UNITED
NATIONS

**EP**

**United Nations Environment Programme**

Distr.
LIMITED

UNEP/OzL.Pro/ExCom/20/6/Rev.1
13 October 1996

ORIGINAL: ENGLISH

Executive Committee of
the Multilateral Fund for the
Implementation of the Montreal Protocol

Twentieth Meeting
Montreal, 16-18 October 1996

# OVERVIEW OF POLICY ISSUES INCLUDING ISSUES IDENTIFIED DURING PROJECT REVIEW

**Projects and Activities Presented to the 20th Meeting**

Submissions by Agencies and Bilateral Partners

1. The total value of the projects and activities received by the Fund Secretariat from implementing agencies and bilateral partners for consideration at the 20th Meeting, is US $88,897,013. The total is comprised of:

(a) Investment projects:

(i) 106 proposals for investment projects submitted to the 20th Meeting with a total value, as submitted, of US $85,596,074;

(ii) six of these projects with a total value of US $2,381,102 were approved at previous meetings and are being submitted for change of technology without additional funding;

(iii) in keeping with the business planning arrangements for 1996, the 100 new project proposals originate from the portfolios from UNDP, UNIDO and the World Bank and correspond to the remaining portion of each agency's agreed share for 1996, plus an additional 35 per cent for over-programming.

(b) Bilateral cooperation:

(i) 11 project proposals were received from three non-Article 5 countries with a total value of US $1,568,087 as submitted.

(c) Work Programme amendments:

(i) 23 work programme amendments totaling US $4,189,954, of which US $3,240,654 has been proposed for country programme preparation and institutional strengthening projects and US $949,200 for project preparation and other activities.

Secretariat Review

2. Of the total reviewed by the Fund Secretariat, 67 new investment projects with a value of US $29,882,997, 10 bilateral projects with a value of US $1,463,087 and 18 country programmes and institutional strengthening activities included in work programme amendments with a value of US $2,568,264 are being recommended for approval. An additional 19 new project proposals with a total value, as submitted, of US $30,089,853, have issues for consideration by the Executive Committee or remain under discussion with the implementing agencies.

3. 15 projects and activities with a total value of US $10,969,607 have been deferred or withdrawn.

4. The total value of the Fund Secretariat's recommendations for investment projects is shown in Table 1 along with the values, as submitted, of projects still under discussion. The Table also includes the funding remaining for 1996 in each category of investment project on the basis of the 1996 Business Plans.

TABLE 1

**Investment Projects**

| | Total investment projects | Recycling and halon banking | Low-consuming countries | MACs and compressors | Other investment projects |
|---|---|---|---|---|---|
| | (US $) | (US $) | (US $) | (US $) | (US $) |
| 1996 Business Plan allocations based on 16th Meeting methodology | 97,000,000 | 3,269,633 | 6,539,326 | 7,629,213 | 79,561,798 |
| Allocations remaining for 1996 | 50,698,583 | 2,578,824 | 6,309,357 | 3,146,698 | 38,663,704 |
| Funding recommended for blanket approval | 29,882,997 | 1,334,572 | 826,161 | 2,542,500 | 25,179,764 |
| Value of proposals under discussion* | 30,089,853 | Nil | 70,923 | 4,488,298 | 25,530,632 |
| **Balance*** | **-(9,274,267)** | **1,244,252** | **5,412,273** | **-(3,884,100)** | **-(12,046,692)** |

**Note:** * Final funding levels could vary substantially from the figures indicated.

Status of the Fund

5. At the time of preparation of this revision (13 October 1996), the balance of Multilateral Fund contributions available for allocation to projects and activities at the 20th Meeting is US $52.5 million.

Presentation of Projects

6. Project evaluation sheets have been prepared for each submitting country by sector. The project evaluation sheets contain a brief description of each project or group of projects, together with the Fund Secretariat's comments and recommendations. The front page displays both the funding sought in the original proposal and the approval level recommended by the Fund

Secretariat. Some projects have recommendations from the Fund Secretariat requesting that specific actions be undertaken. It is suggested that these recommendations go forward as part of project approval and be incorporated as appropriate in the record of the meeting.

