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25 February 2010

Comments made by Barbara Haya at the CARB Board Meeting on February 25, 2010

The main point of what I am about to say is to caution you about how poorly offsetting programs have worked.

For my PhD at Berkeley I studied the effects of the CDM, through an in depth study of how the CDM is working in practice in the Indian power sector.

I found evidence that the majority of CDM projects are business-as-usual (BAU) projects that were going ahead anyway, with or without support from the CDM. And because of the uncertainties involve in the over-a-year-long CDM application process the CDM is having little influence on project development for CO_2 reduction projects, since developers can't count on receiving revenues from the CDM when making the decision to go forward with a project. These problems won't be fixed by tightening the rules of the CDM, or putting a filter on CDM projects, as many propose; the CDM structure needs to be changed. There is no objective accurate indicator of the motivation of the developer that can be used to filter out BAU (non-additional) projects.

There is clear evidence that the majority of CDM projects are BAU:

- 3/4 of all registered CDM projects were up and running at the time they were successfully registered under the CDM.
- Construction on 17 of the 70 projects I reviewed for one paper began before the Kyoto Protocol entered into force in February 2005 and before the first project was registered under the CDM in November 2004.
- It is the widely held belief among CDM and renewable energy professionals in India that many, if not most, CDM projects are non-additional and that the CDM is having little effect on renewable energy development in the country.
- It was surprisingly easy to find developers who admit that they would have gone forward with their own CDM without the CDM.

We have not seen evidence that domestic offsets will be better

- Under a national bill, it looks like agriculture offsets could be included, for example, from activities which farmers are doing anyway under another federal program called the Conservation Reserve Program.

- I understand that a California Action Registry forestry protocol, hopefully being repealed today, would generate carbon credits when emissions are released, rather than sequestered, from projects that clear cut forests and let trees regenerate.

So what should CA do?

- Clearly CDM projects should not be accepted in a CA offsetting program.
- If CA will have an offsetting program, it must be small. Some have suggested that a maximum of 10% of emissions reductions can be met through offsets. This is justified for two reasons:
    - Emissions reductions are always less certain when they are measured against a counterfactual baseline (which offsets necessarily does) than emissions measured against an absolute cap (cap and trade program)
    - The >80% reductions needed in industrialized countries over the next 40 years requires major changes in all major emitting sectors, which takes time, including changes in behavior, support industries and infrastructure, time for experimentation and learning, research, development and deployment.
- If CA will have a small offsetting program, it must develop its own offsetting program. Current offsetting programs are passive – program administrators wait for proposals to come to them, and they review those protocols and projects upon submittal. Instead, CA must actively create its own offsetting program to actively support projects that most likely would not go ahead on their own, through a support program that is custom designed to be effective at promoting those activities. Such programs must be reviewed and modified periodically.
- Specifically on protocol development, this is the keystone of an offsetting program, and it can be very complicated. Protocol development requires investing the time and attention needed to do it well. It also requires engaging with those experts who research estimating emissions from the specific project types and who work directly with those projects.
- Since information is the biggest challenge to an effective offsetting program, the public must be given the opportunity to comment on proposed protocols, and especially for international projects, on the acceptance of specific projects under the offsetting program.
- California should adopt a conservative approach to uncertainty, such that an offsetting program will only credit activities when there is relative certainty that emissions are reduced by the offsetting program.

Results of my research on the CDM can be found here:
http://erg.berkeley.edu/working_paper/2009/ERG09-001.pdf

Detailed comments on the text of the offsets portion of the Preliminary Draft Regulation for California's cap and trade program is the last comment found here:
http://www.arb.ca.gov/lispub/comm2/bccommlog.php?listname=dec-14-pdr-ws

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January 27, 2010

Comments on the offsets provisions in the CA cap and trade Preliminary Draft Regulation

Thank you once again for the opportunity to provide input into the design of California's cap and trade program. Below are several specific suggestions on the offsets part of the regulation. These suggestions largely draw from my PhD research on how the Kyoto Protocol's Clean Development Mechanism (CDM) is working in practice in India's power sector. I would like to draw your attention to a recently published paper presenting the results of this research: http://erg.berkeley.edu/working_paper/index.shtml. These comments also draw from my experience reviewing proposed CDM methodologies as a member of the UNFCCC CDM Methodology Panel Roster of Experts.

