CDM Watch
Scrutinizing Carbon Offsets

CDM Executive Board
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Call for input on the draft revised methodology ACM0013 "Consolidated baseline and monitoring methodology for new grid connected fossil fuel fired power plants using a less GHG intensive technology — Version 4.0.0"

We welcome the opportunity to comment on the draft revision of ACM0013. We asked the Stockholm Environment Institute (SEI) to carefully examine the proposed methodology. You will find their comments on in the following table.

We would like to add the following broader points of critique of this project type to their more technical commentaries:

- Use of CDM finance for major additions of new, long-lived coal plants is inconsistent with the UNFCCC's 2°C objective. Coal plants represent major, long-lived investments using the highest-emitting electricity resource. Using much-needed climate finance to support construction of these plants, even if it leads to slight increases in the efficiency of some coal plants, undermines the overall objective of limiting dangerous climate change.

- The focus on incremental change and the long-term lock-in of emissions are particularly troubling as "the door to 2°C is closing". The coal projects in the CDM pipeline offer, at best, marginal improvements in emission rates, while locking in over 400 million tCO_2 in annual emissions – as much as the annual CO_2 emissions of countries such as France, Spain and South Africa.

- Furthermore coal projects conflict with the CDM's sustainability objectives by inflicting severe toxic burdens on local populations and ecosystems.

Although the revised methodology certainly is an improvement over the currently suspended version it does not sufficiently address the issues raised here. We urge the CDM Executive Board not to approve a revision of ACM0013 before the identified issues have been carefully evaluated and addressed.

Sincerely yours,
Anja Kollmuss

Table 1: Comments by the Stockholm Environment Institute on proposed remedies in the draft revised ACM0013 based on issues raised in SEI Policy Note (December 11) and closest corresponding issue(s) as defined by the Methodologies Panel (MP)

<table>
<tr><th colspan="3">Issue 1: Inconsistency and bias in Approach/Option 1 (most likely technology) baselines leads to underestimation of baseline plant efficiency. [MP Issue 1]</th></tr>
<tr><th>Explanation/Example</th><th>Remedy included in the Draft Revision</th><th>Adequacy of remedy / Remaining Issues</th></tr>
<tr><td rowspan="2">Approach/Option 1 baselines reflect characteristics of existing rather than new technologies, leading to lower plant efficiencies and higher emission baseline rates.

In India, technologies currently available in the market suggest emissions improvements on the order of 2-4% when moving from subcritical to supercritical technologies, but coal power project PDDs claim an average of 11%.

Subcritical technology is identified as the “most likely” alternative in all Indian and 8 of 13 Chinese projects, although both countries have transitioned away from this technology.

Poorly documented and inconsistent assumptions (see MP report).</td><td>Use of feasibility studies to determine Approach/Option 1 plant and baseline efficiencies at optimum load for project site.</td><td>A novel and promising method, but one yet to be tested. It will require engineering expertise for DOEs to effectively validate projects.</td></tr>
<tr><td>A new, standardized baseline scenario procedure that establishes minimum baseline efficiency at the 80% percentile of plants under construction.</td><td>Similarly, a yet-to-be-tested, novel and promising method that should help to limit the mis-specification of baseline technology found in many PDDs (e.g. large, subcritical units in China where none are currently built). However, the methodology:
May create a perverse incentive whereby the same plant built later might accrue more CERs, as the result of the excluding registered projects from the determination of the 80th percentile.[1]
Could make it very difficult for DOEs to verify the accuracy of the baseline scenario without full access to government permit records, and the availability of full plant specifications for plants yet built.
Does not indicate the method to be used to derive plant efficiencies from plant specifications; presumably this would be done from engineering studies based on steam pressures and temperatures.</td></tr>
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[1] Imagine that a new higher-efficiency technology is proposed by a number of new project proponents, that all apply for registration, and that cumulatively they constitute 25% of the generation capacity under construction, as used to determine the 80th percentile baseline technology. This new technology would then constitute the baseline, even though none of the projects were yet built. None would be credited, even though all might be counting on CDM support. Imagine, instead, that they constitute 15% of the generation capacity. Then, the first registered projects would receive CERs/MWh representing roughly the top 5th percentile efficiency of other plant technologies under construction. Assuming all of the plants are registered, then the last of these new plants would receive credits/MWh representing roughly the top 20th percentile efficiency of other technologies, likely to be a far more generous baseline than the first plants. Thus the late adopters would receive more CERs than the early movers.

