

**To the CDM Executive Board**  
UNFCCC Secretariat  
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Dear Sir or Madam

**Re: Response to request for review of “Jianli Kaidi Biomass Power Project “(Ref.no.3044)**

Please find enclosed the Project Participants response to the request for review of the above mentioned project.

**Issue 1: Further clarification is required on how the DOE has validated the suitability of input values in line with the version 1.1 of VVM (paragraphs 109 a, b and 111 c), particularly the: (a) lower operational hours than other similar projects (e.g., project 2230 applies 6,975 hours); (b) net electricity supplied to the grid and auxiliary consumption; (c) heat price; (d) if heat price includes the cost of the pipeline for transportation of steam to offsite location or/and the capital cost of the baseline coal fired boiler; (e) electricity tariff; and (f) higher O&M cost in comparison to the GSP PDD.**

**Responses of the Project Participants:**

Please refer to the DOE's responses and PDD Section B.4. Step 3 Investment Analysis for the justification on the rationality of the key parameters in the IRR calculations.

**Issue 2: The DOE is requested to provide further clarifications on how they have validated baseline scenario is appropriate for the project, given that: (i) the DOE has not explained the contradiction that the biomass residues are either dumped or left to decay in absence of the project activity and at the same time carry a purchase price as applied in the investment analysis; (ii) the baseline alternative H6 has not been sufficiently substantiated; (iii) it is not clear that heat, in absence of project activity, would have been generated from coal and not from any other less carbon intensive fossil fuel or renewable sources; (iv) all the users of steam have not been identified and it is not clear whether PP has control over all the users of the steam; and (v) there is an uncertainty that the: (a) heat displaced will not change/vary with the identification of user**

of the steam; (b) residual life of the boilers displaced in the baseline would be sufficiently large so that they will not be replaced anyway on its own; (c) the project boundary is steady and will not change with the identification of user/ consumer of the steam; and (d) forecasted baseline emissions claimed from heat are conservative.

**Project Participant Response:**

- (i) **the DOE has not explained the contradiction that the biomass residues are either dumped or left to decay in absence of the project activity and at the same time carry a purchase price as applied in the investment analysis;**

Firstly, it should be noted that a certain portion of biomass residues are utilized and only the surplus of the biomass residues are to be utilized in the proposed project. The availability of the biomass residues has been investigated by the FSR institute with support from the local authorities and has already been stated in the page 54, 55 of PDD. The availability analysis shows that the biomass residues are mainly left to decay under mainly aerobic conditions or burnt in an uncontrolled manner without utilizing it for energy purposes and there is abundant surplus of biomass residues could be utilized in the project, thus, there is hardly a market, not to mention a market price for them in the baseline scenario.

Although the biomass residues are either dumped or left to decay there is still an associated cost to their utilization for power generation. To obtain the residues from the farmers/rice millers and then process them as a fuel in the biomass power plant, there are costs attached. The biomass Cost 241RMB/t is quoted directly from the FSR dated September 2007 and estimated based on investigation on the local labor cost, transportation cost and mechanical treatment cost, storage cost, etc.

Additionally, as already stated in the page 26 of PDD, the biomass cost in the CCPG area where the project located was 300RMB/ton in 2006 and it was expected that with the increase on capacity of biomass power plants in China, the farmers realize the biomass residues' value better, which will result in big increase on the biomass residues' price as a fuel for the biomass power plant<sup>1</sup>.

The biomass purchasing statement bills and settlement log book provided by the project owner shows that cost of rice husks and cotton straws are 270RMB/t and 280RMB/t (delivered price to plant) respectively in December 2009<sup>2</sup>.

- (ii) **the baseline alternative H6 has not been sufficiently substantiated;**

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<sup>1</sup> Related Questions Research on Biomass Power Generation Using Agriculture and Forest Residue in China, HUANG Jintao, Journal of Shenyang Institute of Engineering (Natural Science), Vol14 No11, Jan. 2008; Provided to auditor during validation

<sup>2</sup> Statement Bills and log books of the fuel purchasing of Jianli Kaidi biomass power generation project in December 2009

Firstly, the heat supply situation is investigated by Construction bureau of Chengdong Industrial Park and the FSR writing institute and the baseline information of all the heat users in the PDD including the type and capacity of the boilers, the operating start date of the boilers, the type and quantity of the fuels, the geographical coordinates of the heat users and the distances from the heat users to the project are all obtained through official letter from the Construction bureau in Chengdong Industrial Park<sup>3</sup>.

The official letter confirms that all the heat demand from the heat users is met by the small coal fired boiler installed by the individual plant themselves in the absence of the project activity.

