

RESPONSE TO THE REVIEW REQUEST

Bureau Veritas Certification (formerly BVQI) had performed the validation of the CDM Project 2776- "Heilongjiang Dabaishan Wind Power Project". Subsequently, there were two requests for review.

Our responses to the review requests raised are given below:

Issue 1 for request for review

The DOE is requested to further explain how the proposed tariff has been determined for the project activity and provide an assessment as to whether the net return to the investor has been reduced as a result of any reduction in tariffs over recent years, or whether the net return has been unaffected as a result of other changes such as investment costs.

Bureau Veritas Certification's response:

The proposed tariff in the PDD is derived from the FSR of the Project, Heilongjiang Dabaishan Wind Power Project. The tariff used in the FSR of the Project is 0.5622RMB/kWh (excl. VAT) for accumulated equivalent full load 30,000 hours and 0.4147RMB/kWh (excl. VAT) for the rest of operating hours, which is in accordance with the three official documents as below,

- a. Trial Measures for the Administration of Renewable Energy Power Price and Cost-sharing the tariff of renewable energy project would be 0.25RMB/kWh (incl.VAT) higher than the tariff for thermal power projects;
- b. Notice on the Adjustment of Electricity Price of North China Grid by NDRC (Code: Fa Gai Jia Ge [2006] No.1231) dated 28/06/2006, which stated that the tariff for thermal power projects (equal to commercial average tariff) in Heilongjiang Grid covered by NEPG was 0.3567RMB/kWh (incl. VAT);
- c. Tariff notifications for wind power projects (Code: Fa Gai Jia Ge (2007) No.1260) issued by NDRC, i.e. dated 09/06/2007, which stated that the tariff for wind power projects is only for accumulated equivalent full load 30,000 hours, and after that a commercial average tariff of local grid will be employed.

Moreover, the tariff endorsed to similar wind power projects in Heilongjiang in latest two years (from 2006 to November 2007) was also considered during the compilation of the FSR. As per the tariff notifications above mentioned the tariff of 0.6067RMB/kWh (0.3567+0.25) had been endorsed to Heilongjiang Muling Daimagou Wind farm Project and Heilongjiang Muling Ganmianshi Wind farm Project (Projects No. 7 and 8 in below table) by Heilongjiang Price Bureau in September 2007. Both two projects were also implemented with application of the CDM registration as the same investment situation with the Project.

Given above, the tariff for full load 30,000 hours of the Project was estimated as 0.61RMB/kWh($\approx 0.25 + 0.3567$, incl. VAT) or 0.5622 RMB/kWh (excl. VAT) in the FSR of the Project. In Heilongjiang, the commercial average tariff was determined based on tariff of thermal power, which is 0.3567RMB/kWh (incl. VAT) or 0.3049RMB/kWh (excl. VAT) at the time of investment decision, and more than 45% lower than the tariff of 0.5622RMB/kWh for full load 30000 hours. With an estimation on tariff of thermal power after 30,000 hours (approx. thirteen years onwards) a conservative price of 0.4147RMB/kWh (excl. VAT) was used in the FSR as the tariff after full load 30,000 hours instead of using 0.3567RMB/kWh(incl. VAT) simply.

After the FSR finalized, there are two tariff notifications for wind power projects in Heilongjiang were issued by NDRC, i.e. Fa Gai Jia Ge (2007) No.3303 dated 03/12/2007 and Fa Gai Jia Ge

(2008) No.1876 dated 23/07/2008. The tariff for total 18 wind power projects including the Project listed in the two tariff notifications is 0.5622RMB/kWh (excl. VAT) for accumulated equivalent full load 30,000 hours, and after that a commercial average tariff of Heilongjiang will be employed.

By checking with the above tariff information, BVC was able to verify that the tariff of 0.5622RMB/kWh (excl. VAT) for accumulated equivalent full load 30,000 hours and 0.4147RMB/kWh (excl. VAT) afterwards used in both FSR and PDD are reasonable and appropriate.

BVC has checked the information on wind power projects exporting electricity to Heilongjiang Provincial Grid and the tariff documents for wind power projects issued by China's government, the tariff for wind power projects exporting electricity to Heilongjiang Provincial Grid are summarized in the following table 1:

Table 1 Tariff for wind power projects in Heilongjiang Province

No	Project	Tariff (RMB/kWh, Excl. VAT)	Document No.	Tariff determined time	Commissioning date	CDM projec t or Not?
1	Heilongjiang Mulan Wind Power Project	0.7189	Hei Jia Ge Zi [2004]233	2004	Dec. 2003	No
2	Heilongjiang Fujin Wind Power Project	0.7281	Hei Jia Ge Zi [2004]226	2004	Sep. 2004	No
3	Yichun Daqingshan Wind Power Project (UNFCCC Ref. No. 0829)	0.6636	Hei Jia Ge Zi [2005]270	2005	Dec. 2005	Yes
4	Heilongjiang Huafu Muling Wind Farm (UNFCCC Ref. No. 0906)	0.6636	Hei Jia Ge Zi [2005]267	2005	Dec. 2005	Yes
5	Yichun Shimaodingzi Wind Power Project (UNFCCC Ref. No. 1147)	0.6636	Hei Jia Ge Zi [2005]270	2005	Nov. 2006	Yes
6	Yichun Erduoyan Wind Power Project (UNFCCC Ref. No. 0969)	0.6636	Hei Jia Ge Zi [2005]270	2005	May 2007	Yes
7	Heilongjiang Muling Daimagou Wind farm Project (under validation)	0.5592	Hei Jia Ge Zi [2007]194	Sep. 2007	Dec. 2006	Yes
8	Heilongjiang Muling Ganmianshi Wind	0.5592	Hei Jia Ge Zi [2007]194	Sep. 2007	Dec. 2006	Yes



	farm Project (under validation)					
9	Wuerguli 30 MW Wind Power Project (UNFCCC Ref. No. 1209, the Project)	0.5622	Fa Gai Jia ge [2007]3303	Dec. 2007	Nov. 2007	Yes
10	Yichun Xiaochengshan Wind Power Project (UNFCCC Ref. No. 2312)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
11	Heilongjiang Yilan Maanshan Wind Power Project (UNFCCC Ref. No. 2035)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
12	Heilongjiang Fujin Phase II 18MW Wind Power Project (UNFCCC Ref. No. 1866)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
13	Heilongjiang Yilan Hezuolinchang Wind Power Project (UNFCCC Ref. No. 2062)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
14	Guohua Qiqihaer Fuyu 1st Stage Wind Farm Project (UNFCCC Ref. No. 1310)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2007	Yes
15	Heilongjiang Huanan Hengdaishan East Wind Power Project (UNFCCC Ref. No. 2056)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Mar. 2008	Yes
16	Heilongjiang Huanan Hengdaishan West Wind Power Project (UNFCCC Ref. No. 2200)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Jul. 2008	Yes
17	Heilongjiang Yilan Hezuolinchang Phase II Wind Power Project (UNFCCC Ref.	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Oct. 2008	Yes



	No. 2117)					
18	Heilongjiang Dajiazishan 49.5MW Wind Power Project (UNFCCC Ref. No. 2032)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
19	Heilongjiang Beiantun 49.5MW Wind Power Project (UNFCCC Ref. No. 2049)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
20	Heilongjiang Fujin 48MW Wind Power Project (UNFCCC Ref. No. 2573)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
21	Heilongjiang Daqing Ruihao Wind Farm Project (UNFCCC Ref. No. 2776)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Dec. 2008	Yes
22	Heilongjiang Fuyuan Wind Power Project (UNFCCC Ref. No. 2775)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Mar. 2009	Yes
23	Heilongjiang Huanan Hengdaishan East (II) Wind Power Project (UNFCCC Ref. No. 2124)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	May 2009	Yes
24	Heilongjiang Mudanjiang Xiaoguokui Wind Power Project (UNFCCC Ref. No. 2774)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	May 2009	Yes
25	Heilongjiang Shaobaishan Wind Power Project (UNFCCC Ref. No. 2777)	0.5622	Fa Gai Jia ge [2008] 1876	Jul. 2008	Under construction	Yes
26	Heilongjiang Dabaishan Wind Power Project(UNFCCC	0.5622	Fa Gai Jia Ge [2008] 1876	Jul. 2008	Under construction	Yes



	Ref. No. 2776, the Project)					
27	Heilongjiang Wuerguli Wind Power Project (UNFCCC Ref. No. 2152)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Oct. 2008	Yes
28	Heilongjiang Dongning Dajiazishan and Xidagang Wind Farm Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
29	Heilongjiang Shiwenzi Wind Farm Project (UNFCCC Ref. No. 1816)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
30	Heilongjiang Yilan Jiguanlazishan Wind Farm Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
31	Heilongjiang Yilan Fuqiang Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
32	Heilongjiang Yilan Chenguang Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
33	Heilongjiang Hailin Weihushan Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
34	Heilongjiang Hailin Weihushan Phase II Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
35	Heilongjiang Huachuan Sujiadian Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes
36	Heilongjiang Huanan	0.5622	Fa Gai Jia Ge	Jul. 2009	Under construction	Yes



	Yimashan Wind Power Project (under validation)		[2009]1906			
37	Heilongjiang Yilan Maoyangou Changjiangtun Wind Power Project (under validation)	0.5622	Fa Gai Jia Ge [2009]1906	Jul. 2009	Under construction	Yes

Note: All tariff notifications mentioned above just regulated the tariff for wind power projects in the first 30,000 equivalent operation hours, and after that, the tariff of wind power projects will down to the average tariff of thermal power plants.

