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EXECUTIVE COMMITTEE
OF THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Twenty-seventh Meeting
Montreal, 24-26 March 1999

PROCESS AGENTS: IMPLEMENTATION OF DECISION X/14 (PARAGRAPHS 3, 5, AND 6) OF THE TENTH MEETING OF THE PARTIES

(A PROPOSAL FROM THE FUND SECRETARIAT)

Background

1. At their 10th Meeting, the Parties to the Montreal Protocol took a decision which provides that under certain circumstances, the incremental costs of measures to reduce the emissions of controlled substances from a range of process agent uses in Article 5 Parties should be eligible for funding in accordance with the rules and guidelines of the Executive Committee. The full text of the decision, X/14, is reproduced in Annex I.

2. The decision requests the Committee to develop funding guidelines and to begin to consider initial project proposals during 1999.

3. In doing so, the decision specifies a number of the conditions and circumstances which must prevail for costs to be eligible, such as that emissions should be reduced to levels that are reasonably achievable in a cost effective manner without undue abandonment of infrastructure.

4. The decision leaves with the Executive Committee the task of quantifying the various conditions and circumstances for eligibility, including definition of the cost-effectiveness of measures and the corresponding level of emissions reductions.

Analysis of Decision X/14

Consumption

5. In Decision VII/10, the Parties to the Montreal Protocol resolved to "continue to treat process agents in a manner similar to feedstock only for 1996 and 1997". The Parties further agreed to " decide in 1997…….on modalities and criteria for a continued use of controlled substances as process agents, and on restricting their emissions, for 1998 and beyond". Subsequently, the Parties took Decision X/14. Since process agent consumption ceased to be treated as feedstock at the end of 1997, it is now part of overall consumption and subject to the reporting requirements of Article 7 of the Protocol.

6. For Article 2 Parties, Decision X/14 provides that until 31 December 2001, process agents will be treated in a manner similar to feedstock (i.e. consumption for process agent uses is not taken into account under the provisions of the Montreal Protocol). Thereafter, consumption should not be taken into account provided that emissions from process agent uses are from plants and installations in operation before 1 January 1999 and remain below the national limits specified in the decision.

7. For Article 5 Parties, since Decision VII/10 has lapsed, and there are no contrary indications in Decision X/14, process agent consumption must be reported. Compensation would be eligible for projects to phase out that consumption in accordance with the provisions of the decision and subsequent guidance to be developed by the Executive Committee.

8. After 31 December 2001, the Decision provides that make-up use should not be included in national consumption, provided that emissions are from plants and installations in operation before 1 January 1999 and have been reduced to the levels agreed by the Executive Committee to

be reasonably achievable as a result of implementation of the measures it concludes are eligible for funding.

9. For both Article 2 and Article 5 Parties, consumption from plants and installations which were not in operation before 1 January 1999 will be included in the calculation of production and consumption. It is again presumed that Parties will interpret the decision to mean that for Article 5 Parties, phase-out of the make-up use from plants and installations commencing operation on or after I January 1999 will not be eligible for compensation.

Emissions reductions and cost effectiveness

10. The decision lists four emissions reductions measures the Executive Committee may consider to be eligible for funding. Two are technological options, process conversion or emissions control technologies. Two are financial options, namely plant closure and industrial rationalisation. The four options are provided as examples and are therefore not exclusive of other solutions.

11. Using these or other options, the Committee will need to consider, for projects that come forward within the 25 process agent applications included in the decision, what emissions reductions measures are cost-effective and what level of emissions reductions could reasonably be achieved if the cost effective measures were to be implemented. In considering what measures might be eligible for funding, the Committee is required to avoid the undue abandonment of infrastructure.

12. The Committee might also wish to have an impression of the impact on the fund of the measures which could be considered as eligible. The TEAP PATF report provides country by country consumption estimates (total: 10,600 tonnes in the year 2000) but adds caveats regarding the reliability of the figures, especially for China. It may be necessary to ask countries intending to submit projects to provide a thorough sectoral overview with relevant consumption figures, among other things, to illustrate the consideration given to industrial rationalisation.