7. 67 investment projects with a value of US $29,882,997, 10 bilateral projects totaling US $1,463,087, one country programme formulation and 17 institutional strengthening activities included in Work Programme Amendments with a value of US $2,568,264 are being recommended for blanket approval. The recommended level of funding has been agreed between the submitting agency, including bilaterals, and the Fund Secretariat.

8. 19 investment projects are being presented for individual consideration by the Sub-Committee on Project Review. They are listed in Annex I to this paper. Relevant issues pertaining to each project have been summarized in the Secretariat's comments. More significant issues having broader implications are outlined in this overview. Discussions with the relevant implementing agency on each of the 19 projects are ongoing and the outcome will be reported to the Sub-Committee on Project Review.

**Issues Arising from Review of Projects and Work Programme Amendments**

Discrepancies in Sectoral Consumption Data between Country Programmes and Project Proposals

9. In Decision 17/2, the Executive Committee decided that " where ODS data contained in a project submitted differed significantly from the data in a country programme, countries should update the ODS consumption figures in their country programmes for that sector, and submit with the project request the revised figures and a detailed explanation of the reasons for the variation."

10. Significant discrepancies continue to come forward in project documentation. In some cases, the proposed phase-out in a project can exceed the relevant countries' remaining sectoral consumption. At this meeting, such discrepancies have occurred in projects for Cote d'Ivoire, Jordan and Vietnam. In the specific case of Vietnam, the country programme was approved as recently as the 19th Meeting in May 1996.

11. Taking into consideration the importance of country programmes as an aid to quantifying the liability of the Multilateral Fund at the national, regional and global level, the Executive Committee might consider whether in the case of these or future project proposals, it wishes to require formal amendment of the country programme, and submission of the revised data to the Ozone Secretariat, prior to a project proposal being submitted to the Committee for consideration.

Transnational Companies

12. At its 7th Meeting, the Executive Committee decided that " partial funding should be considered on a case-by-case basis to finance the local share ownership of any given enterprise partly owned by a transnational corporation. In such a case, funding should be provided as a

percentage of project incremental costs proportionate to the local share ownership of the enterprise with the transnational corporation responsible for the rest."

13. One project at this meeting involves an enterprise in Indonesia which is 49 per cent owned by Gold Star, a transnational corporation based in South Korea. The implementing agency (the World Bank) has sought 100 per cent of the incremental cost on the basis that South Korea has been reclassified as an Article 5 country.

14. Noting that the decision does not refer to the status of the country in which a transnational might be based, the Committee may wish to confirm that treatment of transnational shares should be irrespective of the geographical location of the transnational.

The Admissibility of Using Operating Costs to Fund non-Incremental Capital Costs

15. To meet cost-effectiveness thresholds or to achieve more cost-effective projects, the implementing agencies have not always requested full incremental operating costs. During project review, some capital costs may be found to be ineligible, thus reducing the amount recommended for approval. In some instances, the implementing agency requests an increase in the level of incremental operating costs to compensate the adjustments in non-eligible capital costs, thus restoring the overall funding request to its original value.

16. Four such proposals have been submitted to this meeting. Two projects, for Gelopar (Brazil) and PT Cahaya Biru Sakti (Indonesia), are included in Annex I for individual consideration The other two projects, in Venezuela, are included in Annex II for approval for change of technology. In each case, the Secretariat has recommended funding at a level which includes the eligible capital costs, and the original level of operating costs. This has been done on the basis that costs should not be transferred from operating to capital items, and that a reduced level of eligible capital costs should result in a reduced level of project funding. The Executive Committee might provide guidance on the admissibility of this practice.

