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Item 6 (b) of the provisional agenda

Methodological issues under the Kyoto Protocol

Implications of the implementation of project activities under the clean development mechanism, referred to in decision 12/CP.10, for the achievement of objectives of other environmental conventions and protocols

Options relating to implications of the establishment of new hydrochlorofluorocarbon-22 (HCFC-22) facilities seeking to obtain certified emissions reductions for the destruction of hydrofluorocarbon-23 (HFC-23)

Note by the secretariat

Summary

As an input to the deliberations of Parties under this agenda item, this document contains a synthesis of submissions by Parties on options relating to, and implications of, the establishment of new hydrochlorofluorocarbon-22 (HCFC-22) facilities seeking to obtain certified emission reductions for the destruction of hydrofluorocarbon-23 (HFC-23). It also contains the inputs by the Executive Board of the clean development mechanism at its twenty-first meeting.

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I. Introduction

A. Mandate

1. The Subsidiary Body for Scientific and Technological Advice (SBSTA), at its twenty-second session, had before it a technical paper prepared by the secretariat on an issue arising from the implementation of potential project activities under the clean development mechanism (CDM) – the case of incineration of hydrofluorocarbon-23 (HFC-23) waste streams from hydrochlorofluorocarbon-22 (HCFC-22) production.¹ As a result of its deliberations, the SBSTA invited Parties and admitted observers and relevant intergovernmental organizations to submit to the secretariat, by 5 August 2005, their inputs on:

- (a) Implications of the establishment, under the CDM, of new HCFC-22 facilities seeking to obtain certified emissions reductions (CERs) for the destruction of HFC-23 for the achievement of the objective of the Montreal Protocol on Substances that Deplete the Ozone Layer, taking into account the principles established in Article 3, paragraph 1, and the definitions in Article 1, paragraph 5, of the Convention;
- (b) Means to address such implications.

2. The SBSTA requested the secretariat to prepare an information document, based on submissions by Parties and inputs by the Executive Board of the CDM, laying out options identified in these submissions and inputs, for consideration by the SBSTA at its twenty-third session.

B. Scope of the note

3. This document is based on 15 submissions received from Parties by the deadline. The submissions are contained in document FCCC/SBSTA/2005/MISC 10.²

4. The Executive Board of the CDM considered a draft of this note at its twenty-first meeting (28–30 September 2005). Its input is contained in chapter IV below.

C. Possible action by the Subsidiary Body for Scientific and Technological Advice

5. The SBSTA may wish to take note of the information contained in this document, as well as in document FCCC/SBSTA/2005/MISC.10, and prepare a draft decision for adoption by the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (COP/MOP) at its first session.

II. Background

6. HCFC-22 is a greenhouse gas (GHG) and an ozone-depleting substance controlled by the Montreal Protocol. It is a replacement for more potent ozone-depleting substances in dispersive uses, such as the circulating fluid in refrigerators and air conditioners, as a blend component in foam blowing, and as a feedstock for manufacturing fluoropolymers.

7. The dispersive uses of HCFC-22 are being phased-out under the Montreal Protocol. In industrialized countries, consumption for non-feedstock uses was frozen in 1996 and reduced by

¹ FCCC/TP/2005/1.

² There was no submission from an intergovernmental organization. Submissions by non-governmental organizations are available on the UNFCCC web site at http://maindb.unfccc.int/library/?screen=full_list&mode=&language=en&TRC1=ON&FLD1=ex&VAL1=NGO/2005&OPR1=contains&database=document.

35 per cent effective 1 January 2004. Further reductions take effect in 2010, 2015 and 2020 leading to complete elimination of non-feedstock consumption by 2030. Developing countries are expected to freeze their HCFC-22 consumption for non-feedstock uses in 2016 at the 2015 level. A phase-out schedule, yet to be negotiated, is expected to lead to complete elimination of non-feedstock consumption by 2040.

8. HFC-23 is a potent GHG regulated by the Kyoto Protocol. It is generated as a by-product during the manufacture of HCFC-22. The quantity of HFC-23 generated varies with the efficiency of the production process. Most of the HFC-23 generated during HCFC-22 production is vented to the atmosphere because there is only a small, declining market for HFC-23 and it is not toxic. Discharges are not regulated. Capture and destruction of the HFC-23 reduces the amount of GHGs discharged to the atmosphere.

