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Ad Hoc Working Group on Long-term Cooperative Action under the Convention
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Item 11 of the provisional agenda
Market-based and non-market-based mechanisms

Synthesis report on information on various approaches in enhancing the cost-effectiveness of, and promoting, mitigation actions

Note by the secretariat**

Summary

This report synthesizes the information provided by Parties and admitted observer organizations on the evaluation of various approaches in enhancing the cost-effectiveness of, and promoting, mitigation actions.

* The second part of the fourteenth session of the Ad Hoc Working Group on Long-term Cooperative Action under the Convention will be held in conjunction with the second part of the sixteenth session of the Ad Hoc Working Group on Further Commitments for Annex I Parties under the Kyoto Protocol and the thirty-fourth sessions of the Subsidiary Body for Implementation and the Subsidiary Body for Scientific and Technological Advice. The exact dates of the resumed sessions of the ad hoc working groups will be announced in due course.

** This document was submitted after the due date owing to the date of submission of the views.

Contents

I. Introduction

A. Mandate

1. The Conference of the Parties (COP), by its decision 1/CP.16, chapter III.D:

(a) Decided to consider the establishment, at its seventeenth session, of one or more market-based and one or more non-market-based mechanisms to enhance the cost-effectiveness of, and to promote, mitigation actions;

(b) Requested the Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA) to elaborate these mechanisms, with a view to recommending draft decisions to the COP for consideration at its seventeenth session;

(c) Invited Parties and admitted observer organizations to submit to the secretariat, by 21 February 2011, their views on the above matters and information on the evaluation of various approaches in enhancing the cost-effectiveness of, and promoting, mitigation actions, including activities implemented jointly under Article 4, paragraph 2(a), of the Convention and any other relevant activities, for synthesis by the secretariat.[1]

B. Scope

2. This document synthesizes the information submitted by Parties and admitted observer organizations on the evaluation of various approaches in enhancing the cost-effectiveness of, and promoting, mitigation actions. Many Parties and admitted observer organizations provided such information in response to more than one of the invitations referred to in paragraph 1(c) above, often in the form of proposals for, or views on, new market-based and non-market-based mechanisms. This report therefore addresses relevant information contained in all of the submissions that were received.

C. Possible action by the Ad Hoc Working Group on Long-term Cooperative Action under the Convention

3. The AWG-LCA may wish to consider this report when elaborating new market-based and non-market-based mechanisms, with a view to recommending draft decisions to the COP for consideration at its seventeenth session.

II. Methodology

A. Definitions

1. 'Market-based' versus 'non-market-based'

4. While almost all submissions distinguished between 'market-based approaches' and 'non-market-based approaches', they differed slightly in how they interpreted these terms. Most submissions appeared to interpret a 'market-based approach' as one that employs or

[1] The submissions are set out in documents FCCC/AWGLCA/2011/MISC.2 and Add.1, FCCC/AWGLCA/2011/MISC.3 and Add.1, FCCC/AWGLCA/2011/MISC.4 and FCCC/AWGLCA/2011/MISC.5.

in some way recognizes an infrastructure for trading emissions on the basis of market principles such as supply and demand. Alternatively, a small number of submissions interpreted a 'market-based approach' as one that provides economic incentives for certain forms of behaviour, including not only trading approaches but also measures such as taxation and feed-in tariffs. This report uses the first of these interpretations.

5. Information on market-based approaches formed the majority of the submissions.

2. 'Approach' versus 'mechanism'

6. Although several submissions provided information of a general theoretical nature on market-based and non-market-based approaches, many more submissions provided information on concrete applications of these approaches, referred to as 'market-based mechanisms' and 'non-market-based mechanisms', respectively.

B. Criteria for evaluation

7. The COP invited the submission of information on the evaluation of various approaches with reference to two criteria, the first being whether they 'enhance the cost-effectiveness of mitigation actions' and the second being whether they 'promote mitigation actions'.