High Cost Projects

17. The Executive Committee is being requested to consider a project proposal for which the requested grant amount, after discounting 40 per cent for multinational ownership, is greater than US $5 million. The proposal is for a project in the domestic refrigeration sub-sector. The very high cost of this project is due to the fact that its incremental costs were initially proposed to be calculated according to a new methodology based on total replacement of existing production facilities. This rendered the process of analysis and review more complex and time consuming. Even where major policy issues do not arise, the calculation of incremental costs can raise complex technical issues requiring thorough investigation. In these circumstances, to ensure that the Executive Committee is provided with sound advice and a consensus recommendation, the Committee might consider the following arrangements:

(a) a project costing more than US $5 million should be submitted to the Fund Secretariat in full, twelve weeks in advance of the Executive Committee Meeting;

(b) the submitting implementing agency should, if requested, provide additional information on such projects, such as detailed baseline information, plant layouts, description, justification and costing of all significant equipment items;

(c) the analysis and review process could involve a visit to the enterprise, if warranted, by the Fund Secretariat's reviewer.

Change of Technology after Approval

18. Six projects already approved by the Executive Committee have been presented to the 20th Meeting for endorsement of proposed changes of technology. They are:

(a) two projects in Venezuela, approved at the 17th Meeting for conversion of domestic refrigerator manufacturing facilities. Hydrocarbon was originally proposed for the foam part of the conversion. A change to HCFC-141b foam technology is being proposed, at reduced project cost. The remaining balance will be returned to the Multilateral Fund;

(b) four projects in Argentina were approved at the 17th and 18th Meetings for conversion of flexible slabstock foam production to acetone and to water blown technology. UNDP is seeking the agreement of the Executive Committee to change to liquid carbon dioxide technology. While this technology is normally expected to be more costly, no changes in project costs are being sought.

19. The projects are presented in Annex II to this paper in the usual project evaluation format, with the Secretariat's comments and recommendations.

20. The Executive Committee might note that such technology changes after project approval require additional resources for project preparation and a second review and analysis by the Fund Secretariat. The Executive Committee may wish to decide that projects should not be submitted unless the technology selected is mature and final, and that the Fund should not incur the costs of preparation, review and re-submission of the projects.

1996 Work Programme Amendments

21. UNDP and the World Bank have submitted Work Programme Amendments for activities not related to country programme formulation or institutional strengthening support. The four proposals are listed in Table 2 below:

TABLE 2

**Proposed Work Programme Amendments**

| Agency & Document N° | Country | Title | Proposed Funding |
|---|---|---|---|
| UNDP: UNEP/OzL.Pro/ExCom/20/8 | Venezuela: | Preparation of sectoral plan for the production sector | US $100,000 |
| World Bank : UNEP/OzL.Pro/ExCom/20/11 | China: | Additional preparation of halon sector approach | US $265,000 |
| | China: | CFC production sector project preparation | US $350,000 |
| | Global: | Proposal for feasibility study on methods and approaches for leveraging Multilateral Fund resources | US $125,000 |
| Total (excluding agency support costs) | | | US $935,000 |

22. In accordance with Decision 19/10 (activities other than country programmes or institutional strengthening and which were not included in 1996 Business Plans, should not be funded), the Executive Committee may wish not to approve work programme amendments requested by UNDP and the World Bank, other than those specified by Decision 19/10.

**Issues Related to Planning and Programme Implementation**

Business Plans and Work Programmes for 1997

23. The implementing agencies have prepared outline business plans for 1997 which give initial indications of proposed activities in 1997. Full business plans cannot be prepared until the resources available for 1997 are known, that is, after the 8th Meeting of the Parties in November 1997.

24. Normally, agencies' annual Work Programmes are based on their business plans and would not be funded until business plans had been presented in full and considered by the Committee. On this occasion, the Committee might consider whether an advance of a percentage of Work Programme funding for 1997 should be made available to each agency so that they may be assured of a continuation of funding, in the event that the 21st Meeting of the Executive Committee did not occur before the end of the first quarter of 1997. Alternatively, the Executive Committee might consider scheduling the 21st Meeting either late in 1996 (following Costa Rica) or say, early in 1997, in which case an advance on 1997 work programme funding would not be required.

