ADB

Report and Recommendation of the President to the Board of Directors

Project Number: 48325-001
January 2015

Proposed Loan
EDC Burgos Wind Power Corporation
150-Megawatt Burgos Wind Farm Project
(Philippines)

This is an abbreviated version of the document approved by ADB's Board of Directors that excludes information that is subject to exceptions to disclosure set forth in ADB's Public Communications Policy 2011.

Asian Development Bank

CURRENCY EQUIVALENTS

(as of 18 December 2014)

Currency unit	–	peso (P)
$1.00	=	P44.74
$1.00	=	€0.81

ABBREVIATIONS

ADB	–	Asian Development Bank
DOE	–	Department of Energy
EBWPC	–	EDC Burgos Wind Power Corporation
EDC	–	Energy Development Corporation
ERC	–	Energy Regulatory Commission
FIT	–	feed-in-tariff
GHG	–	greenhouse gas
MW	–	megawatt
tCO_2e	–	tons of carbon dioxide equivalent
WTG	–	wind turbine generator

NOTES

(i) The fiscal year (FY) of EDC Burgos Wind Power Corporation ends on 31 December. "FY" before a calendar year denotes the year in which the fiscal year ends, e.g., FY2014 ends on 31 December 2014.

(ii) In this report, "$" refers to US dollars.

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I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan of up to $20,000,000 to EDC Burgos Wind Power Corporation (EBWPC) for the 150-Megawatt Burgos Wind Farm Project in the Philippines.[1]

II. THE PROJECT

A. Project Identification and Description

1. Project Identification

2. In 2010, greenhouse gas (GHG) emissions in the Philippines equaled 159 million tons of carbon dioxide equivalent (tCO_2e).[2] Electricity generation is the highest GHG-emitting sector, principally because of the country's reliance on highly polluting forms of energy, such as coal and petroleum. Studies by the Asian Development Bank (ADB) and the World Bank indicate that, under a business-as-usual scenario—in which half of installed capacity comprises coal-fired plants—annual GHG emissions from power generation will increase from less than 30 million tCO_2e in 2007 to about 140 million tCO_2e in 2030, an increase of over 400%.[3] Almost all the coal and petroleum required to run the power plants is imported, which exposes the country to price volatility and fuel shortages. The resulting uncertainty regarding the availability and cost of fuel makes it challenging to invest in job-creating energy-intensive industries (e.g., manufacturing).

3. The Philippines is a leader in deploying conventional renewable energy. It is the second-largest producer of geothermal energy globally; geothermal and hydropower combined contribute roughly 25% of the installed capacity in Luzon. To promote development of emerging renewable energy (wind, solar, biomass, and ocean sources), the Government of the Philippines signed into law the Renewable Energy Act in December 2008, with the objective of promoting energy self-reliance and reducing dependence on imported fossil fuels for electricity generation.[4] The Department of Energy (DOE) estimates that the country's untapped renewable energy potential from emerging renewable energy sources is about 250,000 megawatts (MW). The DOE is targeting about 2,870 MW of additional installed capacity from these sources by 2030.[5] To encourage investment in the sector, the Renewable Energy Act (i) provides fiscal incentives to emerging renewable energy projects;[6] (ii) requires distribution utilities, electricity cooperatives, and retail energy suppliers (collectively, "Collection Agents") to source a certain percentage of their fuel requirements from renewable energy sources; (iii) makes offtake agreements unnecessary, by stipulating that emerging renewable energy projects benefit from priority (a) connection to the transmission and distribution system, and (b) purchase and transmission of, and payment for, electricity sold through the grid; and (iv) provides that renewable energy projects would be eligible to receive a fixed tariff under a feed-in-tariff (FIT)

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[1] The design and monitoring framework is in Appendix 1.

[2] Senate Economic Planning Office. 2013. *GHG Emissions at a Glance*. Manila (March).

[3] ADB. 2009. *The Economics of Climate Change in Southeast Asia: A Regional Review*. Manila (April 2009); World Bank. 2009. *An Assessment of Low-Carbon Interventions in the Transport and Power Sectors in the Philippines.* Results from Asia Pacific Energy Research Centre. 2006. *Energy Demand and Supply Outlook 2006. Tokyo* also points to similar carbon dioxide emission trends.

