

**Jiangxi Xinchang 2×660MW Ultra-Supercritical Project
Public Comments by Earthjustice**

Earthjustice respectfully submits the following comments on the Project Design Document (“PDD”) for the Jiangxi Xinchang 2 x 660 MW Ultra-Supercritical Coal-Fired Power Project.

A. The PDD Does Not Demonstrate That the Project is Additional

1. The PDD Does Not Sufficiently Explain or Support the Exclusion of Several Alternatives as Plausible Baseline Scenarios

The PDD does not contain a sufficient explanation or documentation to support the exclusion of several of the alternative baseline scenarios. According to the *Approved consolidated baseline and monitoring methodology ACM 00013* (“ACM13”), where one or more of the identified plausible baseline scenarios is excluded, the PDD must include “appropriate explanations and documentation to support the exclusion of these scenarios.” ACM13 at 3.

With respect to the natural gas-fired power plant alternative, the PDD states only: “The natural gas power generation is mainly used for peak load within CCG. Therefore it cannot provide outputs or services comparable with the project activity. So, scenario c-1) the construction of 2×300MW natural gas power plant is not a plausible baseline scenario.” PDD at 11. This explanation is entirely conclusory and not supported by any documentation to demonstrate that natural gas cannot be used to meet base load demand. The PDD also improperly dismisses other baseline scenarios, including Scenario d-2, the construction of a power plant using renewable resources such as wind, biomass, solar or tidal energy. The PDD asserts, “the construction of numerous wind, solar and tide power plants can not provide base load power. On the other hand, the cost for the construction of wind, solar and biomass power plant is far higher than the common coal-fired project. The tide energy focus in the coastal area in China, and for CCG, there is no available tide energy. So, scenario d-2) is not a realistic and credible baseline scenario.” *Id.* at 11. Again, the PDD provides no documentary evidence to support these conclusions. All that is included are citations in footnotes to websites that are either not operational, or that are in Chinese (see PDD at 11, n. 9, 10) making it impossible for the public to review or test these conclusions.

2. The Investment Analysis is Flawed and Not Presented in a Transparent Manner

According to ACM13, once the project proponent has identified plausible baseline scenarios, it must then identify the “economically most attractive baseline scenario alternative” using an investment analysis formula provided in the methodology. The investment analysis is based on the “levelized cost of electricity production” (“LCOE”) in \$/kWh. ACM13 at 3. In calculating the LCOE, the project proponent must “[i]nclude all relevant costs (including, for example, the investment cost, fuel costs and operation and maintenance costs) and revenues (including subsidies/fiscal incentives, ODA, etc., where applicable.)” *Id.* at 3-4. Moreover, both the Additionality Tool and ACM13 specifically require the project proponent to “present the investment analysis in a transparent manner, and to 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.” Additionality Tool at 7; ACM13 at 4.

The cost assumptions provided in the PDD do not meet these requirements. First, the PDD does not contain any evidence or supporting data to substantiate the cost assumptions contained in the LCOE analysis. The parameters for the different baseline scenarios in Table B-6 are based on the Feasibility Study Report (“FSR”) and China Institute of Power Planning and Design, Thermal Power Engineering Design Reference Cost Index, 2006 Edition. PDD at 12, n.12. However, neither document is included in the PDD, making it impossible for the public to review the assumptions upon which the LCOE is based. Annex 3 “Baseline Information” merely states “Please consult with Chinese DNA for the detailed baseline information.” *Id.* at 41. This is not sufficient to allow the public an opportunity to review and comment on the data used to support the claim of additionality.

Second, there are several inconsistencies in the cost assumptions used for the three baseline scenarios that are not substantiated or explained. For example, in Table B-6, several parameters/costs that are higher for the project activity than for the sub- and super-critical alternative scenarios are not explained including: (a) the cost of the proposed project; (b) the material cost; (c) the limestone quantity; (d) the waste disposal cost; (e) the number of employees; and (f) the “other cost for power generation.” PDD at 12-13, Table B-5. According to the Additionality Tool, “[a]ssumptions and input data for the investment analysis shall not differ across the project activity and its alternatives, unless differences can be well substantiated.” Additionality Tool at 7, ¶ 9.