Meeting of the Executive Committee in 1997 and Future Years

25. In regard to meeting dates for 1997, noting that the 9th Meeting of the Parties is expected to take place in Montreal in mid-September 1997, the Executive Committee should consider how many meetings it wishes to hold in 1997. Additionally, the Executive Committee may wish to

establish the number of meetings it wishes to hold in any one year and their indicative dates, and whether it wishes to move towards fixed dates. Budgetary provisions could be made for additional ad-hoc or emergency meetings, should the Committee deem to have more meetings than those fixed.

Agencies' Shares

26. At the 17th Meeting, UNDP, UNIDO and the World Bank agreed to accept fixed shares of funding for investment projects for 1996 in proportions of 30 per cent, 25 per cent and 45 per cent respectively. Portfolio submissions to the 20th Meeting were based on these shares applied to the funding for investment projects of US $97 million established in the 1996 Business Plans, the level of project approval as of May 1996 for each agency, and the 35% over-programming agreed by the agencies and the Fund Secretariat for 1996.

27. The value of agencies' portfolios has changed following review and evaluation by the Fund Secretariat. Final figures will not be available prior to the meeting as discussions are continuing on a number of large projects. However, it is likely that project approvals by the Executive Committee will result in some agencies being over their agreed funding allocation and others being below their agreed allocation. The Executive Committee might consider whether these variations should be taken into account in the context of 1997 Business Plans.

Delays in Commencing Implementation

28. Delays in commencing implementation of most or all approved projects are occurring in some countries as a consequence of administrative difficulties arising between one or more implementing agencies and the country concerned. These delays are resulting in a build-up of substantial levels of approved funding, in some cases, over US $20 million for a single country, without disbursement or physical progress. The Executive Committee might agree that a further build-up of fund resources in such countries is not consistent with the objectives or the effective operation of the Multilateral Fund and might consider whether projects being presented by agencies on behalf of countries where this problem has become significant should be accorded a lower priority for funding.

Financial Reports

29. UNDP and UNIDO count in their disbursement funds which are committed but are not yet spent. Since the rate of disbursement is one of the agencies' performance indicators, it is important to ensure UNDP and UNIDO provide disbursement figures on the basis of funds actually spent. The Executive Committee may wish to request UNDP and UNIDO to do so.

**Issues Related to Resource Allocations**

Disbursement of Funds for Approved Projects

30. As indicated in para 5, the total balance of the Multilateral Fund is US $52.5 million which should cover the total value of projects and activities that may be approved at the 20th Meeting.

Priority for Compressor projects

31. On the basis of allocations made using the methodology established at the 16th Meeting, only US $3.15 million is available for compressor projects for the remainder of 1996. If proposals for which the Secretariat has not made recommendations are included, the total funding request at the 20th Meeting is US $7,030,998, excluding China's commercial refrigeration subsector. The Executive Committee might consider the priority it wishes to accord to funding compressor projects.