8. The criterion of enhancing the cost-effectiveness of mitigation actions was generally understood to mean lowering the economic cost of achieving a specific degree of mitigation. For example, a mechanism that lowers the cost of mitigating one tonne of carbon dioxide equivalent from USD 10 to USD 9 may be deemed to enhance cost-effectiveness. In addition, the criterion was suggested in a small number of submissions to refer to the lowering of the administrative costs of operating a system for achieving mitigation. Using this interpretation, a mechanism that is expensive to establish and enforce may be deemed not to enhance cost-effectiveness.

9. The criterion of promoting mitigation actions was broadly understood to mean ensuring an actual reduction in emissions or enhancement of removals, typically by influencing the behaviour of a wide range of individuals, entities and countries through encouragement, compulsion or the provision of economic incentives.

III. Evaluation of market-based approaches

A. Existing market-based mechanisms

10. The submissions highlighted several existing market-based mechanisms as a basis for evaluating market-based approaches, including:

(a) The three flexibility mechanisms defined in the Kyoto Protocol:

(i) The clean development mechanism (CDM), whereby credits may be issued for mitigation achieved by project activities in developing country Parties and used to offset the emissions of developed country Parties;

(ii) Joint implementation, whereby credits may be issued for mitigation achieved by projects in developed country Parties and used to offset the emissions of other such Parties;

(iii) International emissions trading, whereby allowances representing emissions may be traded among developed country Parties;

(b) Cap-and-trade systems defined in regional, national or subnational laws or policies in respect of absolute emission levels, such as the European Union emissions trading scheme (EU ETS), whereby a system-wide cap is set on emissions over a period of time, a quantity of allowances representing this cap is distributed (whether by free allocation or by auction), each emitter is obliged to obtain a quantity of allowances at least equal to its actual level of emissions over this period of time, and each emitter is given flexibility in how to meet this obligation, whether by reducing its own emissions or by obtaining more allowances (or, if permitted under the system's rules, credits or allowances from outside the system);

(c) Trading systems defined in regional, national or subnational laws or policies in respect of other forms of mitigation activity, such as India's Perform, Achieve and Trade system in energy efficiency, whereby credits may be issued for energy efficiency gains and then traded to meet relevant targets, and the European Union renewable energy directive, whereby targets for the use of renewable energy are set and flexibility for meeting these targets is available.

B. Evaluation of existing market-based mechanisms

1. Enhancing the cost-effectiveness of mitigation actions

11. There was widespread acknowledgement in the submissions that market-based mechanisms are effective at lowering the economic cost of achieving a specific degree of mitigation.

12. As the submissions noted, this cost-effectiveness is achieved by allowing entities with mitigation targets, such as developed country Parties under the Kyoto Protocol and emitters covered by cap-and-trade systems, to meet their mitigation targets by using credits or allowances arising from mitigation activities occurring elsewhere. This, it was suggested, provides a strong incentive to these entities, as well as to other interested entities, to identify opportunities for, and to implement, mitigation activities wherever it is most cost-effective for them to do so. As a result, the view was generally held that market-based mechanisms are an effective tool for these entities to manage the costs of complying with their mitigation targets.

2. Promoting mitigation actions

13. While the submissions were relatively consistent in their stance that market-based mechanisms enhance the cost-effectiveness of mitigation actions, they diverged to a greater degree on whether market-based mechanisms promote mitigation actions.

14. Regarding the promotion of mitigation actions by entities with mitigation targets, the general view was that the effectiveness of market-based mechanisms depends significantly on the mitigation targets that are set: in a system with ambitious caps, they have a strong effect in promoting mitigation actions; in a system with less ambitious caps, they have a weaker effect. Common to many submissions was the view that enhanced flexibility in meeting mitigation targets ought not to be a goal in itself but rather a tool to achieve the broader goal of enhanced overall ambition in mitigation. On this basis, it was suggested that the further development of market-based mechanisms should be tied to the establishment of progressively more ambitious mitigation targets, and in some submissions it was suggested that these targets should be legally binding and set at the international level.

