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EXECUTIVE COMMITTEE OF
THE MULTILATERAL FUND FOR THE
IMPLEMENTATION OF THE MONTREAL PROTOCOL
Eightieth Meeting
Montreal, 13-17 November 2017

PROJECT PROPOSAL: MALDIVES

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

Phase-out

- HCFC phase-out management plan (fourth tranche)

UNEP/UNDP

PROJECT EVALUATION SHEET – MULTI-YEAR PROJECTS

Maldives

| (I) PROJECT TITLE | AGENCY | MEETING APPROVED | CONTROL MEASURE |
|---------------------|-------------------|------------------|-----------------|
| HCFC phase out plan | UNDP, UNEP (lead) | 60 th | Total by 2020 |

| | | |
|--|------------|------------------|
| (II) LATEST ARTICLE 7 DATA (ANNEX C GROUP L) | Year: 2016 | 2.4 (ODP tonnes) |
|--|------------|------------------|

| (III) LATEST COUNTRY PROGRAMME SECTORAL DATA (ODP TONNES) | | | | | | | | YEAR: 2016 | |
|---|---------|------|---------------|---------------|-----------|---------|---------------|------------|--------------------------|
| Chemical | Aerosol | Foam | Fire fighting | Refrigeration | | Solvent | Process agent | Lab use | Total sector consumption |
| | | | | Manufacturing | Servicing | | | | |
| HCFC-22 | | | | | 2.4 | | | | 2.4 |

| (IV) CONSUMPTION DATA (ODP TONNES) | | | |
|---|-----|--|--------|
| 2009 - 2010 baseline: | 4.6 | Starting point for sustained aggregate reductions: | 3.7 |
| CONSUMPTION ELIGIBLE FOR FUNDING (ODP TONNES) | | | |
| Already approved: | 3.7 | Remaining: | 0.0925 |

| (V) BUSINESS PLAN | | 2017 | TOTAL |
|-------------------|----------------------------|--------|--------|
| UNEP | ODS phase-out (ODP tonnes) | 0.2 | 0.2 |
| | Funding (US \$) | 56,500 | 56,500 |

| (VI) PROJECT DATA | | 2010 | 2011-2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018-2019 | 2020 | Total |
|--|---------------|---------------|-----------|---------|---------|---------|---------|--------|-----------|--------|-----------|
| Montreal Protocol consumption limits | | n/a | 4.6 | 4.6 | 4.6 | 4.1 | 4.1 | 4.1 | 4.1 | 2.9 | n/a |
| Maximum allowable consumption (ODP tonnes) | | n/a | 3.7 | 3.3 | 3.3 | 3.0 | 2.4 | 2.4 | 1.2 | 0.0925 | n/a |
| Agreed funding (US \$) | UNEP | Project costs | 400,000 | 0 | 20,000 | 0 | 0 | 0 | 0 | 0 | 420,000 |
| | | Support costs | 30,000 | 0 | 1,500 | 0 | 0 | 0 | 0 | 0 | 31,500 |
| | UNEP | Project costs | 355,940 | 0 | 173,400 | 0 | 100,660 | 0 | 50,000 | 0 | 680,000 |
| | | Support costs | 46,272 | 0 | 22,542 | 0 | 13,086 | 0 | 6,500 | 0 | 88,400 |
| Funds approved by ExCom (US \$) | Project costs | 755,940 | 0 | 193,400 | 0 | 100,660 | 0 | 0.0 | 0 | 0 | 1,050,000 |
| | Support costs | 76,272 | 0 | 24,042 | 0 | 13,086 | 0 | 0.0 | 0 | 0 | 113,400 |
| Total funds requested for approval at this meeting (US \$) | Project costs | 0 | 0 | 0 | 0 | 0 | 0 | 50,000 | 0 | 0 | 50,000 |
| | Support costs | 0 | 0 | 0 | 0 | 0 | 0 | 6,500 | 0 | 0 | 6,500 |

| | |
|-------------------------------|--------------------------|
| Secretariat's recommendation: | Individual consideration |
|-------------------------------|--------------------------|

PROJECT DESCRIPTION

1. On behalf of the Government of Maldives, UNEP as the lead implementing agency, has submitted a request for funding for the fourth and final tranche of stage I of the HCFC phase-out management plan (HPMP), at the amount of US \$50,000, plus agency support costs of US \$6,500 for UNEP only.¹ The submission includes a progress report on the implementation of the third tranche and the tranche implementation plan for 2018 to 2020.

Report on HCFC consumption

HCFC consumption

2. The Government of Maldives reported a consumption of 2.4 ODP tonnes of HCFC in 2016, which is 52 per cent lower than the HCFC baseline for compliance. The 2012-2016 HCFC consumption is shown in Table 1.

