



National policies and the CDM rules: options for the future

FINAL REPORT

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September 2013

Commissioned by the Swedish Energy Agency

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EXECUTIVE SUMMARY

The question of how to consider national policies in baseline and additionality determination has been a controversial one since the early days of the CDM. As the climate regime evolves to include additional carbon market mechanisms and support for domestic action, this question becomes both more important and more complex because of the potential for interaction between different mechanisms and policy instruments. At the same time, the slow pace of negotiations on new mechanisms may open up more opportunity to push the boundaries of the CDM. The purpose of this paper is three-fold:

- to explore options and provide recommendations on how the CDM rules and practices on national policies could be changed both to increase the transparency and the integrity of the CDM, and
- to explore how national policies may be addressed in new mechanisms
- to address the potential interactions with new carbon market mechanisms and support programmes

On the first point, the analysis demonstrates that there is a strong case for considering all E- policies in both baselines and additionality. The literature reviewed and experts interviewed for this research suggest that the risk of perverse incentives is not as high as previously assumed in many countries and sectors, while the risk of over-crediting is substantial. In addition, with the introduction of new carbon market mechanisms and international support for NAMAs, the potential for double counting mitigation efforts is greater, particularly if the CDM rules exclude consideration of these new policies. There could be exceptions for specific country groups or technology types, but these should be limited in time and strongly motivated.

On the second point, setting baselines for new mechanisms that cover entire sectors will necessarily require a much more sophisticated understanding of how current (and possibly anticipated or near term) policies effect emissions, while new policies implemented after the start of the crediting period would be an important tool in achieving sectoral emissions reductions. The work on standardized baselines for the CDM faces similar challenges, and so should be used to test and develop tools and procedures for this broader baseline setting.

On the third point, to avoid potential double counting, any new mechanisms must correct for tradable emissions units such as CERs, and the CDM rules should include all of these mechanisms in baseline setting and additionality assessment. In addition, more creative use the PoA rules should be used to explore how baseline setting, additionality assessment and MRV across an entire sector.

This report was commissioned by the Swedish Energy Agency. The views expressed in this report are the author's own and do not represent any official position of the Swedish Energy Agency.

Acknowledgements

This report was prepared by Randall Spalding-Fecher, with valuable inputs from Torleif Haugland and Debbie Stowell. The authors acknowledge the funding provided by the Swedish Energy Agency, the useful feedback from Hanna-Mari Ahonen, as well as the time and insights from the interviewees, speaking in their personal capacity: Paula Castro, Michael Gillenwater, Lambert Schneider, Gang He, Peer Stiansen, Harald Dovland, Jürg Füssler and Philipp Hauser (see Annex I for details of interviewees).

1. Introduction

The question of how to consider national policies in baseline and additionality determination has been a controversial one since the early days of the CDM. As the climate regime evolves to include additional carbon market mechanisms and support for domestic action, this question becomes both more important and more complex because of the potential for interaction between different mechanisms and policy instruments. At the same time, the slow pace of negotiations on new mechanisms may open up more opportunity to push the boundaries of the CDM. The purpose of this paper is three-fold:

- to explore options and provide recommendations on how the CDM rules and practices on national policies could be changed both to increase the transparency and the integrity of the CDM, and
- to explore how national policies may be addressed in new mechanisms
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2. Concepts

For any project-based mitigation activity under the CDM, the crux of the emissions reduction analysis is determining what would have happened in the absence of the mitigation mechanism or incentive. This includes determining the appropriate baseline¹ for a given project activity, as well as the interlinked concept of determining whether the project activity is “additional”². In the early days of the CDM, experts noted that, if new policies supporting climate friendly technologies – so called “E-” policies – were included in the baseline and additionality assessment, then this would reduce the potential for generating Certified Emissions Reductions (CERs). This in turn creates a “perverse incentive” for countries to not implement such policies (Bode & Michaelowa 2003; Winkler 2004). Similarly, if a host country introduced policies (or decided not to remove policies) to provide support to emissions intensive technologies, this would increase baseline emissions and CERs, providing an incentive for host countries to support technologies that would actually increase their greenhouse gas emissions. Box 1 provides the definitions of E+ and E- policies from the CDM Executive Board (EB).

Box 1: Definitions of E+/E- policies

Taken from EB22, Annex 3 “Clarification on the consideration of national and/or sectoral policies and circumstances in baseline scenarios (Version 2).”

E+ policy: National and/or sectoral policies or regulations that give comparative advantages to more emissions-intensive technologies or fuels over less emissions-intensive technologies or fuels.

E- policy: National and/or sectoral policies or regulations that give comparative advantages to less emissions-intensive technologies over more emissions intensive technologies (e.g. public subsidies to promote the diffusion of renewable energy or to finance energy efficiency programs).