15. Further to the above point, the effectiveness to date of some existing market-based mechanisms at promoting mitigation actions by entities with mitigation targets was discussed in some submissions. Particular attention was paid to:

(a) **The EU ETS**: In a number of submissions it was suggested that the EU ETS has had insufficiently ambitious mitigation targets in its first two phases (2005–2007 and 2008–2012), as reflected by the alleged over-allocation of allowances, thereby reducing the need for emitters to implement mitigation actions and, by extension, failing to promote mitigation actions as effectively as it might have done. Alternatively, another submission cited a study's finding that the EU ETS – even in its first phase – led to a reduction in emissions to below 'business as usual', observed that emission behaviour is changing as a result of the system, and noted that the system's scope and ambition are being progressively enhanced through measures such as the inclusion of additional gases and sectors;

(b) **International emissions trading**: In several submissions it was alleged that the overall mitigation ambition in the first commitment period (2008–2012) has been insufficient to create strong market prices or demand for offset credits from other countries.

16. Regarding the promotion of mitigation actions by entities which are potential suppliers of offset credits or allowances, such as developing country Parties, the general view was that market-based mechanisms have been effective at promoting mitigation actions on their part. In particular, a diverse range of Parties and admitted observer organizations noted that the CDM is helping to provide finance, technology and capacity-building support to developing country Parties in support of their mitigation actions. That said, in several submissions it was observed that the benefits have tended to flow towards a small number of countries, thereby excluding the poorest and most vulnerable, with the unequal distribution of registered CDM project activities being cited as a concern.

17. A further issue raised in several submissions was the role of market-based mechanisms in promoting mitigation actions through the stimulation of funding from the private sector. There was broad acknowledgement in these submissions that existing market-based mechanisms have been to date a key vehicle for engaging the private sector and leveraging its considerable resources. However, in a few submissions the role of the private sector was queried, with one submission containing the consideration that this may lead to a 'financial bubble' and another submission containing the suggestion that private-sector funding may be uncertain and volatile. The complexity of regulating the transactions of credits and allowances, particularly on a cross-border basis, was noted in several submissions, some of which cited difficulties experienced by the EU ETS, such as the theft of allowances from accounts and fraud involving value added tax.

C. Possible evolution of market-based mechanisms

1. Mechanisms to broaden the scope of mitigation

18. A widespread concern raised in the submissions was the inadequacy of existing market-based mechanisms to drive the level of mitigation needed to meet the global climate challenge. In particular, in several submissions it was cautioned that the CDM, on its own, is unlikely to be sufficient to mobilize the levels of support from the market, including from the private sector, necessary to encourage sufficient mitigation actions.

19. While supportive of maintaining and building upon existing mechanisms, including those established under the Kyoto Protocol, several submissions favoured the creation of new mechanisms operating on a considerably broader level of aggregation than projects or even programmes of activities, these operating across entire policy areas, subsectors, sectors or entire countries. Alternatively, a few submissions favoured the retention of a primarily project-based approach.

20. In several submissions, two possible bases for new mechanisms were proposed:

(a) **Crediting**: On a crediting basis, a reference level for emissions within a boundary (e.g. a sector) would be determined, possibly at a level below 'business as usual'. The emissions within this boundary would then be monitored during a period of time, known as a 'reference period'. If, at the end of the reference period, actual emission levels were below the reference level, a quantity of credits corresponding to the difference would be issued. These credits would then be distributed, through a method to be determined, among the emitters within this boundary. The emitters would therefore have an incentive to limit their emissions, as this would enable them to gain credits that could be monetized. A variant of this proposal would be that credits are issued for emissions that are avoided during the period;

(b) **Trading**: On a trading basis (as on a crediting basis), a reference level for emissions within a boundary (e.g. a sector) would be determined, possibly at a level below 'business as usual'. Allowances in a quantity corresponding to the level of emissions implied by the reference level would be issued to the emitters within the boundary. The emissions within this boundary would then be monitored during a reference period. At the end of this reference period, these emitters would be obliged to hold a quantity of allowances equal to their actual level of emissions over the course of the reference period. They would therefore have an incentive to limit their emissions, as this would enable them to sell surplus allowances, and a corresponding disincentive to increase their emissions, as this would require them to buy additional allowances.