Table 1. HCFC consumption in Maldives (2012-2016 Article 7 data)

| HCFC-22 | 2012 | 2013 | 2014 | 2015 | 2016 | Baseline |
|---------------|-------|-------|-------|-------|-------|----------|
| Metric tonnes | 67.00 | 57.94 | 60.28 | 44.47 | 43.60 | 76.47 |
| ODP tonnes | 3.69 | 3.19 | 3.32 | 2.45 | 2.40 | 4.60 |

3. The reduction in HCFC consumption since 2010 was due to the strict implementation of the regulations controlling HCFC imports that became effective in 2010. This regulation set the annual quota lower than the maximum allowable consumption, increased import taxes on HCFC and blends, and subjected unauthorized imports to stiff penalties. It was also due to the implementation of the activities under stage I of the HPMP.

Country programme (CP) implementation report

4. The Government of Maldives reported HCFC sector consumption data under the 2016 CP implementation report that is consistent with the data reported under Article 7 of the Montreal Protocol.

Progress report on the implementation of the third tranche of the HPMP

Legal framework

5. The Government continues the implementation of regulations to control the import and distribution of HCFCs, noting that it had committed to completely phase-out HCFCs by 2020. In 2015, the Ozone Layer Protection Act was approved, which banned the import of HCFC-based equipment starting 31 May 2016. A total of 129 enforcement officers were trained on the identification and control of HCFCs, and six units of refrigerant identifiers were handed over to the Maldives Customs Service.

Refrigeration servicing sector

6. Forty technicians were trained as trainers who in turn trained 57 technicians on good practices in refrigeration and air-conditioning (RAC) servicing including handling of low-global warming potential (GWP) alternative refrigerants; 38 technicians who service fishing vessels received specialized training for this application; one master trainer on good refrigeration practices and handling alternative refrigerants was trained in Germany; representatives from industry and the Government also participated in two international conferences on handling flammable refrigerants. A national stakeholder's workshop on standards and

¹ As per the letter of 19 September 2017 from the Ministry of Environment and Energy of Maldives to UNEP.

certification for the RAC sector was organized resulting in the prioritization of standards for transport and storage of flammable refrigerants in the Maldives.

Technical assistance for the servicing sector

7. All five enterprises in the fisheries sector that received incentives to convert to R-438A² have completed their conversion. One beneficiary enterprise (Maldives Horizon Fisheries) was declared the first ozone-friendly fishing company in the Maldives, as they have converted all their HCFC-based equipment to R-438A. These pilot conversions were completed albeit to an alternative with a high-GWP since the Maldives faced a major challenge to reduce the consumption of HCFC-22 in the fisheries sector which is an important part of the country's economy, and delaying this activity to wait for a low-GWP alternative may put the country at risk of not complying with its commitment to completely phase out HCFC consumption by 2020.

8. The incentive programme for households and small commercial enterprises was delayed due to the lack of available low-GWP domestic and commercial appliances in the market. However, the programme started in August 2017 and will be completed by 2019.

9. In noting the delays of this component, the Secretariat sought clarification on the sustainability of these efforts, and how the retrofits would be implemented in line with decisions of the Executive Committee.³ UNDP explained that the programme will not involve the retrofit of HCFC-22-based equipment, but would provide incentives (i.e., 25 to 35 per cent of the cost of a new HC-290 or R-32-based air-conditioner) to end-users, and collect the HCFC-22 refrigerant from the old AC unit for reclamation. During the next implementation period, 600-700 low-GWP AC units will be purchased for the incentive programme, to encourage the import of such equipment in the future. The Government believes that the incentive programme should be extended to more beneficiaries to let the market to adjust, making low-GWP alternatives more cost-effective to adopt. UNDP will explore opportunities to see whether this would be possible through other financing support.

Project implementation and monitoring unit (PMU)

10. The national ozone unit (NOU) has been overseeing the implementation of the HPMP. It has organized awareness raising activities including two workshops on the new Ozone Protection Act and issues related to HCFC phase-out; a policy dialogue roundtable; and three awareness workshops on energy efficiency and new technologies in the RAC sector.

Level of fund disbursement

11. As of September 2017, of the US \$1,050,000 approved so far (US \$630,000 for UNEP, and US \$420,000 for UNDP), US \$824,080 had been disbursed (US \$579,340 for UNEP, and US \$244,740 for UNDP) as shown in Table 2. The balance of US \$225,920 will be disbursed by December 2018.

² A blend of HFC-32 (8.5 per cent), HFC-125 (45.0 per cent), HFC-134a (44.2 per cent), R-600 (1.7 per cent) and R-601a (0.6 per cent) used to retrofit HCFC-22 equipment.

³ Decisions 72/17 and 73/34

Table 2. Financial report of stage I of the HPMP for Maldives (US \$)

| Agency | First tranche | | Second tranche | | Third tranche | | Total approved | |
|------------------------------|---------------|-----------|----------------|-----------|---------------|-----------|----------------|-----------|
| | Approved | Disbursed | Approved | Disbursed | Approved | Disbursed | Approved | Disbursed |
| UNEP | 355,940 | 355,940 | 173,400 | 173,400 | 100,660 | 50,000 | 630,000 | 579,340 |
| UNDP | 400,000 | 240,640 | 20,000 | 4,100 | 0 | 0 | 420,000 | 244,740 |
| Total | 755,940 | 596,580 | 193,400 | 177,500 | 100,660 | 50,000 | 1,050,000 | 824,080 |
| Disbursement rate (%) | 79 | | 92 | | 50 | | 78 | |

