

UNFCCC Secretariat  
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**Response to the request for review for the CDM project activity**  
**“Liaoning Beipiao Beitazi I Wind Farm Project” (Ref. no.: 2830)**

2009-12-04

Dear Members of the CDM Executive Board,

The DOE TÜV Rheinland Japan Ltd. was informed on 24<sup>th</sup> November 2009 that the CDM project “Liaoning Beipiao Beitazi I Wind Farm Project”(Ref. no.: 2830) is under request for review because three requests for review have been received from members of the board.

All of these requests for review contain the same 3 issues. We would like to provide our response to the issues raised in the following pages.

In Summary, we understand the issues raised in the “Request for Review” and regret if the Validation Report might not substantiate the validation opinion to the expected degree. However, we hope that the input by the project participants and this explanation will find acceptance among the members of the Executive Board.

Yours sincerely,



Dr. Manfred Brinkmann  
CDM Program Manager  
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**Issue 1 raised:**

***“The DOE is requested to explain how it has validated that the project is additional when a tariff of 0.61 RMB/kWh for the first 30,000 full-load hours and 0.3621 RMB/kWh for the subsequent operational hours are used, considering that the project IRR crosses the benchmark when these tariffs are applied to the IRR calculation spreadsheet submitted.”***

**DOE’s initial response:**

The project IRR calculation sheet/27/<sup>1</sup>, applying the tariff of 0.61 RMB/kWh<sup>2</sup> for the first 30,000 full-load equivalent operational hours and 0.3621 RMB/kWh for the subsequent operational hour, is included in the submitted spread sheet named “Sensitivity Analysis-Change of tariff-20090709”/27/. The assessment period is selected as 20 years which has been confirmed to be in line with the technical lifetime of the wind turbine generators/22/. Considering the annual full-load operational hour is estimated as 2,231 hours (i.e. 110,458 MWh per year/49.5MW=2,231 hours per year) in the PDD/1/ and Feasibility Study Report (FSR)/8/, the tariff of 0.61 RMB/kWh should be applied in the first 14 years (i.e. 30,000 hours/2231 hours per year= 13.44 years<sup>3</sup>). Since the total project operational lifetime is 20 years, the tariff after the 14<sup>th</sup> year should be estimated according the average tariff within Liaoning Province, which is in accordance with the tariff approval policy for other windfarm projects located in Liaoning Province by National Development and Reform Commission (NDRC) on 3<sup>rd</sup> December 2007<sup>4</sup> and 23<sup>rd</sup> July 2008<sup>5</sup>. Since the tariff level after the 30,000 operational hours is not regulated in details by NDRC, it is reasonable to take reference of average tariff level within Liaoning Province in recent years for cross-check purpose. The validation team has reviewed the *Notice on Regulating the Bus-bar Tariff within Northeast China Power Grid by National Development and Reform Commission*<sup>6</sup>, which indicates the yard-stick tariff of new coal-fired power plant with desulfurization system is 0.3621 RMB/kWh (i.e. 0.3471 RMB/kWh + 0.015 RMB/kWh (subsidy for desulfurization system)=0.3621RMB/kWh), representing the average tariff level in Liaoning Province in 2007, which is dominated by coal-fired power plant according to *China Electric Power Yearbook 2005-2007/11/*.

The validation team has again reviewed the worksheet named “0.61-0.3621” included in the

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<sup>1</sup> The references number in this document is consistent with the Section 3.1 of the Validation Report: Desk Review of the Project Design Document.

<sup>2</sup> Both the tariff of 0.61 RMB/kWh and 0.3621 RMB/kWh are **VAT included** and the VAT rate is 8.5% for wind power project according to relevant tax regulation in China.

<sup>3</sup> According to the *Approval on Bus-bar Tariff of Wind Power Projects* by National Development and Reform Commission on 3<sup>rd</sup> December 2007 and 23<sup>rd</sup> July 2008, the first 30,000h is the accumulated full-load equivalent operational hours since the date on which the Project is put into commercial operation.

<sup>4</sup> [http://www.sdpc.gov.cn/jggj/zcfg/t20080218\\_193008.htm](http://www.sdpc.gov.cn/jggj/zcfg/t20080218_193008.htm)

<sup>5</sup> [http://www.sdpc.gov.cn/jggj/zcfg/t20080813\\_230726.htm](http://www.sdpc.gov.cn/jggj/zcfg/t20080813_230726.htm)

<sup>6</sup> [http://www.sdpc.gov.cn/zfdj/jggg/dian/t20060630\\_128823.htm](http://www.sdpc.gov.cn/zfdj/jggg/dian/t20060630_128823.htm)

spreadsheet “Sensitivity Analysis-Change of tariff-20090709.xls”, and it was confirmed that the following tariffs were applied

0.61 RMB/kWh has been applied from the 2<sup>nd</sup> year to the 15<sup>th</sup> year

0.3621 RMB/kWh has been applied from the 16<sup>th</sup> year to the 21<sup>st</sup> year.

The project IRR was finally calculated as 7.179% (after tax) when applying the latest tariff policy within Liaoning Province, which is still below the applicable benchmark (i.e. 8% after tax).