¹ The baseline is, “the scenario that reasonably represents the [emissions] that would occur in the absence of the proposed project.” (UNFCCC 2001 para 44)

² “A CDM project activity is additional if anthropogenic emissions of greenhouse gases by sources are reduced below those that would have occurred in the absence of the registered CDM project activity.” (UNFCCC 2001 para 43)

3. History

The CDM Modalities and Procedures (M&P) require that baselines take into account, “...relevant national and/or sectoral policies and circumstances, such as sectoral reform initiatives, local fuel availability, power sector expansion plans, and the economic situation in the project sector”(UNFCCC 2001 para 45e). Given concerns over “perverse incentives”, the EB determined that further guidance on how and when policies specified in para 45e are to be considered was necessary (i.e. rather than interpreting it to mean that all policies must be included in the baseline).

At EB16, the Board released the first version of “Clarifications on the treatment of national and/or sectoral policies and regulations (paragraph 45 (e) of the CDM Modalities and Procedures) in determining a baseline scenario (Annex 3)”³, which was subsequently revised at EB22 (Annex 3). The revised guidance states that, “as a general principle, national and/or sectoral policies and circumstances are to be taken into account on the establishment of a baseline scenario, without creating perverse incentives that may impact host Parties’ contributions to the ultimate objective of the Convention.” This meant that new E+ and E- policies should not be included in the baseline scenario. The cut-off date for new E+ policies was set at 11 December 1997 (i.e. adoption of the Kyoto Protocol) and for new E- policies at 11 November 2001 (i.e. adoption of the CDM M&P). This guidance did not address additionality assessment.

The Additionality Tool (AT), first released at EB15 but subsequently revised multiple times, stated that investment analysis should, “include all relevant costs (including, for example, the investment cost, the operations and maintenance costs), and revenues (excluding CER revenues, but including subsidies/fiscal incentives where applicable.)” The first two versions of the AT (2004-2005) included a footnote to this sentence stating that the EB would further elaborate how national and sectoral policies would be taken into account. The second two versions 3 and 4 (2007) dropped any reference to guidance on national policies, while version 5 (EB39, 2008) and more recent versions (current version is 7) all include a footnote referring project participants to EB guidance on national and sectoral policies for baseline setting. Because this footprint does not specify how or when the EB guidance on baselines should be used, however, it does not resolve the question of how or whether specific policies should be included or excluded from additionality analysis.

The first major test of the E+/E- guidance came in late 2008 to early 2009, when many of the Chinese wind projects submitted for registration were placed under review due to concerns about the tariffs used for investment analysis. The tariffs used in some of these PDDs appeared to be lower than those cited in earlier projects in the same region, raising concerns about whether the regulatory authorities were lowering the tariffs to make the projects more attractive for the CDM (He & Morse 2010; Bogner & Schneider 2011). The scope of reviews and corrections requested on many of these projects noted that project activities would only be registered if, “the project participant and DOE can confirm that the reductions in applicable tariffs between 2002 and the start date of the project activity have not resulted in a reduction of the incentive for investment in the wind power generation, i.e. it should be confirmed

³ The original guidance also included two additional categories of policies: “Type L-: Sectoral mandatory regulations adopted by a local or national public authority motivated by the reduction of negative local environmental externalities and/or energy conservation and which would incidentally also reduce GHG emissions. Type L+: Sectoral mandatory regulations adopted by a local or national public authority motivated by the reduction of negative local environmental externalities and which incidentally prevent the adoption/diffusion of less GHG emitting technology.” These were dropped from the revised guidance, and have not been discussed further by the EB.

that, excluding the CDM revenues, the return on investment has not been substantially lowered as a result of the reduction in the tariffs resulted from the tendering process.” A reduction in feed-in tariffs, as a result of a national or sectoral policy decision would be an E+ policy, because it gives comparative advantage to more emissions intensive technologies. However, the Chinese wind power preferential tariffs had only been established in 2005, so they could be considered an E- policy [check date]. If the changes in tariffs over time occurred due to other business reasons and not because of national or sectoral policy changes, then this would not fall under the E+/E- guidance. The EB rejected ten Chinese wind projects at the end of 2009 (EB51) and another six in early 2010 (EB52), arguing that the project owners and DOEs had not adequately addressed the questions about tariffs used in additionality assessment. The EB, however, did not make these decisions because they were applying the E+/E- baseline guidance. The EB stated that, for most of the projects, the project proponents and DOEs had failed to clarify *whether* the changes in tariffs could be considered an E- policy and what the quantitative impacts of tariff changes over time were on the additionality assessment. At the same time, EB51 requested the Secretariat to draft guidelines for consideration of national policies in additionality assessment.⁴

