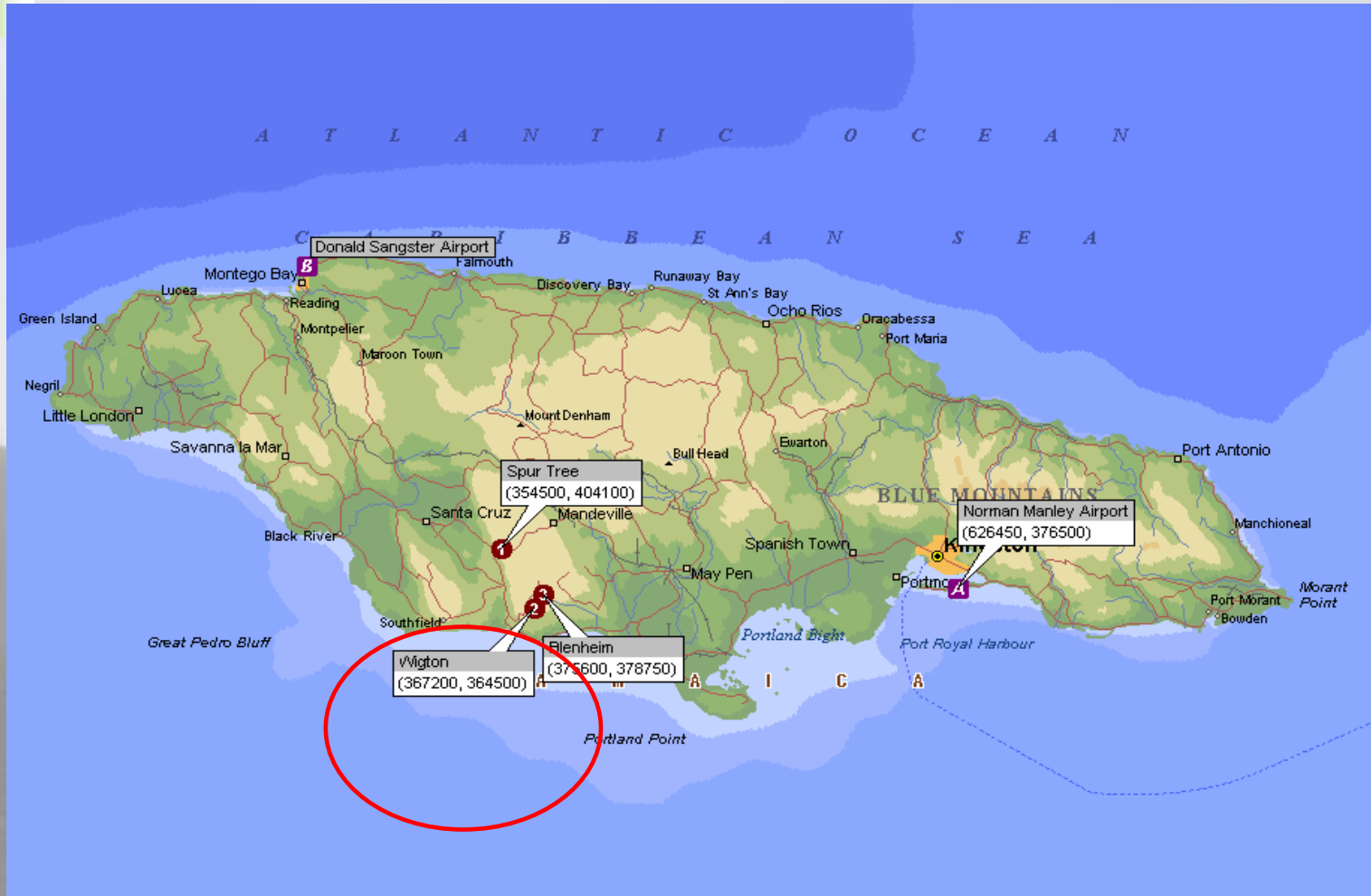
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# Wigton Windfarm

- The Wigton Wind farm (WWF) Limited is a wholly owned subsidiary of the Petroleum Corporation of Jamaica (PCJ), which is the government owned agency mandated to develop indigenous renewable energy resources, and assist the government in realizing the goals of the Jamaica Energy Sector Policy.
- WWF is the first commercial grid connected wind farm in Jamaica and the English-speaking Caribbean.
- The Prime Minister of Jamaica officially opened the Wind farm on July 29, 2004
- Wigton is a small rural district in Central Manchester, 12 km SSW of the parish capital Mandeville (located in central Jamaica).

