Report and Recommendation of the President to the Board of Directors

Project Number: 44928-01
October 2010

Proposed Loan
Jilin Wind Power Project
(People’s Republic of China)

In accordance with ADB's public communications policy (PCP, 2005), this abbreviated version of the RRP excludes confidential information and ADB's assessment of project or transaction risk as well as other information referred to in paragraph 126 of the PCP.
CURRENCY EQUIVALENTS
(as of 31 August 2010)

Currency Unit – yuan (CNY)
CNY1.00 = $0.14699
$1.00 = CNY6.803

Currency Unit – Hong Kong dollar (HK$)
HK$1.00 = $0.12855
$1.00 = HK$7.7792

ABBREVIATIONS

CWP – China WindPower Group Limited
CER – certified emission reduction
DSCR – debt service coverage ratio
EIA – environmental impact assessment
EIRR – economic internal rate of return
ESMS – environmental and social management system
GHG – greenhouse gas
NDRC – National Development & Reform Commission
O&M – operation and maintenance
PSOD – Private Sector Operations Department
PRC – People’s Republic of China
Q – quarter
\text{tCO}_2 – ton of carbon dioxide
TXWP – Tianjin Xiehe Wind Power Investment Company Limited
UNFCCC – United Nations Framework Convention on Climate Change
VAT – value-added tax
XWP – Xiehe Wind Power Limited

WEIGHTS AND MEASURES

GW – gigawatt (1,000,000 kilowatts)
GWh – gigawatt-hour
kW – kilowatt (1,000 watts)
kWh – kilowatt-hour
MW – megawatt (1,000,000 watts)
NOTES

(i) The fiscal year (FY) of the borrowers ends on 31 December. Financial results prior to FY2009 were published using a fiscal year ending on 31 March. FY before a calendar year denotes the year in which the fiscal year ends, e.g., FY2009 ends on 31 December 2009, and FY2008 ends on 31 March 2008.

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

| Vice-President | L. Venkatachalam, Private Sector and Cofinancing Operations |
| Director General | P. Erquiaga, Private Sector Operations Department (PSOD) |
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In preparing any country program or strategy, financing any project, or by making any designation of or reference to a particular territory or geographic area in this document, the Asian Development Bank does not intend to make any judgments as to the legal or other status of any territory or area.
I. THE PROPOSAL

1. I submit for your approval the following report and recommendation on a proposed loan comprising an A-loan of up to $120 million and a B-loan of up to $120 million to Tianjin Xiehe Wind Power Investment Company Limited (TXWP) and Xiehe Wind Power Limited (XWP) for the Jilin Wind Power Project in the People’s Republic of China (PRC). The design and monitoring framework is presented in Appendix 1.

II. BACKGROUND AND RATIONALE

A. Project Identification and Selection

2. In response to the PRC’s greater role in promoting low-carbon and sustainable development in the international community, clean energy has been a target area in business development in the PRC since 2006. The successful implementation of the first private sector wind power project of the Asian Development Bank (ADB) funded by local currency bonds\(^1\) generated considerable interest among sponsors of wind power projects and financial institutions, as lack of access to finance has been a bottleneck for wind power development. Persistent barriers to the financing of wind power projects include (i) the intermittence of wind energy, as availability depends on nature and cannot always be guaranteed; (ii) the large, front-loaded development and capital costs for wind power projects, requiring loans with longer maturity than is available in the commercial market; and (iii) the small scale of most wind projects, making transaction costs for project finance disproportionately high.

3. CWP has invested in 22 wind power plants with a total capacity of 1.2 gigawatts (GW) and has secured development rights for up to 1.3 GW in Jilin Province. Under project approvals from the government, CWP is responsible for seeking financing to cover the entire costs of its new projects. Lack of access to flexible financial packages has impeded the company's project development, particularly in Jilin, where private sector wind development has lagged. CWP thus requested ADB to take the lead in arranging the financing package for multiple projects, relying on ADB’s structuring skill. Through due diligence, ADB determined that the proposed project supports ADB’s strategies regarding environmental sustainability, inclusive growth, financial and technical feasibility, potential for carbon reduction, and demonstration impact.

