Response to the request for review on the CDM project activity "Chuanwei Group 24 MW Waste Gas based Captive Power Plant" with the registration number 1470

Attention: Mr. Rajesh Kumar Sethi, Chairman
CDM Executive Board to Kyoto Protocol

May 14th, 2008

Dear Mr. Rajesh Kumar Sethi,

We were informed that our project "Chuanwei Group 24 MW Waste Gas based Captive Power Plant (Ref. no. 1470)" was requested for review by CDM Executive Board on 29/04/2008. As required by the Board, we would like to answer the questions, clarify the issues and provide additional information, as follows.

Issue 1:
Evidence is required to support the existence of an investment barrier for this project activity and the DOE should describe the means of validation employed to assess this evidence.

Our clarifications:
As stated in P16~28 of the PDD, investment barriers confronted Chuanwei Group include fund shortage and difficulty to get loans.

Chuanwei Group is located in a remote mountainous area in Sichuan Province , where has been short of of raw materials since 1953. In 1997, the group suffered greatly in the Asian Financial Crisis and was on the edge of bankruptcy[1]. Since then, the decision makers of Chuanwei Group started to realize the risks of the iron and steel industry. To reinforce its competitive strength, Chuanwei Group reallocated most of its capital into the key upstream projects deciding the production cost of iron and steel industry, such as resource exploitation of coal, iron ore, limestone and etc, and relative projects that can hedge the risks from the iron and steel industry.

The key investment fields of Chuanwei Group are mineral resources development and high added value new products, which is pointed out in the meeting minutes No.8, 2004 of Chuanwei Group. The Project does not fall into the key investment fields, so it is required not to occupy Chuanwei Group's capital allocation while collect investment from outside financing, shareholding and CDM. The evidence (meeting minutes No.8, 2004 of Chuanwei Group) has been provided to the DOE for validation and translated as a PDF document attached to this response (Annex 1).

Almost at the same time, when Chuanwei Group considered applying loan for the Project, Working Conference on Economic Issues held by the central government and No.47 Standing Conference of the State Council on 09/04/2004 instructed that tighter macro regulations be imposed on loans to iron and steel industry[2]. Afterwards, domestic banks gave larger prominence to the risks existing in the industry and increased its equity proportion requirement. China Banking Regulatory Commission also organized inspections on loans made by banks to iron and

1 Http://news.sina.com.cn/c/2001-11-06/393491.html.
2 Http://finance.sina.com.cn/g/20040624/0914831478.shtml.

steel industry[3] in 2004 and 2005. In all, under the macro guidance, banks implement stricter control on loans offering to iron and steel industry. Industrial and Commercial Bank of China even withdrew loans previously made[4].

The Project is an energy-saving project implemented in an iron and steel company. Some of the supporting documents regarding the facts and the reasons for loan application difficulties are summarized in the PDD from the following sources:

· China Construction News, published by the Ministry of Housing and Urban-Rural Development[5];

·Prof. Dai Yande, deputy director of Energy Research Institute of National Development and Reform Commission and director of the World Bank/GEF China Energy Efficiency Projects Promotion Office[6];

·Mr. Xu Qiuwen, representative of World Bank and Senior Executive Officer and Project Manager of Energy Efficiency Financing in China of International Finance Company[7];

·Energy Conservation Information Dissemination Center of National Development and Reform Commission[8].

Although Chuanwei Group had applied for loans for the Project, they had no idea under such circumstances whether and how much banks could offer. So they cancelled the installation of coal gas tank to reduce investment bearing the potential risks to the operation[9], and in the meanwhile looked for multiple fund channels other than loans.

As the PDD mentioned, the project owner started to consider CDM in early 2004 and contracted with Chengdu Saiensi Energy Investment & Management Co., Ltd. (hereafter referred to as Saiensi) to undertake CDM development and search for outside fund source for the Project in May 2004. With effort of Saiensi, the Project is one of the projects from China shown at the 2005 Carbon Expo in Cologne, German, and one of the candidate CDM projects submitted to and collected by Ministry of Science and Technology in early 2005.