Proposals to implement Decision X/14

13. To fully implement Decision X/14, it will be necessary to determine what levels of emissions reductions are cost effective, that is at what US $/kg value of incremental cost can they be achieved, for each of the 25 process agent applications listed in the decision. These emissions levels will become the reference for the reporting obligations of Article 5 countries. When emissions levels are below these figures, the make up quantities will be considered in the same way as feedstock and need not be included in national consumption. At the same time, the cost effectiveness figures at which the emissions levels can be achieved will become the de facto thresholds for these applications.

14. Initial implementation of decision X/14 could proceed in two ways:

- linear approach: development of guidelines through research and studies by consultants on the various process agent applications, followed by consideration of projects for applications which had been studied;
- parallel approach: consideration of broad principles critical for all process agent projects, followed by the early examination of possible projects themselves, with the relevant consultant's studies provided as part of the project; guidelines to emerge on the basis of the experience with individual projects.

Linear approach

15. The key components of a linear approach would be:

- Group and prioritise applications, e.g. into those for which process conversion is the only option, those for which emissions control technologies could be utilised and minor applications which might not require in-depth study and could be considered later on a case by case basis.
- On the basis of the above, select a first group of applications which the Executive Committee and countries concerned consider to be of high priority.
- Obtain independent expert advice from consultants on the costs and achievable emissions reductions for the three process agent applications, (these are not included in the Process Agent Task Force report);
  - note that the consultant's report may not need to be presented in full to the Executive Committee, as the results will appear as an input into the final draft guidelines.
- Initiate a study for a second group of applications at the 28th Meeting.
- At the 27th Meeting agree framework guidelines, which will be required in any process agent project;
  - draft framework guidelines are attached, for consideration, Annex II.
- Use the findings of the consultant on the first group of applications to finalise guidelines for consideration at the 28th Meeting.
- Invite implementing agencies to prepare initial projects for submission to the 28th Meeting for consideration in parallel with the proposed guidelines.

Parallel approach

16. Alternatively an approach could be adopted which involved the examination of possible projects before detailed guidelines had been developed. The Committee would be able to gain an understanding of typical projects in this sector which could aid its decision making on guidelines. This might also facilitate the approval of projects earlier than could be the case if guidelines were required to be completed first. The main elements of this approach are:

- The Executive Committee could discuss and agree on broad principles governing the submission of projects.

  - these principles are similar in nature to the framework guidelines contained in Annex II.
- Once broad principles have been agreed, the Committee could invite agencies to submit a limited number of projects conforming to the agreed broad principles, for initial consideration at the 28th Meeting.
- Issues to be considered when the projects were submitted would include those arising from decision X/14 as follows:
  - definition of consumption at enterprise level
  - industrial rationalisation
  - cost effectiveness
  - level of emissions reductions
  - abandonment of infrastructure.
- Other issues not specific to decision X/14 but which would need to be determined for the sector include:
  - the eligibility of incremental operating costs and benefits, and their duration
  - the application of cost effectiveness thresholds
  - the prioritisation of various eligible applications.
- The projects may need further development in the light of the committee's conclusions, in which case they could be submitted to the 29th Meeting as potentially approvable documents.
- As additional projects were considered and approved, a body of information on cost-effectiveness, emissions limits, and other requirements concerning eligibility and the determination of incremental costs would emerge. This information could form the basis for the Executive Committee to report to the Parties on emissions limits (for the purposes of administering decision X/14) and for the possible development at a later stage of more detailed guidelines for each of the process agent applications listed in the decision.

Example of possible process agent project

17. The World Bank has prepared a project proposal for an enterprise in India to phase-out the use of CTC as a process agent in the manufacture of endosulphan, an insecticide. It is proposed that the manufacturing process be changed to enable an alternative, non-ODS process agent to be used. Costs associated with replacement of some of the existing process equipment as well as incremental operating costs are proposed for compensation from the Multilateral Fund. The project is included as Annex III to this paper as an aid to consideration of the issues discussed above.