9. Due to the phase-out schedule and the growing demand for products that use HCFC-22, production is declining in industrialized countries and increasing in developing countries. Currently about 30 plants produce HCFC-22 in developing countries.³ Their combined capacity is about 340 kt per year and their estimated output in 2004 was 211 kt. Destruction of the HFC-23 generated by existing HCFC-22 plants in Parties not included in Annex I to the Convention (non-Annex I Parties) could yield more than 100 million CERs per year during the commitment period.⁴

10. The Executive Board of the CDM has approved a methodology, AM0001, for destruction of HFC-23 at existing HCFC-22 plants in non-Annex I Parties that are Parties to the Kyoto Protocol.⁵ Two CDM project activities based on an earlier version of this methodology have been registered by the Executive Board.⁶

11. A CDM project activity to destroy waste HFC-23 can yield considerable financial benefits for an HCFC-22 plant. The cost of generating CERs by HFC-23 destruction is low – less than USD 0.5 per t CO₂ equivalent. The revenue from the CERs earned depends on the HFC-23 generation rate and the market price for CERs. Under some assumptions the revenue from the sale of CERs for HFC-23 destruction could exceed the revenue from the sale of the HCFC-22 produced.⁷

³ This includes “swing” plants capable of producing either CFCs or HCFC-22. (A. McCulloch, *Incineration of HFC-23 Waste Streams for Abatement of Emissions from HCFC-22 Production: A Review of Scientific, Technical and Economic Aspects*, Internal background paper prepared for the United Nations Framework Convention on Climate Change secretariat, 4 November 2004. For the full document, refer to: <<http://cdm.unfccc.int/methodologies/inputam0001/Background.html>>).

⁴ With an HFC-23 generation rate of 2.9 per cent, destruction yields a reduction of about 335 t CO₂ equivalent per tonne of HCFC-22 produced (FCCC/TP/2005/1). At full capacity, the existing capacity of 340 kt would yield emission reductions in excess of 100 million t CO₂ equivalent per year. Haites estimates the annual demand for CERs at 250 million t CO₂ equivalent, of which 20 per cent is supplied by reductions achieved prior to 2008, leaving an annual supply of 200 million t CO₂ equivalent during 2008–2012 (E. Haites, 2004. *Estimating the Market Potential for the CDM: Review of Models and Lessons Learned*, World Bank Carbon Finance Business PCFplus Research program, International Energy Agency (IEA), and International Emissions Trading Association (IETA), Washington, D.C., June 2004).

⁵ Version 3 of the methodology was approved by the Executive Board at its nineteenth meeting on 13 May 2005. The methodology is valid for HFC-23 waste streams at existing HCFC-22 plants with at least three years of operating history between the beginning of 2000 and the end of 2004. Methodology AM0001 is available on the UNFCCC CDM web site: <<http://cdm.unfccc.int/methodologies>>.

⁶ The CDM project activities are located at the plants in Ulsan (Republic of Korea) and Gujarat (India). For more information on these project activities, please refer to the section “Project activities – registered” on the UNFCCC CDM web site: <<http://cdm.unfccc.int/Projects/registered.html>>.

⁷ FCCC/TP/2005/1.

III. Submissions by Parties

A. Implications of enabling new hydrochlorofluorocarbon-22 (HCFC-22) plants in non-Annex I Parties to earn certified emissions reductions for the destruction of hydrofluorocarbon-23 (HFC-23)

1. Accelerated shift of HCFC-22 production from Annex I to non-Annex I Parties leading to increased emissions of greenhouse gases

12. Revenue from the sale of CERs from HFC-23 destruction could make HCFC-22 production at new plants in non-Annex I Parties more profitable than at existing plants in Parties included in Annex I to the Convention (Annex I Parties), leading to decommissioning of existing plants in Annex I Parties and construction of new plants in non-Annex I Parties (Australia;⁸ Bolivia; Canada;⁹ Colombia; Malaysia; Mexico, Argentina, Nicaragua and Panama; Japan; Switzerland; United Kingdom of Great Britain and Northern Ireland on behalf of the European Community and its member States, supported by Bulgaria and Romania¹⁰; United States of America). Views on the potential magnitude of this effect differ in the submissions. Several submissions state that a shift of HCFC-22 production to non-Annex I Parties could lead to larger quantities of waste HFC-23 for the same global HCFC-22 production because the average HFC-23 generation rate in non-Annex I Parties is about 3 per cent compared to 2 per cent in Annex I Parties where plants often adhere to better operating practices and voluntary or mandatory HFC-23 destruction (Mexico, Argentina, Nicaragua and Panama). Allowing new plants to earn CERs for HFC-23 destruction would permit increased GHG emissions due to the larger quantity of waste HFC-23 generated.

