

**SECTION A. General description of project activity****A.1 Title of the project activity:**

Gancheng 1st Stage Wind Power Project in Dongfang City Hainan Province, China

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Version history:

Version 01 (06/03/2009): GSP for public comment

Version 02 (29/06/2009): Revised after on-site validation

Version 03 (11/02/2010): Revised according to DOE's comments

A.2. Description of the project activity:

Gancheng 1st Stage Wind Power Project in Dongfang City Hainan Province, China (hereinafter referred to as “the proposed project”) is located in the coastal zone of Dongfang City in Hainan Province. The proposed project involves the installation of 33 wind turbine generators, each of which has a rated output of 1.5MW, providing a total capacity of 49.5MW. The annual grid-in electricity is estimated to be 103,857 MWh¹. The proposed project is constructed and operated by Hainan Xinfengyuan Industrial Co., Ltd (hereinafter referred to as “the project owner”).

Before the implement of the proposed project, there is no any other wind power equipment and system around the proposed project site. The proposed project is a grid-connected wind power station in the coastal zone of Dongfang City. The main structure includes wind power electricity generation units, 10kV box substations and main transformer etc. The electricity generated by the proposed project is connected to Hainan Power Grid through one 110kV circuit.

According to the analysis in the following section B.4, in absence of the proposed project, the most feasible baseline scenario is power supplied by Hainan Power Grid. Hainan Power Grid is dominated by fossil fuel-fired power plants, and is developed fast recently. In five years between 2002 and 2006, in annual generation composition, coal-fired generation accounts for 69.14%, 75.38%, 82.73%, 85.00%, and 89.56%².

The baseline emission source is CO₂ emission by Hainan Power Grid. As a renewable wind power project, the project emission of the proposed project is zero. After the implement of the proposed project, annual grid-in electricity is estimated to be 103,857MWh, and the annual emission reductions of the proposed project is estimated to be 89,203 tCO₂e

The proposed project will promote local sustainable development by making use of renewable wind power. Major contributions of the proposed project are as follows:

- The proposed project will alleviate the shortage of electricity, improve the power quality of the grid, ensure industrial and household electricity, and promote local economic development.
- It will reduce the emission of pollutants and greenhouse gases which might otherwise be caused by coal-fired generators so as to improve local environment, such as NO_x, SO₂, Total Suspended Particles (TSP), etc.

¹ According to the approved FSR, the annual electricity generation is 108,184MWh. The rate of internal power use, transmission losses and the box substation losses is estimated to be 4%, so the total amount of annual grid-in electricity is 103,857MWh. The average annual operation hours are 2098h which resulted in the PLF of 23.95%.

² China Electric Power Yearbooks (2003, 2004, 2005, 2006 and 2007)