[4] At the end of 2011, 49% of the Philippine's installed generating capacity was supplied by coal and oil, and just 1% by emerging renewable sources.

[5] National Renewable Energy Program.

[6] These incentives include (i) a 7-year income tax holiday, (ii) duty free importation of capital equipment, (iii) special realty tax rate, and (iv) 0% value-added tax.

system. However, since the Renewable Energy Act was passed, very little investment in renewable energy plants has been made due to delayed implementation of the FIT scheme. On 27 July 2012, the Energy Regulatory Commission (ERC) announced the FIT rates and installation targets for each type of renewable energy source. A tariff of P8.53 per kilowatt-hour was set for wind power, with an initial installation target of 200 MW.

4. Following passage of the Renewable Energy Act in 2008, ADB has been approached by renewable energy developers for potential financial support, including for the project. The following factors make the project a particularly attractive candidate for ADB support: (i) it has a strong sponsor with a successful track record of developing, financing, constructing, owning, and operating power-generation projects in the Philippines; (ii) based on wind mapping by the United States National Renewable Energy Laboratory, the areas with the highest potential for energy generation in the Philippines include the Ilocos region where the project is located[7]—the project will be the second wind farm in the country, with a capacity almost five times that of the 33 MW Bangui Bay wind farm; (iii) it will contribute to diversification of the Luzon Grid fuel mix, which currently relies heavily on imported fossil fuels; and (iv) it helps satisfy growing power demand without the use of fossil fuel-fired power plants, thereby avoiding an increase in GHG emissions commensurate with the increase in overall power generation.

2. Project Design

5. The components of the project are (i) installation of 50 3.0 MW wind turbine generators (WTGs) and ancillary plant equipment; (ii) construction of a 115-kilovolt transmission line, approximately 42 kilometers (km) in length; and (iii) construction of a substation in Burgos and the expansion of an existing substation in Laoag City, Ilocos Norte. Construction of the project was undertaken in two phases.[8] The project was commissioned in November 2014.

3. The Borrower and Sponsors

6. EBWPC is a special-purpose vehicle incorporated in the Philippines specifically to develop, construct, operate, and maintain a 150 MW grid-connected wind power plant in Burgos, Ilocos Norte. EBWPC is directly and wholly owned by EDC Wind Energy Holdings, a Philippines holding company created to hold all of the wind power projects of the Energy Development Corporation (EDC). EDC Wind Energy Holdings is a wholly owned subsidiary of EDC, which in turn is indirectly owned by the Lopez Holdings Corporation. EDC, a publicly listed company in the Philippines, is the largest geothermal energy producer in the country and also the largest integrated steam and geothermal power producer in the world. It operates eight geothermal steamfield projects that supply steam to 12 company-owned and subsidiary-owned geothermal power plants with an aggregate installed capacity of 1,164 MW. EDC also partially owns and operates two hydropower plants with a combined installed capacity of 132 MW.

[7] D. Eliot. 2000. *Philippines Wind Energy Resource Atlas Development*. Golden, Colorado: National Renewable Energy Laboratory.

[8] The first phase consists of the installation of 29 WTGs with a generation capacity of 87 MW, and the construction of the transmission line and substation. Phase 2 consists of the installation of an additional 21 WTGs with a generation capacity of 63 MW.

B. Development Impact, Outcome, and Outputs

1. Impact

7. The government is promoting the increased environmental sustainability of the country's energy mix by supporting alternative energy sources. The project supports this goal by reducing waste, GHG emissions, and air pollutants compared with a conventional power plant. Improved air quality and a smaller carbon footprint will provide healthier and more sustainable living conditions for the people of the Philippines.

8. The project will increase energy security and reduce exposure to commodity and exchange rate risk. This will help the country reduce its exposure to price volatility and the risk that fuel supplies will be unavailable, thereby improving the investment climate for capital-intensive industries that generate employment.

9. Furthermore, the project is located in a rural area that will benefit from additional income and employment resulting from the project's construction and operation. The project will prioritize the hiring of qualified local residents during construction and operation.