Issue 2: Use of outdated historical data in the Approach 2 baseline leads to underestimation of baseline emission rate. [MP Issue 3] [MP Issue 5]		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
The gap between commissioning dates of project activity and of peer group plants is typically 5-10 years. This gap means improvements in plant efficiencies are ignored, e.g. rapid shift away from subcritical technology in India and China. Even using historical data for all vintage plants, the MP found that the top 15% plant efficiencies are higher than the value used in project PDDs for Chinese projects.	Two options (A and B) for estimating efficiency improvements, along with recalculation of Approach 2 at the first renewal of crediting period.	While efficiency improvements are not necessarily continuous over time (e.g. transition to supercritical in China occurred over a few years), this approach appears be to carefully constructed and a reasonably conservative, though somewhat complex, remedy to the data vintage issue.
Issue 3: Low signal-to-noise ratio: site-specific factors (noise) can have as great an impact on unit efficiency as the choice of boiler technology (signal), but are not accounted for. [MP Issue 2]		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
Coal unit efficiency is influenced by factors such as cooling technology, pollution abatement equipment, coal quality, and ambient conditions. Together, these variables can affect relative unit efficiency by 7% or more. ACM0013 does not account for these factors, and is intended to attribute CERs only to direct improvements in boiler/plant efficiency.	Use of feasibility studies to determine Approach/Option 1 baseline and plant efficiency at optimum load for project site.	The feasibility study approach only addresses the signal-to-noise issues related to differences in site conditions, and only with respect to Approach 1. The more significant signal-to-noise concerns lie with Approach 2, and these appear to remain unaddressed.
Issue 4: Poor quality and availability of historical power plant performance data creates potential bias and added uncertainty, and further decreases signal-to-noise ratio. [MP Issue 4]		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
Uncertainty and annual variation in coal unit emissions data can, in some circumstances, be quite high, reducing confidence in standardized baseline values and reported emission reductions. Required data for Approach 2 are not made available in China. In India, data are incomplete and are inconsistently used.	Greater transparency of data and data sources.	While this remedy helps in addressing concerns about inadequate documentation, it does not address the inherent uncertainties in fuel use and emissions data. While central records can be reviewed for consistency with PDD values, it remains unclear how fuel consumption could be validated at the power plant level. Given that in some cases, where difference in baseline vs. project emission rates could lie within the error bars of emissions estimation uncertainties, an uncertainty discounting or other remedy may be called for.

Issue 5: Unintended outcomes contrary to the objectives of the CDM		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
The addition of sulfur and particulate emission controls to mitigate local pollution impacts, for example, can have the effect of reducing net unit efficiency. As a result, ACM0013 may inadvertently penalize projects that minimize local air pollution impacts, if plants included in the standardized baseline calculation have not implemented similar controls. Conversely, it could reward projects that do not take steps to mitigate local air pollution impacts if plants in the Option 2 baseline have generally implemented pollution controls. This perverse outcome would run contrary to the sustainability objectives of the CDM.	Use of site-specific feasibility assessment.	Would help address the concerns, but again, only with respect to Approach/Option 1. Approach/Option 2 baselines may still have the effect of penalizing plants with emissions controls (that are not present in the peer group used to determine the baseline).
Issue 6: Limitations in the investment and sensitivity analyses compromise additionality assessment [MP Issue 6] [MP Issue 7]		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
Small differences in the levelized cost of electricity between the proposed project and alternative render the investment analysis highly sensitive to inputs such as construction costs, fuel costs, or load factors, creating potential for minor variations in these parameters to alter the determination of additionality. Sensitivity analyses fail to properly consider a reasonable variation in critical assumptions (e.g., fuel prices), nor independent variation of key parameters (all comparisons use the same percentage change for both the project and alternatives).	Improved specifications for investment analysis and greater reliance on substantiation through feasibility studies.	While the draft revision provides increased specificity on the factors to include in the analysis, and points to feasibility studies as a key data source, it is difficult to see a) how this resolves the potential for bias in assumptions, or b) how DOEs will be equipped to provide appropriate levels of technical scrutiny of specific assumptions.

Issue 7: Additionality: Transition to higher-efficiency coal generation already underway due to rising coal prices and government policies		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
In both India and China, a number of non-CDM reasons have encouraged a shift away from subcritical technology. This transition has been largely driven by growing pressures on coal supplies, increasing reliance on imported coal, and growing exposure to rising international coal prices, and has been fostered by government policies mandating use of more efficient technologies (e.g., supercritical technology required in India's Ultra Mega Power Projects (UMPPs) and prioritizing grid access for efficient plants (e.g., in China's 2007 energy-saving approach to power dispatching).	Partly addressed by the new baseline scenario method, which better takes into more recent trends in plants construction.	See concerns in the application of this baseline scenario approach as noted above (i.e. potential for perverse incentives and challenges in verification).
Issue 8: Additionality: Common practice test is not effective in coal plant context		
Explanation/Example	**Remedy included in the Draft Revision**	**Adequacy of remedy / Remaining Issues**
Common practice analysis is intended as a credibility check to determine whether the proposed project type (e.g. technology or practice) has already diffused in the relevant sector and region. However, the common practice test excludes from consideration any project that is registered or applying for CDM approval. Nearly all supercritical and ultra-supercritical units in India and China, respectively, are excluded on this basis, and, therefore none are considered common practice. While this exclusion makes sense for project types where there are clearly decisive cost or technical barriers, that is not the case here, and a result the common practice analysis does not function as an important credibility check.	Partially addressed through the new baseline scenario method that takes into account coal plants under construction.	This revision will improve the accounting for common practice, in particular by including projects that are applying for registration. However, the exclusion of registered projects raises a possible perversity (see above), and may not be appropriate in this situation. It would be useful to revise the common practice test to enable distinction among situations where exclusion of CDM projects from consideration is warranted (decisive cost or technical barriers), and where it is not (lack of decisive barrier, where a technology shift is already and clearly underway).