| Name of the stakeholder submitting this form (individual/organisation): | Eva Filzmoser / CDM Watch  
Steve Herz / Sierra Club |
| --- | --- |
| Address and Contact details of the individual submitting this Letter: | Address: Rue d’Albanie 117, 1060 Brussels, Belgium  
Telephone number: +32499212081  
E-mail Address: eva.filzmoser@cdm-watch.org |
| Title/Subject (give a short title or specify the subject of your submission) | Request for Review of the Additionality of CDM Project 5027: Zhejiang Jiaxing Ultra-supercritical Power Generation Project |
| Please mention whether the Submitter of the Form is: |  
☐ Project participant  
☒ Other Stakeholder, please specify NGOs |
| Specify whether you want the Letter to be treated as confidential: |  
☐ To be treated as confidential  
☒ To be publicly available (UNFCCC CDM web site) |

**Purpose of the Letter to the Board:**

Please use the space below to describe the purpose for submitting Letter to the Board.

(Place tick only one of the four types in each submission)

- ☒ **Type I:**
  - ☐ Request Clarification  
  - ☐ Revision of Existing Rules
  - ☐ Standards. Please specify reference
  - ☐ Procedures. Please specify reference
  - ☐ Guidance. Please specify reference
  - ☐ Forms. Please specify reference
  - ☒ Others. Please specify reference: Concerns about implementation of CDM Rules

- ☐ Type II: Request for Introduction of New Rules
- ☐ Type III: Provision of Information and Suggestions on Policy Issues

---

1. Note that DNAs and DOE shall not use this form to submit letter to the Board.
2. Note that the Board may decide to make this Letter and the Response publicly available.

Version 01/02 August 2011
We are writing to express our concerns about the proposed Project Activity 5027: Zhejiang Jiaxing Ultra-supercritical Power Generation Project that is currently seeking registration. As the deadline for requesting review is 9 February 2012, we request that you initiate a review as soon as possible.

The project sponsor (“Zhejiang Zhe’neng Jiahua Power Generation Co., Ltd.”) claims that the use of ultra-supercritical technology will generate emissions reductions against a baseline of supercritical technology. **However, according to our research, this project is not additional under CDM rules and should not be eligible for CDM support.** If registered, the project could receive over 3 million Certified Emissions Reductions (CERs) that do not represent additional emissions reductions. Registration of a project that fails to meet CDM requirements and will lock in about 6.9 million tons of CO2 emissions per year, (PDD, at 27.) at a time when the ACM0013 methodology has been suspended, would seriously undermine the credibility of the CDM process.

Despite the large number of CERs at issue, the difference in the levelized cost of energy (LCOE) between the ultra-supercritical project activity and the proposed supercritical baseline is only 0.002 Euro/kWh. For this reason, the additionality determination is highly sensitive to the initial assumptions. As discussed at the 65th Board meeting, when the difference in Project IRR versus Benchmark IRR is very small it is “not credible to support claims that only CDM is decisive for investment decision,” especially in the case of large infrastructure projects where other strategic considerations have a strong influence on the decision making process. (See [http://unfccc4.meta-fusion.com/kongresse/cdm65/pdf/4.3_62_Additionality_improvement-4.pdf](http://unfccc4.meta-fusion.com/kongresse/cdm65/pdf/4.3_62_Additionality_improvement-4.pdf))

The Executive Board should review this request for registration to ensure that it receives the kind of rigorous, objective scrutiny necessary to protect the integrity of the CDM process. Specifically, the Executive Board should review the additionality claims and the baseline assumptions of the project activity in light of the following:

1. **The project sponsor failed to evaluate alternative tariff structures that would enable the project to achieve a reasonable rate of return without CDM support.** The CDM Executive Board has refused to register other projects on these grounds.

2. **The use of ultra-supercritical coal technology is already “common practice” in China and in the East China Grid.**

3. **The project does not depend on CDM support to proceed as it has already been commissioned.**

4. **The sensitivity analysis improperly advantages supercritical technology by using an unrealistically narrow range of fuel price variation, and by failing to properly account for China’s dispatch rules**

5. **The Validation Report fails to adequately assess all “realistic and credible” baseline scenarios.**
Please use the space below to any mention any suggestions or information that you want to provide to the Board. In doing this please describe the exact reference source including the version (if any).