With the available data source, the validation team can find there are total 37 wind power projects exporting electricity to Heilongjiang Provincial Grid since 2002.

The determination of tariffs in China is a result of sovereign government decision-making. The project participants cannot impact Chinese government policy regarding tariffs and they can only make decision on whether to invest on the Project or not based on the tariff guided by government.

To make the explanation on tariff more clearly, BVC has studied on the information on wind power project and here illustrates the wind power development process as follows:

- In 1999, a Notice on Further Accelerate Renewable Energy Development published by NDRC, Ministry of Science and Technology regulated that the tariff of renewable energy grid power generation project should be determined by "Repayment of Capital and Interest plus profit" during repayment period, i.e. the tariff during the repayment period is different from the one after repayment period, and the length of repayment period impacts on tariff.

In other words, tariff equals generation cost plus tax plus profit; where, generation cost contains depreciation fee, maintenance fee, salary and welfare, insurance, material fee, amortize and interest, and others.

- In Dec. 2001, Notice of the Ministry of Finance and the State Administration of Taxation about Policies regarding the Value Added Tax (VAT) on Products Made through Comprehensive Utilization of Resources and Other Products was published, in the notice, it is clearly stated that the VAT of wind power project should be 50% off; as discussed above, the tax is also a parameter considered to determine tariff;

--The repayment period for wind power projects was changed from 7 years to 15years at the front of 2006. When the repayment period changes from 7years to 15years, the repayment of capital and interest paid for each year would be down accordingly, thus the tariff was reduced.

- On 16/03/2007, the new income tax law was published, in which the income tax was changed from 33% to 25%, which is also a reason of tariff reduction.

- Since 2006, China's government issued the *Law of the People's Republic of China on Renewable Energies and Tentative Management Measures for Price and Sharing of Expenses for Electricity Generation from Renewable Energy* (Document No. Fa Gai Jia Ge [2006]7), so that increase the domestic rate of wind power equipment, reduce wind power generation cost and stimulate the investment incentives.

At the early stage of wind development, most of the wind turbines were imported and the technology in domestic was comparatively dropped behind, thus at that time the investment for wind equipment imported abroad was comparatively higher than that of the domestic-made; furthermore, the technology for operation and maintenance of wind turbines was not very advanced at that time thus the relevant cost was higher.

However, in recent years, with the development of wind power, the overseas manufacturer began to set up factory in China; furthermore encouraged by favorable policies, the Chinese domestic wind turbine manufacturers contributes their efforts in the technology developing, the wind power technology and equipment maintenance becomes more and more mature, and domestic wind turbines have been introduced more and more to some extent, e.g. the market share addition for domestic manufacturers from 2004 to 2007 was 25%, 29.4%, 41.3%, and 55.9% respectively; according to Mr. Luo Zhihong, from China Renewable Energy System Project (CRESP), the price of domestic wind turbine is 20% less than that of the imported wind turbine, the price of wind turbine manufactured in China for overseas manufacturer is 10% less than that of manufactured abroad. Besides, the after service of domestic service is more convenient than abroad manufacture.

Almost all of the projects are CDM projects except for Project No. 1 and No. 2 listed in table 1. However, there are significant distinctions among these two projects and the proposed project activity, as analyzed in the common practice of the PDD, i.e. both projects are demonstration projects, benefited from more favorable financial policy, which were funded by national soft loan and international low interest loan respectively, while the proposed project activity does not enjoy these favorable policies. Thus these two projects are not comparable to the proposed project.

We also exclude the projects with same tariff for further analysis. Therefore, the projects used in this analysis are listed as follows:

Table 2 Information for projects with higher tariff

No.	Project	Tariff RMB /kWh (incl. VAT)	Investment RMB/kW	Annual O&M cost RMB/kWh
1	Yichun Daqingshan Wind Power Project	0.72	10176	0.217
2	Heilongjiang Huafu Muling Wind Farm	0.72	11186	0.138
3	Yichun Shimaodingzi Wind Power Project	0.72	9834	0.221
4	Yichun Erduoyan Wind Power Project	0.72	9231	0.225
Average		0.72	10107	0.2002
5	The proposed project	0.61 (0.5622, excl. VAT)	9399	0.1110

As shown in above table, both the investment and annual O&M cost of the proposed project are less than the average one of those four projects with higher tariffs. If using the higher tariff (0.72RMB/kWh for the first 30,000hours), the average investment per installed capacity (10107RMB/kW), and the average annual O&M cost (0.2002RMB/kWh) to calculate the IRR, it is calculated as 5.38%, lower than the IRR of the proposed project (6.48%) submitted for request for registration. So although the net return to the investor will be reduced as a result of the reduction in tariffs, the net return will be unaffected as a result of other changes such as investment costs, O&M cost and revenue tax etc.

