

Sustainable Energy and Sustainable Tourism¹

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A tropical paradise of 7,100 islands, the Philippine archipelago has been endowed with, among other exceptional wonders, a great potential for clean, reliable, new and renewable energy. Located just above the equator, the country has vast potential for solar energy. The Sunpower Solar Wafer Fabrication Plant in Laguna, south of Metropolitan Manila manufactures high-efficiency photovoltaic cells and can supply 6% of the world's total market for photovoltaic industry; thereby boosting the country's bid to become the solar manufacturing hub in Southeast Asia. Additionally, the Philippines is presently the world's second largest user of geothermal energy for power generation, feeding 11 power plants with a total installed capacity of 1,932 MW. Hydropower is another sector being focused on and the Philippines now has 21 large hydropower stations, 52 mini-hydro power stations and 61 micro-hydro power facilities, with a total capacity of 2,518 MW. Being situated on the fringes of the Asia Pacific monsoon belt, the Philippines is also an imminent leader in wind power generation, and analyses and mapping studies report that the country has a total potential installed capacity of 7,400 MW in over 1,000 areas throughout the state, even greater than current wind power-producing countries such as the USA (6,000 MW), Denmark (3,000 MW) and India (2,100 MW). In fact, on the foreshores of Banguui Bay in the northern tip of the Philippines stands the first commercial wind power project in Southeast Asia. This 33 MW wind turbine power plant developed by the Filipino-Danish NorthWind Development Corporation in the province of Ilocos Norte serves as the model for the advancement of other renewable energy sources all over the country and the greater ASEAN Region.

With such abundance of natural wealth, it will indeed prove wise for the Philippine Government to promote and develop its indigenous renewable energy resources and take advantage of the opportunities under the Clean Development Mechanism (CDM) of the Kyoto Protocol toward achieving its sustainable development objectives. Renewable energy development does not only contribute to the protection of the climate system from human-induced change but such a notable environmental strategy also serves to facilitate energy independence and fuel the

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country to higher growth while protecting the country's ecological integrity. Certainly, with its significant direct positive impacts and strong peripheral benefits, the development of renewable energy allows the Filipino people to showcase the true richness of the country in terms of culture, economic well-being and natural beauty.

The North Wind Breeze: Energizing Towns and Revitalizing Tourism

The Philippine Government, through the Department of Environment and Natural Resources (DENR) as the Designated National Authority (DNA) for Clean Development Mechanism (CDM) in the Philippines declared it a policy to facilitate and promote the development of CDM project activities that contribute to the objectives of the United Nations Framework Convention on Climate Change (UNFCCC), lead to the transfer of environmentally safe and sound technology and know-how, contribute to the conservation of biological diversity and sustainable use of natural resources, comply with all other pertinent laws and regulations, and provide measures to alleviate poverty as part of their contribution to sustainable development.

In accordance with its promulgated rules and regulations, and based on the evaluation made by the Philippine Department of Energy as the lead agency of the Technical Evaluation Committee for energy-related project activities under the DNA, the DENR issued its first Letter of Approval in December 2005 to the NorthWind Bangui Bay Project, confirming that this project activity meets the national criteria for sustainable development. Located approximately 460 km north of Metropolitan Manila on the main island of Luzon, traversing a 9 km long by 100 m wide strip of undeveloped and uninhabited foreshore area along the scenic Bay of Bangui, Ilocos Norte that is covered by a lease agreement with the Philippine Government, the NorthWind Bangui Bay Project represents the first commercial wind power project in the country and in the ASEAN Region, the first of its kind to be connected to the Philippine main grid and in all probability the first CDM project activity in the country when it gets officially registered by the CDM Executive Board.

The project, which was completed in May 2005, displaces grid electricity generated from highly polluting fossil fuels and in so doing reduces greenhouse gas emissions by an approximately 51,855 tCO₂-e (tons of carbon dioxide equivalent) annually for the first 7-year crediting period. Generating at least a third of Ilocos Norte's total power requirement, the wind farm facility will be providing electricity to some 23 municipalities, including the provincial capital of Laoag City through the Ilocos Norte Electric Cooperative, thereby stabilizing the often fluctuating supply coming from the National Power Corporation (NPC). In addition, Ilocos residents will enjoy discounted power rates since the project will sell its

electricity at a rate of 7% lower than the rate of NPC, and wind power is also not subject to the Expanded Value Added Tax (EVAT). In line with R.A. 9136 EPIRA³ of 2001 and ER No. 1-94 of the Department of Energy, NorthWind is also committed to set aside one-centavo for every kilowatt-hour of the total electricity sales as financial benefits to the host communities, which shall be used for electrification, development and livelihood, and reforestation, watershed management, health and environmental enhancement.

The Local Government Units (LGUs) and the residents regard the project favorably due to the anticipated economic benefits in terms of increased investments, additional tax revenues, improved employment opportunities and transfer of technology. The unstable power supply from the main grid had long been a turnoff to potential investors in the province despite its unique cultural and historical treasures, good roads, seaport and airport. Being at the end of the long-distance power transmission line from plants mostly located in the southern corridor of Manila, the province is plagued by expensive but unreliable power supply. The improvement in power as a result of the project is being seen as a magnet for potential investors. With respect to additional revenues, the LGUs stand to gain significant income from NorthWind's tax payments. This benefit is noteworthy inasmuch as this pioneer project did not obtain subsidy from the State to improve its profitability and the project is seen by financial institutions as very risky but is still able to contribute to the national government's effort in raising the much needed revenues.

In terms of employment, the municipal government of Bangui has been coordinating and monitoring the hiring of local labor by the project since the start of construction and records indicate that about 80% of skilled and non-skilled workers are residents of Bangui. Presently, the project has a manpower complement of 19 persons, 13 of which are natives of the host community. Basic and intensive training were also made available to NorthWind's administrative, technical and management staff to efficiently operate the wind farm facility. NorthWind is also providing a program of training assistance for the personnel of the Department of Energy, therefore making the project an effective medium for the transfer of wind power technology and know-how. This training coupled with the experience gained in the implementation of the wind farm allows the government as well as other stakeholders to gain more knowledge on renewable energy market conditions and appropriateness of delivery mechanisms. Thus, as the first wind farm project of its scale in the Philippines, the project will definitely have a significant demonstration effect in accelerating the commercialization of wind power and

³ Electric Power Industry Reform Act of 2001.

mainstreaming of renewable energy, thereby contributing to the national goal of reducing the country's dependence on imported energy and broadening its resource base with an indigenous, inexhaustible and environmentally desirable option.

What is more, this groundbreaking endeavor encouraged considerable growth in tourism simply as a prime attraction in itself as well as drawing related industries to set up businesses in the area. While some of the windmills are visible from the national highway, tourists enjoy the visual impact of the landscape from a viewing deck about 5 kms from the site. At the same time, the wind farm provides new livelihood opportunities for the local residents as refreshment and souvenir shops have spawned around the viewing deck. The project also boosted the awareness of the locals on the clean and green energy program of the country towards generation of renewable energy and environmental protection. Instructive tours for engineering students all over the country likewise increase this level of consciousness. Private homes in the province are even being converted into bed and breakfast or home stay facilities for the different sets of tourists visiting the place.

Unquestionably, the project catalyzes the growth in investments, tourism and commerce in the area and the Philippines as a whole and thus instills a greater sense of national identity, pride and commitment among Filipinos.