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3 More London Riverside, London SE1 2AQ
Tel: 020 7939 5000 Fax: 020 7939 5030 **www.climatechangecapital.com**

Response to the request for review for the CDM project activity

Ref: 1614 Pingdingshan Coal (Group) Co. Ltd. Methane Utilization Project, Henan Prov., China

Attention: Members of the CDM Executive Board
Manager, CDM Section

9 June 2008

Dear Sir or Madam,

We were informed that our project "*Pingdingshan Coal (Group) Co. Ltd. Methane Utilization Project, Henan Prov., China*" (reference number **1614**) was requested for review by the CDM Executive Board. As required by the Board, we would like to answer the questions and clarify the issues, as required by the Board as follows.

1. The DOE shall describe how the reliability of the input values used in the investment analysis have been validated, taking note of the guidance in EB38 paragraph 54.

The input values used for the investment analysis of the PDD come from the project's Feasibility Study Report (**FSR**) completed in April 2006 and approved in June 2006, and from equipment suppliers' data.

The data from the equipment suppliers have been chosen for technical inputs and costs in the case of the Vocsidizers:

- Input values to calculate electricity and heat generation from Shengdong engines come from the equipment supplier instead of the FSR because they reflect more accurately the equipment operation. Especially, engines' power performance has been selected based on information from Pingdingshan and Shengdong engineers whose experience on these engines gives power performances between 350kW and 400kW. This value was confirmed afterwards: during onsite visits, engine performance of 320kW to 420kW were observed at both Pingdingshan and another coal mine group using identical equipment. The selected value of 375kW is considered to be in the middle of this range.
- Input values for Vocsidizer's heat generation, investment and operational costs come from the equipment supplier: these accurate data were available only after the FSR approval. The supplier's proposal (dated 15 May 2006) is provided to the DOE, completed by a mail dated on 16 May 2006 that gives the price to be added to the proposal in order to take into account Vocsidizer's heat generation. This mail also gives the inputs for calculation of Vocsidizer's heat generation. Concerning Vocsidizer's operation costs, they have been assessed at 7% of investment costs based on informal discussion with the supplier. 7% is still conservative as 10% operation costs are often assumed for projects, and indeed, gas engine operation costs presented in the FSR are above 10%.
- All other data come from the project's FSR completed in April 2006 by Zhengzhou Design and Research Institute of the Ministry of Coal Industry accredited by Chinese Authorities. The DOE has validated the full consistency of the input values between the PDD and the FSR.

About the project starting date:

Because the project consists of an engine technology never before used by Pingdingshan, so the mine wanted to test this technology before deciding a full implementation of the project. Accordingly, preliminary equipment set (two engines out of a total of 38 for the whole project) was installed in September 2005 to test the technology (this date was defined as the starting date of the project as it is the earliest implementation date).

The full project implementation began in July 2006, when results of the FSR (completed in April 2006) and technical inputs described above were available and applicable because quite recent.

2. The DOE should describe how the start date of the project activity has been validated.

The Project Participants provided to the DOE the "Contract for engine installation".

This contract has been signed between Dongying, Shengdong group's subsidiary, and Mine 10 (Pingdingshan group) on 28 July 2005 and explains the modalities of installation of gas engines for power generation at Mine 10.

This contract mentions that the installation should not be finished later than 1st September 2005.

Further clarification is required on how the DOE has validated that the CDM was considered necessary to overcome the barriers for the development of this project activity.

VAM utilization faces significant technical barriers as this technology is completely new in China and personnel trained for its operation are not available. It has been a very important and difficult decision by the mine to introduce this very new technology to China. The Vocsidizer generates only small income from heat production, so it is interesting as an investment mainly for its combustion of methane. This methane combustion in turn, generates value for the mine only in terms of CER revenue, so the investment would never have been considered in the absence of the CDM. Secondly, the technology to utilize low or medium concentration methane developed by Shengdong Company is very recent and the perceived technology gap is therefore significantly higher than with conventional gas engine technology. It also requires extensive training personnel for the operation of such equipment.

The first reason why the CDM was a necessity to overcome these barriers is that it brings important new revenue (CERs) from VAM combustion and CMM new engines utilization that would not be profitable otherwise.

Beside financial reasons, the CDM process allows the mine to benefit from modern technical expertise. Additional investments in the CMM drainage system were necessary for the mine to make sure the methane flow was more stable. In order to assist the mine group in improving the reliability of the drained CMM, the CER buyer invested significant human capital and resources to advise the mine on a technical level (by sending foreign technology and mining experts to Pingdingshan to conduct an extensive audit of the drainage system and advise on improvements).

In the absence of the CDM and the associated expected revenue, China Pingdingshan Coal (Group) Co., Ltd. would not have considered investing in this kind of project.