# ANNEX I

## PROJECTS FOR INDIVIDUAL CONSIDERATION BY THE SUB-COMMITTEE ON PROJECT REVIEW

| Country & Document N° | Sector | Enterprise | Implementing Agency | Status |
|---|---|---|---|---|
| ARGENTINA<br>UNEP/OzL.Pro/ExCom/20/13 | Foam | FPV S.A. | UNDP | Funding is not recommended |
| BRAZIL<br>UNEP/OzL.Pro/ExCom/20/15 | Refrigeration | Gelopar | World Bank | Reduced funding recommended |
| CHINA<br>UNEP/OzL.Pro/ExCom/20/17/Add.1<br><br><br><br>UNEP/OzL.Pro/ExCom/20/17/Corr.1 | Compressors<br>(4 projects)<br><br><br><br>Refrigeration | Tianjin Tian Shan<br>Shanghai General<br>Zhenjiang<br>Chongquing<br>Gansu Changfeng<br>Baoan | World Bank<br><br><br><br>World Bank | Under discussion<br><br><br><br>Under discussion |
| INDIA<br>UNEP/OzL.Pro/ExCom/20/22/Add.1 | Refrigeration | GGEAL | World Bank | Under discussion |
| INDONESIA<br>UNEP/OzL.Pro/ExCom/20/23<br>UNEP/OzL.Pro/ExCom/20/23/Corr.1 | Refrigeration<br><br>Solvent | PT. Goldstar<br><br>PT Cahaya Biru<br>Sakti | World Bank<br><br>World Bank | Reduced funding recommended |
| JORDAN<br>UNEP/OzL.Pro/ExCom/20/25/Add.1 | Aerosol<br>(4 projects) | M. Haddad<br>Jordan Antiseptics<br>Jordan Chemicals<br>Jordan Industrial | World Bank | Under discussion |
| NIGERIA<br>UNEP/OzL.Pro/ExCom/20/31 | Foam | Royal Foam | UNDP | Under discussion |
| THAILAND<br>UNEP/OzL.Pro/ExCom/20/35 | Compressors<br>(2 projects) | Sanyo<br>Kulthorn Kirby | World Bank | Under discussion |
| URUGUAY<br>UNEP/OzL.Pro/ExCom/20/37 | MACs | Panasco | World Bank | Under discussion |
| ZIMBABWE<br>UNEP/OzL.Pro/ExCom/20/39 | Foam | Trinidad Industries | World Bank | Funding is not recommended |

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**Note:** Evaluation sheets containing the comments of the Fund Secretariat on the issues involved are included in the country project document.

# ANNEX II

## PROJECTS REQUESTING APPROVAL FOR CHANGE OF TECHNOLOGY

Project cover sheets and the Fund Secretariat's comments and recommendations for each of the following projects are enclosed:

ARGENTINA

(a) Conversion to Non-CFC Technology in the manufacture of flexible foam at Belmo Buenos Aires and Belmo San Luis

(b) Conversion to Non-CFC Technology in the manufacture of flexible foam at Limansky

(c) Conversion to Non-CFC Technology in the manufacture of flexible foam at Piero SAIC and Nuvel Corp S.A.

(d) Conversion to Non-CFC Technology in the manufacture of flexible foam at Sueno Estelar S.A. and Estelar San Luis S.A.

VENEZUELA

(a) Elimination of CFC-11 and CFC-12 in the manufacture of domestic refrigeration equipment at Grupo Frigilux

(b) Elimination of CFC-11 and CFC-12 in the manufacture of commercial refrigeration equipment at Pinova.

**PROJECT EVALUATION SHEET**
**ARGENTINA**

SECTOR: FOAM ODS use in sector (1995 ): 1,485 ODP tonnes

Sub-sector cost-effectiveness thresholds Flexible slabstock polyethylene US $6.23/kg

***Project Titles***:

(a) Conversion to Non-CFC Technology in the manufacture of flexible foam at Belmo Buenos Aires and Belmo San Luis
(b) Conversion to Non-CFC Technology in the manufacture of flexible foam at Limansky
(c) Conversion to Non-CFC Technology in the manufacture of flexible foam at Piero SAIC and Nuvel Corp S.A.
(d) Conversion to Non-CFC Technology in the manufacture of flexible foam at Sueno Estelar S.A. and Estelar San Luis S.A.

| **Project Data** | **Flexible slabstock** | | | |
|---|---|---|---|---|
| | **Belmo** | **Limansky** | **Piero/Nuvel** | **Sueno Estelar** |
| ODS phase-out (ODP tonnes) | 146 | 95 | 117 | 128.6 |
| Proposed project duration (Yrs) | 1 | 1 | 1 | 1 |
| Incremental capital cost (US$) | 1,125,234 | 614,838 | 866,099 | 955,838 |
| Contingency (%) | 10 | 10 | 10 | 10 |
| Incremental operational cost (US$) | 208,740 | 184,370 | | |
| Total project cost (US$) | 1,333,974 | 799,208 | 1,049,939 | 995,768 |
| Local ownership (%) | 100 | 80 | 100 | 100 |
| Export component (%) | 0 | 0 | 0 | 0 |
| Amount requested (US$) {Original | 715,000 | 473,000 | 654,500 | 690,000 |
| {Revised | | | | |
| Cost effectiveness (US$/kg) | 4.93 | 4.98 | 5.59 | 5.36 |
| National Coordinating Agency | OPROZ-INTI | OPROZ-INTI | OPROZ-INTI | OPROZ-INTI |
| Implementing Agency | UNDP | UNDP | UNDP | UNDP |
| Technical review completed? | Yes | Yes | Yes | Yes |