B. Sector Background

1. Wind Power in the PRC

4. The PRC is Asia’s largest consumer of energy and ranked second in the world as an energy consumer. By 2015, the PRC’s energy sector will need investments of $50 billion–$70 billion per annum, more than double past rates of investment. Coal has historically been the fuel of choice, as abundant reserves exist throughout the country. Three-quarters of electricity and 69% of primary energy is derived from burning coal. The heavy use of coal can cause severe local impacts such as resource depletion, environmental deterioration, and pollution-related health effects. Sulfur dioxide emissions—70% of which are from coal burning—cause acid rain on about one-third of the country's landmass. Greenhouse gas emissions—80% of which are from coal burning—outstrip those of other countries and are seen as a global environmental issue.

5. The PRC has a total exploitable wind energy reserve of 4,350 GW, one of the world’s largest. Of this, 1,000 GW onshore and 200 GW offshore can be commercially developed with existing technologies. Over one-quarter of the PRC’s land area has been classified as “wind rich” or “relatively wind rich” by official meteorological surveys. The richest wind resources are in the north and in southeastern coastal areas. Nevertheless, wind power still has an insignificant share in the nation’s overall power mix, accounting for only 3% of generation capacity and a meager 1.5% of total electricity output in 2009.

6. The government has committed to reducing greenhouse gas emissions and acted to change the country’s pattern of energy use to better balance economic growth and environmental protection. This commitment is reflected in the Medium- and Long-Term Development Plan for Renewable Energy in China, promulgated in August 2007, in which one of the most prominent targets is to increase renewable energy’s share of electricity generation to 15% by 2020.\(^2\) In December 2009, the government announced plans to cut carbon intensity (carbon dioxide emissions per unit of economic output), targeting a 40%–45% reduction from 2005 levels by 2020. Given the expected long-term growth in PRC energy demand, major cuts in carbon intensity require a significant expansion of lower-carbon energy technologies such as wind.

7. National targets for wind power capacity in the Medium- and Long-term Development Plan for Renewable Energy in China were originally 5 GW by 2010 and 30 GW by 2020. The goal for 2010 was achieved 3 years early in 2007 and was thus lifted to 10 GW. As of 2009, the China Electricity Council estimated that total installed wind power capacity has reached 21 GW. The government now aims to install 150 GW of wind power by 2020, meaning that 12 GW of wind power needs to be installed per year on average for 10 years between 2011 and 2020.

2. Regulatory Framework

8. Since the early 2000s, the government has instituted a series of renewable energy policies toward rural development, industrial development, environmental protection, and energy security goals. As a whole, these policies (i) clarify the strategic objective of renewable energy development, (ii) remove market barriers, (iii) help to create a social and cultural environment conducive to renewable energy development, and (v) promote the commercialization and development of renewable energy.

9. The Renewable Energy Law, 2005 and amended in 2009 stipulates financial incentives for renewable energy projects, reduces risks for project developers by mandating power grid interconnection and full power off-take, and provides guaranteed minimum prices for certain types of renewable energy. For wind power projects approved by the government, the Renewable Energy Law requires that (i) the grid utility be responsible for the timely construction of transmission lines to connect the wind farms to the nearest grid; (ii) the grid utility purchase all the electricity generated by the wind farms; (iii) the tariff for uploading electricity to the power grid be determined through a nationwide concession bidding process, taking into consideration power generation costs, loan repayments, and a reasonable profit; (iv) the gap between the wind electricity tariff and the average electricity tariff be shared across the whole power grid through a levy on each kilowatt-hour of electricity sold to the end users.