It is also interesting to note that the parameters used for the sub- and super-critical alternative scenarios (both of which have a unit capacity of 2 x 600 MW) in the PDD (“Jiangxi PDD”) differ from the cost parameters for the exact same alternative scenarios in other recently submitted PDDs that purportedly rely on the same data, including the Anhui Wenergy Ultra-Supercritical Project¹ and the Zhejiang Guodian Beilun Ultra-Supercritical Project.² For example, the unit costs for the sub-critical and super-critical alternative scenarios in the Jiangxi PDD are lower than they are for identical alternatives in the Anhui Wenergy PDD.

	<u>Jiangxi PDD</u>	<u>Anhui Wenergy PDD</u>
Sub-critical alternative:	3436 CNY/kWh	3835 CNY/kWh
Super-critical alternative:	3608 CNY/kWh	4037 CNY/kWh

Similarly, the fuel consumption costs of the alternatives are lower in the Jiangxi PDD than those that are used for the exact same alternatives in the Anhui Wenergy and Zhejiang PDDs.

	<u>Jiangxi PDD</u>	<u>Anhui Wenergy PDD</u>	<u>Zhejiang PDD</u>
Sub-critical:	286.4	307	307
Super-critical:	290.3	299	299

¹ Available at <http://cdm.unfccc.int/UserManagement/FileStorage/CRYHGK92SEWI3UXMAQFT8LBN10ZDOV>.

² Available at <http://cdm.unfccc.int/UserManagement/FileStorage/SLV23B6R8ZWXF7QGCUD5IOYNAHPT4>.

The significance of these inconsistencies is that they not only call into question the accuracy of the cost assumptions used in the Jiangxi PDD, but also suggest that several key cost assumptions with respect to the alternatives may be too low, resulting in an artificially low LCOE for these alternatives. If the higher costs assumptions used in the other PDDs are used instead, the result may be that the actual LCOEs for the sub- and super-critical alternatives are higher, and thus not as financially attractive as represented in the PDD. Use of higher costs associated with the alternatives may have resulted in selection of ultra-supercritical alternative as the most financially attractive, and evidence that the project is not additional.

These inconsistencies are also significant in light of the fact that the project LCOE (0.3274 CNY/kWh) is only slightly higher than the alternatives (0.0012 CNY/kWh greater than the sub-critical plant LCOE (Scenario b-2) and 0.0035 higher than the supercritical plant LCOE (Scenario b-3)). Thus, minor changes in these cost inputs could easily result in an LCOE for the project that is less than the alternatives, and hence more financially attractive.

Third, the results of the sensitivity analysis are not conclusive because they do not confirm that “the conclusion regarding the financial attractiveness is robust to reasonable variations in critical assumptions.” ACM13 at 4; Additionality Tool at 7, ¶ 11. According to the Additionality Tool, “[t]he investment analysis provides a valid argument in favour of additionality only if it consistently supports (for a realistic range of assumptions) the conclusion that the project activity is unlikely to be the most financially/economically attractive.” Additionality Tool at 7, ¶ 11. Here, application of the sensitivity analysis reveals that the LCOEs for the alternatives are very similar, and that slight variations in costs and assumptions could result in the project being the most financially attractive. For example, when the fuel expenditure is 10% higher, the super-critical alternative scenario LCOE (0.3454) is only 0.0003 CNY/kWh cheaper than the project activity LCOE (0.3757). See PDD, Table B-7 at 13. This indicates that the investment analysis is anything but “robust.”

Finally, nowhere does the LCOE or the selection of the “economically most attractive baseline” take into consideration the financial or economic benefits (e.g., revenues) that will be generated by the project versus those of the alternatives as required under ACM0013. As stated above, in calculating the LCOE, the project proponent must “[i]nclude all relevant costs...and revenues (including subsidies/fiscal incentives, ODA, etc., where applicable.... The baseline scenario **alternative that has the best indicator (e.g. highest IRR)** can be pre-selected as the most plausible baseline scenario.” ACM13 at 3-4 (emphasis added). While the PDD states that “[t]he project activity generates economic benefits through the sales of electricity other than CDM related income,” PDD at 18, revenues from electricity sales do not appear to have been included in the investment analysis.