3. Further explanation for the delay in submitting the project for validation is required. DOE should provide a detailed timeline of project implementation and evidence of actions taken to register the project as CDM.

In July 2005, China Pingdingshan Coal (Group) Co., Ltd. signed a services contract with Eco-Carbone (**EC**), a CDM project developer. This contract included services to prepare the necessary documentation and advice to develop a project activity under the CDM.

PDD work started in 2005 but ACM0008 was fully approved only by the end of November 2005. Therefore, many methodological aspects of the PDD and its full writing could only start in the beginning of 2006. However, in order to include all necessary details, the PDD could not be completed until after April 2006, when the feasibility study report was completed. During this period, China Pingdingshan Coal (Group) Co., Ltd. was also studying and deciding on the CMM and VAM technologies to be employed.

The PDD was modified in August 2006 following an updating of the PDD template and just afterwards, the PDD's pre-validation started in September 2006 with DNV. The first publication of the PDD was in November 2006.

Therefore, the timeline of project implementation is as below:

- EC-CDM services contract signature July 2005.
- Initial project assessment provided by EC to the mine over following months.
- September 2005: starting by the mine of unprofitable pilot installation of two engines, in order to test and gain initial experience with new technology in preparation of CDM registration.
- April 2006: results of FS showing that project required CDM financing to be profitable.
- August 2006: modification of PDD following an updating of the PDD template.
- September 2006: PDD's pre-validation starts.
- November 2006: first publication of PDD.

4. Individual monitoring and QA/QC procedures for each site should be presented in the PDD.

The project concerns 5 mine sites and the table below shows the CMM and VAM utilization for each of the 5 mines.

Mine	Gas engines with power and heat generation	Vocsidizers with heat generation
Mine 4	X	
Mine 8	X	X
Mine 10	X	
Mine 11	X	
Mine 12	X	

Consequently, the following monitoring equipment will be installed:

- Monitoring equipment for CMM utilization adapted to engines for power and heat generation: installed in all the 5 mines.
- Monitoring equipment for VAM utilization adapted to Vocsidizers for heat generation: installed only in Mine 8.

The monitoring plan and the QA/QC procedures for CMM utilization in engines and VAM utilization respectively are described in the PDD. Each coal mine will adopt proper monitoring and QA/QC procedures according to its CMM and VAM utilization.

For each mine, specific individuals and QA/QC auditor (the managing site engineer) for project monitoring are appointed. Each managing site engineer is responsible for the training of site's staff working on monitoring. Managing site engineers will be responsible for equipment operation, maintenance and calibration of the mine they are responsible for. They will check data quality by verifying if there are any values that can be considered to be outside the usual measurement range and by cross-checking all data available. In case inconsistency is detected, the managing site engineer will inform the CDM Project Manager who will take a decision on how to rectify the situation. Managing site engineers will also be in charge of data recording.

The CDM Project Manager is responsible for the training of all the managing site engineers with the technical assistance of the equipment supplier, for project monitoring management and for the QA/QC procedures and the consolidation of all measures. The CDM Project Manager will also check that data are recorded properly in each mine.

In addition, a comprehensive service plan will be signed with the monitoring equipment supplier, and this plan will provide additional quality control and assurance to the maintenance, calibration and operation of the equipment in each mine.

The monitoring plan and QA/QC procedures have been revised to reflect the practice at each site and to add more detail to the PDD.

5. Given the technology to be employed, the DOE should clarify how it can be assured that the efficiency of methane oxidation in vocsidizer (Eff_{HEAT}) will be maintained at the manufacturer's specifications throughout the crediting period.

The Project Participants have provided the DOE with a document from the Vocsidizer supplier (MEGTEC), showing that:

- MEGTEC has carried out measurement campaigns on 8 installed Vocsidizers already in operation around the world.
- These measurements confirmed that the Vocsidizer efficiency remains higher than 97% (actually in the range 97.4% and 98.5%) and that there is no evidence to show an efficiency reduction over Vocsidizer lifetime (ranging from 1 to 8 years in the sample).
- MEGTEC also explained why the Vocsidizer efficiency is higher than 97%. Considering the physical processes involved, this efficiency can be assured with any hydrocarbon gas type (including methane) and with any hydrocarbon gas concentration, confirming the applicability of the measurements mentioned in MEGTEC's document cited above.

Thus, the 97% efficiency of methane oxidation in the Vocsidizers (Eff_{HEAT}) is actually a conservative assumption, with the actual Vocsidizer efficiency likely to continue to exceed this value throughout the crediting period (10 years).

With the above clarification, explanation and supplementary information, we hope that the CDM Executive Board would approve the registration of "*Pingdingshan Coal (Group) Co. Ltd. Methane Utilization Project, Henan Prov., China*".

Yours sincerely,

Ben Wrigley.

Ben Wrigley
Vice President
Climate Change Capital
E-mail: bwrigley@c-c-capital.com