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EXECUTIVE COMMITTEE OF  
THE MULTILATERAL FUND FOR THE  
IMPLEMENTATION OF THE MONTREAL PROTOCOL  
Thirty-fourth Meeting  
Montreal, 18-20 July 2001

### **PROJECT PROPOSAL: VENEZUELA**

This document consists of the comments and recommendations of the Fund Secretariat on the following project proposal:

Foam:

- Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. foams: umbrella No. 1 project

UNIDO

**PROJECT EVALUATION SHEET  
VENEZUELA**

SECTOR: Foam ODS use in sector (2000): 181 ODP tonnes  
 Sub-sector cost-effectiveness thresholds: Rigid US \$7.83/kg

**Project Titles:**

- (a) Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. foams: umbrella No. 1 project

| Project Data                        | Rigid          |
|-------------------------------------|----------------|
|                                     | Umbrella No. 1 |
| Enterprise consumption (ODP tonnes) | 70.52          |
| Project impact (ODP tonnes)         | 62.75          |
| Project duration (months)           | 24             |
| Initial amount requested (US \$)    | 433,973        |
| Final project cost (US \$):         |                |
| Incremental capital cost (a)        | 255,900        |
| Contingency cost (b)                | 20,200         |
| Incremental operating cost (c)      | 161,917        |
| Total project cost (a+b+c)          | 438,017        |
| Local ownership (%)                 | 100%           |
| Export component (%)                | 0%             |
| <b>Amount requested (US \$)</b>     | <b>438,017</b> |
| Cost effectiveness (US \$/kg.)      | 6.98           |
| Counterpart funding confirmed?      | Yes            |
| National coordinating agency        | FONDOIN        |
| Implementing agency                 | UNIDO          |

| <b>Secretariat's Recommendations</b>     |         |
|--|---------|
| Amount recommended (US \$)               | 438,017 |
| Project impact (ODP tonnes)              | 62.75   |
| Cost effectiveness (US \$/kg)            | 6.98    |
| Implementing agency support cost (US \$) | 56,942  |
| Total cost to Multilateral Fund (US \$)  | 494,959 |

## PROJECT DESCRIPTION

### Sector Background\*

|   |                     |
|---|---------------------|
| Latest available total ODS consumption (2000)   | 3,230.54 ODP tonnes |
| Baseline consumption of Annex A Group I substances (CFCs)   | 3,321.60 ODP tonnes |
| Consumption of Annex A Group I substances for the year 2000   | 1,501.03 ODP tonnes |
| Baseline consumption of CFCs in foam sector   | 637.00 ODP tonnes   |
| Consumption of CFCs in foam sector in 2000  | 181.08 ODP tonnes   |
| Funds approved for investment projects in foam sector as of end of 2000                               | US\$3,136,492.00    |
| Quantity of CFC to be phased out in approved investment projects in the foam sector as of end of 2000 | 508.08 ODP tonnes   |
| Quantity of CFC phased out from approved investment projects in the foam sector as of end of 2000     | 332.7 ODP tonnes    |
| Quantity of CFCs in approved investment projects not yet completed as of end of 2000                  | 175.5 ODP tonnes    |
| Quantity of CFCs remaining to be phased out in the foam sector as of end of 2000                      | 5.58 ODP tonnes     |

\*Based on data submitted to the Fund Secretariat by the Government of Venezuela on 30 April 2001.

### Rigid Foam

#### Umbrella project

1. This is one of two umbrella projects approved for preparation within UNIDO's 2001 business plan. The twelve enterprises included in the umbrella project (Frimac, Frizer, El Control, Incumaca, Frive, Lungler, Profibra, Recovenca, Refriven, Requiven, Tefiven and Vanger) consumed 70.52 ODP tonnes of CFC-11 per year (average 1998 to 2000) in the production of rigid foam for insulation industries. Five enterprises (Frimac, Frizer, Profibra, Requiven and Tefiven) operate low-pressure dispensers in the baseline. In addition, Tefiven operates two spray foam dispensers. All other enterprises employ hand mixing techniques in the baseline.

2. The enterprises will convert their production from CFC-11 to HCFC-141b as the foam blowing agent. The project includes incremental capital costs for the twelve enterprises amounting to US \$255,900, covering the cost of seven new low-pressure foam dispensers and the retrofit of seven existing low-pressure machines. Each company will receive funds for commissioning (US \$2,000), technology transfer and training (US \$2,000). Incremental operating costs ranging from US \$3,243 to US \$29,618 are requested by each enterprise for a period of two years due to the higher cost of chemicals. Table 1 below shows the project costs for the enterprises in the umbrella project.

3. A total of 62.75 ODP tonnes will be eliminated following implementation of the project. There will be residual ODS of 7.8 ODP tonnes as a result of the use of HCFC-141b.

Justification for the use of HCFC-141b

4. UNIDO stated that the enterprises were briefed on the main technical, commercial and other issues related to the available technological options for ODS phase out. On the basis of this briefing the enterprises decided that HCFC-141b is the technically and economically acceptable option to be used as a transitional technology. The companies intend to convert finally to water-based or HFC technologies. The Government of Venezuela has endorsed the use of HCFC-141b by the enterprises consistent with the Executive Committee's Decision 27/13.