Secondly, it has been demonstrated that all the existing boilers in the industrial park are coal fired by visiting all the existing heat users in the industrial park on the CDM validation site visit.

Thirdly, it is unlikely that the existing small coal fired boiler would switch to other any other less carbon intensive fossil fuel or renewable sources. As stated in the PDD page 16, there are no other heat supply options available (no districting heating system nearby) except for the use of small individual boilers and it is not feasible for the individual enterprise to be equipped with expertise on the biomass collection or biomass-boiler operation to switch the fuel from coal to biomass residues. What is more, the use of coal as the fuel is the most cost effective for the consumers and this has been demonstrated through a least cost analysis of the different fuel options (coal, oil and gas), where it can be seen that the operational cost of coal-fired boilers is much lower than that of gas and oil<sup>4</sup>. This was already stated in the page 16, 17 of PDD.

It should be further noted that the availability of natural gas in the area is limited. There is a shortage of natural gas in Jianli County recently due to cold whether in winter and the natural gas for industrial utilization is required to be lessened to guarantee the civilian demand<sup>5</sup>.

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<sup>3</sup> "Supplementary introduction on the boilers in Chengdong Industrial Park", official letter of Construction bureau of Chengdong Industrial Park

<sup>4</sup> FANLing, CAO Qin, GUTao, YUQian, Comparison of Environmental Impact and Running Expense of Minitype Gas-fired Boiler and Oil-fired Boiler with Coal-fired boilers,[J] Arid Environmental Monitoring, 2004(03) ; Provided to auditor during validation

<sup>5</sup> <http://www.jlgyw.com/past.php?id=192>

<sup>6</sup> "Supplementary introduction on the boilers in Chengdong Industrial Park", official letter of Construction bureau of Chengdong Industrial Park

<sup>7</sup> Technical specification of the steam turbine utilized in the project; Provided to auditor during validation

<sup>8</sup> IRR spreadsheet when no steam is extracted from the steam turbines; Provided to auditor during validation

<sup>9</sup> IRR spreadsheet when maximum steam is extracted from the steam turbines; Provided to auditor during validation

Fourthly, the heat consumed by each end user will be monitored at the heat user sites and only the end users listed in the PDD can be accounted for emission reduction.

Therefore, the generation of heat in boilers using small coal fired boiler is the baseline for heat generation.

- (iii) it is not clear that heat, in absence of project activity, would have been generated from coal and not from any other less carbon intensive fossil fuel or renewable sources;

Please refer to the responses above.

- (iv) all the users of steam have not been identified and it is not clear whether PP has control over all the users of the steam;

All the heat users are identified in the PDD; please refer to A.4.3 in the PDD.

As yet there is no heat purchase agreement signed since the heat pipeline is still under construction but the heat energy generated by the proposed project activity is bound to be consumed by users located in the industrial park.

As mentioned above, in the absence of the proposed project there would not be a heat source from which to install a district heating system and the demand for heat would have continued as before by small coal-fired boilers for each consumer. Since the national government encourages application of district heating system in order to reduce energy consumption and under the nationwide context, the Construction bureau of Chengdong Industrial Park, as a government unit, is willing to build a district heating system to take the heat of the proposed project and to meet the heat demand of consumers in the industrial park through the proposed project activity.

On completion of the proposed project and associated heating network, the heat users in the industrial park will be required to stop operating the coal fired boilers and to use the heat from the proposed project activity when it is fully operational, which is stated clearly in the official letter of Construction Bureau of Chengdong Industrial Park<sup>6</sup>. This is a result of negotiations between the project owner and the Bureau.

Therefore, the project owner and the heat users in the Chengdong Industrial park are bound by the local government in the absence of the heat supply agreements.

- (v) there is an uncertainty that the: (a) heat displaced will not change/vary with the identification of user of the steam; (b) residual life of the boilers displaced in the baseline would be sufficiently large so that they will not be replaced anyway on its own; (c) the project boundary is steady and will not change with the identification of user/ consumer of the steam; and (d) forecasted

**baseline emissions claimed from heat are conservative.**

As mentioned above, all the heat users have been identified in A.4.3 of the PDD. The heat energy generated by the proposed project activity is bound to be consumed by the users located in the industrial park. The heat users will be required to stop operating the coal fired boilers and to use the heat from the proposed project activity when it is fully operational, which is stated clearly in the official letter of Construction bureau of Chengdong Industrial Park. Therefore, it is certain that no matter how long the residual life of the boilers displaced in the baseline would be, they are going to be replaced when the project is fully operational.