The CMP, at its fifth session at the end of 2009, instructed the EB to ensure that CDM rules and guidelines “do not create perverse incentives for [host country] emission reduction efforts.” EB53 considered a draft from the Secretariat on “the application of E+/E- policies in the assessment of additionality,” and issued a separate clarification on the wind projects under consideration. The clarification stressed that the DOEs should “assess whether the tariff has been affected by any national and/or sectoral policy and if so whether this policy/policies are E+ policies or E- policies.” In other words, DOEs need to assess whether changes in the tariffs reported in PDDs are due to policy changes covered under the E+/E- guidance. This clarification did *not*, however, say that the E+/E- baseline guidance should be applied to additionality assessment. The issue was further discussed at EB54⁵, when the EB asked the Secretariat “to revise the draft guidelines, in particular by more clearly defining: how DOEs should identify and treat changes in national and sectoral policies, how market prices can be determined, and how the comparative basis of the analysis could be ensured.” At EB55, the EB considered a further revision of the guideline document, but “agreed not to continue the consideration of the treatment of national and sectoral policies in the demonstration and assessment of additionality.” The Board also agreed that “possible impact of national and sectoral policies in the demonstration and assessment of additionality shall be assessed on a case by case basis.” (para 27) No explanation in the meeting report was given as to why the draft guidance would not be used. The lack of clarity on whether the E+/E- guidance could be applied to additionality, therefore, continued (e.g. Platanova-Oquab et al. 2012; Fussler 2012; Grubb et al. 2011).

The EB recently took up the issue of national and sectoral policies again, but this time only for E- policies. EB72 mandated the Secretariat to prepare draft guidelines on E- policies in additionality assessment. After discussing the issue and the draft document at EB72 and EB73, the EB “agreed to pursue an approach by which, for the first seven years from the effective implementation date of the relevant E- policy, the benefit of that E- policy does not need to be considered by project participants in the additionality demonstration through investment analysis.” (EB73, para 70) The EB also requested the Secretariat to prepare a draft revision of the Additionality Tool and Combined Tool that would incorporate the new guidance. These documents were discussed at EB74 (July 2013), after which the EB asked for the Secretariat to revise them to ensure consistent treatment of additionality and selection of

⁴ This paper was as Annex to the EB52 agenda, and also discussed at EB53 <http://cdm.unfccc.int/EB/052/eb52annagan3.pdf>

⁵ <http://cdm.unfccc.int/EB/054/eb54annagan3.pdf>

the baseline scenario, and to discuss options for when to establish the effective date of policy implementation and the period when the benefit of the policy could be disregarded.

4. Conceptual challenges

Whether the CDM M&P language on baselines cited above means that all policies should be included in the development of baseline scenarios is a legal question that is beyond the scope of this paper, but which should be investigated. Assuming that paragraph 45e permits some (reasonable) flexibility for “taking into account” these policies, the main conceptual issue is how to balance the risk of perverse incentives for host countries to not implement climate friendly policies with the risk of over-crediting projects because of generous baselines (Prag & Briner 2012; Fussler 2012; Bode & Michaelowa 2003). Understanding the risk of over-crediting, or at least quantifying the change in baselines and additionality assessment that occurs when specific financial incentives are removed from the analysis, is relatively straightforward. The literature on additionality in the power sector in India and China implicitly touches on this question, but does not separate out the risks from ignoring national policies and incentives from other investment analysis problems such as the choice of benchmarks (Erickson et al. under review; Bogner & Schneider 2011).

Assessing the risk of perverse incentives is much more difficult. Implicit in the incentive question is an assumption that policy making for renewable energy and energy efficiency, in developing countries, for example, is strongly influenced by the carbon market and UN climate change negotiations. Recent studies of policy making in major CDM countries, however, suggest that, rather than carbon markets, other national political and economic issues as well as institutional frameworks play a stronger role in driving renewable energy markets (but not necessarily all climate friendly technologies) (Phillips & Newell 2013; He 2013; Newell & Bumpus 2012). There is, however, no universal agreement on this issue. Interviews conducted for the CDM Policy Dialogue research on the “Impact of the CDM” with policy makers in India and Mexico also suggest that, while CDM may make an important contribution, it is not the primary driver for policy development and market growth in renewables and energy efficiency (Spalding-Fecher et al. 2012).

The caveat to this assessment would be that the role of the CDM in influencing national policies varies considerably by country and technology. For example, for technologies with limited benefits other than GHG emissions reduction, such as HFC or N₂O destruction, the CDM rules could play a decisive role in national policymaking. In this case, the government has few other domestic incentives to implement mitigation policies (Grubb et al. 2011), and might be reluctant to implement policies that would limit carbon revenue. As analysts have pointed out, however, this could also result in a windfall profit for the country and the industry if the marginal cost of abatement is much lower than the prevailing CER price (Schneider 2011; Lütken 2012),⁶ making the CDM an inefficient policy instrument to achieve these mitigation outcomes. A second category of technologies would be those with limited co-benefits but higher marginal costs. These could include certain types of coal-mine methane, landfill gas capture without power generation or fugitive emissions from oil and gas production (where there is no additional energy production as a result of the project). Here again, including all new policies in the baseline would discourage implementation of national mitigation policies so there could be a justification to exclude some policies – but with less risk of windfall profits if marginal costs are higher. The third category is technologies with large co-benefits and which are likely to be driven primarily by

⁶ See also the mitigation cost analysis in Spalding-Fecher et al. (2012), Chapter 2.