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10. In July 2009, the government further adopted fixed feed-in tariffs for new onshore wind power farms, replacing the previous competitive bidding process, which put private wind power developers at a disadvantage vis-à-vis the large state-owned power generation companies. This tariff reform significantly enhances transparency and efficiency in tariff determination, removes procedural uncertainties, and fosters the confidence of project sponsors and finance providers. All feed-in tariffs are set at a uniform level by region, determined by that region’s wind resources.

3. Private Sector Participation

11. While PRC wind projects have a wide range of developers, the dominant players are large state-owned conventional power generation companies. The 10 largest developers, which together controlled 76% of installed wind capacity in 2009, include Guodian (18.8% of installed wind capacity), Datang (12.6%), Huaneng (11.9%), Huadian (8.9%), and China Power Investment (2.3%). For these companies, the motivation to develop wind projects stems in part from quota regulations requiring 3% of capacity from renewable sources by 2010 and 8% by 2020. As a result, many wind projects in the PRC have been developed with low margins that are cross-subsidized by other assets or with relatively low utilization, as renewable energy quotas are based on installed capacity, not power generated. Further private sector participation, which has been insignificant so far, is expected to improve operational efficiency and play an important role in achieving the government’s goal of 150 GW of installed wind power capacity by 2020.

12. Financing has been a key constraint on private wind developers’ scaling up operations. For domestic loans, local banks typically prefer to lend to large state-owned firms employing conventional power generation technologies, and are averse to lending to emerging private sector alternative energy companies. Private companies also have difficulty tapping the enterprise bond market, as bond issuance in the PRC is time-consuming, complicated, and subject to various approvals. Private renewable energy developers are increasingly forced to tap other, more expensive forms of financing such as equity and trusts. As a further complication, project companies are typically required to commence the construction of a wind project within a relatively short period after the award of development rights.

4. Jilin Province

13. Jilin Province offers strong potential as a base for developing wind power. Affected by Siberian cold fronts and high atmospheric pressure in Mongolia, the province’s wind resources are among the best in the PRC, especially in the western areas of the province bordering Inner Mongolia. Jilin has implemented a low-carbon development strategy, provincial emissions reduction targets, renewable energy utilization targets, and environmental dispatch practices. The province has put in place for 2020 a wind capacity target of 20 GW, an almost tenfold increase from the 2009 installed base of 2.1 GW. Nonetheless, wind investment from the private sector is lagging; the five largest state-owned generators account for nearly 70% of wind installations. Jilin’s 2010–2020 economic plan notes the contribution that private sector investment can make toward achieving clean energy goals.  

3 The medium- and long-term renewable energy development plan requires power companies with installed capacity above 5 GW to have non-hydro renewable energy account for at least 3% of capacity by 2010 and 8% by 2020.

Jilin is one of the poorest provinces in the northern PRC. Per capita income in Jilin in 2008 was CNY23,514, on par with that of neighboring Heilongjiang (CNY21,727) but significantly below those of Inner Mongolia (CNY32,214) and Liaoning (CNY31,259), and far below those of the PRC’s wealthier areas such as Beijing (CNY63,029) and Shanghai (CNY73,124). Traditionally a center of heavy industry, Jilin remains reliant on large state-owned manufacturing: state-owned firms’ output was more than double that of private firms in 2008, and their fixed investment more than 4 times greater. Foreign investment was $17.5 billion in 2008, or 0.8% of the PRC total, which was well below the province’s 2.1% share of national GDP. Remote areas of the province, such as those targeted for wind site development, are underdeveloped in terms of industry, with local communities relying on herding and farming.

C. Alignment with ADB Strategy and Operations

1. Consistency with Strategy 2020

Strategy 2020 emphasizes support for achieving poverty reduction and inclusive growth through environmentally sustainable development and private sector development. The project is consistent with the strategy, which identifies infrastructure and environment as two of the five core areas in which ADB will employ its financial and institutional resources to maximize results, efficiency, and impact. In terms of infrastructure, specifically energy, the project will embody the strategy, which sets forth that ADB will (i) help expand the supply of energy and (ii) support clean energy. With respect to the environment, the project is in line with the strategy’s focus on (i) climate change, (ii) livable cities, and (iii) complementary actions. The strategy also aims to promote a larger role for the private sector in financing infrastructure by supporting public–private partnership.