# Location





# Operational Highlights

- The Wind farm consists of twenty three 900-kilowatt wind turbines. NEG Micon, a Dutch wind turbine manufacturer, supplied the turbines. Planned output is 62.97 GWh per year for the 23 turbines
- It has an estimated capacity of 20.7 MW of power.
- It is expected to supply the JPS with a minimum of 7MW on average given the variability of the wind regime
- Interconnection was made with existing grid
- Entered into a 20 year PPA with Jamaica Public Service Company to sell all the electricity generated by the wind farm to the power company



# Project Objectives

- Implementation of provisions of the Jamaica Energy Sector Policy regarding the utilization of indigenous (sustainable) energy resources
- Emission reductions
- Foreign Exchange Savings (Fossil fuels import presently uses over 60% of Jamaica's export earnings)
- Wind Energy Technology transfer



# Project Development

- More than four sites were evaluated from which Wigton was selected with wind speeds being monitored at the site for several years. Eligibility and pre-feasibility studies carried out.
- Renewable Energy Systems (RES) a British Company with over 20 years of international expertise in wind farm construction, maintenance and operations was hired to design and build the wind farm
- Land ownership was established under a 20 year lease arrangement made with the bauxite/alumina companies Alcoa and Alpart..
- Soil Content Analysis was also conducted
  - Turbines situated on areas without significant mineral deposits so that future mining will not affect the operation of the wind farm



# Project Development

- The total cost of the project was US\$26.2M.
- An application was submitted to the Dutch Government under the Dutch Development and Environment Related Export Transactions Programme to obtain Oret/Miliev Grant to assist with financing. This was used to acquire the turbines
- Approval obtained from the Board of Directors of the PCJ and the Cabinet to pursue debt funding to assist with the project expenses
- NCB (a local bank) was selected as the debt financing institution. PCJ put in Equity.
- If the project were compared with other power generation projects it would not be seen as financially attractive because the price for electricity paid by the JPS to the WWF is less than the costs at which JPS produces power or purchases energy from IPP.



# CDM Arrangement

- If the project activity were able to generate CERs however, the additional revenue generated by carbon sales would make the project more attractive
- The potential trading of CER's was therefore evaluated and promoted by EcoSecurities who organised stakeholder workshops on steps in developing a CDM project.
- The Wigton Project was one of 18 CDM Projects selected to trade its Carbon Credits to SENTER, which is responsible for the management of the Dutch Government's Certified Emissions Reduction Unit Procurement Tender Programme (CERUPT)

# CDM Arrangement

- Application was made to the Ministry of Land and Environment in June of 2002 requesting a letter of approval for the WWF in order to complete the transaction of CERs with CERUPT.
- Letters of endorsement of the proposal were given to SENTER prior to this by the Ministry of Mining and Energy, MLE and the Met. Service (KP focal point).
- For the awarding phase however, the participation requirements stipulates the submission of Letters of Approval by the DNA for the CDM for both the donor and host countries.



# CDM Arrangement

- At that point Jamaica had no DNA.
- A proposal was presented to the Cabinet to designate the MLE as Interim DNA.
- The situation was particularly urgent because the letter of approval was needed by September of 2002 or the project would face rejection. A special session of Cabinet (a round robin) was therefore held and MLE appointed DNA.
- A letter of Approval was subsequently issued for the WWF by MLE on 26 September 2002.

# CDM Arrangement

- EIA was conducted by RES and Environmental solution Ltd.with TOR written by the National Environment and Planning Agency (an agency of MLE) which was then issued permit for construction
- Local Authority Building Permit, Power Generating License from Office of Utilities Regulation (OUR) etc.

# CDM Arrangement

- In December 2004, request was made of the DNA to supply a complementary note to the Letter of Approval to bring the project under the CAF Netherlands CDM facility (as opposed to the initial idea to have it included in the CERUPT)
- Under the CAFNetherlands facility, a carbon intermediation agreement was established between CAF and the Netherlands Govt.
- This complementary LOA was issued in early 2005.
- The Wigton Project Design Document preparation and expenses were therefore undertaken by CAF



# CDM Arrangement

- DNV audited the project in July, 2005 for registration with the EB of the CDM. Process of validation included meetings with key stakeholders including the DNA
- The estimated amount of emission reductions over the 10 year crediting period is 525,400 tCO<sub>2</sub> (~52,540 tCO<sub>2</sub> per year)
- The sale price for the CERs is 5.5 Euros per ton of carbon dioxide saved.
- Wigton successfully negotiated an Emissions Reductions Purchase Agreement (ERPA) with CAF which was signed in December 2005
- The agreement is from April 2004 to December 2012 and the estimated income for the period is US\$ 3.1 million.

# CDM Arrangement

- The project applies the approved baseline methodology ACM0002 - Consolidated baseline methodology for grid-connected electricity generation from renewable sources.
- Wigton was registered as a CDM project in March 2006
- More details on the Project can be found on the UNFCCC Website- including the PDD and the Validator's Report

# Benefits Identified

- Contribution to sustainable development
- Environmentally friendly source of energy
- Displaces the use of fossil fuels so reduction in GHG emission and hence global warming
- Potential educational and research spin-off for the UWI, Utech and the SRC.
- Possible tourist attraction

# Wigton Wind farm



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# THANK YOU

## Contact Details

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