Therefore, BVC is of the opinion that the net return to the investors has been unaffected due to other changes discussed above. On the contrary, the incentives on investment of wind power projects have been increased and there is a large quantity of wind power projects have gone ahead in the most recent years.

The tariff employed in the PDD had been crosschecked with the latest tariff notifications issued by national government in 2008¹ (Fa Gai Jia Ge [2008]1876), the tariff for the proposed project would be 0.5622RMB/kWh (excl. VAT) for the first power generation of 30,000hours, after that, the tariff will be down to the average tariff that refers the tariff for dominant thermal power plants in Heilongjiang Province. Therefore, BVC is of the opinion that the tariff of 0.5622RMB/kWh (excl. VAT) for accumulated equivalent full load 30,000 hours and 0.4147RMB/kWh (excl. VAT) for the rest of operating hours applied in the investment analysis is appropriate.

Issue 2 for request for review

Further clarification is required on how the DOE has validated the other/miscellaneous cost in the investment analysis.

BVC has verified that the investment analysis and found that the “other/ miscellaneous cost” used to calculate the annual O&M cost is taken from the FSR which was carried out by an authorized third party.

By checking the supplementary FSR, BVC confirms that the FSR refer to:

- Codes on Compiling Feasibility Study Report of Wind Farms;
- Preparation Rules and Calculation Standard for Budgetary Estimation of Wind Power Projects Feasibility Study Report issued by NDRC;
- Economic Evaluation Method and Parameters for Project Construction (version 3).

Therefore, BVC confirms that the input values from the FSR were valid and applicable at the time of the investment decision.

According to the relevant evidence provided, BVC has confirmed that: the PP’s final decision to proceed with the investment in the Project has been made based on the FSR finalized in Nov. 2007, and PP decided to invest the project soon on 05/01/2008 with CDM consideration. The period of time between the finalization of the FSR and the investment decision is quite short that BVC can confirm that it is unlikely in the context of the underlying project activity that the input values would have materially changed, which is in line with the VVM, para. 111 (a).

A letter of the presentation about the “other/ miscellaneous cost” from the FSR designer declares that “other/ miscellaneous cost” were estimated based on consideration of actual situation of nearby operated wind farms and the characteristics of the Project specific situation, and the values of “other/ miscellaneous cost” are 45RMB/kW for the proposed project.

-The “other/ miscellaneous cost” of the Project includes the business travel, office expenses, training fees, daily transport costs and union fees.

The suitability of value on “other/ miscellaneous cost” used in the FSR has been evaluated by experts and approved by Heilongjiang Development and Reform Committee.

Furthermore, BVC has checked the registered CDM wind power projects in Heilongjiang Province and listed as follows:

¹ <http://www.sdpc.gov.cn/printpage.htm>



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Table 3 Other/Maintenance cost used in registered CDM wind power projects in Heilongjiang Province

No	Project	Other Fee (RMB/kW)
1	Yichun Daqingshan Wind Power Project (Ref. No. 829)	104.77
2	Heilongjiang Huafu Muling Wind Farm (Ref. No. 906)	Not available
3	Yichun Shimaodingzi Wind Power Project (Ref. No. 969)	50
4	Yichun Erduoyan Wind Power Project (Ref. No. 1147)	50
5	Wuerguli 30 MW Wind Power Project (Ref. No. 1209)	0
6	Heilongjiang Yilan Maanshan Wind Power Project (Ref. No. 2035)	80
7	Guohua Qiqihaer Fuyu 1 st Stage Wind Farm Project (Ref. No. 1310)	Not available
8	Heilongjiang Huanan Hengdaishan East Wind Power Project (Ref. No. 2056)	60
9	Heilongjiang Huanan Hengdaishan West Wind Power Project (Ref. No. 2200)	50
10	Heilongjiang Dajiazishan 49.5MW Wind Power Project (Ref. No. 2032)	30
11	Heilongjiang Beiantun 49.5MW Wind Power Project (Ref. No. 2049)	30
12	Heilongjiang Shiwenzi Wind Farm Project (Ref. No. 1816)	12
	Average	46.677
	The Project	45

From above table, we can find that the other/ miscellaneous cost used by the Project is less than the average one of registered CDM wind power projects located in Heilong Province.

Furthermore, even if using the zero for other/ miscellaneous cost, the IRR of the Project is 7.01%, still less than the benchmark.

Therefore, BVC can confirm that the other/ miscellaneous cost to the investment analysis is appropriate and in accordance with the requirement of VVV Para. 111(c).

Hope the above responses given clarify the queries raised. In case you have any further inquiries please let us know as we kindly assist you.

Yours faithfully,
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