2. Consistency with the Country Strategy

ADB’s PRC country partnership strategy is based on four development pillars: (i) inclusive growth and balanced development, (ii) resource efficiency and environmental sustainability, (iii) regional cooperation and public goods, and (iv) an environment conducive to private sector development. The project reinforces each of these pillars, with particular support to pillars (ii), (iii), and (iv), and will be integral to ADB’s ongoing efforts to help improve the use of renewable and clean energy in the PRC.

The PRC has been steadily turning to development that is market oriented and led by the private sector, which has become the driving force of economic growth and job creation. ADB’s private sector operations in the PRC have focused on infrastructure, energy, finance, and environmental improvement, building on ADB’s public sector policy advice to the government on private sector development. Regarding infrastructure and energy, ADB prioritizes pioneering projects with innovative contractual and financial structuring to encourage private sector participation, enhance management expertise, and improve corporate governance. As agreed with the government, ADB’s private sector operations focus on viable projects located in less-developed regions and explore the possibility of loans funded by ADB’s yuan-denominated bonds. As a financially strong project focused mainly on relatively underdeveloped areas of Jilin,

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5 Gross industrial output was CNY406.4 billion for state-owned firms and CNY181 billion for private firms.
and with an option to be partly funded through a yuan loan, the project is consistent with these aims.

3. **Consistency with the Energy Policy**

18. ADB’s Energy Policy\(^9\) requires energy operations to be aligned with ADB’s overall strategy emphasizing 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. The policy requires ADB to help developing member countries provide reliable, adequate, and affordable energy for inclusive growth in a socially, economically, and environmentally sustainable way. It sets out three pillars for policy implementation: (i) promoting energy efficiency and renewable energy; (ii) maximizing access to energy for all; and (iii) promoting energy sector reform, capacity building, and governance. The proposed project is in line with the policy, as the further development of wind power will enhance access to clean energy.

### III. THE PROJECT

#### A. Project Description

19. The project will support CWP in building a series of wind farms in Jilin and other provinces in the northern PRC where private sector participation is limited and abundant wind resources are underutilized.

20. CWP will utilize the ADB assistance to fund, through TXWP and XWP, a series of wind farm projects with total production capacity of up to 800 MW by 2013. The portfolio approach, broad in reach, will enable ADB to provide financing support for multiple wind farm projects that are often too small and time-consuming for ADB or international banks to finance on a stand-alone basis.

1. **The Sponsor**

21. CWP, the sponsor, is a private company specializing in wind power operations in the PRC. Following the government’s policy to encourage private sector investment in wind power, CWP was founded by a team of senior managers with strong experience in wind power in the PRC and a good reputation. CWP has grown rapidly to establish itself as a leading private company in the PRC wind industry. It was listed on the Hong Kong Stock Exchange in July 2007 and is currently 44.6% owned by public shareholders.

22. CWP is organized into two main business groups: (i) wind project engineering, procurement, and construction management and (ii) wind farm project investment. The engineering, procurement, and construction management group includes one of the largest units for manufacturing wind power tubes in the PRC, as well as units providing service and expertise in wind project design, including wind resource assessment, feasibility studies, and engineering design.

23. CWP has invested in 22 wind farms with aggregate capacity of 1.2 GW and has secured development rights for 1.3 GW in Jilin. This substantial pipeline allows CWP to select projects based on favorable grid conditions and other factors, facilitating stable and fast development.

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2. The Borrowers

24. XWP and XWP, wholly owned subsidiaries of CWP, are holding companies for CWP’s wind farm operations. TXWP is registered as a foreign-invested enterprise and has dual currency, US dollar–yuan borrowing capacity, while XWP is registered as a PRC enterprise and can borrow only in yuan.