**DISCUSSION**

The project sponsor failed to evaluate alternative tariff structures that would enable the project to achieve a reasonable rate of return without CDM support. The Executive Board has refused to register other projects on these grounds. The Additionality Tool requires the project sponsor to fully consider the “project without CDM support” alternative. (Tool for the demonstration and assessment of additionality, Ver. 5.2, Annex: Guidance on the Assessment of Investment Analysis, at 5).

1. **This includes consideration of alternative tariff structures that would obviate the need for CDM support.** Thus, in its Review of the Project Activity (3020): GHG Emission Reductions through grid connected high efficiency power generation, the Executive Board declined to register an Indian supercritical project on the grounds the project proponent had not demonstrated additionality because it “had not considered a tariff that would enable it to achieve its ROE benchmark and implement the project activity without considering CDM revenues….“(http://cdm.unfccc.int/Projects/DB/DNV-CUK1254830678.73/Rejection/IWNNWJJIB1G6WAG6F9RW59N3AOLQEXP; See also, Final Ruling Regarding the Request for Registration of Rincon Verde LFGTE Project (3432) (“The DOE has failed to substantiate additionality of the project activity, in particular, the suitability of … the electricity tariff assumed in the PDD… The (insufficiently justified) tariff is a significant component in determining the additionality of the project activity….“))

In its Request for Review of another Indian supercritical project, the Executive Board similarly challenged the failure to consider alternative tariffs, and instructed the DOE to “provide a sensitivity analysis of the tariff as this is a key parameter to the IRR calculation.”( Registration Request for Review: Greenhouse Gas Emission Reductions Through Super Critical Technology - Jharkhand Integrated Power Ltd. (4629), available at http://cdm.unfccc.int/Projects/DB/TUEV-RHEIN1301452084.68/Review/QHZKRH4KHWRXTR5711DVJ3PE9PFBV/display)

Here, only minor changes in the tariff structures would be required, because the difference in LCOE between the ultra-supercritical project activity and the proposed supercritical baseline is a mere 0.002 Euro/kWh. Yet, the Validation Report does not subject the tariff to a sensitivity analysis, or otherwise consider alternative tariff structures that would allow the project sponsor to “achieve its ROE benchmark and implement the project activity without considering CDM revenues….“( http://cdm.unfccc.int/Projects/DB/DNV-CUK1254830678.73/Rejection/IWNNWJJIB1G6WAG6F9RW59N3AOLQEXP, See also, Final Ruling Regarding the Request for Registration of Rincon Verde LFGTE Project (3432)

Nor does it provide any evidence or market analysis to show that it needs CDM support to produce power at a rate that would enable it to compete in the market.
2. The use of ultra-supercritical coal technology is already “common practice” in China and in the East China Grid. The Additionality Tool requires that the generic additionality tests be complemented with a “common practice” assessment to determine whether “the proposed project type...has already diffused in the relevant sector and region.” (Additionality Tool, at 10.) The “common practice” serves as a check on the credibility of additionality claims. “Where similar activities are widely observed and commonly carried out, it calls into question the claim that the proposed project activity is financially unattractive or faces barriers.” (Additionality Tool, at 10.)


Given the existence of these similar activities in the host country, the project activity cannot be additional unless the project sponsor can show “essential distinctions between the project activity and similar activities” such that “the existence of these activities does not contradict the claim that the proposed project activity is financially/economically unattractive or subject to barriers.” (International Energy Agency, 2009. Cleaner Coal in China, at 101.)

However, the Validation Report makes no effort to distinguish the proposed project from the other ultra-supercritical projects in operation in China. Instead, it asserts that its review of similar activities should be limited to the East China Grid (ECG) and that all of the ultra-supercritical projects in the ECG are within the CDM system. (Validation Report, at 33.) Neither of these assertions is correct. First, the “common practice” analysis clearly anticipates that similar projects in the host country will be considered, and the Validation Report offers no explanation why projects outside of the ECG are not “similar.” Second, the Validation Report erroneously claims that all such projects in the ECG are within the CDM process. (International Energy Agency, 2009. Cleaner Coal in China, at 101.)