10. Finally, the DOE anticipates that there will be a generation shortfall in the Luzon Grid of about 200–450 MW by 2017.[9] This project will help mitigate the long-term power generation shortfall faced by Luzon consumers.

2. Outcome

11. The project outcome is demonstration of the feasibility and sustainability of large-scale private sector wind farms in the country under the new FIT regime, which will help the Philippines accelerate and expand private sector investment in renewable energy infrastructure. The project will also help to meet the government's target of 200 MW of wind power capacity.

3. Outputs

12. The output is the installation and operation of a 150 MW wind farm.

C. Alignment with ADB Strategy and Operations

1. Consistency with Strategy 2020 and Country Strategy

13. The project is consistent with ADB's Strategy 2020, which supports ADB's investment in infrastructure to meet growing energy demands in the region through renewable energy.[10] Under Strategy 2020, ADB infrastructure operations will promote a larger role for the private sector in infrastructure financing. This project, which is developed, owned, and operated entirely by the private sector, is consistent with that policy.

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[9] C. Petilla. 2013. *Management Association of the Philippines Speaker's Presentations.* Draft Supply–Demand Outlook 2013 to 2020. http://map.org.ph/attachments/article/283/PETILLA,%20CARLOS%20JERICHO%20L%20-%20Draft%20Supply-Demand%20Outlook%202013-2020.-%202Aug2013.pdf.

[10] ADB. 2008. *Strategy 2020: The Long-Term Strategic Framework of the Asian Development Bank, 2008–2020*. Manila.

14. ADB's country partnership strategy, 2011–2016 for the Philippines aims to help the country achieve high, inclusive, and sustainable growth.[11] The country partnership strategy supports infrastructure development, including development of renewable energy.

2. Consistency with the Energy Policy

15. The project is consistent with ADB's Energy Policy, which requires energy operations to be aligned with ADB's overall strategy, which emphasizes energy security, facilitating a transition to a low-carbon economy, universal access to energy, and achieving ADB's vision of a region free of poverty.[12]

III. THE PROPOSED ADB ASSISTANCE

A. The Assistance

16. The ADB assistance consists of a direct loan of up to $20 million, without a government guarantee. The direct loan will be provided from ADB's ordinary capital resources.

B. Value Added by ADB Assistance

17. ADB's support for the project is justified based on the following:

(i) ADB's long involvement in energy sector development in the Philippines[13] makes it a credible and effective facilitator of discussions related to the implementation of the country's FIT system. ADB is in a unique position to identify challenges to FIT system implementation, as faced by developers and other practitioners, and to communicate these through the public sector policy dialogue on the regulatory framework and sector management.

(ii) The international investment community is generally hesitant to invest in the country given its historically uncertain regulatory and political environment. ADB's involvement and strong relationship with the government will provide comfort to international investors, increase commercial bank participation, and help ensure the government's long-term commitment to the sector. International investors are important for the project because they can provide US dollar funding, which is needed to match the US dollar-linked component of the FIT.

(iii) The innovative financing structure of the project can be replicated by other private sector investors to finance the development and construction of renewable energy projects in the country.

IV. POLICY COMPLIANCE

A. Safeguards and Social Dimensions

18. In compliance with ADB's Safeguard Policy Statement (2009), the project is classified as category B for environment, category B for involuntary resettlement, and category C for

[11] ADB. 2011. *Country Partnership Strategy: Philippines, 2011-2016.* Manila.
[12] ADB. 2009. *Energy Policy.* Manila.
[13] ADB provided a loan and technical assistance to the Philippines to support ERC's ability to, among others, (i) respond efficiently and fairly to market issues and (ii) communicate clearly and effectively all regulatory matters to the public and to the various stakeholders. ADB. 2006. *Proposed Program Cluster Loan. Power Sector Development Program (Philippines).* Manila; and ADB. 2004. *Technical Assistance to the Republic of the Philippines for Institutional Strengthening of Energy Regulatory Commission and Privatization of National Power Corporation.* Manila.