Paralleled with the CDM progress, Saiensi had successfully introduced the equity capital for the Project from Neijiang Xingyuan Power Generation Group by convincing them that the CDM revenue can guarantee a satisfied financial return from the Project. Letters between Saiensi and Neijiang Xingyuan Power Generation Group and the letter from Neijiang Xingyuan Power Generation Group to the project owner from May 2004 to January 2005 have been provided to the DOE, which demonstrate the investment barriers confronted the Project and how they could be overcome by employing the CDM revenue. All of these documents are provided as Annex 2 to

3 Http://www.mysteel.com/servlet/News.Detail?id=531227 and http://news.yonghua.net.cn/htmldata/2005_03/2/11/ article_126308_1.html.
4 Http://finance.sina.com.cn/money/bank/bank_hydt/20060404/20372473902.shtml.
5 Http://www.realestate.gov.cn/default.asp?recordno=49185&line=111.
6 Http://news.cepee.com/text.php?NewsId=13382.
7 Http://invest.jrj.com.cn/news/2007-04-04/000002120091.html.
8 Http://www.secidc.org.cn/newscontent.asp?id=116.
9 Niu Fu'an. *Assessment Methodology of BFG Power Generation Project and Its Generalization Prospects*. Chinese Energy, 1999 (3): 9~11: "Setting up blast furnace gas tank can help ensure a stable supply of gas to promote stable combustion of gas in the boiler, and at the same time can help enhance the boiler's safe functioning. Consequently, power plants utilizing BFG to generate electricity generally ought to set up the corresponding blast furnace gas tank.

Annex 4 attached.

The Project is constructed fully with equity and fails to get any loan . The bank rejection notice (Annex 5) thereafter also proves the Project could hardly move on without the equity investment brought in by CDM. Shanghai Pudong Development Bank's reasons for the rejection are insufficient mortgage, low return and long repayment period. In fact, most banks in China are reluctant to issue loans to such projects because of their incompetency to assess the risks in energy efficiency investment projects in iron and steel industry.

In summary, CDM had been considered prior to the project implementation to battle the investment barriers and the Project was successfully implemented with the equity investment invited by CDM.

Issue 2:
Further evidence is required to support the existence of technological barriers to the implementation of this project activity as the VR (p15) states that combusting BFG in boilers is a technology patented in China.

Our clarifications:
The technology of combusting solely blast furnace gas is a technology patented in China. Footnote No.27 on P13 of the PDD provides a technological literature named *Process Energy Consumption and Energy Saving Potential in Iron and Steel Companies* published on Metallurgy Management in 2005 as a validated evidence for this description. The paper is written by Prof. Wang Weixing who is a senior engineer level professor of Chinese Society for Metals as described on the website of China Energy Conservation Supervision[10]. Metallurgy Management was established in 1988 and published by China Metallurgical Industry Economic Development Research Centre. It is an industrial specialized periodical on metallurgical.

The Project employed a patented technology. Technological barriers faced by the Project were summarized in the PDD from P12 to P14, including low caloric value, low oretical combustion temperature, large amount of flue gas which leads to a sery of changes in the convection heat transfer characteristics, difficulties in both ignition and stable combustion and lack of experienced management and technical staff. Literatures supporting these descriptions had been validated by the DOE and listed in the PDD as evidences from footnote 23-28. The authors of these literatures, such as Prof. Wang Zhenming (Secretary-general of Commission for Thermal Electricity of China Society for Electrical Engineering) and Prof. Wang Weixing, are well-renowned in China's iron and steel forging industry.

The patented technology employed by the Project related to a boiler with high temperature and pressure for power plants combusting solely blast furnace gas, wherein the hearth is separated by the stays to a combustion chamber and an upper furnace. Further evidence can be found as the certification of the patented technology obtained from the China Patent Database of China Patent Information Center. According to the information provided by the China Patent Database, this technology is developed by Yang Tianzhu, et al from China Shougang Group. The announcement date of this patent is 26th June, 2002 with the announcement number of 1086788, which won the China National Golden Prize for Patents[11]. A special design of hearth which is separated by the stays to a combustion chamber and an upper hearth is applied, wherein the combustion chamber

10 Http://www.cecs.gov.cn/cecsbbs/viewthread.php?action=printable&tid=66.
11 Http://www.shougang.com.cn/news/pic/2752.html.

is used to ensure the stable and complete combustion of the blast furnace gas and the upper hearth is used to absorb the combustion heat from the blast furnace gas. Yang Tianzhu is the founder of this technology and his paper is cited in the PDD to demonstrate the barriers when implementing the patented technology[12] (footnote 28). The document is provided as PDF document attached to this response as Annex 6.

Issue 3:
The DOE is requested to provide further description regarding how the common practice analysis has been validated, in particular how limits applied in defining similar projects have been considered appropriate.