On the role of ARB, external offsets programs and the early use of CDM projects

Since experience so far with the CDM has been exceptionally poor with regard to the registration of non-additional projects[1] and the registration of harmful projects, California should run its own offsetting program, and refrain from simply applying criteria on the purchase of credits from external programs. Theoretically, offsetting creates value for carbon emissions reductions, which should incentivize activities with lower emissions than what would have occurred without the offsetting program. In practice, under the CDM, these incentives are very weak for two main reasons. First, additionality testing is inherently inaccurate.[1] Since the CDM is unable to filter out non-additional projects, non-additional projects have been the first to register and are able to offer credits at the lowest price. Due to the substantial uncertainties associated with the validation, registration and credit value, combined with the long registration process, the CDM is having little influence on project development decisions for most project types.[1] [2] Since project developers cannot depend on the carbon credit income, carbon credits are limited in their ability to incentivize "additional" activities. These two problems apply even to many of the best projects in LDCs. Therefore,

[1] Discussed in detail in http://erg.berkeley.edu/working_paper/2009/ERG09-001.pdf

[2] The CDM is having very little influence on CO_2 projects in the context of relatively small influence on project financial returns. Because of the high potency of HFCs as a greenhouse gas, the CDM does make HFC destruction projects cost effective. But in this case, the CDM causes perverse incentives against the phase out of HCFC production facilities, a goal of the Montreal Protocol, and could be accomplished at a much lower cost through a fund (see Wara MW, Victor DG. 2008. *A realistic policy on international carbon offsets. Rep. PESD Working Paper #74*, Program on Energy and Sustainable Development, Stanford University, Stanford, CA). Similar arguments have been for N_2O and methane-capture from waste management projects.

simply limiting the purchase of CDM projects to certain types and locations, or applying other filter criteria, is inadequate.

If California wishes to implement a small, high-quality offsetting program, it cannot follow the same model as the CDM – the CDM governance bodies passively wait for developers to propose projects, and evaluate the additionality of each project. Instead, California would need to be actively involved in determining which project types are eligible for offsetting, and then provide certain financial incentives for those technologies that developers can rely on. Eligible project types should have a high likelihood of being additional, and analysis should show that an offsetting program could influence the development of that project type.

Internationally, a potentially effective offsetting program would target certain technologies/activities or sectors in specific countries, and would be customized to address the specific local context of the sector or technology they aim to influence. Effective programs would likely involve a range of support measures, for example, demonstration projects, information dissemination, capacity building, capital subsidies, etc, as is needed for the specific sector and technology. Such programs would be a hybrid approach combining the benefits of a fund which designs its projects based on grounded understanding of a sector/technology, and a carbon trading mechanism generating credits on a sectoral- or project-based level.

Certainly additionality is still a challenge with such programs. But if well-designed, such targeted offsetting programs are more likely to reduce emissions and the programs can and should be continually modified and adapted based on grounded evaluations of their influence. A discounting rate can be used to take into account the non-additional activities that could be credited under such programs.

95970 Quantitative Usage Limit

Even in the above case, measuring the influence an offsetting program is actually having can be difficult. Since the environmental integrity of offsets is less certain than measuring emissions under a cap, even with a carefully designed offsetting program as described above, it is best to focus on reductions in California, and measure those reductions in total against a fixed past baseline-year rather than an alternative baseline scenario.

96230. Approval of Offset Quantification Methodologies

Establishment of an expert panel for developing methodologies – Since methodologies used to calculate emissions reductions can involve a complex set of factors, and require detailed study of specific sectors, it will be important to engage researchers who study the emissions from the specific project types in the development of methodologies. CARB should hire researchers well versed with the intricacies of measuring emissions and emissions reductions to be responsible for developing methodologies and engaging researchers who study the calculation of emissions reductions in specific sectors in the process. The success of the offsets program rests on the careful development and periodic evaluation of methodologies, and so attention and resources should be invested into this process.

96230 (a) opportunity for public comment
For the reasons mentioned just above, I am pleased to see reference to a public comment period for the approvals of methodologies in the PDR and would like to emphasize the

importance of enabling public comments to be taken into account in methodology development.