2. A common framework

21. As a general observation, emphasis was placed in the submissions on the possible establishment at the international level of a framework within which new market-based mechanisms would be established at a national level or through bilateral arrangements, rather than on the establishment of new crediting- or trading-based mechanisms at the international level. It was suggested that the role of the COP in this context should primarily be to set up a common framework for recognizing, encouraging and supporting the development of such mechanisms, in particular through elements such as:

(a) Guidance on harmonizing methods for the determination of reference levels and methodologies for calculating emissions;

(b) Sharing technical support and assistance among registries;

(c) Guidance on an accounting framework for credits and allowances;

(d) Processes to facilitate the bridging of different mechanisms established at the national or bilateral levels, such as:

(i) The mutual recognition of allowances issued by different cap-and-trade systems;

(ii) The conversion of credits issued in respect of different ways of measuring mitigation gains (e.g. from credits issued on the basis of energy efficiency gains to credits issued on the basis of absolute emission reductions).

3. Characteristics of market-based mechanisms

22. Several submissions referred to the seven issues to be taken into account in the consideration of the establishment by the COP of new market-based mechanisms, as set out in decision 1/CP.16, paragraph 80:

(a) **Ensuring voluntary participation of Parties, supported by the promotion of fair and equitable access for all Parties**: There was broad support for ensuring that a Party's participation in any new market-based mechanisms should be optional, and also for taking measures to ensure that all Parties have an equal opportunity to participate in them. Specifically, an increase in the efforts to develop the capacity of the poorest and most vulnerable Parties to participate in market-based mechanisms, including through pilot actions, was advocated in several submissions. In this regard, enhancing the simplicity and accessibility of market-based mechanisms, including through measures such as standardized baselines and streamlined procedures for registering programmes of activities, was also called for as a means to promote their greater regional distribution;

(b) **Complementing other means of support for nationally appropriate mitigation actions by developing country Parties**: In many submissions it was stated that the provision of support to developing country Parties is essential in order to meet the climate challenge. It was noted that market-based mechanisms, while not the only solution, can provide considerable incentives and support for such mitigation actions in developing country Parties, emphasizing that such mitigation actions cannot be expected to occur in their absence. Several submissions contained the view that the full cost of mitigation actions, not just the incremental cost, should be supported;

(c) **Stimulating mitigation across broad segments of the economy**: While acknowledging the need to stimulate mitigation action across broad segments of the economy, in many submissions it was observed that the unique characteristics of certain segments may require market-based mechanisms either to be adapted to work effectively within them or, in some cases, not to be used at all. Among the segments specifically referred to in this context were agriculture, bunker fuels, industrial gases and reducing emissions from deforestation and forest degradation in developing countries;

(d) **Safeguarding environmental integrity**: In numerous submissions it was emphasized that market-based mechanisms must ensure quality by implementing rigorous measurement, reporting and verification requirements, ensure additionality by reflecting mitigation activities that are ‘additional’ to any that would have occurred in their absence and prevent the double counting of mitigation actions. In a few submissions it was added that market-based mechanisms should also prevent the double counting of mitigation and support, in that the cost of an offset credit ought not be deemed to count towards meeting a mitigation target and also towards meeting any target for providing financial support;

(e) **Ensuring a net decrease and/or avoidance of global greenhouse gas emissions**: In the submissions a desire was broadly expressed to move beyond the ‘pure offsetting’ model of existing market-based mechanisms, whereby the achievement of one unit of mitigation in one location enables a corresponding increase in emissions in another location. Ideas that were put forward include a provision for cancelling a percentage of credits issued for mitigation activities and an expectation that developing country Parties would be responsible for a portion of a reduction in emissions prior to receiving offset credits;

(f) **Assisting developed country Parties to meet part of their mitigation targets, while ensuring that the use of such a mechanism or mechanisms is supplemental to domestic mitigation efforts**: A consideration raised in several submissions was that the use by an entity or country of market-based mechanisms to meet its mitigation target may have the effect of delaying or even obviating its attempts to modify its own emission behaviour and investment decisions, with the suggestion in one submission that the use of these mechanisms may lead to technological ‘lock-in’ on the part of the user. In several submissions it was suggested that the use of market-based mechanisms should be made supplemental to mitigation actions undertaken by the entity or country itself. This could take the form of limits, possibly quantified and possibly evolving over time, on the use of offset credits generated on the basis of mitigation achieved elsewhere;

