

To: UNFCCC Secretariat  
Martin-Luther-King-Strasse 8  
D-53153 Bonn  
Germany



February 19, 2009

Dear Members of the CDM Executive Board,  
Please find below our response to the issue raised by quest for correction of the “Project 2216: Guohua Tongliao Kezuo Zhongqi Phase I 49.5MW Wind Farm Project”.

**Issue:** The DOE is requested to confirm the suitability and credibility of all input values derived from the FSR, as the response to CL7 indicates that certain values in this report were assumed in order to create an IRR of 8%. On this basis the DOE should assess which other critical parameters in the FSR are based on assumptions and which are based on credible and reliable sources relevant to this project.

**Response:**

The FSR was completed in August 2006 by the independent and certified third party, Beijing Guodian Water Resources and Electric Power Engineering Co., Ltd with project design certification of Grade “A”, issued by Ministry of Construction of People’s Republic of China. The FSR was approved on 9 November 2006 by Development and Reform Committee of Inner Mongolia Autonomous Region<sup>1</sup>. In China, FSR will be not approved by Government until it gets the positive conclusion from public assessment by the sector experts designated by Government.

Critical parameters in approved FSR include the total static investment, on-grid tariff, annual power supply, and annual O&M cost. Among them, except the on-grid tariff which has been confirmed in the process of the validation by DOE, all other parameters are based on credible and reliable sources relevant to this project. It can be illustrated from the following aspects:

**Total static investment**

The total static investment consists of equipment and its installation fees, construction fees, and other fees, which are estimated according to the following documentations:

➤ Equipment and its installation Fees

*Methodology of Feasibility Study Report on Wind Farm Project* (Document No. DRC Energy [2005]899)<sup>2</sup>

*Installation Ration of Hydropower Equipment (edition 2003), issued by National Economic and Trade Committee in 2003*

➤ Construction Fees

*Methodology of Feasibility Study Report on Wind Farm Project* (Document No. DRC Energy

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<sup>1</sup> FSR Approval Letter of Guohua Tongliao Kezuo Zhongqi Phase I 49.5MW Wind Farm Project

<sup>2</sup> [http://www.windpower.org.cn/news/links/js\\_2005\\_0525\\_3.pdf](http://www.windpower.org.cn/news/links/js_2005_0525_3.pdf)

[2005]899)<sup>3</sup>

*Construction Ration of Hydropower Building, (Document No.Dianshuigui (1997)031)*

➤ Other fees

*Methodology of Feasibility Study Report on Wind Farm Project* (Document No. DRC Energy [2005]899)<sup>4</sup>

*Methodology and Calculation Standard of Budget Estimation on Feasibility Study Report of Wind Farm Project* (Document No. DRC Energy [2005]899)<sup>5</sup>

In China, the average construction cost per capita of the wind power projects is approximate 9266 RMB/kW<sup>6</sup> and that of the wind power project with the unit capacity of 1.5MW is 9791 RMB/kW<sup>7</sup>. As far as the proposed project with the unit capacity of 1.5MW is concerned, the investment per kilowatt is 8997RMB/kW<sup>8</sup>.

Next we compared the proposed project with other projects with the same unit capacity and location. All the projects in the following table have been registered successfully on UNFCCC website.

Reference No.	Project Title	Total static investment (10,000 yuan)	Installed Capacity (MW)	Investment per kilowatt (RMB yuan/kWh)
2216	Guohua Tongliao Kezuo Zhongqi PhaseI 49.5MW Wind Farm Project	44,536	49.5	8997
1990	Inner Mongolia North Longyuan Zhurihe Wind Farm Project <sup>9</sup>	45,357	49.5	9163
2158	Inner Mongolia North Longyuan Huitengliang Windfarm Project <sup>10</sup>	45,948	49.5	9282
1628	Inner Mongolia Dali Phase IV 49.5MW Wind Power Project <sup>11</sup>	54,695	49.5	11,049
0589	Inner Mongolia Huitengliang 49.5MW Wind Power Project <sup>12</sup>	54,741	49.5	11,059
2047	Guohua Inner Mongolia Huitengliang West Wind Farm Project <sup>13</sup>	45,565	49.5	9205
1629	Inner Mongolia Dali Phase V 49.5MW Wind Power Project <sup>14</sup>	58,010	49.5	11,719

