CDM Watch
Scrutinizing Carbon Offsets

Comments on the validation of Zhejiang Guodian Beilun Ultra-supercritical Power Project

We would like to raise several serious concerns about the validation of Zhejiang Guodian Beilun Ultra-supercritical Power Project. This specific project does not meet the requirements of the CDM for a number of reasons and should not be positively validated.

I. General Comment

1) The Zhejiang Guodian Beilun Ultra-supercritical Power Project, which *"comprises the installation of two sets of 1000MW ultra-supercritical units of coal-fired generation",* is an inappropriate project for the Clean Development Mechanism. The mitigation objective of the international climate change regime requires that societies and economies make a major and rapid transition to low-carbon bases. This means that we need to figure out how to leave fossil fuels in the ground and stop extracting them as soon as possible. Construction of a new coal-fired power plant is inconsistent with this objective.

2) This project is also manifestly not sustainable development. Kyoto Protocol Article 12(2) clarifies that a purpose of CDM is to assist developing countries in achieving sustainable development. Though it lacks a precise definition, sustainable development is generally considered to include principles of intergenerational equity and sustainable use. Burning coal is one of the major sources of greenhouse gas emissions that must be curbed for the protection of future generations, and it cannot seriously be considered a sustainable use practice.

3) Relieving European power giant RWE Power and its home country of Germany of obligations to reduce domestic emissions reductions by helping build a new coal-fired power plant in China is either an abuse of the Kyoto flexibility mechanisms and a call for substantial reform and redirection, or an illustration of the corruption of the carbon market concept as a whole.

II. Additionality

The additionality of the Zhejiang project is not credible and the PDD does not include the information and documentation required by the rules to support the assertion of additionality. Without the required evidentiary documentation, the DOE must find that the project is not additional.

a) No evidence of prior consideration of CDM

The PDD guidance[1] provides specifically relevant instructions: If the starting date of the project activity is before the date of validation, provide *evidence* that the incentive from the CDM was serious considered in the decision to proceed with the project activity. *This evidence shall be based on (preferably official, legal and/or other corporate) documentation that was available at, or prior to, the start of the project activity*. In such cases project proponents shall provide an implementation timeline of the proposed CDM project activity. The timeline should include, where applicable, the date when the investment decision was made, the date when construction works started, the date when commissioning started and the date of start-up (e.g. the date when commercial production started). In addition to this implementation timeline project participants shall provide a timeline of events and actions, which have been taken to achieve CDM registration, *with description of the evidence used to support these actions. These timelines will*

[1] EB 41 Report Annex 12 p. 12 (italics added), the CDM Executive Board

allow the DOE to assess the serious consideration of the CDM in the project decision making process and project implementation.

The timeline for the development of the project raises serious questions about the consideration of CDM in the decision to proceed with the project, which leaves an additionality determination very dubious.

1) Table B.5-1 of the PDD indicates that the project investment decision was made on November 3, 2005; the main purchase agreement was signed on March 22, 2006; construction formally started on December 15, 2006 yet the project methodology was not approved until September of 2007. It is very difficult to believe that this RMB 7,750,000,000 project was built based on the assumption that it would generate credits from the CDM, and would not have been built otherwise, given the large uncertainties associated with CDM registration at the time that the project development decision was made before March 2006.
    a. No coal-fired power plant was successfully registered under the CDM in March 2006. It was far from certain that coal would be considered an appropriate technology for the CDM because of the reasons mentioned above.
    b. An appropriate methodology for the project did not exist in March 2006. One was only registered a year and a half later.
    c. The developer waited one more year after the methodology was approved before signing a validation agreement with SGS.

This timing gives a strong indication that the project is most likely non-additional. Are we really supposed to believe that an investment decision involving a capital expenditure of RMB 7,750,000,000 was made more than 4 years before the project will be registered and 22 months before the methodology was even approved? While the table asserts that CDM participation was part of the initial investment decision, there is no reference to any documentation to support this important assertion. If the assertion is untrue, or if it cannot be supported, then the project is not additional.