Our research has found at least five ultra-supercritical projects that have been brought online in the ECG without CDM support. As the table below shows, there are at least three operational ultra-supercritical power plants in the East China Grid that have not applied for CDM benefits. In addition, two other projects entered the validation process, but are already operational and have never been validated. Moreover, all of these projects started construction before ACM0013 was adopted. For these reasons, they should be considered similar for “common practice” purposes, as they provide further evidence that ultra-supercritical plants can be brought on-line without CDM support.
### Ultra-Supercritical Coal-Fired Power Plants That Started Construction in the East China Grid Before Adoption of ACM0013

<table>
<thead>
<tr>
<th>Project Developer(s)</th>
<th>Province / Project</th>
<th>Generating Capacity</th>
<th>Construction Start Date</th>
<th>Operational Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Huaneng Power International Inc.</td>
<td>Zhejiang / Huaneng Yuhuan Power Plant</td>
<td>4000 MW (4 x 1000 MW)</td>
<td>July 2004(^{17})</td>
<td>November 2006(^{18})</td>
</tr>
<tr>
<td>China Power Investment Corp</td>
<td>Jiangsu / Kanshan Power Plant</td>
<td>1200 MW (2 x 600 MW)</td>
<td>Unknown(^{19})</td>
<td>2006(^{20})</td>
</tr>
</tbody>
</table>

18 China Huaneng launches 1,000 MW coal-fired generating unit, *Asia Pulse*, Nov. 29, 2006 (LexisNexis Academic).

<table>
<thead>
<tr>
<th>Project Developer(s)</th>
<th>Province / Project</th>
<th>Generating Capacity</th>
<th>Construction Start Date</th>
<th>Operational Start Date</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Guodian Corp.</em>(^{21})</td>
<td>Jiangsu / Taizhou Power Plant</td>
<td>1000 MW</td>
<td>December 2005(^{22})</td>
<td>December 2007(^{23})</td>
</tr>
<tr>
<td>Huadian Group</td>
<td>Anhui /Wuhu Power Plant</td>
<td>1320 MW (2 x 660 MW)</td>
<td>August 2006(^{24})</td>
<td>Unknown</td>
</tr>
<tr>
<td><em>Shanghai Electric Power Co.</em>(^{25})</td>
<td>Shanghai / Shanghai Waigaoqiao No.3</td>
<td>2000 MW (2 x 1000 MW)</td>
<td>February 2006(^{26})</td>
<td>April 2006(^{27})</td>
</tr>
</tbody>
</table>

\(^{*}\) Denotes projects proposed under ACM0013, as listed on [http://cdm.unfccc.int](http://cdm.unfccc.int) as of February 16, 2010.

22 Id.
25 Shanghai Waigaoqiao coal-fired power project using a less GHG intensive, Project Design Document, [http://cdm.unfccc.int/Projects/Validation/DB/YJE17E0ZDE5RAV9OAYC80LNLGHAPBL/view.html](http://cdm.unfccc.int/Projects/Validation/DB/YJE17E0ZDE5RAV9OAYC80LNLGHAPBL/view.html).
Because the project proponent fails to distinguish the proposed project from the numerous other ultra-supercritical projects that have been brought online in China and in the ECG, it has failed to show that ultra-supercritical plants are not “common practice.” Accordingly, the project should not be considered additional and should not be eligible for registration.

3. **The project does not depend on CDM support to proceed as it has already been commissioned.** The Executive Board has found that the availability of CDM credits must actually influence the decision to proceed in order for a project activity to be considered additional. In particular, it has refused to register projects where the project proponent did not substantiate that support from the CDM was a “necessary element” of the decision to invest. *(Review of Project Activity: Hot air generation using renewable biomass fuel for spray drying application at H. & R. Johnson (India) Ltd, Kunigal (1545), available at [http://cdm.unfccc.int/Projects/DB/TUEV-SUED1200568517.44/Rejection/DYSTHYWLL9HIB9ELS1BBWMTPUZIEPE](http://cdm.unfccc.int/Projects/DB/TUEV-SUED1200568517.44/Rejection/DYSTHYWLL9HIB9ELS1BBWMTPUZIEPE); According to the Validation Report, this project was scheduled to be commissioned on September 1, 2011. (Validation Report, at 9.) The sponsor’s willingness to fully complete the project in advance of validation or registration provides overwhelming evidence that CDM support was not actually a “necessary element” in its decision-making. Because CDM support was plainly not needed to complete this project, it cannot be said to be additional."

