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Att: CDM Executive Board

Your ref.:  
 CDM Ref: 2053

Our ref.:  
 JD/WENBO/BRINKS

Date:  
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## Response to requests for review of the project “Inner Mongolia Siziwangqi Bayin’aobao Wind Power Project” (CDM Reference No. 2053)

Dear Members of the CDM Executive Board,

We refer to the issue raised by the requests for review by three Board members regarding project activity “Inner Mongolia Siziwangqi Bayin’aobao Wind Power Project” (UNFCCC reference number 2053) and would like to provide following initial responses to the issue raised.

### **Questions:**

*Issue 1: Further clarification is required on how the DOE has validated the appropriateness of the investment analysis, in particular:*

*a) the basis for the assumed tariff, taking into account that all input data for IRR calculations are sourced from the FSR, approved February 28, 2007, and showing a tariff of 0.5597 RMB/kWh, resulting in an IRR of 8.33%, which is above the benchmark. The actually used input data for the IRR calculation however is the tariff of 0.51 RMB/kWh, which is lower than the one considered in the FSR and was taken from the Propositional Letter on the Expected Grid Electricity Tariff, issued on 20 April 2007, only two months later. The lower electricity tariff was the basis to apply CDM.*

*b) the basis for the assumed tariff in the FSR and whether the change in tariff is not considered to be an E+ policy, according to EB 22, Annex 3, para. 6;*

*c) the IRR calculation, as replication of the calculations in the spreadsheet provided indicates that applying the tariff used in the FSR yields an IRR that is different IRR from what was obtained in the same document.*

### **DNV Response:**

The feasibility study report (FSR) for the project was prepared in August 2006 by a third party named Zhongshui Beifang Reconnaissance Design and Research Co., Ltd, which is accredited directly by National Construction Ministry. The FSR was later approved by Inner Mongolia Development and Reform Commission on 28 February 2007 (DRC), which is the authorized local government. Therefore DNV regards the data in the FSR as a reliable source.

DNV verified all the input values used for the IRR calculations during the validation process, and was able to confirm that most of the input values like total investment, operational lifetime, annual O&M expenses, installed capacity and estimated PLF/annual electricity generation, rate of residual life of the assets, taxes etc were sourced from the FSR. And the FSR and IRR calculations were reasonable and conservative.

a) The tariff assumed in FSR (0.5597 RMB/kWh, incl.VAT) is a price estimate from the FSR designer based on the local economic development, national regulations and the specific circumstances of the proposed project. However, the electricity tariff in China for renewable energies such as wind power is regulated according to the “notice on tariff determination method” (NDRC2005, No.514), by the government tariff bureau, the regulation is in respect of market principle covering the cost and ensuring a certain level of profit. Therefore, the final/actual tariff of a project is defined *ex-post* when considering the circumstance of local and central government policy, economic situation and consumption status. The project participants have to adapt to the tariff they achieve and decide to go ahead with the project or not.

The timeline for the selection of the electricity tariff is as follows:

- August 2006: the FSR was developed by a third party, Zhongshui Beifang Reconnaissance, Design and Research Co., Ltd, which is accredited directly by National Construction Ministry. The FSR indicates a tariff of 0.5597 RMB/kWh (incl. VAT).
- February 2007: The FSR approval letter dated 28 February 2007 for Inner Mongolia Bayannaer Chuanjingsumu Wind Power Project was issued by the Development and Reform Commission of Inner Mongolia.
- April 2007: Letter from the local DRC, dated 20 April 2007, proposes a reduced electricity of 0.51 RMB/kWh (incl.VAT).
- 19 July 2007: Project starting date

The tariff from the local DRC should be regarded as the fundamental basis of approval tariff for the proposed project. The project developer therefore adjusted the tariff accordingly.

The IRR calculations were provided in a spreadsheet. The calculations were verified and found to be correct and in accordance with the EB’s latest guidance on the assessment of financial calculations (EB38 - EB41). The assumptions used in the calculations were confirmed correct by DNV. The project-IRR without CDM revenues is 6.99%, which confirms that the project in the absence of CDM benefits is not financially attractive comparing with the benchmark of 8%. With CER revenues the project IRR increases to 10.12%, which is above the benchmark.

b) The basis for tariff assumed in the FSR is clarified as above a) responses.