Table 1: Summary of the costs of the Umbrella project

| Company and Date Established | CFC Used <sup>1</sup> ODP tonnes | Impact ODS Eliminated* | ICC** US \$    | Contingency <sup>1</sup> | IOC*** US \$   | Total Project Cost US \$ | Amount Requested US \$ | Cost Effectiveness US \$/kg |
|------------------------------|----------------------------------|------------------------|----------------|--------------------------|----------------|--------------------------|------------------------|-----------------------------|
| Frimac 1989                  | 5.1                              | 4.5                    | 15,000         | 1,000                    | 13,199         | 29,199                   | 29,199                 | 6.27                        |
| Frizer 1980                  | 3.6                              | 3.17                   | 15,000         | 1,000                    | 9,286          | 25,386                   | 25,386                 | 7.67                        |
| El Control 1985              | 2.5                              | 2.19                   | 13,350         | 850                      | 3,698          | 17,898                   | 17,049                 | 7.77                        |
| Incumaca 1991                | 3.6                              | 3.19                   | 19,400         | 1,400                    | 5,376          | 26,176                   | 24,776                 | 7.77                        |
| Frive 1990                   | 9.2                              | 8.18                   | 45,250         | 3,750                    | 13,793         | 59,793                   | 59,043                 | 7.21                        |
| Lunger 1985                  | 3.7                              | 3.28                   | 19,950         | 1,450                    | 5,525          | 26,925                   | 25,475                 | 7.77                        |
| Profibra 1983                | 6.6                              | 5.9                    | 15,000         | 1,000                    | 17,304         | 33,304                   | 32,304                 | 5.47                        |
| Reconvenca 1989              | 10.3                             | 9.16                   | 41,950         | 3,450                    | 29,618         | 75,018                   | 71,568                 | 7.82                        |
| Refriven 1986                | 2.2                              | 1.92                   | 11,700         | 700                      | 3,243          | 15,643                   | 14,944                 | 7.76                        |
| Requiven 1989                | 9.3                              | 8.32                   | 15,000         | 1,000                    | 26,910         | 42,910                   | 41,910                 | 5.04                        |
| Tefiven 1984                 | 8.1                              | 7.21                   | 33,000         | 2,000                    | 23,317         | 58,317                   | 56,317                 | 7.81                        |
| Vanger 1984                  | 6.4                              | 5.73                   | 31,500         | 2,500                    | 10,647         | 44,647                   | 42,147                 | 7.36                        |
| <b>SUB-TOTAL</b>             | <b>70.6</b>                      | <b>62.75</b>           | <b>276,100</b> | <b>20,100</b>            | <b>161,917</b> | <b>455,216</b>           | <b>438,017</b>         | <b>6.98</b>                 |

\* tonnes per year \*\*incremental capital cost \*\*\*incremental operating cost 1. Average 1998-2000

## SECRETARIAT'S COMMENTS AND RECOMMENDATIONS

### COMMENTS

5. The Secretariat and UNIDO discussed the projects, following which the components were brought in line with similar projects approved and being implemented in Venezuela and

other Article 5 countries. The total requested grant amounts to US \$438,017 with cost-effectiveness of US \$6.98/kg. The individual projects are also within the cost-effectiveness threshold for the sub-sector. The requested grants of the 12 enterprises in the umbrella project are provided in Table 1 above.

6. The umbrella project is one of two such projects proposed in UNIDO's 2001 business plan to phase out 110 ODP tonnes CFC-11 from the foam sector in Venezuela. Based on the CFC consumption data reported by the Government of Venezuela to the Fund Secretariat and status of projects approved in the foam sector as of the end of 2000 it appears that the CFC remaining to be phased out in the foam sector in Venezuela would amount to only about 6 ODP tonnes. UNIDO has been reminded of the need for the Government of Venezuela to provide information on the current status of the foam sector.

### **Action on relevant sections of Decision 33/2**

#### Government and enterprise commitments

7. The Secretariat received a letter of transmittal of the Umbrella project from the Government of Venezuela in which it stated, inter alia, consistent with Executive Committee Decision 33/2 (c) that:

- (a) The National Ozone Unit has validated the total CFC-11 consumption of 62.75 ODP tonnes to be phased out by the 12 enterprises in the umbrella project and retained in its records for future verification.
- (b) The Government of Venezuela has been advised that its agreement with the project indicates a commitment to ensure that the validated phase-out figure of 62.75 ODP tonnes was realized and yielded a sustained reduction from its 2000 foam sector consumption of 189 ODP tonnes.

8. The Secretariat also received signed commitment notes from the Presidents and Directors of the 12 enterprises in which they inter alia affirmed their enterprises' commitments to completely phase out the CFC-11 and not to revert to its use after conversion, to co-operate with the implementing agency to return any unused contingency funds and funds deemed to have been used in situations of identified serious funding irregularities as well as other commitments stipulated under Decision 33/2 and other relevant rules governing project approval.

9. The above documents are available in the Secretariat and may be made available on request.

**RECOMMENDATIONS**

10. The Secretariat recommends blanket approval of the umbrella project with the funding level and associated implementing agency support cost as indicated below:

|     | <b>Project Title</b>  | <b>Project Funding (US\$)</b> | <b>Support Cost (US\$)</b> | <b>Implementing Agency</b> |
|-----|---|-------------------------------|----------------------------|----------------------------|
| (a) | Phasing out CFC-11 by conversion to HCFC-141b as a blowing agent in the manufacture of rigid P.U. foams: umbrella No. 1 project | 438,017                       | 56,942                     | UNIDO                      |

11. The Secretariat further recommends that the Executive Committee:

- (a) Takes note with appreciation of the commitments made by the Government of Venezuela and the 12 enterprises in the umbrella project in paragraphs 7 and 8 above.
- (b) Requests the Government of Venezuela to submit a status report of the foam sector indicating the current consumption of ODS, progress of the phase out of ODS and a plan to complete the phase out of the remaining consumption in the sector as a prerequisite for further funding of projects in the sector.