*Data source: all the projects listed in table above are from UNFCCC website*

<sup>3</sup> As above 2

<sup>4</sup> As above 2

<sup>5</sup> [http://www.windpower.org.cn/news/links/js\\_2005\\_0525\\_2.pdf](http://www.windpower.org.cn/news/links/js_2005_0525_2.pdf)

<sup>6</sup> [http://chinanews.com/jzb/2007-09/28/content\\_11276436.htm](http://chinanews.com/jzb/2007-09/28/content_11276436.htm)

<sup>7</sup> As above

<sup>8</sup> As per table 12.2-5, page 165, the installed capacity of the proposed project is 49.5MW, and static total investment is 445.3672 million RMB, therefore, the investment per capita is 445.3672/49500kWh=8997RMB/kW

<sup>9</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/M0X2FND5HQVSPYRD7FK9BMQUYROC60>

<sup>10</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/PHT8BO2GM5NRJW1Y7X3US4QAV09ED>

<sup>11</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/R8YATR6GZASARWOENB4ZSQA7RKE65Y>

<sup>12</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/BBZUK3VVVDHCVLUEB6128A5SRWF625>

<sup>13</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/AUDCN41I0EPRGZ7SVFK92W3JX5O6ML>

<sup>14</sup> <http://cdm.unfccc.int/UserManagement/FileStorage/PG62O59CAHDL0IWC0KCVSF9XK2QIU>

### **Annual O&M costs**

The annual O&M costs mainly include maintenance costs, salary and welfare, material cost and other costs. The design institute of FSR estimated the value based on the investigation of operated wind power projects in China<sup>15</sup>.

Furthermore, according to the *Study on the Pricing Policy of Wind Power in China*<sup>16</sup>, the annual maintenance cost /fixed asset (M/F) is usually 1.5% in the first ten years and 2% in the other years. The M/F of the proposed project is 1.5% during the whole operational lifetime.

The annual O&M cost of the proposed project is account for 2.6% of the investment. As usually the costs can be 5-8%<sup>17</sup>.

No.	Item	Unit	Value
<b>1</b>	<b>Annual O&amp;M cost</b>	<b>10<sup>4</sup> RMB</b>	<b>1173</b>
1.1	Annual maintenance cost	10 <sup>4</sup> RMB	682
			59%
1.2	Salary and welfare	10 <sup>4</sup> RMB	155
			14%
1.3	Material cost	10 <sup>4</sup> RMB	25
			3%
1.4	Other cost	10 <sup>4</sup> RMB	198
			17%
<b>2</b>	<b>Fixed asset</b>	<b>10<sup>4</sup> RMB</b>	<b>45,452</b>
<b>3</b>	<b>Annual maintenance cost/fixed asset</b>	<b>%</b>	<b>1.5</b>
<b>4</b>	<b>Annual O &amp;M/investment</b>	<b>%</b>	<b>2.6</b>

Data source of the table above is from Table 14-2, Page 176 of FSR.

### **Annual power supply**

As per the National Standard of GB/T 18710-2002<sup>18</sup> and GB/T 18709—2002<sup>19</sup>, the project owner conducted wind resource measurements for the whole year (August 2005 to August 2006).

The data from above wind resource measurement was correct based on the historical meteorological data of 30 years (from 1971 to 2005), provided by local weather station.

The revised data will be put in the professional WAPS software to calculate the annual theoretical power generation.

Considering impacts of some factors like air density, trailing stream, wind turbine efficiency

<sup>15</sup> Statement on Investment Budgetary estimation and Annual O&M Cost issued by Beijing Guodian Water Resources and Electric Power Engineering Co., Ltd

<sup>16</sup> Table 20, Page 52 of *Study on the Pricing Policy of Wind Power in China*, issued by Chinese Renewable Energy Industries Association and Green Peace in October 2006

<sup>17</sup> Renewable Energy-Technology, Economics and Environment, page 342,2007

<sup>18</sup> Methodology of wind energy resource assessment for windfarms,  
<http://www.cechina.cn/eletter/standard/wind/GBT18710-2002.pdf>

<sup>19</sup> Methodology of wind energy resource measurement for windfarms,  
<http://www.windpower-china.cn/files/GBT%2018709-2002.pdf>

on the annual theoretical power generation, comprehensive discount was carried out. The final result from comprehensive discount is annual power supply.

We sincerely hope that the information provided adequately addresses the concerns raised.

Yours faithfully

A handwritten signature in blue ink, consisting of three Chinese characters: 何, 长, 龙 (He, Chang, Long).

He Changlong

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