According to EB 22, Annex 3, para. 6:

*‘National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels’.*

Therefore, the type E+ policy would result in increase in GHG emissions.

The change of the assumed tariff (0.5597 RMB/kWh) in the FSR into a realistic tariff of 0.51 RMB/kWh does not contradict the Chinese policy in favour of renewable energy industry. DNV

has verified the tariff of thermal power plants as levelised 0.2659 RMB/kWh (incl. VAT)<sup>1</sup> in Inner Mongolia Autonomous Region; and ascertained that tariff of renewable energies are composed of two parts: 1) levelised price of thermal power; and 2) the subsidy above levelised 0.2659 RMB/kWh from central government. The reduction from assumed 0.5597 RMB/kWh to realistic 0.51 RMB/kWh (still above the levelised tariff of thermal of 0.2659 RMB/kWh) falls into subsidy range. The conclusion is that those subsidies still pertain to the renewable energies such as wind projects to be supported by national and/or sectoral policies or regulations. E+ policy is therefore not considered relevant in this context.

c) Taking the tariff of 0.5597 RMB/kWh as input to replicate the calculations in the spreadsheet provided, the IRR is 8.41%, not the claimed 8.33% documented in FSR dated August 2006. DNV was able to confirm that difference is solely brought up due to exclusion of loan repayment and loan interest as required by project IRR calculation according to EB41 Annex 45 paragraph 9.

**Comments:**

**Issue 2: The DOE should further clarify how it has validated the suitability of the total investment assumed, i.e., whether it was checked against actual invoices or the equipment purchase contract.**

**DNV Response:**

Assessment of additionality is based on the available values and reasonable expectations at the time of decision. Actual costs after the project starting date is therefore only for use as additional crosscheck, e.g. sensitivity analysis, as these values will not influence the decision process that has already been completed.

In this case, the investment cost including equipment cost, installation cost and construction cost and other cost is calculated in the FSR based on the Power Project Construction Cost Budget Combination and Calculation Criterion [(2002) 16] issued by National Economic and Trade Commission. The value of total static investment in the FSR is 438.43 million RMB, which is approved by local DRC on 28 February 2007.

Since the wind turbine and pylon purchasing contract and foundation construction and installation contract were signed at the time of validation, these investment costs were cross-checked by DNV regarding wind turbine and pylons cost in order to compare and assess the variation of the value in the FSR. Except for the wind turbine cost, the contracts were signed significantly after the starting date of 19 July 2007 and did likely not have any influence the decision process.

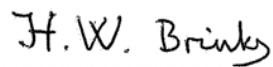
- 1) The wind turbine cost in the FSR is assumed to be 292.05 million RMB, the actual cost is 314.5155 million RMB according to the wind turbine purchasing contract signed on 23 July 2007.
- 2) The wind turbine pylon cost in the FSR is assumed to be 52.272 million RMB, the actual cost is 55.64 million RMB based on the wind turbine pylon purchasing contract signed on 10 October 2007.
- 3) The wind turbine foundation construction cost assumed in the FSR is 9.8732 million RMB, which is less than the actual cost of 14.8853 million RMB according to the construction contract of wind turbine foundation signed on 29 February 2008.
- 4) The installation work cost assumed in the FSR is 2.64 million RMB, which is less than the actual cost of 5.2141 million RMB according to the installation contract signed in March 2008.

<sup>1</sup> Notice on Tariff adjustment issued by NDRC in 2006

Therefore, it demonstrates that the actual investment cost regarding the wind turbines, pylons and installation and construction has increased comparing the relevant values assumed in the FSR. DNV has verified all the above documents. It is therefore in DNV's opinion that the investment cost assumed in the FSR is reasonable and conservative for financial analysis.

We sincerely hope that the Board find our elaboration on the above satisfactory.

Yours faithfully  
for DET NORSKE VERITAS CERTIFICATION AS



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