Guidelines on the Demonstration and Assessment of Prior Consideration of the CDM[2] states that the proposed project activities with a start date before 2 August 2008, for which the start date is prior to the date of publication of the PDD for global stakeholder consultation, are required to demonstrate that the CDM was seriously considered in the decision to implement the project activity. Such demonstration requires the following elements to be satisfied:
(a) The project participant must indicate awareness of the CDM prior to the project activity start date, and that the benefits of the CDM were a decisive factor in the decision to proceed with the project. Evidence to support this would include, inter alia, minutes and/or notes related to the consideration of the decision by the Board of Directors, or equivalent, of the project participant, to undertake the project as a CDM project activity.
(b) The project participant must indicate, by means of reliable evidence, that continuing and real actions were taken to secure CDM status for the project in parallel with its implementation. Evidence to support this should include, inter alia, contracts with consultants for CDM/PDD/methodology services, Emission Reduction Purchase Agreements or other documentation related to the sale of the potential CERs (including correspondence with multilateral financial institutions or carbon funds), evidence of agreements or negotiations with a DOE for validation services, submission of a new methodology to the CDM Executive Board, publication in newspaper, interviews with DNA, earlier correspondence on the project with the DNA or the UNFCCC secretariat.
Assessment of real and continuing actions shall be validated by the DOE and the validation should focus on real documented evidence as indicated in paragraph 6 (b), including an assessment by the DOE of the authenticity of the evidence. In validating proposed CDM project activities where:

[2] (Ver. 03) (EB 49 Report Annex 22)

(a) there is less than 2 years of a gap between the documented evidence the DOE shall conclude that continuing and real actions were taken to secure CDM status for the project activity;
(b) the gap between documented evidence is greater than 2 years and less than 3 years, the DOE may validate that continuing and real actions were taken to secure CDM status for the project activity and shall justify any positive or negative validation opinion based on the context of the evidence and information assessed;
(c) the gap between documented evidence is greater than 3 years, the DOE shall conclude that continuing and real actions were not taken to secure CDM status for the project activity.
If evidence to support the serious prior consideration of the CDM as indicated above is not available the DOE shall determine that the CDM was not considered in the decision to implement the project activity.

2) However, the Zhejiang PDD includes no documentation or reference to any evidence to support the assertion that consideration of CDM was part of the 2005 project investment decision. Where are the minutes or notes related to the consideration of the investment decision of the Guodian Zhejiang Beilun Third Power Generation Co., Ltd. to undertake the project as a CDM activity?
3) Also, to determine whether there were "continuing and real actions were taken to secure CDM status for the project in parallel with its implementation," the DOE must focus on "real documented evidence" and an assessment of the authenticity of such evidence. The PDD neither includes nor references any real documented evidence.

Due to the lack of evidence, the DOE must determine that the CDM was not considered in the decision to implement the project activity and the project is not additional.

b) Inadequate alternatives analysis/baseline setting

The alternatives analysis (PDD section B.4.) used to set the baseline and determine additionality is faulty. First, the references for the discussion of the identified alternatives are inadequate. According to the PDD guidance[3], this section is to "Explain and justify key assumptions and rationales. Provide relevant documentation or references. Illustrate in a transparent manner all data used to determine the baseline scenario (variables, parameters, data sources, etc.)."

1) The rationales for the elimination from consideration of the more sustainable energy sources, hydro and wind, biomass, and MSW incineration (alternatives 7 and 8) are not adequately supported. In particular, nuclear power should be identified as a plausible alternative scenario in page 9 table B.4-1. Nuclear plants represent a small but still significant contribution to the most recent builds identified in the grid analysis and would provide equivalent baseload generation, albeit with no CO2 emissions. Just because they can't be a CDM project does not mean that they should not be considered as potential build alternatives in a baseline analysis.

2) Page 10, Section B.4(II)(3): Description of large hydro alternative is unsubstantiated. Also, even if true, the alternative where large hydro is constructed in another province either within the ECG or delivered to it via new transmission assets is not considered. China as announced to build 20 GW large hydro power by 2020.