Furthermore, it has been justified in the validation report that after the issuance of *Provisional Administrative Measures on Pricing and Cost Sharing for Renewable Energy Power Generation/32/* in January 2006, the feed-in tariff for wind power projects shall follow the Guidance Price approved by National Development and Reform Commission (NDRC), with reference to the bidding tariff.

However, it is important to consider that the according “*NDRC’s Guidance Tariff Notification for windfarm projects in Liaoning Province*” became available only since 3<sup>rd</sup> December 2007<sup>7</sup>, i.e. **after** the project starting date (i.e., 20th September 2007). Therefore, it was realistic that the investment decision was made on the basis of the estimated tariff in the FSR/8/ (i.e. 0.544 RMB/kWh including VAT), which was the latest information at the time of investment decision. The application of the discussed tariff scenario in the context of the sensitivity analysis therefore serves rather as an additional cross-check to confirm the project performance if the finally approved tariffs are applied. The validation team is therefore able to confirm that the Project is still unlikely to be financial attractive without consideration of CDM revenue under the context of the project activity.

The tariff of 0.544 RMB/kWh was estimated by the FSR design institute (i.e. Liaoning Electrical Power Survey & Design Institute) by referring to the bidding tariff of Windfarm Concession Projects during the year of 2003 to 2006<sup>8</sup>. The FSR was approved by Liaoning Provincial Development and Reform Commission on 22<sup>nd</sup> August 2007, representing that the economical assessment in the FSR (including the tariff estimation) was initially agreed by local government authorities. Therefore, it is reasonable for the project owner to adopt the FSR estimated tariff at the time of investment decision, considering there is only 1 month gap between the FSR approval (i.e. 2007-08-22) and construction commencement (i.e. 2007-09-20). By checking the IRR worksheet, the project IRR with the FSR tariff was calculated as 6.58% (after tax), which is below the applicable benchmark.

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<sup>7</sup> [http://www.sdpc.gov.cn/jgg/zcfg/t20080218\\_193008.htm](http://www.sdpc.gov.cn/jgg/zcfg/t20080218_193008.htm)

<sup>8</sup> Please see details at [http://www.creia.net/cms/upload\\_file/news/a2b0a5ad5891e8482e75cbbad97fa7f3.pdf](http://www.creia.net/cms/upload_file/news/a2b0a5ad5891e8482e75cbbad97fa7f3.pdf). Four Windfarm Concession Projects Bidding activities have been arranged during the year 2003~2006. It has been confirmed by the validation team that the highest bidding tariff for other Concession Projects in 2006 was 0.5006 RMB/kWh (VAT Included), which was even lower than the estimated tariff 0.544 RMB/kWh (VAT Included) in the FSR.

**Issue 2 raised:**

***“Further clarification is required how the DOE has validated the identification of similar projects in the common practice analysis, in particular, the upper limit for the capacity range selected.”***

**DOE’s initial response:**

The validation team has confirmed that the common practice analysis was conducted according to *China Windfarm Installed Capacity Statistics in 2007/36/* issued on February 28<sup>th</sup> 2008 and available from the official website of China Wind Power Association<sup>9</sup>. Therefore, it is reasonable to select the *China Windfarm Installed Capacity Statistics in 2007* for common practice analysis, which represents the local expert’s opinion from independent sources and has been widely used as the basic sources for common practice of other registered CDM windfarm projects in China<sup>10</sup>.

The geographical scope has been justified as Liaoning Province in the PDD, which has been confirmed to be realistic and sufficiently large since the wind resources and approved tariff are similar within the same province according to *2007 China Wind Power Report/70/*. The upper limit for the capacity range was not clearly justified in the PDD. In fact, all the windfarms, which have been developed in Liaoning Province by the end of 2007 and were listed in the *China Windfarm Installed Capacity Statistics in 2007/36/*, have indeed been considered in the PDD. The largest windfarm considered for identification of similar projects is “Liaoning Fuxin Gaoshanzi” project with a total installed capacity of 100.5MW.

It is understood that a passage in the Validation Report (“According to Notice on Wind Power Construction and Management/71/ issued by China National Development and Reform Commission (NDRC), the provincial development and reform commission has the authority to approve wind power project with installed capacity below 50MW. For wind power projects with installed capacity above 50MW, it shall be approved by NDRC.”) may have raised the impression that the common practice analysis was limited to wind farms with less than 50MW capacity. This passage was only intended to explain the different approval procedures for wind farm projects, but not to justify or to imply a limit in the capacity range under investigation for common practice analysis. The statement has been deleted from the revised VR in order to prevent such misunderstanding.