incentives outside of the CDM and/or comprise more mature technologies and markets (Schneider & Morr 2010 p. 17). This would include power generation, energy efficiency, and agriculture projects. For these technologies, the risk of over-crediting if national policies are excluded in the baseline would potentially be much larger than the risk of perverse incentives to not implement climate friendly policies.⁷

In terms of countries, the risks of over-crediting are, by definition, greater in countries with higher emissions and more CDM projects. The risks of perverse incentives are likely to be lower in countries with larger, more sophisticated and well-established policy making and institutional structures in the relevant sectors (e.g. power, oil & gas, mining, agriculture, heavy industry). This suggests that there is a strong case for excluding national policies from the baseline in LDCs, Africa and possibly even countries with less than 10 registered CDM projects.

Interestingly, the submission to EB74 from the Project Developers Forum on E+/E- provides a list of projects where their research showed that the application of the EB22 guidance was important to the registration of the projects (PDF 2013). These projects are all power generation projects, and the examples are primarily from major emerging economies that have put in place financial or other incentives for renewable energy. While this shows that the E+/E- guidance has been applied and has assisted in mobilizing projects, it begs the question of what the balance is in these countries and sectors between risk of preserve incentives and risk of over-crediting.

An additional conceptual challenge is that the consideration of E- policies in assessing additionality using investment analysis is based on the assumption of the validity of the investment analysis approach. There is a long history of debate about the use of investment analysis, and related questions of appropriate financial benchmarks, with many project developers and financial experts arguing that the Additionality Tool does not reflect the reality of investment decision making (Grubb et al. 1999; Greiner & Michaelowa 2001; Schneider 2009; Michaelowa 2009; PDF 2012; PDF 2013). For example, a private investor would assess the risks related to all aspects of the project, including policy uncertainties, to make a balanced decision, rather than simply considering the internal rate of return. The principle of conservativeness in the CDM rules, however, means that essentially the additionality assessment is made against the most optimistic scenario for the project without the CDM (i.e. highest revenues, lowest costs, highest project emissions, lowest baseline emissions). Moreover, in some major CDM host countries, investment decisions are made by public institutions and driven by political priorities, not by profitability or return on investment (He & Morse 2010). While this is not the place to provide an analysis of the options for reforming additionality testing, a move to alternative approaches such as positive and negative lists, technology penetration thresholds, or standardised baseline and additionality testing would mean that each project developer would not have to address E- policy incentives. Rather, consideration of these incentives would occur when analysing a sector to create lists, thresholds or standards.

5. Practical challenges

An additional implicit assumption in the current treatment of E- policies is that it is methodologically *possible* to remove the effects of E- policies when selecting a baseline or assessing additionality. While this might be true for direct financial incentives such as a mandatory feed-in tariff, it would be increasingly difficult for indirect sectoral incentives (e.g. renewable energy portfolio standards) and

⁷ See example analysis of Chinese wind power in He & Morse (2010).

almost impossible for economy-wide policies (e.g. domestic emissions trading schemes, infrastructure promotion programmes). Constructing the counterfactual baseline scenario is problematic enough without having to tease out the effects of multiple, often conflicting, policies and incentives. Moreover, if EB guidance only covers direct financial incentives, it implies unequal treatment under the CDM of countries based on their policy approaches (e.g. renewable procurement programmes versus feed-in tariffs). In other words, if the exclusion of E- policies in additionality assessment only applies to direct financial incentives, a country with a renewable power procurement program might not be able to host CDM projects, because the bidding price submitted by the successful renewable energy project developers would already be sufficient to make the project profitable.

Additional practical questions include how to define the date of policy implementation and how to judge whether a policy is effectively enforced. In some cases, there is a clear date for establishing an incentive, such as a feed-in tariff, but in many cases policies for a sector evolve incrementally over time and the level and types of support can shift from year to year. This makes it more difficult to establish when discrete policies and incentives were initiated. Similarly, a policy could be promulgated but not enforced, as has already been recognised in the Additionality Tool and Combined Tool.

6. Interaction with new market mechanisms

Because non-Annex I countries have not had GHG emissions caps under the Kyoto Protocol and the CDM has been the only market mechanism for non-Annex I countries, the only policy interactions considered to date is between CDM and national mitigation policies. The landscape is changing, however, with international support (and potentially crediting) for Nationally Appropriate Mitigation Actions (NAMAs), and proposals for New Market Mechanisms (NMMs), Sectoral Crediting Mechanisms (SCMs), and the Framework for Various Approaches (FVA) (Fussler 2012; Prag & Briner 2012; Castro et al. 2012; Wehnert et al. 2013; Hinojosa et al. 2012). National policies will not only play a major role in implementing these new mechanisms, but the new mechanisms themselves may provide additional incentives that will affect the viability of CDM projects. Where there are CDM projects implemented in a sector covered by another international crediting mechanism, careful accounting will be required to ensure that projects receiving CERs do not also count towards sectoral crediting targets. This same issue is being discussed in the GHG Protocol draft “Mitigation Policy and Action Standard”⁸ and “Mitigation Goals Standard”⁹, which propose that:

- the baseline for judging mitigation actions should include any CDM or voluntary carbon market projects already underway, and
- transferable credits generated from future offset projects such as the CDM should be added back to the selling country’s GHG inventory and debited from the purchasing country’s inventory, to avoid double counting.