The project boundary was already confined in existing users which was supplied by small coal fired boiler in the industrial park stated in page13 of PDD. In the unlikely event that there are changes to the users of the steam which may influence the project boundary and the emission reduction, a conservative calculation approach has been adopted. The heat will be monitored not only at generation site according to the methodology, but also monitored at each end user site. The sum of the heat use by the individual users will be compared to the heat at generation and the smaller of the two values will be used for emission reduction calculation from heat generation.

Additionally, to guarantee that the CERs only arise from the heat users as defined in the PDD, the heat consumed by the end users not listed in the PDD will not be accounted for in the emission reduction calculation.

Furthermore, in the unlikely event that there are new heat users not accounted for by the PDD and even there are this will increase the extraction of steam and decrease the electricity generation and this will not impact the additionality of the project. As stated in the PDD on pages 27 and 28 it clearly shows that under three operating scenarios (the rated capacity scenario, the condensing scenario, the maximum extraction scenario)<sup>7</sup>, the IRR will all far below the benchmark:

Operational Scenarios	Power Capacity (MW)	Steam Extracted (t/h)	IRR (%)
Rated Scenario	2 × 12	2 × 15	2.19
Condensing Scenario	2 × 15	0	0.87 <sup>8</sup>
Maximum Extraction Scenario	2 × 6.59	2 × 45	4.97 <sup>9</sup>

The IRR of maximum extraction scenario will reach 4.97% instead of the current projected IRR of 2.19%. Therefore, any possible change in heat utilization not accounted for in the PDD will not impact the additionality of the project since the IRR remains well below benchmark in all scenarios.

What is more, to increase the conservatism, the efficiency of boilers that would be used in the absence of the project activity is conservatively estimated as 100% for the emission reduction from heat generation of the project activity.

**Issue 3: The methodology ACM0006 (version 6) on page 6 and 7 requires**

**the PDD to document the type and capacity of the new/existing boilers and the types and quantities of fuels used/would be used in absence of the project activity. The PDD and the Validation report does not mention how this requirement is complied for both project site as well as end-users of steam in the project boundary.**

**Project Participant Response:**

The heat supply situation is investigated by Construction bureau of Chengdong Industrial Park and the FSR writing institute and the baseline information including the type and capacity of the boilers, the starting operating date of the boilers, the type and quantity of the fuels, the geographical coordinates of the heat users and the distance from the heat user to the project are all obtained through official letter from the Construction bureau in Chengdong Industrial Park<sup>10</sup>. The above information are all documented in the PDD, please refer to A 4.3 in the PDD. The model of the boilers which are provided by the FSR institute<sup>11</sup> are also documented in A 4.3 in the PDD, which shows that all the boilers are chain-grate boilers by referring to the national standard<sup>12</sup>.

**Issue 4: The DOE is requested to further clarify that monitoring of the heat at generation end and not at the user end will result in real, conservative and actual emission reductions.**

**Project Participant Response:**

According to the methodology ACM0006 Version 6, the net quantity of heat generated from firing biomass in the power plant should be monitored for emission reduction from the heat generation. And the net heat generation is determined in the monitoring methodology as the difference of the enthalpy of the steam generated by the project cogeneration plant minus the enthalpy of the feed-water and any condensate return.

To result in a real conservative emission reduction, the heat consumed by each end user will also be monitored and summed up.

The sum of the heat use by the individual users will be compared to the heat at generation and the smaller of the two values will be used for emission reduction calculation from heat generation.

Besides, to guarantee that the project boundary is not changed and heat users are the ones have defined in the PDD, the heat consumed by the end users not

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<sup>10</sup> "Supplementary introduction on the boilers in Chengdong Industrial Park", official letter of Construction bureau of Chengdong Industrial Park

<sup>11</sup> Introduction on the heat supply in Jianli Kaidi biomass power plant, KaidiGongChengHan[2008]031, issued by Wuhan Kaidi Power Engineering Co.,Ltd, issued on 06/12/2008; Provided to audit during site visit

<sup>12</sup> Modeling for industrial boilers, JB/T 1626-2002, issued on 27/12/2002, effective on 01/04/2003, issued by Economic and Trade Commission of P.R. China

listed in the PDD can't be accounted for emission reduction. The consistency of the data can also be checked by the quantity of fuels fired to see whether the net heat generation divided by the quantity of fuels fired results in a reasonable thermal efficiency.

What's more, to be conservative, the efficiency of the boilers is fixed as 100% during the crediting period.

Please refer to B 7.1 and B7.2 in the PDD.

Yours faithfully

A handwritten signature in cursive script, appearing to read 'M. Rawlins'.

Madeleine Rawlins

Qualification Director  
Camco International  
Beijing