Recommendation

18. The Executive Committee might consider adopting one of the two approaches listed above for implementing the request of the Parties expressed in Decision X/14.

ANNEX I

Decision X/14: Process Agents

Noting with appreciation the report of the Technology and Economic Assessment Panel and the Process Agent Task Force in response to Decision VII/10,

Noting the findings of the Technology and Economic Assessment Panel that emissions from the use of ozone-depleting substances as process agents in non-Article 5 Parties are comparable in quantity to the insignificant emissions of controlled substances from feedstock uses, and that yet further reductions in use and emissions are expected by 2000,

Noting also the Technology and Economic Assessment Panel's findings that emissions from the use of controlled substances as process agents in countries operating under Article 5, paragraph 1, are already significant and will continue to grow if no action is taken,

Recognizing the usefulness of having the controlled substances produced and used as process agents clearly delineated within the Montreal Protocol,

1. That, for the purposes of this decision, the term "process agents" should be understood to mean the use of controlled substances for the applications listed in table A below;

2. For non-Article 5 Parties, to treat process agents in a manner similar to feedstock for 1998 and until 31 December 2001;

3. That quantities of controlled substances produced or imported for the purpose of being used as process agents in plants and installations in operation before 1 January 1999, should not be taken into account in the calculation of production and consumption from 1 January 2002 onwards, provided that:

   (a) In the case of non-Article 5 Parties, the emissions of controlled substances from these processes have been reduced to insignificant levels as defined for the purposes of this decision in table B below;

   (b) In the case of Article 5 Parties, the emissions of controlled substances from process-agent use have been reduced to levels agreed by the Executive Committee to be reasonably achievable in a cost-effective manner without undue abandonment of infrastructure. In so deciding, the Executive Committee may consider a range of options as set out in paragraph 5 below;

4. That all Parties should:

   (a) Report to the Secretariat by 30 September 2000 and each year thereafter on their use of controlled substances as process agents, the levels of emissions from those

uses and the containment technologies used by them to minimize emissions of controlled substances. Those non-Article 5 Parties which have still not reported data for inclusion in tables A and B are urged to do so as soon as possible and in any case before the nineteenth meeting of the Open Ended Working Group;

(b) In reporting annual data to the Secretariat for 2000 and each year thereafter, provide information on the quantities of controlled substances produced or imported by them for process-agent applications;

5. That the incremental costs of a range of cost-effective measures, including, for example, process conversions, plant closures, emissions control technologies and industrial rationalization, to reduce emissions of controlled substances from process-agent uses in Article 5 Parties to the levels referred to in paragraph 3 (b) above should be eligible for funding in accordance with the rules and guidelines of the Executive Committee of the Multilateral Fund;

6. That the Executive Committee of the Multilateral Fund should, as a matter of priority, strive to develop funding guidelines and begin to consider initial project proposals during 1999;

7. That Parties should not install or commission new plant using controlled substances as process agents after 30 June 1999, unless the Meeting of the Parties has decided that the use in question meets the criteria for essential uses under decision IV/25;

8. To request the Technology and Economic Assessment Panel and the Executive Committee to report to the Meeting of the Parties in 2001 on the progress made in reducing emissions of controlled substances from process-agent uses and on the implementation and development of emissions-reduction techniques and alternative processes not using ozone-depleting substances and to review tables A and B of the present decision and make recommendations for any necessary changes.