3) Page 9: Section B.4: It is stated that alternatives should not be considered that are inconsistent with Chinese Laws and Regulations. However, 1.2 GW of subcritical coal would be inconsistent with current NDRC re required construction of efficient new EGUs. Given domestic production of all required components of supercritical EGUs, and the stated shortages of both coal to supply plants and power to supply the grid, at a minimum, supercritical would be the appropriate baseline against which to judge the project. One key policy conducted by the government is "Promote Big and Close Small" in a policy notice of

[3] EB 41 Report Annex 12 p. 11

the State Council in 2007 named “Provision on speeding up the shutting down small thermal power units” to achieve the 20% energy efficiency target. Basically, units less than 50MW will all be shut down, and that less than 100MW with 20 years operation and units less than 200MW with full life cycle, and the coal consumption 15% higher than national average should be shut down. New units less than 135 MW won’t be allowed, and 300MW, 600MW and 1000MW are encouraged. While the government does not have specific policy instrument like subsides, tax preference on building USC power, the manufacture of USC facility listed USC as key area to encourage in the stimulus plan. The PDD actually refers to subcritical baselines. However, while they should be treated in the baseline setting, the PDD justifies the sustainability of the project (Page 2, Section A.2). This is another reason why the most likely domestic technology - which faces no barriers and is likely to comprise the bulk of new EGUs added in the three year comparison period - is supercritical.

4) Most importantly, Page 4, Section A.4.4: Calculation of estimated emissions reductions based on the difference between ultrasupercritical units and subcritical units is incorrect because subcritical units are not an appropriate baseline. Ultrasupercritical is becoming BAU because of existing Chinese policies and incentives and can therefore not be considered additional. Moreover there are other relevant benefits that China is actually considering in making decisions. Reduced NOX, SOX and CO2 emissions and reduced coal consumption and better coal supply/demand balance are on of the best ways to meet the national efficieny per GDP target.

5) Page 11, Section B.4(III) states that in dry seasons (from November of the year to April the next year), it is difficult to guarantee normal supply from Sichuan Grid and Three Gorges Hydro Power Plant. However, the gorges and its seasonality doesn't prove that there isn't sufficient additional capacity that could be added and then brought in to the ECG to deliver year round hydro equivalent to the project. The PDD does not argue that intermittent generation cannot be compared to baseload.

6) The alternatives analysis fails to consider a “no project” alternative. This is required by the Additionality Tool. Tool for the demonstration and assessment of additionality (Ver. 05.2) Sub-step 1a: (1)(c) (EB 39 Report Annex 10 p. 4).

7) The alternatives analysis also fails to consider an alternative in which conservation is used to relieve the projected need for the power to be generated by the project. If the service area is big enough, it may be more cost-effective to increase efficiency and reduce energy waste than to build new power sources. This alternative should be considered.

8) Page 13, Table B.4-3: All of the capacity factors seem very low. 5000 hours implies a capacity factor of just 0.57. The claim that a gas plant on the ECG would only run 3500 hours (CF = 0.40) seems unrealistic as well if power is in such short supply. Gas might be run as peak capacity in general, but large gas units would likely not be used in this fashion in a context where supply is struggling to meet demand. PDD should use actual CFs for power plants on the grid that reflect realities in China. Increases in capacity factor will reduce the significance of any differences in capital expenditure and tend to emphasize the unacceptability of the subcritical option. The sensitivity analysis indicates that if the gas units were utilized just 350 hours more per year then they would be cost-competitive with ultrasupercritical coal.

c. Faulty and unsupported investment analysis

The investment analysis portion of the additionality analysis is also inadequate.

1) The investment analysis includes no spreadsheets and is not reproducible or transparent. For investment analysis, the Additionality Tool[4] directs the following: "Present the investment analysis in a transparent manner and provide all the relevant assumptions, preferably in the CDM-PDD, or in separate annexes to the CDM-PDD, so that a reader can reproduce the analysis and obtain the same results. Refer to all critical techno-economic parameters and assumptions (such as capital costs, fuel prices, lifetimes, and discount rate or cost of capital). Justify and/or cite assumptions in a manner that can be validated by the DOE."