(g) **Ensuring good governance and robust market functioning and regulation**: The submissions were broadly supportive of calls for better governance and regulation of market-based mechanisms in such a way as to ensure integrity and accountability and also to stimulate broad participation, including of private-sector entities, particularly those with low appetites for risk. Support was also expressed for the availability of new financial tools, including loans and guarantees for traditional forms of project finance, the establishment of dedicated funds and the issuance of new forms of debt instruments (e.g. ‘green bonds’).

IV. Evaluation of non-market-based approaches

A. Existing non-market-based mechanisms

23. The submissions highlighted several existing non-market-based mechanisms as a basis for evaluating non-market-based approaches, including:

(a) Feed-in tariffs to support non-emission-intensive activities (e.g. the use of renewable energy), whereby a minimum price and access to the energy grid is guaranteed for certain forms of non-emission-intensive energy (e.g. renewable energy);

(b) Regulatory standards, including performance standards for, inter alia, buildings, industrial performance, product manufacturing and vehicles;

(c) Innovative practices in areas such as urban design and transportation planning;

(d) Measures to target certain gases, most notably fluorinated gases;

(e) Taxation of emission-intensive activities (e.g. the use of transport fuels);

(f) Educational efforts aimed at changing patterns of production and consumption;

(g) Programmes to enable carbon dioxide capture and storage in geological formations.

B. Evaluation of existing non-market-based mechanisms

1. Enhancing the cost-effectiveness of mitigation actions

24. The submissions provided relatively little information on the evaluation of the role of non-market-based mechanisms in enhancing the cost-effectiveness of mitigation actions.

25. It was noted that an increased focus on research and development can contribute to achieving rapid technological improvements and thereby bring down the cost of conducting mitigation activities.

26. Alternatively, one submission cited an economic study concluding that regulatory standards generally cost more than market-based mechanisms to achieve the same mitigation target, and another submission noted that regulatory standards afford less flexibility than market-based mechanisms and are often less adaptable to investment and planning horizons. In a small number of submissions it was also suggested that regulatory approaches can be administratively cumbersome to maintain in the light of the need for a wide-ranging public inspection and enforcement regime in order to monitor compliance.

2. Promoting mitigation actions

27. Feed-in tariffs were mentioned in a number of submissions as being highly successful at promoting mitigation actions, on the basis that they provide strong economic incentives to increase the production and consumption of non-emission-intensive forms of energy. Similarly, regulatory standards and taxation were cited by many submissions as being effective at promoting mitigation actions, particularly in areas where the effectiveness of market-based mechanisms may be hindered on account of imperfections such as high transaction costs, barriers to entry or other forms of unequal access. In addition, a positive experience was reported with regard to the use of educational methods in promoting mitigation actions, with one submission noting that a public information campaign on recycling had led to higher levels of waste diversion from landfill sites.

C. Possible evolution of non-market-based mechanisms

28. In several submissions the establishment of new non-market-based mechanisms at the international level was proposed, including those for:

(a) Regulating and lowering the production and consumption of specific greenhouse gases, such as HFCs;

(b) Reducing or removing subsidies for emission-intensive activities (e.g. the production and consumption of fossil fuels);

(c) Significantly scaling up feed-in tariffs for non-emission-intensive activities (e.g. the use of renewable energy);

(d) Establishing subsidies for non-emission-intensive activities and research and development;

(e) Broadening the scope of taxation on emission-intensive activities;

(f) Enacting other policies and measures, as part of mitigation strategies, to change production and consumption patterns, including through education, public awareness and capacity-building;

(g) Establishing national centres to promote best practices with regard to low-emission activities and technologies, including enhancing endogenous capacities and technologies in developing country Parties;

(h) Removing barriers associated with intellectual property;

(i) Enabling financial support and moratoria to support the net reduction and avoidance of emissions;

(j) Prohibiting and accounting for the impacts of warfare on climate change.