| ***Secretariat's Recommendations***[1] | | | | |
|---|---|---|---|---|
| Amount recommended (US $) | NOT APPLICABLE | | | |
| Project impact (ODP tonnes) | | | | |
| Cost effectiveness (US $/kg) | | | | |
| Implementing Agency support cost (US$) | | | | |
| Total cost to Multilateral Fund | | | | |

[1] No change in funding is requested.

## PROJECT DESCRIPTION

1. On 12 July 1996 the Fund Secretariat received four revised project documents as listed in the Project Evaluation Sheet from UNDP, which covered five approved projects of flexible slabstock polyurethane foam manufacturing enterprises in Argentina. It indicated that Piero SAIC had purchased Nuvel Corp. after their projects have been approved, hence four rather than five revised projects were submitted. The approved projects, the time of their approval, amounts approved, technologies selected and project duration are indicated below.

| Project | Date Approved | ODS Consumption Tonnes | Amount Approved US $ | Project Duration Years | Technology Selected | Cost-Effectiveness US $/kg |
|---|---|---|---|---|---|---|
| Belmo Buenos Aires & Belmo San Luis | Nov. 1995 | 145 | 715,000 | 1 | Acetone (licensed technology) | 4.93 |
| Limansky | July 1995 | 95 | 473,000 | 1 | water with forced cooling | 4.98 |
| Nuvel Corp. S.A. | Nov. 1995 | 53 | 313,500 | 1 | Acetone (licensed technology) | 5.95 |
| Piero SAIC | July 1995 | 34 | 341,000 | 1 | water with forced cooling | 5.93 |
| Sueno Estelar / Estelar San Luis | July 1995 | 128.6 | 690,000 | 1 | water with forced cooling | 5.36 |

2. In the originally approved projects, two of the companies (Belmo and Nuvel Corp.) had requested to use a licensed technology which uses acetone as the substitute blowing agent, while the other three (Limansky, Piero and Sueno Estelar) selected a technology based on water blowing augmented by forced cooling and the use of softening additives for the soft foams. Both technologies are much more expensive than that based on methylene chloride, the technology employed in the vast majority of approved projects in this subsector.

3. The choice of the more costly technologies in the approved projects was justified on the grounds that during foaming process the methylene chloride concentration emitted from exhaust gases exceed the concentration allowed by Federal regulations in Argentina and that the substance will be subjected to stricter control in future.

4. The reasons given in the revised project documents for the change over from the approved technologies to the liquid $CO_2$ (LCD) technology were as follows:

- Reluctance of the recipient and the community to introduce a flammable substance.
- Soft and supersoft foams would require additives which are not still in the market, and which in addition would increase operational costs.
- Decrease of quality in some other types is unacceptable to company customers.

5. The four project proposals have been reformulated and costed on the basis of the new LCD technology. All project proposals had been reviewed by UNDP's reviewer.

6. UNDP also confirmed that, while each revised project budget was more expensive than the originally approved budget, each company was prepared to pay the difference between the approved funding and the total revised project cost. Operational costs were calculated based on the guidelines in the methylene chloride paper and on a 4-year basis.

7. Two new projects using the LCD technology are before the Executive Committee for its consideration. These are the projects for Suavestar S.A. (Argentina) (UNEP/OzL.Pro/ExCom/20/13) and for Urosan Kimiya Sanayii A.S. (Turkey) (UNEP/OzL.Pro/ExCom/20/36) in which the description of the LCD technology is provided. Hence, the description has not been repeated here.

## SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

### COMMENTS

1. The Secretariat sent extensive comments on different aspects of the project to UNDP which responded to them and incorporated them in the revised project documents as necessary.

2. The following issues arising from the change of a technology after approval of a project need to be considered by the Executive Committee:

- The eligibility of the project preparation and review costs being incurred for the second time by the Fund.

- The project preparation cost of the original project in a situation where the enterprise had selected or agreed on a technology and then, before or during project implementation, rejected it and requested preparation of fresh new project, as in the case of the five projects under discussion.

- Economic advantage and additional capability for switching over to another technology gained when enterprises initially select a more expensive technological option in the sub-sector or sector rather than the most cost-effective and efficient option. For instance, it would be less of an incentive for a project which chose the cheaper mainstream methylene chloride technology to switch to LCD.

- The delay in implementation of approved projects caused by change in the approved technology.

### RECOMMENDATIONS

1. The Fund Secretariat recommends approval of the change of technology from that originally approved to the LCD technology in the four projects, namely, Belmo Buenos Aires and Belmo San Luis, Limansky, Piero and Nuvel Corp., Sueno Estelar and Estelar San Luis, subject to the outcome of the consideration of the issues raised in the Secretariat's comments or any that may arise as a result of the consideration of the request for change.

**PROJECT EVALUATION SHEET**
**VENEZUELA**

SECTOR: REFRIGERATION ODS use in sector (1994): 2,508 ODP tonnes

Sub-sector cost-effectiveness thresholds: Commercial refrigeration 15.21 US $/kg
Domestic refrigeration 13.76 US $/kg

***Project Titles***:

(a) Elimination of CFC-11 and CFC-12 in the manufacture of domestic refrigeration equipment at Grupo Frigilux

(b) Elimination of CFC-11 and CFC-12 in the manufacture of commercial refrigeration equipment at Pinova

| **Project Data** | **Domestic** | **Commercial** |
|---|---|---|
| | **Grupo Frigilux** | **Pinova** |
| ODS phase-out (ODP tonnes) | 46.04 | 25.05 |
| Proposed project duration (Yrs) | 1.5 | 1.5 |
| Incremental capital cost (US $) | 590,000 | 373,600 |
| Contingency (%) | 10 | 10 |
| Incremental operational cost (US $) | 226,838 | 154,548 |
| Total project cost (US $) | 816,838 | 528,148 |
| Local ownership (%) | 100 | 100 |
| Export component (%) | - | - |
| Amount requested (US $) {Original} | 633,510 | 381,060 |
| {Revised} | 633,510 | 381,010 |
| Cost effectiveness (US $/kg) | 13.76 | 15.21 |
| National Coordinating Agency | FONDOIN | FONDOIN |
| Implementing Agency | UNDP | UNDP |
| Technical review completed? | Yes | Yes |

| ***Secretariat's Recommendations:*** | | |
|---|---|---|
| Amount recommended (US $) | 606,010 | 255,740 |
| Project impact (ODP tonnes) | 46.04 | 25.05 |
| Cost effectiveness (US $/kg) | 13.16 | 10.21 |
| Implementing Agency support cost (US $) | 78,781 | 33,246 |
| Total cost to Multilateral Fund (US $) | 684,791 | 288,986 |

**PROJECT DESCRIPTION**

(a) Elimination of CFC-11 and CFC-12 in the manufacture of domestic refrigeration equipment at Grupo Frigilux

(b) Elimination of CFC-11 and CFC-12 in the manufacture of commercial refrigeration equipment at Pinova

1. Total ODS consumption in the refrigeration and air-conditioning sector in Venezuela in 1994 is estimated at approximately 2,508 tonnes. About 207 ODS in the domestic and 736 ODS tonnes in the commercial refrigeration sector will be eliminated through the implementation of projects approved by the Executive Committee for Venezuela.