Any exclusion of national policies that are supported by these new mechanisms or NAMAs would increase the baseline for CDM projects relative to actual (“inventoried”) emissions, as well as creating potential double counting problems. This assumes, however, that these new mechanisms will be well developed and operational in the short term, which is unlikely given the slow progress of the

⁸<http://www.ghgprotocol.org/files/ghgp/GHG%20Protocol%20Policy%20and%20Action%20Standard%20-%20Second%20Draft%20for%20Pilot%20Testing.pdf>

⁹<http://www.ghgprotocol.org/files/ghgp/GHG%20Protocol%20Mitigation%20Goals%20Standard%20-%20Second%20Draft%20for%20Pilot%20Testing.pdf>

negotiations. For the next several years, in practice the CDM is likely to be “the only game in town”, so rather than focusing on the potential for conflict between mechanisms, an alternative approach would be to work to expand the CDM to test new areas of mitigation action and accounting. For example, the Programme of Activity (PoA) rules already allow for programmes that cover an entire sector, based on bottom-up accounting from individual sites. This would be the same for a sectoral crediting mechanism for most developing countries because the only feasible approach to MRV for “sectoral emissions” is to aggregate facility-level emissions. In this sense, the MRV system developed under the CDM can be used to explore the practicalities of broader crediting mechanisms, even while the details of those are under negotiation.

Within the negotiations on new mechanisms, the role and treatment of national policies will be just as important for new mechanisms, if not more important; any new mechanism will need an emissions baseline against which to measure progress, although the procedures and principles for this in new mechanisms could be quite different from the CDM. The difference is that, if baselines are set at a sectoral or sub-sectoral level, it should be easier to understand the impact of national or sectoral policies at that scale than it is for an individual project basis. The emerging literature on new mechanisms highlights the importance of considering the effects of national policies on the evolution of the sector when setting sectoral or national baselines (see, e.g., Castro et al. 2012; Fussler 2012; Prag & Briner 2012; Prag et al. 2012; Schneider & Cames 2009). Castro et al. (2012), after discussion sectoral baselines in the power, cement and buildings sector, make the following comment:

Sectoral baselines need to include all emissions of existing and projected new installations of the covered sector(s); ideally, they need to take into account the drivers of emissions in order to generate realistic projections about how the sector will develop into the future. Developments at the sector level include not only adding new, state-of-the-art installations, but also retrofitting or decommissioning old ones. This kind of logic is very different to the CDM-like approach of determining what investors of individual new installations would most likely do in the absence of the CDM. It is more similar to emissions trading – where baseline setting has been difficult, politically contested and too lenient in most cases, or to the projections of future emissions included in national communications.

Similarly, Schneider and Cames (2009) highlight the importance of considering national policies when establishing a sectoral baseline, and setting a cut-off date for when policies should be included, which could be a political as much as a technical decision. Prag & Briner (2012) point out that, because new national policies can be used to meet crediting targets once the sectoral baseline is set, there are no perverse incentives for host countries not to implement climate friendly policies. The key baseline question, as they reiterate, is which existing or planned policies and measures should be included in the baseline. Fussler (2012) also stresses the increase importance of considering policies in the baselines for new mechanisms, and learning from the experience of the CDM.

As with standardised baselines under the CDM, simply looking backward at emissions and technology development will not be enough to provide a reasonable projection for the future, even if emissions are indexed to output (material or economic) (Hayashi & Michaelowa 2013; Eichorst et al. 2010). Setting baselines for these mechanisms will require careful consideration, and potentially sophisticated modelling, of the direct and indirect impact of national policies on the evolution of the sector. The current work on standardised baselines in the CDM faces similar challenges, and should be used to provide valuable lessons. In submissions to the UNFCCC on NMMs and FVAs, the EU highlights this point saying that, “baselines should incorporate all policies and measures that are adopted or at an advanced stage of development.” (Sterk 2013) The World Bank submission, on the other hand, highlights the “risk of

perverse incentives, e.g., postponing policies and/or action in order to benefit from crediting later on.”(Sterk 2012)

7. Options and analysis

This section discusses options for taking national policies into account in the CDM rules (summarised in Table 1), and whether or not those options are within the scope of the EB’s mandate. For example, the options related to the interaction of the CDM and other mechanisms cannot, for the most part, be addressed by the EB on its own, although the EB has broad scope to explore how the CDM could be used to credit entire sectors or sub-sectors within the context of CDM project activities in particular PoAs.

Regardless of the option chosen to account for national policies in the CDM, clearly there must consistency between the rules for baselines and additionality. The EB expressed this intention at EB74. If EB75 follows through, and establishes uniform guidelines for treatment of national policies in both baseline setting and additionality assessment, this would address some of the past criticism around this issue.