96240 (c) on additionality –
Regarding line (2), the conditions under which a project is considered additional, I suggest the following changes:

"are not considered common practice ~~or~~ and would likely not have occurred ~~under a business-as-usual scenario~~ in the absence of the offset program"

a. The "or" should be an "and" so that projects need to meet both requirements, not just one.
b. The word "likely" should be added because it is not possible to know if a single project would have occurred without the offset program unless the only benefit of the project is reducing GHG emissions. But this is not the case for many of the project types in the CCAR, for example. This language "would likely not have occurred" means that only projects with a high likelihood of not having occurred in the absence of the offset program would be eligible. If it looks like there is a reasonable likelihood that it would have occurred, then it would not be eligible. For example, under the CDM, many projects are registered because it is possible that they needed the CDM income to go forward, and the developer argues that this is the case, even though most likely they are BAU.
c. The last change was made to avoid different definitions of BAU.
d. Fundamentally the principle of additionality means that the credits generated by the offset program should not exceed the emissions actually reduced, avoided or sequestered because of the offset program. Since it is not possible to accurately judge the additionality of each individual project, this means that the baseline needs to be set at a conservative level, in effect discounting the number of credits created by the program. This should be based on scientific assessment of the influence of the offset program for each project type or sector to counter-balance the credits generated by the non-additional activities included in the offset program.
e. More importantly, this also means that California should carefully choose the types of projects allowed under its offset program so that only those project types that have a high likelihood of being additional could be eligible. Since California is using standardized assessments of baselines and additionality, emphasis must be placed on carefully choosing and periodically reevaluating the allowed project types based on a scientific process.

96240 (f) on uncertainty – I suggest applying a conservative principle to account for uncertainty about the emissions reduced by a project type, such that California can be confident that it reduces the emissions it has committed to reducing. Just as an example, because of the uncertain and potentially high emissions from indirect land use, ethanol could be more carbon intensive than gasoline on a lifecycle basis. Corn ethanol should therefore not be allowed under a California offsetting program. More generally, any project type with uncertainties in emissions reductions should be excluded from the offsetting program, in favor of project types where there is relative certainty about the effects of the program. Where there is relative certainty that emissions are avoided by a project type, but there is uncertainty about how much, a conservative estimate should be used for the emissions reduced. This uncertainty clause also supports a conservative definition of additionality.

Possibly the language should be made more explicit – when there is uncertainty about the emissions reduced by an offset project, a conservative estimate for emissions reductions should be used.

96240 (h) on no net harm – I am pleased to see this language. Carrying this out will require clear criteria against which projects will be judged to bring about no net harm. All methodologies for international projects should include basic human rights and social safeguard criteria that verifiers would verify.

One problem we have seen with the CDM is the registration of projects marked by forceful suppression of protest by individuals affected by the proposed project. With regards to international offset projects, all methodologies should include the criteria that projects be excluded when there is evidence the violent suppression of protest with clear criteria and guidelines for doing that evaluation.

Large hydropower should be excluded from California's offsetting program on two grounds. It has a high likelihood of being non-additional since it is a common practice technology, and it is a project type known for its environmental and social harm.

96260 (b) (10) – on approving the registration of an offsets project – adding a public comment period – It is essential that there is a public comment period, especially for the registration of international projects. A limitation of an offsetting program is information about what is really happening on the ground. Public comment periods enable the input of information to which the verifiers and CARB might not otherwise have access. Public comment periods are especially important for international projects, where information about what is happening on the ground is less accessible to regulators in California. Such public comment periods will enable verifiers to better assess the additionality and no net harm elements of project eligibility, as well as provide information that is relevant to the reevaluation of existing standardized additionality and baseline assessments.

96390. Cancellation of Offset Credits
(b) An offset credit could be determined to be invalid if a failure in the monitoring equipment or verification process is determined after the issuance of offset credits.
CARB should establish procedures for accepting and acting upon public comments regarding credits generated from potentially invalid projects.

Review of methodologies
The monitoring and periodic review of methodologies is needed since baselines and conditions affecting project additionality change over time, and our understanding of how to calculate emissions reductions from different project types will improve over time with more experience and research.