indigenous peoples. The potential environmental and social impacts of the project have been identified and effective measures to avoid, minimize, mitigate, and compensate for the adverse impacts are incorporated in the safeguard reports and plans. These environmental impacts are generally site-specific, reversible, and mostly occur during the construction stage where mitigation measures can be readily designed and implemented. An initial environmental examination as well as an environmental management plan and monitoring program have been prepared. Because the project is already under construction, an environmental and social compliance audit was completed and appropriate measures to comply with ADB requirements were put in place. Information disclosure and consultations with affected people were conducted in accordance with ADB requirements. The institutional capacity and commitment of EBWPC to manage the project's social and environmental impacts are deemed adequate. EBWPC will regularly submit environmental safeguards monitoring reports, including reports on the progress in implementing corrective actions relating to social safeguards.

19. The climate change risk has been assessed, and measures to address the risk incorporated in the project design.

20. **Other social dimensions.** Based on the review and assessment of existing operations, human resource policies, and the current procedures for labor procurement and management, the audit confirms that EBWPC's policies conform to national labor laws and regulations on the protection of rights and the interests of women. EBWPC requires its contractors to engage local labor, including women. ADB will ensure that investment documentation includes provisions requiring the borrower to comply with national labor laws and to take specific measures (including in relation to contractors) in line with internationally recognized core labor standards and in compliance with ADB's social protection strategy.[14]

B. Anticorruption Policy

21. EBWPC was advised of ADB's policy of implementing best international practice relating to combating corruption, money laundering, and the financing of terrorism. ADB will ensure that the investment documentation includes appropriate provisions prohibiting corruption, money laundering, and the financing of terrorism, and remedies for ADB in the event of noncompliance.

C. Investment Limitations

22. The proposed ADB loan is within the medium-term, country, industry, group, and single-project exposure limits for nonsovereign investments.

D. Assurances

23. Consistent with the Agreement Establishing the Asian Development Bank,[15] the Government of the Philippines will be requested to confirm that it has no objection to the proposed assistance to EBWPC. ADB will enter into suitable finance documentation, in form and substance satisfactory to ADB, following approval of the proposed assistance by the ADB Board of Directors.

[14] ADB. 2003. *Social Protection*. Manila (adopted 2001).
[15] ADB. 1966. *Agreement Establishing the Asian Development Bank*. Manila.

V. RECOMMENDATION

24. I am satisfied that the proposed loan would comply with the Articles of Agreement of the Asian Development Bank (ADB) and recommend that the Board approve the loan of up to $20,000,000 to the EDC Burgos Wind Power Corporation for the 150-Megawatt Burgos Wind Farm Project in the Philippines from ADB's ordinary capital resources, with such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Takehiko Nakao
President

5 January 2015

DESIGN AND MONITORING FRAMEWORK

Design Summary	Performance Targets and/or Indicators with Baselines	Data Sources and/or Reporting Mechanisms	Assumptions and Risks
Impact Increased environmental sustainability of the country's energy mix.	200 MW of new wind power capacity by 2023, from 33 MW in 2013 At least three other private sector-owned utility-scale wind power generators installed by 2023, from only one wind farm in 2013	Statistics and information disclosed by the Department of Energy	**Assumptions** Stable and consistent regulatory policies for the renewable energy sector Increasing public support for the use of alternative sources of renewable energy Viable tariffs for wind power **Risk** Reversal of the Renewable Energy Law
Outcome Demonstrated commercial viability and sustainability of utility-scale private sector wind farm	Approximately 370 GWh of wind power delivered to the grid per year, on average, from 2015 (2012 baseline: 75 GWh per year)	EDC Burgos Wind Power Corporation annual technical reports and audited financial statements	**Assumption** Grid complying with its priority dispatch commitments **Risks** The government delays the implementation of the feed in tariff system. Lower-than-estimated wind resources over the operational life of the project
Outputs Installation and operation of 150 MW utility-scale wind power plant	150 MW wind power capacity commissioned by the first quarter of 2015 Satisfactory environment and social management system established	Regular monitoring reports	**Assumption** Effective project implementation **Risk** Construction delays

ADB = Asian Development Bank, GWh = gigawatt hour, MW = megawatt, US = United States.
Source: Asian Development Bank.