



## **Eligibility of carbon dioxide and storage projects activities which involve the transport of carbon dioxide from one country to another or which involve geological storage sites that are located in more than one country**

**Submission from Greenpeace International  
5 March 2012**

Greenpeace International welcomes the opportunity to submit comments to the secretariat regarding the “eligibility of carbon dioxide and storage projects activities which involve the transport of carbon dioxide from one country to another or which involve geological storage sites that are located in more than one country.”<sup>1</sup>

This submission, as an effort to remain constructively engaged in the UNFCCC process, should not be seen as an endorsement of CCS or the Durban decision granting CCS eligibility as a project activity under the CDM. Greenpeace’s position is that CCS project activities should not be allowed under the CDM. CCS perpetuates and incentivizes an unsustainable hydrocarbon energy framework while failing to address the myriad non-climate change related environmental and human impacts associated with the extraction and use of fossil fuels. The decision made at COP17/MOP7 to lift the provisional status of CCS was at best hasty and ill-advised given the many uncertainties associated with the technology and the fact that the CDM is meant for technologies and processes already proven under field conditions, not those still requiring validation.<sup>2</sup>

Experience with the long-term storage of CO<sub>2</sub> is extraordinarily limited. The longest running CO<sub>2</sub> storage project in the world, Sleipner in Norway, has only been operational since 1996 and is still actively injecting CO<sub>2</sub>. What is clear is that experience within one geological storage location cannot be translated directly to applications in other fields as each formation has unique characteristics, such that, at the very least, a cautious approach to further development of CCS is vital; permitting the transboundary transport and storage of CO<sub>2</sub> at this stage runs counter to such an approach.

Given the decision at COP17/MOP7 that CCS project activities are nevertheless eligible under the CDM, Greenpeace strongly recommends that, at a minimum, transboundary CCS project activities should not be considered eligible. The upcoming deliberations on the eligibility of transboundary projects must address the following issues:

### **1. London Protocol discussion concerning transboundary movement of CO<sub>2</sub> streams to other countries for disposal**

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<sup>1</sup> UNFCCC, Draft decision -/CMP.7. 2011. Modalities and procedures for carbon dioxide capture and storage in geological formations as clean development mechanism project activities. Paragraph 4(a). <http://unfccc.int/resource/docs/2011/cmp7/eng/l04.pdf>

<sup>2</sup> CDM Executive Board. 2006. Twenty-fifth Meeting, Report. Paragraph 71. <http://cdm.unfccc.int/EB/025/eb25rep.pdf>

The transboundary movement of CO<sub>2</sub> is highly controversial and remains prohibited under Article 6 of the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter of 29 December 1972 (London, 7 November 1996), as amended in 2006. In 2009 the Contracting Parties to the London Protocol adopted a further Resolution agreeing to an amendment to Article 6<sup>3</sup> to allow the export of carbon dioxide streams for disposal in sub-seabed geological formations, but this amendment has not yet entered into force and many fundamental legal and technical concerns and uncertainties remain to be resolved between Parties.

Greenpeace recommends that the upcoming discussion on eligibility gives careful consideration to the extensive and ongoing discussions under the London Protocol and the London Convention regarding issues and concerns related to the export of CO<sub>2</sub> streams to other countries for disposal, as well as those related to the management of such activities. More specifically, full account must be taken of the many outstanding questions which remain unresolved, including:-

- How to develop legal and technical guidance on how the amendment can be implemented in practice without compromising the provisions of the London Protocol;
- In particular, how to ensure that agreements and arrangements entered into between States do not derogate from the obligations of Contracting Parties to protect and preserve the marine environment;
- How permits should be designed and issued and by whom;
- How liabilities for exported and disposed of CO<sub>2</sub> streams can be assigned and guaranteed into the future;
- What is implied by reference in the amendment to the terms “country” and “countries concerned”, and how these relate to legal obligations;
- How to ensure that criteria and procedures relating to Action Lists (with particular regard to composition of the CO<sub>2</sub> streams and their impurities) are applied in ways which do not lead to inconsistencies in the level of protection applied or derogations from obligations; and
- How to provide for necessary confidentiality without impacting on obligations to share information with concerned Parties.

It must be acknowledged that unless and until agreement is reached amongst Parties on these and other related legal and technical questions, any consideration of whether and how export of CO<sub>2</sub> streams for disposal in sub-seabed geological formations may be considered eligible under the CDM would be premature and deeply unwise.