4. **The sensitivity analysis improperly advantages supercritical technology by using an unrealistically narrow range of fuel price variation, and by failing to properly account for China’s dispatch rules.** At a certain coal price, ultra-supercritical technology will surpass supercritical as the most financially or economically attractive alternative. The Additionality Tool requires that the sensitivity analysis determine if this “switching price” will occur within a “realistic range of assumptions,” *(ACM0013, Ver. 4.0, at 4; Tool for the demonstration and assessment of additionality, Ver. 5.2, at 7.) and requires the DOE to independently assess “the probability of the occurrence of this scenario in comparison to the likelihood of the assumptions in the presented investment analysis....” *(Tool for the demonstration and assessment of additionality, Ver. 5.2, Annex: Guidance on the Assessment of Investment Analysis, at 15.)

Asian coal markets generally are increasingly subject to greater price volatility due to surging demand and a high correlation with oil prices. (UBS, 2011. *Global Utilities Outlook 2011*, at 10.) In the face of such experience, it is unrealistic to assume that coal prices will only fluctuate 10 percent from the base case over the ten-year project period.


A rigorous market analysis, of the kind a company would have to conduct consistent with its fiduciary obligations, would therefore include a much broader coal price sensitivity analysis. The Validation Report also fails to properly consider reasonable variations in plant load factors under China's dispatch rules. The Validation Report assumes a uniform variation in load factor between plants, while under China's 2007 energy-saving approach to power dispatching, more efficient plants receive priority access to the grid. ([http://www.gov.cn/zwgk/2007-08/07/content_708486.htm](http://www.gov.cn/zwgk/2007-08/07/content_708486.htm). See also Regulatory Assistance Project, *China’s Power Sector: A Backgrounder for International Regulators and Policy Advisors*, Feb. 2008, available at [http://www.raponline.org/docs/RAP_ChinaPowerSectorBackground_2008_02.pdf](http://www.raponline.org/docs/RAP_ChinaPowerSectorBackground_2008_02.pdf) (“The rule modifies the current practice of dispatch based on average total cost (i.e., contract price) to one based on the environmental (primarily emissions) impacts and thermal efficiencies of the units. The dispatch, or loading, order of units calls for the operation of non-emitting resources first, then by low-emissions resources, and, lastly, the highest emitting units.”))

Thus, depending on grid demands, an ultra-supercritical coal-fired power plant may operate for more hours each year than a less efficient supercritical one. The sensitivity analysis should have accounted for potentially higher loads at the more efficient ultra-supercritical plant. To do this properly, it should have analyzed revenue in addition to LCOE, as at a certain load differential, the additional hours of generation could potentially make the ultra-supercritical plant more financially attractive.
5. **The Validation Report fails to adequately assess all “realistic and credible” baseline scenarios.** The Validation Report fails to adequately consider all realistic and credible alternatives to the proposed baseline, or to fully assess all options that are currently being implemented, as required by ACM0013. (ACM0013, Ver. 4.0 art3) It also entirely fails to explore ways that plausible alternatives can be realistically combined to produce an alternative baseline scenario. Alternatives that do not receive the kind of analysis required under ACM0013, alone or in combination, include:

*Energy efficiency and demand side management:* A World Bank study found that with proper policies and incentives, China could avoid the need to build more than 100 GW of electric capacity by 2020 through demand side management programs (Zhaoguang Hu, David Moskowitz, and Jianping Zhao, *Demand Side Management in China's Restructured Power Industry* (December 2005), World Bank Energy Sector Management Assistance Program.) The Government of China has adopted a range of ambitious energy efficiency policies and initiatives, (Nan Zhou, Mark D. Levine, and Lynn Price, 2010. *Overview of Current Energy Efficiency Policies in China* "Energy Policy", Volume 38: Issue 11. available at http://china.lbl.gov/sites/china.lbl.gov/files/Overview_Energy_Policy_November2010.pdf ) and has endeavored to reduce CO2 emissions per unit of GDP by 17 percent between 2011 and 2015. (http://www.environmentalleader.com/2011/03/08/china-accelerates-energy-efficiency-goal/) It has also communicated its intention to the UNFCCC to lower its CO2 emissions per unit of GDP to 40–45 percent below the 2005 level by 2020. (UNFCCC, 2011. *Compilation of information on nationally appropriate mitigation actions to be implemented by Parties not included in Annex I to the Convention, FCCC/AWGLCA/2011/INF.1*)

Existing fossil-fired generation to reduce or eliminate the need for additional coal-fired plants. Accordingly, these options should have been more rigorously evaluated in combination with other options. Moreover, the Validation Report entirely overlooks solar thermal power (or "concentrated solar power"), which can provide baseload power at scale.

*Strengthed grid connections:* The PDD argues that power cannot be reliably imported from a neighboring grid because it includes substantial amounts of seasonal hydropower in its energy

Wind, solar\textit{PV}, solar thermal, hydro and biomass: The Validation Report dismisses wind as incapable of providing baseload power, and solar PV, hydro and biomass as incapable of delivering adequate capacity. (Validation Report, at 14.)

While none of these options may be able to replace the baseload component of the project by themselves, they could be integrated with demand-side management, transmission system upgrades, and existing fossil-fired generation to reduce or eliminate the need for additional coal-fired plants. Accordingly, these options should have been more rigorously evaluated in combination with other options. Moreover, the Validation Report entirely overlooks solar thermal power (or “concentrated solar power”), which can provide baseload power at scale. (Ummel, Kevin. Center for Global Development Working Paper. \textit{Concentrating Solar Power in China and India: A Spatial Analysis of Technical Potential and the Cost of Deployment}.)

\textit{Strengthened grid connections:} The PDD argues that power cannot be reliably imported from a neighboring grid because it includes substantial amounts of seasonal hydropower in its energy mix. (Validation Report, at 15.) This assertion fails entirely as a market analysis. The Validation Report should have analyzed whether, and at what price, power actually is available from other grids.

Each of these potential alternatives is already being implemented in China, and some, such as end-use efficiency, are a matter of national priority. Yet contrary to the requirements of ACM0013, the Validation Report makes no effort to explain the discrepancy between such actions and the baseline scenario, nor to assess how these alternatives can be combined in ways that would produce a more attractive baseline than supercritical technology. In particular, given the emphasis the Government of China has placed on energy efficiency in its national planning, it is difficult to see how the Validation Report could not consider it as a potential baseline, either alone or in combination with other alternative scenarios.

\textbf{CONCLUSION}

Based on these concerns, we respectfully request that the Executive Board review the request for registration. We are confident that after a rigorous examination of the Project documents the Executive Board will reject the registration of the proposed Project.

Respectfully submitted,

Steven Herz  
Sierra Club  
steve.herz@sierraclub.org

Eva Filzmoser  
CDM Watch  
eva.filzmoser@cdm-watch.org

---

\textbullet{} [replace this bracket with text, the field will expand automatically with size of text]

---

\textbf{Section below to be filled in by UNFCCC secretariat}

<table>
<thead>
<tr>
<th>Date when the form was received at UNFCCC secretariat</th>
<th>2 February 2012</th>
</tr>
</thead>
</table>

---
### History of document

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Nature of revision</th>
</tr>
</thead>
<tbody>
<tr>
<td>01.1</td>
<td>09 August 2011</td>
<td>Editorial revision.</td>
</tr>
<tr>
<td>01</td>
<td>04 August 2011</td>
<td>Initial publication date.</td>
</tr>
</tbody>
</table>

**Decision Class:** Regulatory  
**Document Type:** Form  
**Business Function:** Governance