In terms of options for E- policies, the question is not only *whether* to exclude these in baseline and additionality determination, but also *when* and *where* to exclude them. As discussed above, excluding E- policies does reduce the risk of perverse incentives, but may increase the risk of over-crediting and double counting with new mechanisms. Excluding only direct financial incentives (e.g. renewable power feed in tariffs) is easier to implement and poses less risks of over-crediting, because of the narrower application, but as discussed earlier, means that countries with policies other than direct financial incentives still face perverse incentives.

Not excluding any E- policies would clearly reduce over-crediting and double counting risks, and is the easiest practice to implement, but was the original target of concern. The importance of this effect, of course, depends on the policymaker’s perception of how real the risk of perverse incentives is in practice, and in specific countries and sectors.

The recent EB discussion introduces the option of excluding specific E- policies for a limited period. This would mitigate the risk of over-crediting and double counting, although project developers have raised concerns that technologies such as renewable power are only viable if the carbon benefits can accrue over their entire project life (i.e. 20-30 years). Excluding E- policies only in certain sectors would target those technologies where co-benefits are low and therefore the CDM is likely to be the primary driver for action. As discussed in section 4, in sectors with high co-benefits, the CDM is less likely to be the main driver, and is unlikely to create perverse incentives. The same could be said for excluding E- policies in certain country groups, for which there is a precedent in the micro-scale additionality rules provided for LDCs or countries with less than 10 CDM projects. This would imply, however, that the risk of perverse incentives was higher across sectors in LDCs, justifying the exclusion of these policies. But even in these countries, policy decisions in sectors with large co-benefits are unlikely to be influenced primarily by the CDM.

The reverse is true for E+ policies. Because a new E+ policy (e.g. tax breaks for oil and gas exploration) would increase baseline emissions, excluding this policy not only reduces perverse incentives but also reduces the risk of over-crediting. While there may be some practical challenges in identifying these

policies and their impacts, excluding them from baseline and additionality assessment would provide significant benefits.

Table 1. Options for addressing national policies in baselines and additionality determination

Option	Reduce risk of perverse incentives	Reduce risks of over-crediting	Reduce risk of double counting	Practical to implement
Exclude all E- policies	✓✓	xx	xx	xx
Exclude only E- direct financial incentives	✓	x	x	✓
Include all E- policies	x	✓✓	✓	✓✓
Exclude E-: for fixed length of time	✓✓	x	x	xx
Exclude E-: for certain sectors/ technologies	✓✓	x	x	x
Exclude E-: in certain countries	✓✓	x	x	x
Exclude all E+ policies	✓✓	✓✓	N/A	x
Include all E+ policies	xx	xx	N/A	✓

8. Recommendations and conclusions

The three objectives of this analysis were:

- to explore options and provide recommendations on how the CDM rules and practices on national policies could be changed both to increase the transparency and the integrity of the CDM, and
- to explore how national policies may be addressed in new mechanisms
- to address the potential interactions with new carbon market mechanisms and support programmes

On the first point, the analysis above demonstrates that there is a strong case for considering all E- policies in both baselines and additionality. The literature reviewed and experts interviewed for this research suggest that the risk of perverse incentives is not as high as previously assumed in many countries and sectors, while the risk of over-crediting is substantial. In addition, with the introduction of new carbon market mechanisms and international support for NAMAs, the potential for double counting mitigation efforts is greater, particularly if the CDM rules exclude consideration of these new policies. There could be exceptions for specific country groups or technology types, but these should be limited in time and strongly motivated.

On the second point, setting baselines for new mechanisms that cover entire sectors will necessarily require a much more sophisticated understanding of how current (and possibly anticipated or near term) policies effect emissions, while new policies implemented after the start of the crediting period would be an important tool in achieving sectoral emissions reductions. The work on standardized

baselines for the CDM faces similar challenges, and so should be used to test and develop tools and procedures for this broader baseline setting.

On the third point, to avoid potential double counting, any new mechanisms must correct for tradable emissions units such as CERs, and the CDM rules should include all of these mechanisms in baseline setting and additionality assessment. In addition, more creative use the PoA rules should be used to explore how baseline setting, additionality assessment and MRV across an entire sector.

