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Methodological issues under the Kyoto Protocol

Carbon dioxide capture and storage in geological formations as clean development mechanism project activities

Views on the eligibility of carbon dioxide capture and storage project activities involving transport of carbon dioxide from one country to another or which involve geological storage sites that are located in more than one country; and on the establishment of a global reserve of certified emission reduction units for carbon dioxide capture and storage project activities

Submissions from Parties and admitted observer organizations

Addendum

1. In addition to the three submissions contained in document FCCC/SBSTA/2012/MISC.8, and the one submission contained in document FCCC/SBSTA/2012/MISC.8/Add.1, one further submission has been received.

2. In accordance with the procedure for miscellaneous documents, this submission is attached and reproduced* in the language in which it was received and without formal editing.

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Submission from Australia

Submission under the Durban Agreements | May 2012

Modalities and procedures for carbon dioxide capture and storage in geological formations as Clean Development Mechanism project activities | SBSTA

I. Overview

This submission contains Australia's response to the invitation in paragraph 6 of decision 10/CMP.7 (the Durban CCS decision) to submit views on the two following issues:

- a) the eligibility of carbon capture and storage (CCS) project activities under the Clean Development Mechanism (CDM) 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 (transboundary CCS projects); and
- b) the establishment of a global reserve of certified emission reduction units (CERs) for CCS project activities, in addition to the reserve referred to in paragraph 21(b) of the annex to the Durban CCS decision (the reserve account).

Australia welcomes the progress made in Durban in establishing modalities and procedures for CCS in geological formations as CDM project activities and the opportunity to submit its views to the Subsidiary Body for Scientific and Technological Advice (SBSTA).

In summary, Australia considers:

- The case for the establishment of a global reserve of CERs is yet to be made. A global reserve is not a requirement for other CDM project activities. Its purpose for CCS project activities is not clear. As a tool to address environmental integrity concerns it has the potential to duplicate the reserve account and discourage the avoidance or minimisation of net reversal of storage.
- Transboundary CCS projects should be accepted as eligible CDM project activities. Modalities and procedures for transboundary CCS projects should be developed with due regard to other CDM modalities and procedures, including those agreed in Durban. They should specifically address Host Party eligibility and governance arrangements between Host Parties.

II. Global Reserve

A case must be made to substantiate the need for the proposed global reserve for CCS project activities. A global reserve of CERs is not a requirement for other CDM project activities. A high level of investment capital will be required for CCS projects. The additional regulatory and financial burden imposed by a global reserve would diminish their attractiveness.

The purpose of the proposed global reserve of CERs is not currently clear. Some Parties have suggested that its purpose is to address environmental integrity concerns related to CCS projects. This submission considers the merit of a global reserve with that purpose in mind.

To substantiate the need for a global reserve it must be shown that:

- i. environmental integrity concerns are not sufficiently addressed by the modalities and procedures agreed at Durban, including the reserve account; and
- ii. the global reserve is the best way to address any outstanding concerns.

Adequacy of the existing modalities and procedures

The modalities and procedures in the Durban CCS decision are designed to ensure that there is no seepage of carbon dioxide from storage sites, during and after the CDM activity period. The IPCC Special Report on Carbon Dioxide Capture and Storage (2005) provides the latest available scientific evidence on the probability of seepage. The report concluded that, based on historical practices for the oil and gas industry, there is a less than 10 per cent probability that more than 1 per cent of the stored carbon dioxide will seep within the first 100 years.¹

To comply with the agreed modalities and procedures, CCS projects will likely need to employ more sophisticated monitoring technologies than those used in the oil and gas industry in the past. This will provide assurance that any actual or potential seepage from a geological storage site during the operational phase will be quickly detected and further injection not allowed until all causes are rectified.

In Durban, Parties agreed to establish a reserve account of the CDM registry to which 5 per cent of CERs issued by the CDM Executive Board are forwarded as an additional safeguard designed to address any net reversal of storage (i.e. more seepage than storage of carbon dioxide) not addressed through other modalities and procedures. As reversal of storage is only probable after injection operations end, the primary purpose of the reserve account is to cover the period from the end of the crediting period to the end of the CCS project activity. In light of the above IPCC conclusions, the 5 per cent reserve account provides an adequate safeguard for any net reversal of storage.

The design of the reserve account also creates incentives to maximise the environmental integrity of CCS projects. After at least 20 years of monitoring after the last crediting period of the CCS project activity, all remaining CERs in the reserve account for that activity are returned to project participants where no seepage has occurred for at least the final 10 years of the monitoring period. This provides an incentive for project participants to follow best practice for geological storage and manage the site in an environmentally responsible manner to avoid or minimise net reversal of storage. This can be done by selecting secure storage sites, monitoring the site to ensure that carbon dioxide is always contained within approved project boundaries, and mitigating potential seepage events.