3. Project Design

25. The project is designed to be a least-cost solution to financing medium-sized wind power projects, which involves relatively high transaction costs for financing. ADB and CWP aim to finance a series of wind farm projects on a portfolio basis to reduce financing transaction costs and diversify the wind resource risk.

26. To ensure long-term environmentally sustainable growth and set standards in the fast-growing wind industry, the proposed ADB assistance will incorporate loan conditionality, such as wind data assessment methodologies, the maintenance of a transparent corporate governance structure, transparent and competitive procurement practices, and the maintenance of an environmental and social management system consistent with ADB safeguards policy. These components of the project enhance its demonstration effects, serving as best-practice examples to CWP’s peers in the industry.

4. Project Outputs and Outcome

27. The project outputs are the installation and operation at designed performance levels of up to 800 MW of wind power generating facilities, in Jilin and/or other locations in the PRC, that comply with ADB safeguards and technical and financial eligibility criteria. The project's expected outcome is the efficient provision of clean power through increased private sector participation. The design and monitoring framework is in Appendix 1.

B. Development Impact

1. Contribution to Economic Growth and Poverty Reduction

28. The project directly supports environmentally sustainable development in Jilin, one of the poorest provinces in northern PRC, by providing needed electricity. Additional benefits will accrue from the project’s benign environmental impact, such as air quality improvements and climate change mitigation. In this way, the project will contribute meaningfully to the government’s plans to achieve by 2020 (i) 150 GW of wind power capacity installed, (ii) a 15% share of energy supply provided by renewable sources, and (iii) a reduction of carbon intensity (greenhouse gas emissions per unit of GDP) of 40–45% from 2005 levels.

2. Private Sector Development

29. The project supports the government’s strategy of encouraging private sector participation in wind power, which is currently dominated by state-owned conventional power generation companies. Wind farms financed by the project will be some of the few PRC wind projects majority owned by the private sector. Specifically for Jilin, the capacity additions by the private sector will contribute to the province’s 2010–2020 economic plan. The inclusion of best-practice corporate governance conditions in ADB’s loan will strengthen management standards in wind power. In addition, the project’s B-loan will facilitate international lending to the PRC
wind subsector, helping to address the constraints private developers face in securing private sector financing.

3. Economic Sustainability

30. The economic benefits are significant and include (i) the value of electricity generated, (ii) reductions in greenhouse gas emissions, and (iii) unquantified reductions in other emissions. The expected economic internal rate of return is 19%.

C. Environment and Social Dimensions

1. Environment

31. The project is category B under ADB’s Safeguard Policy Statement (2009), as its anticipated environmental impacts are insignificant or temporary. Typically, wind power projects entail small civil works on small parcels of land for the wind turbine towers, maintenance roads, transmission line towers, and a substation. The siting of turbine towers is flexible and can avoid ecologically sensitive areas. Maintenance access roads, transmission line towers, and substations may require the removal of some vegetation but will be within limited corridors, with minimal ecological impact anticipated. An environmental impact assessment (EIA) is normally required in the PRC for a future subproject and will be prepared and submitted to ADB in accordance with the corporate environmental and social management system (ESMS) detailed in para. 34 and the Safeguard Policy Statement.

32. The potential noise and visual impacts are considered insignificant given the distance of turbine towers from the nearest settlements in typical wind projects. During construction, environmental impacts such as land disturbance, vegetation clearance, erosion and sedimentation, construction noise and traffic, and waste generation are temporary and can be managed properly by the good engineering practices stipulated under each subproject’s EIA and environmental management plan.

33. The project is expected to displace 638,000 tons of standard coal utilization per annum and annually avoid 1.6 million tons of carbon dioxide. The project will help reduce emissions in carbon monoxide, nitrogen dioxide, smoke and dust, and furnace waste.