2. Increased global consumption and production of HCFC-22 in non-Annex I Parties leading to increased emissions of greenhouse gases and ozone depleting substances

13. Although submissions differ in their estimates of the potential magnitude, many note that revenue from the sale of CERs from HFC-23 destruction could allow new plants in non-Annex I Parties to lower the price of HCFC-22 considerably which could increase global consumption in one more of the following ways (Australia;¹¹ Bolivia; Brazil; China; Colombia; Egypt; Japan; Malaysia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community; United States):

- (a) **Increased HCFC-22 consumption for dispersive uses in developing countries.** Some submissions claim that lower HCFC-22 prices could increase consumption for dispersive uses, such as air conditioning, refrigeration and foams, in developing countries (Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community). One submission argues that any increase would be negligible because HCFC-22 consumption is determined by the demand for air conditioners, refrigerators and foams and a change in the price of HCFC-22 would have a negligible effect on the demand for these products because the cost of the HCFC-22 is less than 1 per cent of the cost of the final product (Canada).

⁸ Australia notes that this could also prolong the operation of existing plants.

⁹ Canada states that allowing CERs to be generated from HFC-23 destruction at new HCFC-22 facilities could slightly accelerate this trend, but this impact does not seem to be substantial when considering other factors.

¹⁰ Hereinafter referred to as the European Community.

¹¹ Australia notes that, if implemented properly, HFC-23 destruction projects could produce extensive emissions abatement. If the baseline is miscalculated, there is a large risk of crediting "certified hot air".

- (b) **Increased use of HCFC-22 as a replacement for chlorofluorocarbons (CFCs) as their use is phased-out in developing countries.** The phase-out of CFCs under the Montreal Protocol is still under way in developing countries. One Party states that a lower price for HCFC-22 could encourage the use of HCFC-22, rather than alternatives for ozone depleting substances, as a replacement for CFCs. Revenue from the destruction of HFC-23 increases its value and so discourages its use as a replacement for CFCs as well (Switzerland).
- (c) **Increased HCFC-22 consumption due to poorer maintenance practices for air conditioners and refrigerators in developing countries.** A low price for HCFC-22 might lead to increased emissions during servicing because the economic incentive to minimize losses of the circulating fluid is reduced (Switzerland).
- (d) **Increased HCFC-22 consumption due to a slower phase-out schedule in developing countries.** Several submissions argue that by making HCFC-22 production more profitable, HFC-23 destruction could lead to a slower phase-out schedule for HCFC-22 between 2015 and 2040 (Australia;¹² Brazil; Colombia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community; United States¹³). One submission argues that the HCFC-22 phase-out schedule will depend on the cost and penetration of non-HCFC technologies in developing country markets, rather than on the abundance or cost of HCFC-22 (Canada).
- (e) **Increased HCFC-22 consumption for feedstock uses in developing countries.** A lower price for HCFC-22 could increase consumption for feedstock use in developing countries (Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community).
- (f) **Illegal exports of HCFC-22 to industrialized countries where its use is being phased-out.** The phase-out of HCFC-22 in industrialized countries leads to price increases as the bank of HCFC-22 is reduced. Lower HCFC-22 prices in developing countries would provide an incentive for illegal exports to industrialized countries (Switzerland; United States).

14. An increase in consumption of HCFC-22 for dispersive uses due to any of the above effects would increase global HCFC-22 emissions, thus increasing emissions of ozone depleting substances and GHG. An increase in HCFC-22 production for any use generates more HFC-23 waste and hence leads to higher GHG emissions. Destruction of the HFC-23 waste would substantially reduce the extra GHG emissions.¹⁴

¹² Australia notes that HFC-23 destruction project activities produce adverse climate and ozone impacts if they “prolong the operation of existing HCFC plants or enable plants that would otherwise not be economically viable (to become) profitable”.