2. Projects for Grupo Frigilux and Pinova companies have been approved by the Executive Committee at its 17th Meeting at US $953,000 and US $517,500 respectively excluding agency support costs to convert from CFC-11 to cyclopentane as a blowing agent and from CFC-12 to HFC 134a as a refrigerant. The companies have reassessed all the implications related to conversion to cyclopentane blowing agent and requested the implementing agency to reformulate the projects switching over from cyclopentane to HCFC-141b blowing agent for the following reasons:

- New emerging zero-ODP technologies such as HFC-245fa are likely to become commercially available from the year 2002, and will be able to replace HCFC-141b as a drop-in substitute.

- Use of flammable cyclopentane results in the need for expensive construction works. High rotation of personnel leads to continuous training of staff at the plant level. Safety insurance premiums would also become significantly higher.

- These costs could not be funded due to cost-effectiveness threshold value.

- HCFC-141b is the technology adopted by all other domestic and commercial refrigerator manufacturers in Venezuela. With no local supplies, only very small demand, and its own very small requirements, the company is concerned about both product availability and the price of cyclopentane in Venezuela.

- When submitting the project, the company thought it could absorb some of the above costs themselves. However, Venezuela is being struck by a severe economic crisis, putting the whole refrigeration sector in a very difficult situation. Due to this economic hardship, the company is presently in no position to absorb all additional costs described in the above-mentioned points.

3. The refrigeration part in both projects is kept unchanged and activities/purchasing in the refrigerant-related part are already underway.

4. The two companies understand that HCFC-141b is an interim solution which will require a change to an appropriate zero-ODP technology at some future date. They also accept to pay for the costs of such technology from their own resources without any further financial assistance from the Fund.

5. The conversion to HFC-134a which will involve the replacement of charging equipment, vacuum pumps and leak detectors; the conversion to HCFC-141b which will entail replacement of low pressure machines with high pressure machines. In addition, the project will provide for training, technology assistance, trials and testing.

6. Both companies have requested partial incremental operation costs.

7. the difference between previous approvals and costs requested in the present proposals at US $684,888 will be returned to the Fund by UNDP.

## SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

### COMMENTS

1. The chosen technologies are proven. The choice of an interim HCFC technology in foaming operations has been fully explained.

2. The Secretariat discussed with UNDP the eligibility and incrementality of all cost items. The choice of foaming machines was adjusted to be consistent with the capacity of existing equipment.

3. Cost of requested pre-mixing stations for Pinova has been recognized as ineligible since HCFC-141b based pre-blended foam systems are available in the market.

4. Operating costs have been calculated at US $226,838 and US $154,548 for Grupo Frigolux and Pinova respectively. Only part of these costs has been initially requested by the companies at US $43,520 for Grupo Frigilux and US $7,640 for Pinova to meet the established threshold value. Part of requested capital costs have been recognized as ineligible and the budget has been adjusted. Calculated cost-effectiveness of both projects has been reduced accordingly. The agency claimed increased level of operating costs for Grupo Frigilux at US $51,280 and for Pinova at US $125,270 to match exactly the threshold values. The Secretariat seeks advice from the Executive Committee regarding acceptability of such action.

5. The issues referred to in the Secretariat's Comments in the Argentinean projects included in this Annex are also applicable here.

**RECOMMENDATION**

1. The Fund Secretariat recommends approval of the project with associated support cost and the funding level reflecting initially requested operating cost, shown below, subject to the decision of the Executive Committee on the issue related to operating costs as discussed in para 4 above. The recommendation for approval is subject to the outcome of the consideration of the issues referred to in Paragraph 5 above.

| | Project Title | Project Cost US $ | Support Cost US $ | Implementing Agency |
|---|---|---|---|---|
| (a) | Elimination of CFC-11 and CFC-12 in the manufacture of domestic refrigeration equipment at Grupo Frigilux | 606,010 | 78,781 | UNDP |
| (b) | Elimination of CFC-11 and CFC-12 in the manufacture of commercial refrigeration equipment at Pinova | 255,740 | 33,246 | UNDP |