34. Environmental and social management system. In accordance with safeguard requirement 4 in ADB’s Safeguard Policy Statement, covering corporate finance, an audit of CWP’s environmental and social management system was conducted with respect to its performance on existing wind power projects. CWP recently created its Social Responsibility and Environmental Protection Department to manage the environmental and social aspects of CWP’s operations. Each plant covered by the audit has its own environmental, health, and safety system. Environmental and social assessment of CWP projects is normally contracted out to consultants as part of the processes of feasibility and environmental impact assessment. To comply with ADB’s safeguard requirements, CWP will adopt an ESMS prior to the first disbursement. CWP will ensure that its wind farm investment vehicles, TXWP and XWP, comply with all safeguard requirements in respect of any wind farm project using ADB funds.

2. Social Dimensions

35. Social safeguards. The project is category B for involuntary resettlement in accordance with the Safeguard Policy Statement. A typical wind power plant requires small parcels of land
for the wind towers, maintenance roads, transmission line towers, and a substation. Land acquisition for two existing wind farms was undertaken in accordance with national and provincial regulations. The compensation rates paid were above the established compensation rate for unused land. The siting of wind towers is flexible and can avoid affecting cultivated land and structures. In some cases, maintenance access roads, transmission line towers, and substations may occupy or abut lands classified as agricultural, or affect crops and trees. Limited involuntary resettlement is expected. Resettlement plans, if required for future subprojects, will be prepared and submitted to ADB in accordance with the corporate ESMS and safeguard requirement 2.

36. The project is category C for indigenous peoples in accordance with the Safeguard Policy Statement. Wind power projects are generally located on idle and barren land remote from local populations. Future subprojects to be funded under this corporate loan are expected to be sited in similar locations. In the unlikely event that future subprojects affect indigenous peoples, the corporate ESMS to be established by CWP will require TXWP and XWP to prepare indigenous peoples plans in accordance with safeguard requirement 3.

37. **Gender, labor, and working conditions.** CWP upholds gender equality and provides equal employment opportunities for men and women during project design, construction supervision, and plant operation. In the two plants visited during due diligence, about half of the employees are women. The construction and operation of wind power generating facilities are not expected to have any specific cultural or social impacts on any socioeconomic group, including women, or exclude them from benefiting from the project. Gender issues will be carefully considered during the design of future subprojects.

38. CWP currently has about 1,000 permanent employees and is expected to hire more employees as its operations grow. During construction at a project site, 200–300 workers are typically expected to be engaged, and during the O&M phase 25–30 people are employed. It is expected that most of the workers will be from nearby districts. CWP has human resource policies and procedures covering recruitment, induction, rewards, disciplinary procedures, and labor contract management. The policies and procedures were formulated in consultation with employees and are communicated to all new employees during induction. CWP will ensure that contractors’ contracts include provisions covering core labor standards. The ESMS will include requirements to monitor the working conditions of workers employed by contractors to ensure compliance with national labor laws and regulations.

39. **Stakeholder engagement.** The ESMS will include requirements for TXWP and XWP to conduct meaningful consultations during project design, construction, and operation and to have ongoing procedures for receiving, documenting, and responding to community and other stakeholders’ interests, information requests, and grievances. CWP, through TXWP and XWP, will develop and implement appropriate community development programs and corporate social responsibility initiatives in consultation with affected and nearby communities. These activities will be monitored by CWP’s Social Responsibility and Environmental Protection Department.

D. **Project Cost and Financing Plan**

40. Project costs are estimated to be CNY5.8 billion ($853 million equivalent) during 2011–2013, including the costs of acquiring turbines, tower tubes, and electrical equipment, as well as other installation expenses. ADB’s loan will fund part of the investment plan. The remainder of funding needs is expected to be met through (i) equity investments (ii) debt financing from commercial banks, and (iii) internally generated cash flow from CWP’s operations.
E. Implementation Arrangements

1. Project Development

41. CWP, operating through TXWP and XWP, will control project development and financing arrangements. It will set up subproject companies to construct, own, and operate the various wind farms. This will enable CWP to respond to local market conditions effectively and efficiently, particularly with regard to issues arising from the quality of construction, management and operational policy, budget, financial and accounting procedures, and grid connectivity.