9. References

- Bode, S. & Michaelowa, A., 2003. Avoiding perverse effects of baseline and investment additionality determination in the case of renewable energy projects. *Energy Policy*, 31, pp.505–517.
- Bogner, M. & Schneider, L., 2011. Is the CDM Changing Investment Trends in Developing Countries or Crediting Business-as-Usual? A Case Study on the Power Sector in China. In M. Mehling, A. Merrill, & K. Upston-Hooper, eds. *Improving the Clean Development Mechanism: Legal and Institutional Challenges*. Berlin: Lexxion.
- Castro, P. et al., 2012. *Setting baselines for the new market mechanism: Examples from the power, cement and buildings sectors*, Berlin, Hamburg & Zurich: Oeko Institute, Perspectives Climate Change & University of Zurich. Available at: http://www.perspectives.cc/typo3home/groups/15/Publications/2012/2012_Setting-baselines-for-the-new-market-mechanism.pdf [Accessed August 12, 2013].
- Eichorst, U. et al., 2010. *Exploring standardised baselines for CDM and other carbon finance mechanisms in transport*, Wuppertal: Wuppertal Institute for Climate, Environment and Energy. Available at: http://www.wupperinst.org/uploads/tx_wiprojekt/CITS_final_report.pdf [Accessed May 4, 2012].
- Erickson, P., Lazarus, M. & Spalding-Fecher, R., under review. Net Mitigation of the Clean Development Mechanism. *Climate Policy*.
- Fussler, J., 2012. *CDM baseline approaches for PoA upscaling and New Market Mechanisms (NMM). Building NMM on CDM elements*, Zurich: INFRAS. Available at: http://www.kfw.de/kfw/en/KfW_Group/Sustainability_and_Climate_Protection/PDF/INFRAS_CDM_Baseline_Approaches_CDM_Elements_for_NMMs_20Apr2012.pdf [Accessed May 17, 2012].
- Greiner, S. & Michaelowa, A., 2001. Defining Investment Additionality for CDM Projects - Practical Approaches. *Energy Policy*, 31(10), pp.1007–1015.
- Grubb, M. et al., 2011. Global carbon mechanisms: lessons and implications. *Climatic Change*, 104(3), pp.539–573. Available at: <http://dx.doi.org/10.1007/s10584-009-9791-z>.
- Grubb, M., Vrolijk, C. & Brack, D., 1999. *The Kyoto Protocol: A guide and assessment*, London: Royal Institute for International Affairs.

- Hayashi, D. & Michaelowa, A., 2013. Standardization of baseline and additionality determination under the CDM. *Climate Policy*, 13(2), pp.191–209. Available at: <http://www.tandfonline.com/doi/abs/10.1080/14693062.2013.745114> [Accessed August 27, 2013].
- He, G., 2013. Engaging Emerging Countries: Implications of China’s Major Shifts in Climate Policy. In N. Azha Putra & E. Han, eds. *Governments’ Responses to Climate Change: Selected Examples From Asia Pacific*. Springer Briefs in Environment, Security, Development and Peace. Berlin: Springer.
- He, G. & Morse, R.K., 2010. *Making carbon offsets work in the developing world: lessons from the Chinese wind controversy*, Palo Alto, California: Stanford Program on Energy and Sustainable Development. Available at: http://iis-db.stanford.edu/pubs/22867/WP_90%2C_Morse__and__He%2C_Making_Offsets_Work_Lessons_From_China_CDM_Wind.pdf [Accessed May 8, 2012].
- Hinostroza, M. et al., 2012. *Measuring, Reporting, Verifying. A Primer on MRV for Nationally Appropriate Mitigation Actions*, Roskilde: UNEP Riso Centre for Energy, Climate and Sustainable Development.
- Lütken, S.E., 2012. *Penny Wise, Pound Foolish? Is the original intention of cost efficient emissions reduction through the CDM being fulfilled?*, Roskilde, Denmark: UNEP Riso Centre for Energy, Climate and Sustainable Development. Available at: http://uneprisoe.org/URClimateWP/Pennywise_Poundfoolish_URC_WP1.pdf.
- Michaelowa, A., 2009. Interpreting the additionality of CDM projects: changes in additionality definitions and regulatory practices over time. In D. Freestone & C. Streck, eds. *Legal Aspects of Carbon Trading*. Oxford: Oxford University Press, pp. 248–271.
- Newell, P. & Bumpus, A., 2012. The Global Political Ecology of the Clean Development Mechanism. *Global Environmental Politics*, 12(4), pp.49–67. Available at: http://www.mitpressjournals.org/doi/abs/10.1162/GLEP_a_00139 [Accessed September 5, 2013].
- PDF, 2012. *Response provided by the Project Developer Forum to CDM Policy Dialogue Stakeholder Consultations*, Project Developer Forum.
- PDF, 2013. *Suggestions on policy issues: Discussion on the treatment of host country national mitigation policies (E- policies) under the CDM*, London: Project Developer Forum. Available at: <http://www.pd-forum.net/files/c5511e7a0cf371cbe8528a91cb7e226d.pdf> [Accessed September 3, 2013].
- Phillips, J. & Newell, P., 2013. The governance of clean energy in India: The clean development mechanism (CDM) and domestic energy politics. *Energy Policy*, 59(0), pp.654–662. Available at: <http://www.sciencedirect.com/science/article/pii/S0301421513002589>.
- Platanova-Oquab, A. et al., 2012. *CDM Reform: Improving the efficiency and outreach of the Clean Development Mechanism through standardization*, Washington D. C.: World Bank. Available at: http://siteresources.worldbank.org/INTCARBONFINANCE/Resources/CDM_Rev_05_11_2012.pdf [Accessed June 14, 2012].