¹³ The United States notes that because the multilateral fund of the Montreal Protocol may be used to assist developing countries in meeting their phase-out goals, industrialized countries may find themselves in the position of effectively paying first for an increase in HCFC-22 production through the CDM, and then for its phase-out through the multilateral fund.

¹⁴ If the extra HFC-23 is released to the atmosphere, GHG emissions increase by 11,700 t CO₂ equivalent for each tonne of HFC-23 released. If the extra HFC-23 is destroyed, GHG emissions increase by about 4 t CO₂ equivalent for each tonne of HFC-23 destroyed.

3. Possible operation of new HCFC-22 plants to maximize HFC-23 generation leading to increased emissions of greenhouse gases and ozone depleting substances

15. It is possible that the revenue from the sale of CERs generated by the destruction of waste HFC-23 could exceed the revenue from the sale of the HCFC-22 produced. Then a new HCFC-22 plant might be operated to maximize the quantity of HFC-23 generated and hence maximize the quantity of CERs generated. The amount of HFC-23 generated could be increased by:

- (a) Operating the plant to maximize the amount of HFC-23 generated rather than to minimize the amount of HFC-23 generated per unit of HCFC-22 produced (Canada;¹⁵ Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community; United States);
- (b) Producing more HCFC-22 than is needed to satisfy the market demand and venting the surplus to the atmosphere (Canada;¹⁶ Egypt;¹⁷ Japan; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community).

16. Any HCFC-22 vented would increase emissions of ozone depleting substances and (non-Kyoto) GHGs. Any increase in the amount of HFC-23 generated per unit of HCFC-22 produced would lead to higher GHG emissions even if the HFC-23 is destroyed.

4. Reduced contribution to sustainable development in non-Annex I Parties

17. One of the objectives of CDM project activities is to contribute to the sustainable development of the host country. Whether a proposed project activity meets this requirement is determined by the host country government.¹⁸ Some submissions claim that HFC-23 destruction projects make a smaller contribution to sustainable development than do other types of CDM project activities (Chile;¹⁹ Malaysia;²⁰ Mexico, Argentina, Nicaragua and Panama). Allowing new HCFC-22 plants in non-Annex I Parties to earn CERs for HFC-23 destruction would increase the supply of low-cost CERs from such project activities (Australia;²¹ Mexico, Argentina, Nicaragua and Panama). Allowing new HCFC-22 plants in non-Annex I Parties to earn CERs for HFC-23 destruction would reduce the scope for other types of CDM project activities that might make a larger contribution to the sustainable development of non-Annex I Parties (Chile; Colombia; Mexico, Argentina, Nicaragua and Panama).

¹⁵ Canada notes that process optimization can and should be encouraged at new facilities.

¹⁶ Canada notes that this likelihood does not appear to be significant; nonetheless the concern of HCFC-22 output and release should be addressed.

¹⁷ Egypt states that the economic benefits provided by CDM project activities should not encourage production of ozone-depleting substances.

¹⁸ China foresees that revenue from the sale of CERs is shared between the project participants and the government. The government's share is expected to be relatively high for HFC-23 destruction projects and this revenue will be used to fund sustainable development projects.

¹⁹ Chile notes that the contribution to sustainable development in the energy sector is especially important and HFC-23 destruction projects do not contribute to sustainable development in this sector.

²⁰ Malaysia states that energy efficiency and renewable energy projects yield more sustainable development benefits for non-Annex I Parties.

²¹ Australia notes that, if implemented properly, HFC-23 destruction projects could produce extensive emissions abatement. If the baseline is miscalculated, there is a large risk of crediting "certified hot air" which could undermine real abatement opportunities in other sectors and undermine the environmental integrity of the CDM. Australia also notes that any decision taken on this matter (crediting HFC-23 destruction at new HCFC-22 plants) should not weaken the effect on global emissions of the CDM by creating an excess of CERs from projects to destroy HFC-23.