Table A:

List of uses of controlled substances as process agents

No.	Substance	Process agent application
1.	CTC	Elimination of NCl3 in the production of chlorine and caustic soda
2.	CTC	Recovery of chlorine in tail gas from production of chlorine
3.	CTC	Manufacture of chlorinated rubber
4.	CTC	Manufacture of endosulphan (insecticide)
5.	CTC	Manufacture of isobutyl acetophenone (ibuprofen B analgesic)
6.	CTC	Manufacture of 1-1, Bis (4-chlorophenyl) 2,2,2- trichloroethanol (dicofol insecticide)
7.	CTC	Manufacture of chlorosulphonated polyolefin (CSM)
8.	CTC	Manufacture of poly-phenylene-terephtal-amide
9.	CFC 113	Manufacture of fluoropolymer resins
10.	CFC 11	Manufacture of fine synthetic polyolefin fibre sheet
11.	CTC	Manufacture of styrene butadiene rubber
12.	CTC	Manufacture of chlorinated paraffin
13.	CFC 113	Manufacture of vinorelbine (pharmaceutical product)
14.	CFC 12	Z-perfluoropolyethers and difunctional derivatives
15.	CFC 113	Reduction of perfluoropolyetherpolyperoxide intermediate for production of perfluoropolyether diesters
16.	CFC 113	Preparation of perfluoropolyether diols with high functionality
17.	CTC	Production of pharmaceuticals B ketotifen, anticol and disulfiram
18.	CTC	Production of tralomethrine (insecticide)
19.	CTC	Bromohexine hydrochloride
20.	CTC	Diclofenac sodium
21.	CTC	Cloxacilin
22.	CTC	Phenyl glycine
23.	CTC	Isosorbid mononitrate
24.	CTC	Omeprazol
25.	CFC-12	Manufacture of vaccine bottles

Note:
Parties may propose additions to this list by sending details to the Secretariat, which will forward them to the Technology and Economic Assessment Panel. The Panel will then investigate the proposed change and make a recommendation to the Meeting of Parties whether or not the proposed use should be added to the list by decision of the Parties.

Table B:

Emission limits for process agent uses
(All figures are in metric tonnes per year)

Country/region	Make-up or consumption	Maximum emissions
European Community	1000	17
United States of America	2300	181
Canada	13	0
Japan	300	5
Hungary	15	0
Poland	68	0.5
Russian Federation	800	17
Australia	0	0
Czech Republic	0	0
Estonia	0	0
Lithuania	0	0
Slovakia	0	0
New Zealand	0	0
Norway	0	0
Iceland	0	0
Switzerland	5	0.4
TOTAL	**4501**	**220.9 (4.9%)**

ANNEX II

Draft Framework Guidelines/Broad Principles for Process Agent Projects

General principles

1. In conjunction with their first project, countries must provide a thorough sector overview containing all enterprises, stating all consumption and emissions figures and indicating those enterprises for which the country intends to seek compensation from the Multilateral Fund. The country should indicate whether the relevant consumption information has been submitted as part of its Article 7 consumption reports, and if not, its intentions and progress in this regard.

2. For the purpose of project submissions, consumption at the enterprise level is the quantity of process agent in ODP tonnes used annually by the enterprise as 'make-up' in the relevant process (i.e. not including the amount contained in the process equipment).

3. To permit adequate consideration of the industrial rationalisation option, a project proposal should cover all the production facilities in the country for the particular application under consideration.

4. Project proposals should be prepared consistent with all existing policies and guidelines of the Executive Committee. In particular, new-for-old plant replacement and technological upgrade need to be taken into account in accordance with Decisions 18/25 and 26/37.

Additional framework guidelines for the Linear Approach

5. Initial projects will be considered for the first group of applications agreed by the Executive Committee and for which studies into reasonably achievable emissions reductions and associated costs are in progress.

6. The projects should indicate which applicable measures are proposed to control emissions (e.g. emissions control technologies, process conversion, plant rationalisation or closure) the cost effectiveness and the emissions reductions which can be achieved.

Additional broad principles for the Parallel Approach

7. Initial projects will be considered for the applications listed in Table A of Decision X/14.

8. Where either emissions controls or process changes are proposed, the project submission must include an evaluation of the incremental costs of achieving various levels of emissions reductions by each technique, undertaken by a consultant independent of the enterprises, government and implementing agency concerned.