The validation team has confirmed that similar windfarm projects are completely represented in Table B-6 of the PDD according to the *China Windfarm Installed Capacity Statistics in 2007*. The windfarm projects, which have been published on the

<sup>9</sup> <http://www.cwea.org.cn/upload/20080324.pdf>

<sup>10</sup> <http://cdm.unfccc.int/Projects/DB/BVQI1211944550.47/view>  
<http://cdm.unfccc.int/Projects/DB/TUEV-SUED1237998831.05/view>  
<http://cdm.unfccc.int/Projects/DB/BVQI1239018712.96/view>

UNFCCC website for global stakeholder consultation, need not be considered for common practice according to the *Tool for the demonstration and assessment of additionality version 05.2/4/*. According to *China National Action Plan for Wind Power Industry Development/74/* published in June 2005, national debts were offered for the wind power projects at Changhai and Xianrendao in Liaoning Province since 2000. Besides, some small installations are mainly for pilot testing or demonstration purpose, which were supported by Chinese Government or foreign investment/70//74/. The Dalian Hengshan Windfarm<sup>11</sup>, Wafangdian Donggang Windfarm<sup>12</sup>, Bayuquan Qu Xianrendao Windfarm<sup>13</sup>, Dandong Haiyanghong Windfarm<sup>14</sup> and Faku Sijiazi Windfarm<sup>15</sup> have enjoyed the beneficial policy and the tariff was much higher than the proposed project activity. The table below summarized the essential distinctions between the project activity and other identified similar windfarm projects in Liaoning Province.

<b>Project Name (Province/City/Town)</b>	<b>Installed Capacity</b>	<b>Operation Starting Year</b>	<b>Remarks</b>
Liaoning Dalian Hengshan	7.4MW	1993	The tariff was 0.9 RMB /kWh (Incl. VAT)
Liaoning Wafangdian Donggang	22.45MW	1994	The tariff was 0.9154 RMB /kWh (Incl. VAT)
Liaoning Linghai Yuji	3.75MW	1999	Small Pilot project
Liaoning Bayuquan Qu Xianrendao	33.66MW	1999	The tariff was 1.00 RMB /kWh (Incl. VAT)
Liaoning Dandong Haiyanghong	21MW	2000	The tariff was 1.00 RMB /kWh (Incl. VAT)
Liaoning Changhai Zhangzidao	3.0MW	2002	Small Pilot project supported by National debt/74/ <sup>16</sup>
Liaoning Changhai Xiaochangshan	3.6MW	2002	Small Pilot project supported by National debt/74/
Liaoning Changhai Dachangshan	3.6MW	2003	Small Pilot project supported by

<sup>11</sup> <http://www.fenglifadian.com/fengdianzhishi/281GHFFD.html>

<sup>12</sup> <http://www.fenglifadian.com/fengdianzhishi/281GHFFD.html>

<sup>13</sup> <http://www.wvls.cn/law/32361.html>

<sup>14</sup> <http://www.wvls.cn/law/32341.html>

<sup>15</sup> <http://finance.people.com.cn/GB/1038/59942/59949/6045289.html>

<sup>16</sup> <http://finance.people.com.cn/GB/1037/6036296.html>

			National debt/74/
Liaoning Faku Sijiazi	9.6MW	2002	The tariff was 0.83 RMB/kWh

Therefore, the validation team is able to confirm that there are essential distinctions between the project activity and other similar windfarm projects.

**Issue 3 raised:**

***“The DOE is requested to further clarify how the line losses between the step-up station and the substation will be monitored and to provide a separate table under section B.7.1 of the PDD.”***

**DOE’s initial response:**

The monitoring of the line losses was questioned by the validation team and the PP clarified that it was still under negotiation with the grid company before the submission of request for registration. The validation team has reviewed the Power Purchasing Agreement/69/, which was signed with Liaoning Provincial Grid Company on 24<sup>th</sup> July 2008. The electricity imported and exported is measured by the main meter (i.e. gateway meter) installed at the 66kV step-up station around the project site according to the Power Purchasing Agreement. The transmission losses of the 66 kV transmission line have been considered and will be subtracted from the net electricity supplied to Northeast China Grid (NECG) for conservativeness as part of the monitoring plan. A separate table has been provided by project participants in Section B.7.1 of the PDD Version 02.7 dated on 27<sup>th</sup> November 2009, which was confirmed to be consistent with the “*Explanation on the Line Loss between the 66kV Step-up Station and 220kV Substation of Liaoning Beipiao Beitazi I Wind Farm Project*” by the local grid company. The validation team has checked the process of monitoring the line losses between the step-up station and the substation. The line losses that should be shared by the proposed project will be calculated considering the readings of the gateway meter installed at the 66kV step-up station, the backup meters installed at the substation, and the gateway meters of other wind farms which may be connected with and delivered the electricity to NECG through the same transmission line. Detailed calculation formulas have been provided in the Section B.7.1 of the revised PDD and the validation team confirms the monitoring of the line losses is thus feasible in the context of the project activity.