5. Inequitable geographic distribution of CDM project activities

18. The CDM modalities and procedures stipulate that the COP/MOP is to review the regional and subregional distribution of CDM project activities with a view to identifying systematic or systemic barriers to their equitable distribution and take appropriate decisions. Existing HCFC-22 production capacity in non-Annex I Parties is concentrated in a small number of countries. Expansion of existing plants and/or the construction of new HCFC-22 plants would probably be limited to a relatively small number of non-Annex I Parties, thus inhibiting an equitable regional distribution of project activities (Chile; Colombia; Mexico, Argentina, Nicaragua and Panama).

6. No transfer of environmentally sound technology

19. The transfer of environmentally sound technologies to developing countries is a fundamental element of the Kyoto Protocol. Enabling new HCFC-22 plants in non-Annex I Parties to earn CERs for HFC-23 destruction would not contribute to the transfer of environmentally sound technologies to developing countries (Chile; Colombia).

7. An abuse of rights

20. One submission states that rights and entitlements have to be implemented following good faith principles. According to this submission, the use of a pseudo-legitimate right beyond normal limits or in a way that affects third parties, would be an abuse of good faith. Indiscriminate use of the CDM for HFC-23 destruction project activities at new HCFC-22 plants could be considered an abuse of good faith and an abuse of rights (Chile).

B. Options proposed to address implications of enabling new hydrochlorofluorocarbon-22 (HCFC-22) plants to earn certified emissions reductions for the destruction of hydrofluorocarbon-23 (HFC-23)

21. Parties proposed various options to address the potential adverse impacts of HFC-23 destruction project activities at new HCFC-22 plants in non-Annex I Parties. Several submissions present multiple options and then recommend a preferred course of action. The options proposed are summarized first, then the recommendations are summarized.

1. Exclude HFC-23 destruction project activities at new HCFC-22 plants from the CDM

22. Several submissions support the exclusion/prohibition of HFC-23 destruction project activities at new HCFC-22 plants from the CDM (Brazil; Colombia; India;²² Malaysia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community). Some of these Parties would allow such project activities if robust provisions to prevent adverse impacts on the objectives of the UNFCCC and the Montreal Protocol were included in the methodology.

23. Two submissions propose that destruction of HFC-23 generated from an increase in HCFC-22 capacity at an existing plant also be excluded²³ (Colombia; Switzerland). Another submission argues that all HFC-23 destruction project activities at HCFC-22 plants, not just at new plants, should be

²² India would prohibit HFC-23 destruction project activities at new HCFC-22 plants established after an (unspecified) agreed date.

²³ The methodology AM0001 as approved by the CDM Executive Board already excludes HFC-23 destruction generated by an increase in HCFC-22 production at an existing plant. The quantity of HFC-23 destroyed cannot exceed the approved HFC-23 generation rate multiplied by the maximum annual production level at the plant during any of the past three years between the beginning of 2000 and the end of 2004.

excluded from the CDM (Bolivia²⁴). It claims that limiting HFC-23 destruction to existing HCFC-22 output is not enough to eliminate the incentive to increase HCFC-22 production.

2. Use funding from the Global Environment Facility or other sources

24. Several submissions suggest that HFC-23 destruction at new HCFC-22 plants be funded through the Global Environment Facility (GEF) or some other multilateral or bilateral funding source (Bolivia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community; United States). One submission claims, however, that additional financial resources are unlikely to be available for this purpose from the GEF within an appropriate time scale (European Community). Several submissions note that the available financial resources might be better used to fund an accelerated phase-out of HCFC-22 production for non-feedstock purposes in developing countries rather than HFC-23 destruction²⁵ (Switzerland; European Community; United States).

3. “Allow” HFC-23 destruction project activities at new HCFC-22 plants if the potential adverse impacts are adequately addressed

25. Several submissions indicate that they could support HFC-23 destruction project activities at new HCFC-22 plants provided that the approved methodology includes effective provisions to address the perverse incentives identified. Although they propose one or more of the following provisions, several Parties conclude that these would not be sufficient to effectively address the perverse incentives to increase HCFC-22 production (Brazil; Switzerland; European Community):