3. The Project Does Not Meet the Common Practice Test

The common practice analysis is intended to be a “credibility check” that analyzes “the extent to which the proposed project type (e.g., technology or practice) has already been diffused in the relevant sector and region.” Additionality Tool at 10. The PDD asserts that the project meets the common practice analysis because “[w]ithin the CCG, all the ultra-

supercritical power plants are in the process of CDM development.” PDD at 19. First, the scope of the analysis is “the relevant sector or region,” not the CCG. Second, it appears that there are, in fact, other ultra-supercritical coal fired plants in China that have *not* applied for CDM funding – for example, the (2 x 1000 MW) Huaneng Shantou Haimen Ultra Super-Critical Power Plant in Guangdong Province developed by the Huaneng Power International, Inc. According to one article, “[t]he total investment amount of the project is estimated to be approximately RMB9.21 billion, 25% of which is equity capital to be funded by the Company and the remaining will be funded by bank loans.”³

Moreover, the fact that many other ultra-supercritical plants have applied for CDM funding does not prove that this technology is not common practice. None of these projects has reached the CDM registration stage, and the CDM EB has not yet confirmed whether any of these projects is additional or would not have been built without CDM subsidies. In fact, recent articles suggest that China has become a world leader in the construction of advanced coal technology (ultra supercritical) power plants. “China has emerged in the past two years as the world’s leading builder of more efficient, less polluting coal power plants, mastering the technology and driving down the cost,” and has begun building such plants at a rate of one per month.⁴ This widespread use of ultra supercritical coal technology is not surprising in light of the fact that China’s National Development and Reform Commission has mandated that all new coal-fired plants in China should use super- or ultra supercritical coal technology.⁵

It is also unclear to what extent the project supports technology transfer. While the PDD asserts that “some parts” were transferred from developed countries, PDD at 6, it does not specify which parts this refers to. One of the main components of advanced coal technology, the boiler, was manufactured by a Chinese company, the Dongfang Boiler Group Co., and it is unclear where the manufacturers of the other main components, including the turbine and generator, are located as no information is provided regarding the manufacturers listed (the East Steam Turbine Co., Ltd. and the East Generator Corporate). *Id.*

B. The Baseline Emissions Factor is Not Supported and Should be Checked Against Independent Data

The baseline emission factor as determined in the PDD relies exclusively on the baseline emissions factor contained in *China's Regional Grid Baseline Emission Factors 2008*, which was issued by the Chinese government for the very purpose of generating CDM credits. This is a concern because the project participant is supported by the Chinese government. In order to ensure that the data is accurate, these figures should be checked against independent, non-government sources of information. Moreover, the data should be attached to the PDD.

³ PR Newswire, “Huaneng Power International, Inc. Announces the Project Of Huaneng Shantou Haimen Power Plant Obtained Approval,” September 13, 2006, available at http://www.redorbit.com/news/business/654692/huaneng_power_international_inc_announces_the_project_of_huaneng_shantou/index.html.

⁴ Keith Bradsher, “China Outpaces U.S in Cleaner Coal-Fired Plants,” NY Times (May 10, 2009), available at <http://www.nytimes.com/2009/05/11/world/asia/11coal.html>.

⁵ WRI Fact Sheet: Energy and Climate Action in China, available at <http://www.wri.org/stories/2008/09/fact-sheet-energy-and-climate-policy-action-china>.

C. The Public Consultation Process as Described in PDD is Inadequate

There is insufficient information in the PDD to confirm that the stakeholder consultation process was made in an open and transparent manner, and in a way that facilitated comments as required by *CDM Clarification of Validation Requirements to be Checked by a DOE*, at ¶ 2(b). The PDD indicates that the stakeholders were informed of the project via a poster. PDD at 36. However, it does not specify what information on the project was included on the poster, where it was posted, or how many were posted. Thus, it is not possible to determine whether the stakeholders were fully informed of all the potential impacts from the project. Similarly, it appears the stakeholder input was solicited via a survey, yet there is no information on what questions were asked in the survey. Moreover, the information regarding the survey responses is extremely general, and fails to demonstrate that the stakeholders were given a meaningful opportunity for input (e.g., “Most of the respondent regarded that the implementation of the project activity will bring no negative effect.” *Id.*) In short, the PDD neither includes sufficient information regarding the manner in which the stakeholders were informed nor demonstrates that they were provided with an opportunity for meaningful input, and hardly supports the PDD conclusion that “the project activity receives [sic] very strong support from local community and the relevant local government agencies.” *Id.* Such cursory treatment of the stakeholder consultation process is not acceptable and undermines the credibility of the CDM as a whole.