The need for caution is only underscored by the fact that the accuracy of technology to detect and quantify leakages is “site and situation specific.”<sup>4</sup> While CCS monitoring technologies “may

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<sup>3</sup> Resolution LP.3 (4) on the Amendment to Article 6 of the London Protocol, 30 Oct 2009

<sup>4</sup> UNFCCC CDM Executive Board. 2009. EB50, Annex 1, Revised draft report on CCS, p. 37.  
<http://cdm.unfccc.int/EB/050/eb50annagan1.pdf>

be able to quantify seepage to the levels required for emissions accounting”, the CDM Executive Board itself acknowledged in 2009 that “further research is necessary to improve understanding of leakage quantification.”<sup>5</sup> What’s more, there is very little experience with stopping seepages once they have started or with remediating the damage they might cause.

## **2. Poor track records in international hazardous and toxic waste transport and management is a cause for concern.**

One crucial lesson drawn from the experience with toxic waste transports is that recipient countries have tended to be chosen for their lack of knowledge about the waste and its associated risks, and insufficient regulatory capacity and money for its proper oversight and management. Toxic waste transports themselves often have all too often been rationalised as “win-win”, i.e. by solving one side’s waste problem while giving the other side ‘recyclable’ resources. But the reality is that even after the *Basel Convention Controlling Transboundary Movements of Hazardous Wastes and Their Disposal* was adopted in 1995, there have been numerous scandals.

Often times, the necessary legal and institutional frameworks for the environmentally sound management of waste are either lacking or inadequate in the host developing countries. This combined with limited capacity to manage dangerous waste results in, among other things, the widespread disposal of hazardous waste with municipal waste in uncontrolled dump sites.<sup>6</sup> In Ghana, for example, e-waste is routinely disposed of in uncontrolled dump sites and waste volumes are periodically reduced by setting them on fire. This results in the release of a whole range of toxic substances, which have heavily contaminated soil and water resources.<sup>7</sup> Scandals are (till today) so common-place that the term “waste colonialism” had been coined to describe the relationship between the exporting states and recipient states.

This is a real cause for concern when it comes to CCS. While the risk profile for hazardous materials and toxic waste is different to that for carbon dioxide, all such disposal operations imply liabilities and the potential for harmful effects over very long timeframes. The ongoing difficulties experienced by many States in managing the handling and disposal of hazardous materials and other wastes and ensuring the safety and security of disposal and storage sites over the long term calls in to question the likely robustness of measures designed to oversee injection activities as well as monitor CO<sub>2</sub> storage sites once injection has ceased.

As CCS is technically complex and the costs of storage site management and monitoring is likely to be significant, there is a real possibility that a similar dynamic would be created. This should give pause to those contemplating the deployment of CCS in the context of the CDM. The climate integrity of the mechanism hinges on CO<sub>2</sub> staying underground once it is put there. The CDM Executive Board must not ignore the very real possibility that some States may not be up to the task of monitoring CO<sub>2</sub> storage sites and the potential threat this poses to the CDM and the climate, despite having storage capacity and a desire to exploit it.

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<sup>5</sup> *Ibid.*, footnote 39.

<sup>6</sup> UNESC Economic Commission for Africa. 2009. Sixth Session of the Committee on Food Security and Sustainable Development, p.32. <http://www.uneca.org/csd/csd6/AfricanReviewReport-onWasteManagementMainReport.pdf>

<sup>7</sup> *Ibid* p. 21.

### **3. Transboundary CCS project involving EOR must be ruled out as project activities under the Clean Development Mechanism to prevent creating perverse incentives for more fossil fuel consumption.**

The practice of injecting CO<sub>2</sub> to enhance oil recovery facilitates extraction of previously unrecoverable oil resources and can extend the life of depleted oil and gas fields by decades. It thus leads to significant additional consumption of fossil fuels which directly contradicts the primary objectives of the CDM, namely achieving cost-effective emission reductions for the developed world while encouraging sustainable development in the developing countries.<sup>8</sup> Moreover, lucrative potential profits in EOR projects could take the project eligibility discussion in a dangerous direction and the CDM incentives could perversely incentivize the construction of new carbon intensive infrastructure in developing countries, leading to more carbon emissions and worsen climate change.

Greenpeace therefore strongly recommends that the discussion of eligibility should only address the dumping of CO<sub>2</sub> streams for storage and not the use of such streams for enhanced oil recovery (EOR). In other words, EOR should be expressly ruled out of the scope of any CDM discussion.