- (a) Requiring a new HCFC-22 plant to operate several years before it is eligible to implement an HFC-23 destruction project activity (Canada; Switzerland; European Community²⁶). Canada proposes three years, the European Community a period of years sufficiently long to give reasonable assurance of the viability of the plant without crediting, and Switzerland an undefined period. The intent is to demonstrate that the new plant was established to meet a real market demand for HCFC-22. The period would need to be sufficiently long that the expected future CER revenues alone would not provide sufficient economic incentive to undertake the investment. HFC-23 destruction would be deferred while the project baseline was being established;
- (b) Requiring the project developer to provide relevant information to demonstrate that the HCFC-22 produced by the plant meets a real market demand (China; Japan). One Party proposes that the precise methodology be decided by the Executive Board based on proposals from project proponents (Japan);
- (c) Limiting the quantity of CERs issued to the incremental cost of installing and operating an incinerator for the HFC-23 generated (United States). The quantity would vary from plant to plant due to cost differences based on plant size and other factors, and would also vary over time due to changes in the price of CERs;
- (d) Limiting the quantity of CERs issued so that HCFC-22 production costs are only reduced by a specified amount (e.g. less than 20 per cent) (European Community). The specified impact on HCFC-22 production costs (e.g. 20 per cent) is relatively arbitrary and the appropriate quantity can only be determined ex post based on the price of CERs;

²⁴ Bolivia does not indicate how the two HFC-23 destruction project activities already registered should be treated.

²⁵ Accelerated HCFC-22 phase out would reduce production and hence reduce the quantity of HFC-23 generated, whereas HFC-23 destruction is an ‘end of pipe’ cleanup strategy.

²⁶ The European Community notes that the period would need to be sufficiently long to give reasonable assurance of the viability of the plant without crediting.

- (e) Imposing a tax on the CERs issued (China; Switzerland; European Community). China proposes that a tax should collect more than half of the revenue from the transfer of CERs, that the tax be collected by the host government, and that the tax revenue be used to fund climate protection or sustainable development activities. Neither the European Community nor Switzerland indicated the level of the tax or who should collect it (host government, Executive Board). The appropriate level of the tax for each plant is difficult to determine and will vary over time due to changes in the market price for CERs. A tax shifts the incentives from companies to the (governmental) institutions taxing the CERs; it does not eliminate them;
- (f) Requiring the plant to monitor the HCFC-22 emissions to ensure that there is no arbitrary release of HCFC-22 into the atmosphere (Canada²⁷). This provision is intended to ensure that a plant does not produce HCFC-22 and release it to the atmosphere simply to generate CERs from the HFC-23 destruction. However, the HCFC-22 could be shipped to a related entity, perhaps in another country, for release into the atmosphere;
- (g) Deducting increased HCFC-22 emissions from the HFC-23 emissions reduction (Brazil; Switzerland). Brazil argues that HCFC-22 is a GHG so any extra HCFC-22 production should be deducted from the emission reduction achieved by HFC-23 destruction.²⁸ How to determine the quantity of extra HCFC-22 produced by a new plant that is used for dispersive applications is not specified;
- (h) Setting a conservative maximum HFC-23 generation rate (Brazil; Canada; Switzerland; European Community). This is intended to encourage the use of the best available economically feasible production technology and better operating practices to minimize HFC-23 generation. Brazil suggests a rate of 1.5–2.0 per cent. Canada suggests either 3 per cent or less (Intergovernmental Panel on Climate Change (IPCC) default factor) or no more than the average waste generation rate of registered HFC-23 destruction projects under the CDM (currently 2.8 per cent). The European Community does not propose a specific rate whereas Switzerland suggests a rate of 1.5 per cent;
- (i) Requiring new HCFC-22 plants to adopt current best practice in the abatement of HFC-23 (Australia).

C. Recommendations

26. Several submissions present multiple options and then recommend a preferred course of action. The recommendations can be grouped as follows:

1. Governing principles

27. Any solution should be governed by a set of principles, such as those proposed by a group of Parties (European Community).

²⁷ The monitoring requirement could extend backward to require the provision of data on HCFC-22 emissions from the start of operation of the new HCFC-22 plant.

²⁸ Brazil offers two scenarios. If the new HFCF-22 plant is the project boundary, the net GHG emissions reduction is the HFC-23 destroyed less the HCFC-22 produced less the emissions associated with the HFC-23 destruction. If the project boundary is the HFC-23 incinerator, the HCFC-22 that generated the HFC-23 is leakage. Using conservative assumptions for the HFC-23 generation rate and the global warming potential for HCFC-22, Brazil calculates that the net GHG impact of each tonne of extra HCFC-22 produced ranges from a reduction of 30 t CO₂ equivalent to an increase of 28.5 t CO₂ equivalent.