2) Furthermore, while PDD Table B.4-3 shows that the project will generate approximately 2/3 more electricity than the sub-critical alternatives, the additional revenue that the project will bring in as a result of this additional power generation does not appear to be included anywhere in the evaluation of the comparative financial attractiveness of the alternatives. If the project, by virtue of the additional revenue from the additional power generation, is likely to be more profitable than the other alternatives, the project is not additional by investment analysis. (If this additional revenue is somehow somewhere included in the investment analysis calculations, the opacity of this inclusion serves as another indicator of the lack of transparency of the investment analysis.)

3) In addition, the Annex: Guidance on the Assessment of Investment Analysis to the Addtionality Tool requires that the fair value of the project assets at the end of the assessment period should be included as a cash inflow in the final year of the project. The fair value of the project assets at the end of the assessment period does not appear to have been included in the investment analysis.

4) Page 9, Section B.4(I): China is the largest builder of ultrasupercritical units in the world using JVs with western manufacturers just like the one outlined in this PDD. The PDD should not only explain via an investment analysis why the project activity would not be implemented without CDM revenue but should explain what is different about this project as opposed to the other ultrasupercritical units that have been built in China that would make it additional as a CDM project.

5) The PDD ignores extra income from greater power generation than alternatives, as well as value of power plant at end of project period. Although the methodology uses LCOE and therefore doesn't have to examine total revenue, the relevant metrics that should be taken into account are LCOE or IRR which both take utilization hours into account.

6) Ultimately, China Guodian Corporation owns Guodian Zhejiang Beilun Third Power Geneation Co., Ltd is one of the big 5 state-owned generators. However, Page 4, Section A.4.5 states that no Annex 1 public funding is applied to the project. What about non-Annex 1 public funding?

d. Project fails common practice analysis

According to the PDD, there are three other 1000MW ultra-supercritical power plants that have begun operations since 2006. Although these all are reportedly attempting to obtain CDM validation, it seems that none has.

1) That there are three other plants using the same technology and all have been build without receiving any CDM funding, the indication is that the use of the project technology and the project activity do indeed constitute current common practice.

[4] EB 39 Report Annex 10 p. 7; see also, id. at p. 13 ("Project participants should supply spreadsheet versions of all investment analysis. All formulas used in this analysis be readable (sic) and all relevant cells be viewable and unprotected.")

2) Page 20, Table B.5-2: The PDD states that other units, already constructed and operating, are applying for CDM credit. This does not support a finding of additionality. These projects, especially given that they were built and are operating without the guarantee of CDM revenue don't show anything except that both Huaneng and Guodian are willing to take the bet (to the tune of RMB 8 billion per plant, that the investment will work without CDM credit). Further, Phase 1 of the Huaneng unit, and possible Phase II went into operation prior to the approval of the methodology. This table demonstrates that ultrasupercritical is already common practice on the ECG, thus further calling into question additionality.

III. Calculation of emissions reductions

Leakage is the net change of anthropogenic emissions by sources of greenhouse gases which occurs outside the project boundary, and which is measurable and attributable to the CDM project activity. Leakage must be accounted for in the estimation of emissions reductions.

1) The PDD admits to zero leakage. It should consider the emissions resulting from the project outside its temporal boundaries. What amount of greenhouse gases will be emitted by the project after the end of the crediting period in 2019? This project is to construct a brand new coal-fired power plant. Absent a non-existent commitment from the project owners to shut down the plant at the end of the project period, the plant will continue to emit substantial volumes of greenhouse gases for years to come. What is the expected operational life of this plant? How much will it emit over its lifetime? How does the emissions reduction calculation account for this?

2) Presumably, the construction of the project was a somewhat major project that generated greenhouse gas emissions both at the construction site and offsite, in the production and transportation of equipment and materials. These emissions appear to be excluded from the PDD's estimation of emissions reductions.