### **4. Ability of CCS Modalities and Procedures to ensure the climate integrity of the CDM should first be validated.**

The transboundary movement of CO<sub>2</sub> adds another layer of complicated legal, technical, management and monitoring issues on top of the complex and, as yet, untested CDM framework agreed to in Durban. Before building on that framework by granting eligibility to transboundary project activities there's a need to make sure the process actually works. This validation is both reasonable and necessary in light of existing concerns about:-

- The environmental integrity of CDM projects and their contribution to sustainable development;<sup>9</sup>
- The revelation of how systemic flaws in the ACM 0013 CDM methodology and its application have led to significant overestimation of emission reductions for coal projects;<sup>10</sup> and
- The findings of a recently released report, ordered by the European Commission, which calls into question the integrity of the CDM process as a whole<sup>11</sup>, and details some specific and substantial weaknesses in the mechanism, including:

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<sup>8</sup> See KP, art. 12(2): "The purpose of the clean development mechanism shall be to assist Parties not included in Annex I in achieving sustainable development and in contributing to the ultimate objective of the Convention, and to assist Parties included in Annex I in achieving compliance with their quantified emission limitation and reduction commitments under Article 3"

<sup>9</sup> See e.g., Haya, B. & Parekh, P. 2011. Hydropower in the CDM: Examining Additionality and Criteria for Sustainability. Energy and Resources, Group University of California, Berkley. November 2011. <http://www.cdm-watch.org/wordpress/wp-content/uploads/2011/11/Haya-Parekh-2011-Hydropower-in-the-CDM.pdf>

<sup>10</sup> Lazarus, M. & Chandler, C. 2011. Coal Power in the CDM: Issues and Options. Stockholm Environment Institute. November 2011. [http://sei-us.org/Publications\\_PDF/sei-wp-2011-02-coal-in-cdm.pdf](http://sei-us.org/Publications_PDF/sei-wp-2011-02-coal-in-cdm.pdf)

<sup>11</sup> Ruthner, L. et al. 2011. Study on the Integrity of the Clean Development Mechanism (CDM). December 2011. [http://ec.europa.eu/clima/policies/ets/linking/docs/final\\_report\\_en.pdf](http://ec.europa.eu/clima/policies/ets/linking/docs/final_report_en.pdf)

- Baseline setting and additionality testing being widely criticized to be subjective, unreliable and prone to gaming and perverse incentive;
- Questions over whether CDM has delivered its objective to promote sustainable development in developing countries; and
- Concerns regarding governance of the CDM Executive Board.

The truth of the matter is that we don't know how to effectively manage the transboundary transport and storage of CO<sub>2</sub> in developing countries for the benefit of the carbon market. There is experience with moving oil, gas and other materials across borders; experience storing waste for longer periods of time; and experience with carbon markets and accounting. There have been varying degrees of success with each of these individually as well as spectacular failures. What we certainly don't have is experience doing all three successfully at the same time. This is why caution is warranted and particularly in this instance as CCS managed improperly has the potential to completely undermine the integrity of the CDM as well as do more harm to the climate than good.

## **5. Liability regimes are likely to provide ineffective and inadequate redress to affected individuals and entities.**

The Modalities and Procedures for CCS focus almost exclusively on liability as it relates to carbon accounting for individual projects. They essentially ignore non-climate liability issues requiring only that countries wishing to host CCS projects have laws and regulations which,

“[p]rovide for timely and effective remedial redress for affected entities, individuals and communities for any significant damages, such as environmental damage, including damage to ecosystems, other material damages or personal injury, caused by the project activity, including in the post-closure phase.”<sup>12</sup>

It remains to be seen, for the purposes of the CDM, what kinds of laws will be considered to give “timely” and “effective” redress for “significant” damage. Regardless, absent the imposition of strict liability for CCS project activities,<sup>13</sup> liability for harm from CO<sub>2</sub> leakages will likely be next to impossible to establish outside of catastrophic leakage events. Extending the chain of custody for CO<sub>2</sub> across borders where activity in one country causes environmental or property damage in another only complicates matters. Add to that very relevant access to justice concerns for individuals in developing countries<sup>14</sup> and it is almost a foregone conclusion that many of the harms caused by CCS transport and storage activities will go unpunished.

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<sup>12</sup> UNFCCC, Draft decision -/CMP.7. 2011. Modalities and procedures for carbon dioxide capture and storage in geological formations as clean development mechanism project activities. Paragraph 4(a). <http://unfccc.int/resource/docs/2011/cmp7/eng/l04.pdf>

<sup>13</sup> For a discussion on the application of strict liability to CCS activities see Nathan R. Hoffman, *The Feasibility of Applying Strict-Liability Principles to Carbon Capture and Storage*, Washburn L. J. Vol. 49 527 (2010).

<sup>14</sup> In South Africa, for example, the cost of professional legal services remains unaffordable to the average citizen. See AfriMAP & Open Society Foundation for South Africa, *South Africa Justice Sector and the Rule of Law*. 2005. <http://www.afriMAP.org/english/images/report/Discussion%20Doc.pdf>