Implementation plan for the fourth tranche of the HPMP

12. The following activities will be implemented between January 2018 and December 2020:
- Training workshop on new Ozone Act and its amendments for 30 enforcement officers (UNEP) (US \$15,000);
 - Training of 60 RAC technicians on new regulations, good practices in refrigeration and handling low-GWP refrigerants, (UNEP) (US \$10,000);
 - Train-the-trainers workshop for 30 participants and in-house training on monitoring/servicing retrofitted equipment in fishing vessels for 20 participants (UNEP) (US \$10,000);
 - Equipment (e.g. small AC equipment) support through the incentive programme for household and small commercial appliance by providing subsidies for low-GWP AC equipment (UNDP) (balance funding from the previous tranche of US\$165,000);
 - Awareness campaign including production of information materials and translation of reference materials (UNEP) (US \$10,000); and
 - Project coordination monitoring and management (UNEP) (US \$5,000).

SECRETARIAT'S COMMENTS AND RECOMMENDATION**COMMENTS**Report on HCFC consumption

13. In noting that the consumption of HCFCs in Maldives in 2016 was equal to the maximum allowable level in its Agreement with the Executive Committee, the Government provided assurances that the strict enforcement of their licensing and quota system will ensure compliance with its Agreement and completely phase-out HCFCs by 2020. The online electronic system for applying import licenses and recording actual imports is being tested, and will be finalised by mid-2018.

Progress report on the implementation of the third tranche of the HPMP

Legal framework

14. The Government of Maldives has already issued HCFC import quotas for 2017 at 2.4 ODP tonnes, which is lower than the Montreal Protocol control targets and in accordance with the maximum allowable consumption.

Refrigeration servicing sector

15. In noting decision 75/62(c),⁴ UNDP indicated that it would be able to provide a report only at the first meeting of the Executive Committee in 2018 when the demonstration project for HCFC-free low-GWP alternatives in the fisheries sector approved two years ago would yield results. Further, it reiterated that those fishing vessels that were retrofitted to R-438A would convert to low-GWP alternatives at their own expense, once the demonstration projects are completed and results provide alternatives that the fishing industry can use. UNDP further noted that the Government of the Maldives is reconsidering its approach to achieve carbon neutrality in 2020 as part of its HPMP approach as it continues to face technology challenges in seeking low-GWP alternatives for relevant HCFC-using sectors to its economy like fisheries. The Government, however, commits to continue exploring low-GWP options that are available, technically sound and economically viable, to maintain a low carbon growth path for the country.

Conclusion

16. The Secretariat notes that the implementation of the accelerated phase-out of HCFCs for Maldives is progressing. The country is in compliance with the Montreal Protocol targets in 2015 and 2016, and with its Agreement with the Executive Committee. The activities in the refrigeration servicing sector continue to be implemented as planned; delays in the incentive programme have been resolved; and assistance is being provided to the fisheries sector. The activities so far implemented and those planned under the final tranche will further strengthen the servicing sector, ensure the long-term sustainability of the activities, and continue to enable the country to meet its compliance obligations under the Protocol, and its accelerated phase-out of HCFCs. The Secretariat also notes that the Government of the Maldives has revised its strict policy to meet carbon neutrality in 2020, to instead follow a low carbon growth path, noting the challenges that the country has faced in identifying low-GWP technologies for important economic sectors. However, the Government continues to be committed to reduce the climate impact of HCFC phase-out where feasible. The request is recommended for individual consideration as it is the last tranche for the only HPMP that has committed a complete phase-out in 2020 where progress reports including that on the transition from the interim technology selected by the Government to low-GWP refrigerants, are required until completion of the phase-out.

RECOMMENDATION

17. The Executive Committee may wish to consider:

- (a) Noting the progress report on the implementation of the third tranche of the HCFC phase-out management plan of (HPMP) for the total phase out of HCFCs in the Maldives;
- (b) Requesting UNDP and UNEP:

⁴ To request UNDP to report at the first meeting in 2017 and every year thereafter until another technology with a low-GWP had been fully introduced, on the status of use of the interim technology selected by the Government, including the availability of low-GWP refrigerants in the market and the potential use of recycled HCFC-22 from the recovery and recycling component of the HPMP, with a review by the Secretariat of the selected approach in 2019.

- (i) To report to the Executive Committee at its first meeting in 2018 on the progress of the demonstration project on low-GWP refrigerants for the fisheries sector in the Maldives;
 - (ii) To continue reporting annually on the progress of the transition from the interim technology selected by the Government to low-GWP refrigerants in line with decision 75/62(c), and on the implementation of the work programme associated with the final tranche until the completion of the HPMP in 2020;
 - (c) Further requesting the Government of Maldives, UNDP and UNEP to submit project completion report to the first meeting of the Executive Committee in 2022; and
 - (d) Approving the fourth and last tranche of the HPMP for Maldives, and the corresponding 2018-2020 tranche implementation plan, in the amount of US \$50,000, plus agency support costs of US \$6,500 for UNEP.
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