2. Take no specific action and allow the CDM Executive Board to consider a proposed new methodology

28. As for any proposed CDM project activity, the proponents of HFC-23 destruction at a new HCFC-22 plant would need to develop a suitable baseline and monitoring methodology for approval by the CDM Executive Board (Japan).

3. “Allow” HFC-23 destruction project activities at new HCFC-22 plants subject to specific provisions designed to address the potential adverse impacts

29. HFC-23 destruction at new HCFC-22 plants could be allowed subject to proposed adjustments to the approved methodology for such activities at existing plants (AM0001) (Canada; China).

30. The following measures should be incorporated into a methodology applicable to HFC-23 destruction at new HCFC-22 plants (Canada):

- (a) HFC-23 destruction should be limited to HCFC-22 plants that commenced operation after the start of 2002 and have at least three years of operating history²⁹
- (b) Monitoring requirements should cover HCFC-22 to ensure that there is no arbitrary release of HCFC-22 into the atmosphere³⁰
- (c) Only new HCFC-22 plants should be eligible that have an HFC-23 generation rate of either 3 per cent or less (IPCC default factor) or a rate equal to or lower than the average waste generation rate of registered HFC-23 destruction projects under the CDM (currently 2.8 per cent).³¹

31. The following requirements should be added to the approved methodology for HFC-23 destruction at existing HCFC-22 plants (China):

- (a) The project participants provide relevant information to demonstrate that the HCFC-22 produced by the plant is intended to meet a real market demand
- (b) The host government has domestic regulations to collect more than half of the revenue from the transfer of CERs accruing from HFC-23 destruction projects and to use the revenue to support climate protection or sustainable development activities.

32. In addition, some Parties indicated a willingness to allow HFC-23 destruction project activities at new HCFC-22 plants if the methodology includes provisions to effectively prevent adverse impacts listed in section III.A above (Australia; Japan; Switzerland; European Community).

4. Exclude HFC-23 destruction project activities at new HCFC-22 plants from the CDM

33. HFC-23 destruction project activities at new HCFC-22 plants should be excluded from the CDM (Bolivia; Brazil; Chile; Colombia; India; Malaysia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community). One party stresses that HFC-23 destruction project activities at all +HCFC-22 plants, not just at new plants, should be excluded (Bolivia).

²⁹ This requirement should serve to demonstrate that the facility was established to meet a real market demand for HCFC-22 and not for the purpose of generating CERs through HFC-23 destruction.

³⁰ The monitoring requirement could require the provision of data on HCFC-22 emissions from the start of operation of the new plant. Monitoring HCFC-22 emissions would demonstrate that the continued level of HCFC-22 production meets a real demand for that product.

³¹ This requirement should encourage better operating practices and the use of the best available technology economically feasible to minimize the HFC-23/HCFC-22 production ratio.

5. Use funding from the Global Environment Facility or other sources

34. An accelerated phase-out of HCFC-22 production for non-feedstock purposes in developing countries might be a better use of available funds than HFC-23 destruction. This recommendation implicitly assumes that HFC-23 destruction project activities at new HCFC-22 plants are excluded from the CDM because there would be no need for funding otherwise (Bolivia; Mexico, Argentina, Nicaragua and Panama; Switzerland; European Community; United States).

6. Further discussion of options

35. Several submissions indicate the need to further discuss options during the twenty-third session of the SBSTA. Egypt suggests a workshop for discussions and exchange of views prior to COP/MOP 1 or as in-session event.

IV. Input by the Executive Board of the clean development mechanism

36. Recalling that the CDM Executive Board had sought guidance on the handling of new HCFC-22 facilities from the Conference of the Parties at its tenth session, the Board took note of the submissions made by Parties and non-governmental organizations and considered the draft of this note at its twenty-first meeting (28–30 September 2005). Against this background, the Board:

- (a) Considers that the submissions have been duly compiled and synthesized in this note;
- (b) Does not have proposals for further technical input at this stage and awaits guidance by the SBSTA and the COP/MOP on this issue;
- (c) Requests two Executive Board members to continue following deliberations on the matter at SBSTA 23 and COP/MOP 1.