COMMENT RE CALIFORNIA AIR RESOURCES BOARD - NOTICE OF PUBLIC MEETING TO CONSIDER A PROCESS FOR ADOPTION OF GREENHOUSE GAS ACCOUNTING PROTOCOLS FOR COMPLIANCE PURPOSES, INCLUDING WITHDRAWAL OF BOARD ADOPTION OF VOLUNTARY PROTOCOLS

2-25-10 comment by Laurie Williams and Allan Zabel
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Carbon offsets have been considered integral to controlling costs in a cap-and-trade approach to addressing climate change, but carbon offsets are fatally flawed and destroy the integrity of any system that relies on them for the reasons noted below. Even California Air Resources Board ("CARB") adoption of voluntary greenhouse gas ("GHG") accounting protocols is inappropriate because CARB certification of such protocols represents an official statement that such offsets have integrity. We believe that such integrity cannot be achieved with respect to carbon/GHG offsets.

Unverifiable Baselines – Additionality requires that offsets be reductions "beyond what would have happened anyway." However, since there is no way to know what would have "happened anyway" without the offset payment, additionality is inherently unknowable. In addition, presumed baselines are incapable of taking into account future trends as they are happening.

Leakage – In many cases, emissions allegedly reduced by the project may simply be shifted elsewhere and there is no way to track this. As with forest offsets, any reduction in logging in one location may mean that demand is satisfied by logging in a different location.

Perverse Incentives to keep polluting or increase polluting to profit from offsets for stopping. There is no way to track increases in polluting activities that are undertaken in the hopes of creating a higher baseline that will result in payments for subsequent reductions. For example, while HCFCs are being phased out under the Montreal Protocol as an ozone depletor, the CDM creates perverse incentives for HCFC-22 production plants to continue production at full capacity to gain large financial benefits through the CDM by burning its GHG-potent by-product, HCF-23.

Perverse Incentives to keep polluting activities legal – A second perverse incentive is that once an activity becomes eligible to be an offset, such as in the methane digester protocol, parties who are profiting from such offsets will oppose regulating the activity by requiring methane digesters for all manure. Thus while there may be some benefit from the individual digesters in the program, there is a loss of the potential across the board rule that would require all industrial farming operations to have manure digesters, rather than just releasing methane to the environment. As a result, approving the offset protocol makes controlling this activity more difficult and more costly in the long-run.

Incentives for certifiers to agree that emissions reductions are additional – Unless those who are employed to review the additionality of projects certify many or most of the projects they are hired to examine, they will not be hired again. This inherent bias results in many non-additional projects being certified as additional. See Harpers, February 2010 edition, "Conning the Climate: Inside the Carbon Trading Shell Game," http://www.harpers.org/archive/2010/02/0082826. See also Barbara Haya's recent working paper, "Measuring emissions against an alternative future: fundamental flaws in the structure of the Kyoto Protocol's Clean Development Mechanism" at http://erg.berkeley.edu/working_paper/index.shtml.

Complexity – Even if the system were not filled with what have been called "counterfactual" standards and perverse incentives, effective enforceability would be impossible because of the massive complexity of trying to determine how the factors identified above work in any given instance. See the US Government Accountability Office report from March 2009, which concluded "it is nearly impossible to determine the level of emissions that would have occurred in the absence of each offset project." The GAO report is available at http://www.gao.gov/new.items/d09456t.pdf.

As a result of these flaws, we urge the California Air Resources Board to reject the use of offsets and offset protocols in for implementation of AB32 and to reject adoption of voluntary protocols for offsets. Instead we recommend that the Board recommend and adopt the transparent, effective and enforceable mechanisms for addressing climate change, including carbon fees with monthly per person rebates to consumers. Gradually phased in and steadily rising carbon fees, applied where fossil fuels enter the California economy (along with carbon-fees-equivalent border adjustments when goods enter and leave the State), can insure that clean energy becomes cost competitive with fossil fuel energy within a known time frame and that California goods remain competitive here and out-of-state. The certainty that energy efficiency and clean energy would become price competitive within a known time frame would create strong incentives for investments in clean energy and energy efficiency. A longer discussion of why carbon fees are preferable to cap-and-trade with offsets is available at: http://www.carbonfees.org/home/Cap-and-TradeVsCarbonFees.pdf.

Thank you for your consideration.

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