¹ “for large scale operational CO₂ storage projects, assuming that sites are well selected, designed, operated and appropriately monitored, the balance of available evidence, suggests that it is very likely (i.e. more than 90 per cent probability) the fraction of stored CO₂ retained is more than 99 per cent over the first 100 years. It is likely (i.e. more than 66 per cent probability) that the fraction of stored CO₂ retained is more than 99 per cent over the first 1000 years”.

Rationale for the proposed global reserve

The above suggests that the current modalities and procedures have the scope to adequately address any environmental integrity concerns associated with CCS project activities. Even if this were not the case, it is not clear that a global reserve presents the best way to address such concerns. If a global reserve did not return CERs to project participants on the same basis as the reserve account, it may reduce the incentive to select the most secure storage sites and to avoid or minimise net reversal of storage. If the global reserve did return CERs, it would duplicate the role of the reserve account. In either case, there do not appear to be strong grounds for the proposed global reserve.

III. Transboundary CCS projects

CCS projects can involve large-scale investment and geographically wide project boundaries. In certain circumstances, they can involve activities in more than one country. A lack of access to suitable or economically attractive storage sites in one country may lead to exploration of the ways in which carbon dioxide captured in that country may be stored in a storage site situated in another country. Moreover, pipelines and storage sites may themselves be transboundary in nature. The inclusion of transboundary CCS projects in the CDM will encourage further emissions reductions through this technology.

Where appropriate, the modalities and procedures for CCS projects agreed in Durban should apply to transboundary CCS projects. Transboundary CCS projects have specific characteristics as they involve activities which take place in and cross the borders of multiple national jurisdictions. Additional modalities and procedures will be needed, and existing modalities and procedures may need to be further elaborated, with regard to these characteristics. In all circumstances, safeguarding environmental integrity should be a key consideration.

Eligibility requirements

Consistent with the objectives of the CDM, only CCS projects involving capture of carbon dioxide in a non-Annex I Party should be eligible. The current modalities and procedures exclude participation by Annex I Parties in CDM project activities, including for the use of storage sites located partly or wholly in Annex I Parties. This could exclude a range of potentially viable mitigation opportunities. Further consideration should be given to the possibility of allowing transboundary CCS projects involving the storage in an Annex I Party of carbon dioxide captured in a non-Annex I Party under the CDM.

Under the modalities and procedures agreed at Durban, a non-Annex I Party may only host a CCS project activity under the CDM if it has established laws or regulations on a range of matters related to the capture, transport and storage of carbon dioxide within its territory. However, some transboundary CCS projects may involve capture wholly within one country (the 'capture country') and storage wholly within another country (the 'storing country'). It may not be practicable for the capture country to have laws or regulations relating to the approval and management of storage sites in the storing country. Rather, these requirements would have to be met by the storing country. Further consideration should therefore be given to overcome this potential barrier, for instance by allowing Host Parties to jointly satisfy the participation requirements set out in paragraph 8 of the annex of the Durban CCS decision.

Host Party governance arrangements

There are a wide range of potential configurations of transboundary CCS projects. A number of factors, such as each country's laws and regulations, will be specific to each project. This makes it impractical to set out or prescribe how transboundary issues must be addressed.

Australia supports an approach whereby all Host Parties to a transboundary CCS project are required to establish robust governance arrangements. As part of these arrangements, all Host Parties must enter into an agreement which details the arrangements to apply to the project, including their respective liabilities. The modalities and procedures for transboundary CCS projects should set out the elements that such agreements must address. These include the law applicable to the project, Host Parties' respective roles and responsibilities, and an appropriate and effective dispute resolution mechanism.

Applicable law

Any agreement should cover all aspects of applicable law in each Host Party. Given the possible need for people involved in the regulation of a transboundary CCS project to have open access across boundaries, this could extend to such matters as immigration, customs and criminal law.

Host Parties' roles and responsibilities

The roles and responsibilities of all Host Parties must be clearly defined. The agreement must set out the roles and responsibilities of Host Parties in relation to:

- the elements of Appendix B of the annex to the Durban CCS decision;
- arrangements for approvals of transport infrastructure and storage sites;
- mechanisms for effective consultation and information sharing;
- measures to address any transboundary issues which may arise, consistent with international obligations such as under the London Convention and Protocol² and the Basel Convention³;
- arrangements for project regulation during the operational phase, including nomination of a single regulator and provision for access to transport and storage facilities; and
- mechanisms to address any transboundary seepage paths and potential impacts, consistent with the recommendations for measurement and reporting of CCS-related emissions, including cross-border CCS operations, in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories.

Dispute resolution mechanism

Measures to address any transboundary issues should be agreed in advance between all Host Parties. It is possible that disputes may nevertheless arise. Host Parties must therefore identify an appropriate and effective forum or body to resolve any such disputes.

² International Maritime Organisation, Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter 1972 and 1996 Protocol thereto.

³ Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal 1989.