2. Anticorruption Policy

42. CWP, TXWP, and XWP were advised of ADB’s Anticorruption Policy (1998, as amended to date) and Policy on Combating Money Laundering and the Financing of Terrorism (2003). Consistent with its commitment to good governance, accountability, and transparency, ADB will require CWP, TXWP, and XWP to institute, maintain, and comply with internal procedures and controls following international best practice standards for the purpose of preventing corruption or money laundering activities or the financing of terrorism and covenant with ADB to refrain from engaging in such activities. The loan documentation between ADB and CWP, TXWP, and XWP will further allow ADB to investigate any violation or potential violation of these undertakings.

3. Project Performance Monitoring, Reporting and Evaluation

43. During project implementation, ADB will receive reports regularly on project financial and operational indicators, as well as other information to be agreed between ADB and CWP. Reporting will include (i) the financial statements of CWP; (ii) calculations and compliance certificates of the financial covenants; (iii) the business plans of CWP, TXWP, and XWP; (iv) reports on the progress and costs of wind farm construction; (v) the amount of power and certified emission reductions sold; and (vi) O&M and other administrative costs. ADB will conduct annual reviews to monitor environmental and social safeguard compliance, credit assessments of projects, and a review of development impacts, among other things.

IV. THE PROPOSED ADB ASSISTANCE

A. The Assistance

1. Loan

44. ADB’s proposed loan to TXWP and XWP will have two components: (i) a dual currency, US dollar–yuan direct loan (A-loan) in aggregate of up to $120 million equivalent funded by ADB and (ii) a B-loan of up to $120 million funded by commercial banks. The A-loan will carry an interest rate and commitment and front-end fees as approved by ADB’s Investment Committee.

45. The B-loan of up to $120 million will have a maturity equal to or shorter than that of the A-loan and be on terms and conditions agreed by the borrowers and participating banks. B-loan syndication will be undertaken on a best efforts basis.
46. The loan will be without guarantee from the government. During the life of the loan, TXWP, XWP, and CWP will be bound by financial and operational covenants stipulated in the loan agreement, including regular financial and operational monitoring reports and requirements to meet minimum financial ratios.

B. Justification for ADB Assistance

47. ADB’s assistance for the project is justified by its development impacts and demonstration effects. It will support the government’s development plan and ADB’s operational strategies. ADB’s participation in the project will add substantial value in the following ways:

   (i) Despite the considerable investment in wind power in the PRC during 2007–2009, the subsector has been dominated by major state-owned generation companies. The growth of private wind companies has been constrained by difficulties in raising financing for projects, particularly in provinces such as Jilin where private sector development has lagged. The project features a strong model for addressing disproportionately high transaction costs of medium- and small-sized wind power project finance. As a multi-project financing structure, the project will enable ADB to extend its reach to multiple smaller wind power subprojects that are difficult to assist directly. ADB assistance is essential for holding companies’ development of multiple projects, and it will play a catalytic role in mobilizing other commercial financing.

   (ii) ADB’s conditionalities such as more transparent corporate governance, open procurement systems, and environmental management ensure the long-term sustainable growth of CWP and set early standards in this growing industry.

   (iii) The presence of ADB reaffirms CWP’s long-term strategic commitment to the PRC wind subsector and encourages the government to continue support for subprojects throughout their life. ADB’s participation in the project is expected to instill confidence for future private sector participation in and financing of wind power projects in the PRC.

C. Assurances

48. Consistent with the Agreement Establishing the Asian Development Bank, the government has been requested to confirm that it has no objection to the proposed assistance to TXWP and XWP. No funding will be disbursed until ADB receives such confirmation. ADB will enter into suitable finance documentation, in form and substance acceptable to ADB, following the approval of the proposed financing by ADB’s Board of Directors.