D. The PDD Does Not Include Adequate Documentation of the Environmental Impacts of the Project

The information in the PDD on the impacts of the project is incomplete and cursory, and the underlying EIA is not attached. It is important to note that this is a new construction project that has the potential to result in significant adverse environmental impacts including (1) the destruction of significant areas of non-industrial land (e.g., farm land), (2) the displacement of people, (2) water use and water pollution, and (3) significant emissions of particulate matter, SO_x, NO_x and other hazardous air pollutants that cause severe human health impacts. The PDD’s conclusion that “[t]he proposed project belongs to energy conservation project and environmental impact of the proposed project is considered small according to EIA,” PDD at 36, is highly questionable. In sum, there is insufficient information in the PDD to allow the DOE or the public to evaluate the environmental, economic, social or human health impacts of the project.

E. The Project is Inconsistent with the Kyoto Protocol and Undermines Sustainable Development

1. The Project is Inconsistent with the Kyoto Protocol Because it Perpetuates the Use of GHG Intensive Energy Sources and Accelerates Global Climate Change

Using scarce CDM funds to subsidize a coal plant undermines the letter and spirit of the CDM and the Kyoto Protocol. Coal use is a leading contributor to global climate change. This includes not only significant amounts of carbon dioxide and other GHGs emitting during the combustion process, but also substantial indirect emissions of methane – a highly potent greenhouse gas and a toxic air pollutant – that occur during coal mining. According to

scientists, in order to stabilize temperature rise, in the next ten years not only must developed countries reduce greenhouse gas emissions by 25-40% but fast-growing developing countries must also achieve emission reductions that substantially deviate from business-as-usual. While advanced coal technologies can be an important way for developing countries to deviate from BAU, they do not have that effect when they are promoted through the use of CDM, because such credits offset increases in emissions (or the absence of reductions) in developed countries, and the use of the advanced technologies thus results in no net reduction of emissions into the global atmosphere.

Rather, funds available through the CDM are intended to provide financing for the deployment, diffusion and transfer of low-carbon technologies to developing countries, and to accelerate the large-scale deployment of such technologies and their movement down the cost curve. When implemented towards this end, the CDM will allow fast-growing economies to leap-frog dirty energy sources like coal that are a primary cause of climate change. Using scarce CDM funds to support the construction of new coal plants with 20 year life times – regardless of how efficient they are – will only serve to make the 2020 goal less achievable, and postpone the day when clean technologies are cost competitive with coal and other fossil fuel-based energy sources.

2. The Project Undermines Sustainable Development.

It is indisputable that coal plants, no matter how efficient, significantly harm human health and lead to environmental degradation. In addition to carbon dioxide, coal combustion releases sulfur dioxide, particulate matter (PM), nitrogen oxides, mercury, and dozens of other substances known to be hazardous to human health. Coal pollutants affect all major body organ systems and contribute to the leading causes of death in both developed and developing countries.⁶ Each step of the coal lifecycle—mining, transportation, washing, combustion, and disposing of post-combustion wastes— adversely impacts human health. Meanwhile, coal mining and combustion wreak havoc on the environment. Surface mining destroys forests and groundcover, and causes soil erosion and water contamination. Abandoned mines react with rainwater to cause oxidation of metal sulfide, resulting in releases of metals that can contaminate drinking water. Coal slurry and ash also pose significant threats to water supplies and air quality. These impacts occur regardless of whether a coal plant is ultra-supercritical, supercritical or subcritical.

In short, using precious CDM funds to lock-in 20 years of coal mining and combustion and the associated adverse impacts on the land, water, air, climate, and human health and welfare undermines sustainable development and will ultimately make it more difficult for both developed and developing countries to meet GHG emission reduction targets that are necessary to avert the worst impacts of global climate change.

⁶ Alan Lockwood, et al., Coal's Assault on Human Health (Nov. 2009), available at <http://www.psr.org/resources/coals-assault-on-human-health.html>.

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