Our clarifications:
As described in Step 4a of the PDD, activities similar to the Project are identified as BFG power generation projects implemented by similar iron & steel enterprises. Here, similar iron & steel enterprises are identified as iron & steel enterprises 1) within the same region, 2) with the same company ownership characteristic and 3) with the similar production scale to the project owner (Chuanwei Group).

1) The region for common practice analysis is limited to Central China. The spatial scope of power system of the Project is determined to be the Central China Grid based on the consolidated baseline methodology ACM0002 with reference to the Notification on Determining Baseline Emission Factor of China's Grid (issued by China's DNA). The selection of the region is in line with the geographic scope of Central China Gird as Central China. Sector policies are usually different in provincial level and Central China is composed of Henan Province, Hubei Province, Hunan Province, Jiangxi Province, Sichuan Province and Chongqing City, therefore to use Central China as the regional scope for common practice analysis is conservative.

2) The nature of company's ownership for common practice analysis is limited to share holding company. The project owner, Chuanwei Group, is a share holding company. Share holding companies and state-owned companies in China are facing different financing environment and applying different management manners. Taking decision-making for example, the decision makers of state-owned companies undertake less risk in company operation and have to be more obedient to the governmental guidance. Hence new technologies are usually applied in state-owned companies, because any failure wouldn't bring as much pressure to those decision makers. The decision makers of share holding companies, however, have to shoulder much more risk in company operation, so they would not like to employ technologies with barriers and risks. From the above, it is possible for state-owned companies to do those projects under good social and environmental benefits other than poor economic performance and technological barriers. While for share holding companies, the financial indicators are focused on. Therefore the nature of company's ownership for common practice analysis is limited to share holding companies.

3) The production scale for common practice analysis is limited to 1~5 million tons of steel per year. The production scale of the project owner (Chuanwei Group) is 3 million tons of steel per year. According to *Policies on the Development of the Iron and Steel Industry*, only a steel company with a production capacity of more than 5 million tons is licensed to implement a trans-regional investment[13]. According to *Qualification Criteria of Iron Ore Importer in 2007*

12 Wang Hongtao, Cheng Yanling, Yang Tianzhu. *Research of 220 t/ h High Temperature and Pressure Plant Boiler with Combusting Pure BFG*. Energy Conservation Technology, 2005, 3(5):422~425.
13 Http://www.aa.gov.cn/dongtai/ShowArticle.asp?ArticleID=510&Page=1.

issued by China Iron & Steel Association and China Chamber of Commerce of Metals Minerals & Chemicals Importers & Exporters, only a steel company with a production capacity of more than 1 million tons is licensed to import iron ore[14]. Therefore, iron & steel companies with the production scale between 1~5 million tons of steel per year are similar in policy environment.

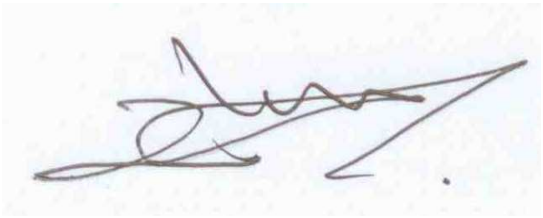
According to the list of top industrial enterprises in China[15], 9 iron & steel enterprises are share holding companies located in Central China except the project owner. Considering the production scale, 4 iron & steel enterprises out of the 9 iron & steel enterprises are similar to Chuanwei Group, including Pingxiang Iron & Steel Co. Ltd., Henan Jiyuan Iron & Steel Co. Ltd., Sichuan Dazhou Iron & Steel Co. Ltd. and Henan Anyang Yongxing Iron & Steel Co. Ltd.. Based on introductions of all these similar iron & steel companies[16,17,18,19], of which only Henan Anyang Yongxing Iron & Steel Co. Ltd. has installed a 3×3 MW BFG power plant[20].

The evidence for identifying similar projects to the Project has been provided (for example in footnote 51, 52 and 53 of the PDD) and validated by the DOE.

The unit installed capacity of the Project is 12 MW, four times the unit installed capacity in Henan Anyang Yongxing Iron & Steel Co. Ltd. The latter one is not comparable to the Project on scale. According to the confirmation letter from China Central Iron & Steel Research Institute, the Project is not a common practice due to its waste gas based power generation technology combusting solely blast furnace gas in boilers. The confirmation letter validated by the DOE has been provided in footnote 54 of the PDD and attached to this response as Annex 7 as well.

With the above clarification, explanation and additional information, we hope that the CDM Executive Board would be satisfactory and will approve the registration of our project activity in a sooner manner.

Yours sincerely



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14 Http://www.csteelnews.com/news/gangtienews/15435.html.
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