- Prag, A. & Briner, G., 2012. *Crossing the Threshold: Ambitious Baselines for the UNFCCC New Market Mechanism*, Paris: Organisation for Economic Co-operation and Development and International Energy Agency. Available at: <http://www.oecd.org/dataoecd/61/26/50034842.pdf> [Accessed May 4, 2012].
- Prag, A., Briner, G. & Hood, C., 2012. *Making Markets: Unpacking Design and Governance of Carbon Market Mechanisms*, Paris: Organisation for Economic Co-operation and Development and International Energy Agency. Available at: http://www.oecd.org/env/cc/%282012%294%20-%20Market%20Mechanisms_AE%20%282%29.pdf [Accessed August 12, 2013].
- Schneider, L., 2009. Assessing the additionality of CDM projects: practical experiences and lessons learned. *Climate Policy*, 9(3), pp.242–254.
- Schneider, L., 2011. Perverse incentives under the CDM: an evaluation of HFC-23 destruction projects. *Climate Policy*, 11(2), pp.851–864. Available at: <http://www.tandfonline.com/doi/abs/10.3763/cpol.2010.0096> [Accessed June 25, 2012].
- Schneider, L. & Cames, M., 2009. *A Framework for a Sectoral Crediting Mechanism in a Post-2012 Climate Regime. Report for the Global Wind Energy Council*, Berlin: Oeko Institute. Available at: <http://www.oeko.de/oekodoc/904/2009-022-en.pdf> [Accessed September 25, 2013].
- Schneider, L. & Morr, L., 2010. *2010 Rating of Designated Operational Entities (DOEs) accredited under the Clean Development Mechanism (CDM). Report for WWF*, Berlin: Oeko Institute. Available at: <http://www.oeko.de/files/forschungsergebnisse/application/octet-stream/download.php?id=1023>.
- Spalding-Fecher, R. et al., 2012. *Assessing the impact of the Clean Development Mechanism. Report commissioned by the High Level Panel on the CDM Policy Dialogue*, Bonn: United Nations Framework Convention on Climate Change. Available at: http://www.cdmpolicydialogue.org/research/1030_impact.pdf [Accessed October 30, 2012].
- Sterk, W., 2012. *Current Proposals and Positions on New Market Mechanisms*, Wuppertal: Wuppertal Institute for Climate, Environment and Energy. Available at: http://www.jiko-bmu.de/files/basisinformationen/application/pdf/pp_nmbm_submissions.pdf [Accessed August 12, 2013].
- Sterk, W., 2013. *Update on Parties` Positions on the Framework for Various Approaches and the New Market-Based Mechanism*, Wuppertal: Wuppertal Institute for Climate, Environment and Energy. Available at: http://www.jiko-bmu.de/files/basisinformationen/application/pdf/jiko_policy_brief_2_2013.pdf [Accessed August 12, 2013].
- UNFCCC, 2001. *Modalities and procedures for a clean development mechanism, as defined in Article 12 of the Kyoto Protocol. FCCC/CP/2001/13/Add.2. Decision 17/CP.7*, Bonn: United Nations Framework Convention on Climate Change.
- Wehnert, T., Harms, N. & Sterk, W., 2013. *Ambitious New Market Mechanisms - Exploring Frameworks for Pilots*, Wuppertal: Wuppertal Institute for Climate, Environment and Energy. Available at:

http://www.jiko-bmu.de/files/basisinformationen/application/pdf/jiko_pp_nmm_web.pdf
[Accessed August 12, 2013].

Winkler, H., 2004. National policies and the CDM: Avoiding perverse incentives. *Journal of Energy in Southern Africa*, 15(4), pp.118–122.

Appendix 1: Experts interviewed

Name	Organisation	Interviewer	Date
Paula Castro	Perspectives Climate Change/ University of Zurich	Randall Spalding-Fecher	12 August
Michael Gillenwater	GHG Management Institute	Randall Spalding-Fecher	22 August
Lambert Schneider	EB Member	Randall Spalding-Fecher	26 August
Gang He	UC Berkeley	Randall Spalding-Fecher	27 August
Peer Stiansen	Chair of EB	Torleif Haugland	2 September
Harald Dovland	Former negotiator for Norway	Torleif Haugland	2 September
Jürg Füssler	INFRAS	Randall Spalding-Fecher	6 September
Philipp Hauser	Project Developer Forum	Randall Spalding-Fecher	6 September

Appendix 2: List of acronyms

AT	Additionality Tool
CDM	Clean Development Mechanism
CERs	Certified Emissions Reductions
CMP	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol
DOE	Designated Operational Entity
EB	(CDM) Executive Board
EU	European Union
FVA	Framework for Various Approaches
LDC	Least Developed Country
M&P	(CDM) Modalities and Procedures
NAMA	Nationally Appropriate Mitigation Actions
NMM	New Market Mechanism
SCM	Sectoral Crediting Mechanism