IV. Public Participation

The information in the PDD is insufficient to show that the project developer conducted an appropriate and adequate public participation process. To the contrary, the information provided indicates that the public participation process fails to satisfy the requirements of UNFCCC Article 6. Under this article, Parties commit to "[p]romote and cooperate in education, training and public awareness related to climate change and encourage the widest participation in this process, including that of non-governmental organizations." Public participation is a key to achieving the sustainable development goal of the CDM.

To ensure that an appropriate public participation process has been conducted, the designated operating entity must review the PDD to confirm that "[c]omments by local stakeholders have been invited, a summary of the comments received has been provided, and a report to the designated operating entity on how due account was taken of any comments has been received." Modalities and procedures for a clean development mechanism as defined in Article 12 of the Kyoto Protocol para. 37(b) (FCCC/KP/CMP/2005/8/Add.1 at 14). To implement the intent of UNFCCC Article 6, this review should determine whether the information provided in the PDD demonstrates that the project participants took steps to ensure that local stakeholders had a meaningful opportunity to provide their opinions and comments on the project. If the DOE is willing to sign off on the PDD so long as it contains any description of how the project participants solicited and took comments into account, the intention of Article 6 and the Modalities is subverted.

The PDD guidelines[5] include the following directions for Section E of the PDD concerning public participation: Please describe the process by which comments by local stakeholders have been invited and compiled. An invitation for comments by local stakeholders shall be made in an open and transparent manner, in a way that facilities (sic) comments to be received from local stakeholders and allows for a reasonable time for comments to be submitted. However, this requirement has not been taken into account seriously:

1) Section E of the Zhejiang PDD includes sections on the questionnaire and consultation meeting that apparently consisted of the entirety of the public participation process. The PDD reports that 92 questionnaires were distributed and all of them were returned and expressed support for the project. The 100% return and support rates raise questions about the selection of the respondents and whether the questionnaire results truly reflect public opinion about the project. It seems unlikely that 100% of questionnaires distributed randomly or sufficiently widely would be returned and even less likely that a widely or randomly or representatively distributed survey would find 100% project support. To whom were the 92 questionnaires given? The PDD guidelines call for identification of these people, yet none is included here. Were these people selected or picked at random? Were questionnaires provided to a wide range of people with varying interests? Was an opportunity provided to anyone who wanted to have a say, or only to those persons selected? The questionnaire collected "general information of the respondent" – what does this information indicate about who was asked for their opinions?

2) The questions on the questionnaire also seem crafted to solicit the maximum project support. They appear designed to prompt expressions of desire for economic development and not to prompt consideration of environmental concerns.

3) The "consultation meeting" consisted of twenty participants, again unnamed, and, again, 100% in support of the project. The twenty participants included "officer representatives, enterprises' representatives, local dwellers and CDM consultant institute of the Project etc." Exactly how many actual local residents or community leaders were included in this meeting? The presence of several representatives of entities directly engaged in the project development in such a small meeting is likely to have discouraged any serious or hard questioning or criticism of the project. That the PDD summarily states that "the Project owner and CDM consultant institute collected earnestly the participants' comments and suggestions" is a self-serving statement that fails to demonstrate that there was adequate and meaningful solicitation of public input.

4) The PDD does identify that some questionnaire respondents identified concerns about air pollution. However, there is no substantive discussion whatsoever about the air pollution concerns of local area residents.

5) PDD section E.3. concerning the report on how due account was taken of any comments received is also a self-serving conclusory statement. How did the Project owner take into careful consideration the unspecified "public worries about possible environmental impacts incurred by the Project"? What are the environmental measures that will be taken? Do these measures satisfy the concerns of the public?

The DOE should deny validation of this project because – contrary to the rules and the guidelines – the PDD fails to demonstrate that a public process that satisfies the intent of the Modalities and UNFCCC Article 6 was conducted. Indeed, the information in the PDD tends to indicate that the public process was a sham, including only a small number of people, if any, without a vested interest in the project, all of whom supported the project, and that nothing has been done to explore and take into account the pollution concerns of area residents.

[5] Guidelines for Completing the Project Design Document (CDM-PDD) and the Proposed New Baseline and Monitoring Methodologies (CDM-NM) Part II.B. Section E (EB 41 Report Annex 12 p. 20).