V. RECOMMENDATION

49. 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 to Tianjin Xiehe Wind Power Investment Company Limited (TXWP) and Xiehe Wind Power Limited (XWP) for the Jilin Wind Power Project in the People’s Republic of China, consisting of:

   (a) an A-loan denominated in US dollar–yuan dual currency, in an aggregate amount of up to $120,000,000 equivalent, from ADB’s ordinary capital resources; and

   (b) a B-loan in an amount of up to $120,000,000, to be funded by commercial banks, on such terms and conditions as are substantially in accordance with those set forth in this report, and as may be reported to the Board.

Haruhiko Kuroda
President

25 October 2010
## DESIGN AND MONITORING FRAMEWORK

<table>
<thead>
<tr>
<th>Design Summary</th>
<th>Performance Targets and/or Indicators</th>
<th>Data Sources and/or Reporting Mechanisms</th>
<th>Assumptions and Risks</th>
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<tbody>
<tr>
<td><strong>Impacts</strong></td>
<td>150 GW of wind power capacity installed by 2020&lt;br&gt;15% of energy supply from renewable sources by 2020&lt;br&gt;GHG emissions per unit of GDP in 2020 40%–45% below 2005 levels&lt;br&gt;Private sector wind farms account for 40% of incremental wind capacity during 2010–2020 in Jilin and other target provinces</td>
<td>Reports of the International Energy Agency&lt;br&gt;China Energy Statistics yearbooks published by the PRC’s National Bureau of Statistics&lt;br&gt;Official estimates of GHG emissions as reported to the UNFCCC&lt;br&gt;Wind farm statistics from China Wind Energy Association&lt;br&gt;Provincial-level generation and dispatch data from the State Grid Corporation</td>
<td><strong>Assumptions</strong>&lt;br&gt;The government upholds its commitment to wind energy development, resource conservation, and environmental protection.&lt;br&gt;Policies to encourage private sector wind projects remain in place&lt;br&gt;Continued macroeconomic and political stability</td>
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<tr>
<td><strong>Outcome</strong></td>
<td>Annual production of 1,820 GWh of clean energy from 2012&lt;br&gt;Calculated levels of abated GHG emissions above 1.6 million tons carbon dioxide equivalent per year from 2012</td>
<td>CWP project-level data on availability, generation, O&amp;M, and revenues&lt;br&gt;Project monitoring reports</td>
<td><strong>Assumptions</strong>&lt;br&gt;Policies to support wind power remain in place&lt;br&gt;<strong>Risk</strong>&lt;br&gt;Insufficient finance for private sector sponsors</td>
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<tr>
<td><strong>Outputs</strong></td>
<td>800 MW of generation capacity installed by 2012&lt;br&gt;Wind farms in which the company invests are fully compliant with ADB’s Safeguard Policy Statement&lt;br&gt;An ESMS is established and implemented by the end of 2011</td>
<td>Project monitoring reports&lt;br&gt;CWP project-level data on availability, generation, O&amp;M, and revenues&lt;br&gt;An ESMS document satisfactory to ADB is approved by the company and submitted to ADB before disbursement for the first</td>
<td><strong>Assumptions</strong>&lt;br&gt;Planned subprojects meet technical criteria for procurement, wind resources, equipment adequacy, grid connection, and operations plan&lt;br&gt;Satisfactory performance by construction and O&amp;M contractors&lt;br&gt;Smooth, timely, and adequate connection with the power grid</td>
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<tr>
<td>Design Summary</td>
<td>Performance Targets and/or Indicators</td>
<td>Data Sources and/or Reporting Mechanisms</td>
<td>Assumptions and Risks</td>
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<td>Locally purchased goods and services amount to CNY5,800 million by the end of 2013</td>
<td>subproject Environment and social safeguard documents Annual environmental and social performance monitoring reports</td>
<td>Risks</td>
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<td>Project schedule or cost overruns due to equipment or materials constraints, or approval delays Grid availability lower than expected Wind conditions below forecast levels</td>
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<td>ADB Up to $120 million equivalent in US dollar–yuan loan Cofinancing Up to $120 million</td>
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