Hydrochlorofluorocarbons Phaseout Management Plan Stage II (HPMP II)
Project ID: 85200

Annual Progress Report

Date: January – December 2020

PROJECT SNAPSHOT

Date:	February, 2021
Award ID:	85200
Project ID:	92915
Project Title:	Hydrochlorofluorocarbons Phaseout Management Plan HPMP II
Project Start Date:	Jan 2017
Project End Date:	Dec 2022
Donor:	MLF
Implementing Partner:	UNDP
Total Project Budget (all years):	USD 34.865 Million
Core Resources: Non-Core Resources: Government contribution:	Nil.

Project Brief Description and Outputs:

Under the Hydrochlorofluorocarbons Phase-out Management Plan (HPMP) Stage–I, India prioritized phase-out of HCFC-141b in the foam manufacturing sector, especially in 15 large HCFC consuming enterprises. In addition, 15 System Houses were also provided funding as a one-time technical assistance to develop new non-HCFC based formulations to support the downstream foam manufacturers, especially, MSMEs in HPMP Stage-II. Under HPMP stage–I, India has successfully phased-out a total of 341.77 ODP tons of HCFCs including 310.53 ODP tons of HCFC 141 b in the foam manufacturing and 31.24 ODP tons of HCFC–22 in refrigeration and air conditioning (RAC) servicing sector, respectively.

The Executive Committee (Ex-Com) of the Multilateral Fund (MLF) in its 77th meeting, approved the HPMP Stage-II for India with a total funding of USD 44,911,459 plus implementing agencies support costs. The agreement between the Ex-Com of the MLF and the Government of India to reduce consumption of HCFCs under HPMP Stage II was also approved in the same decision. As per the decision, UNDP assumed the role of lead implementing agency of HPMP Stage-II, with UN Environment and Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) Proklima, Government of Germany as cooperating agencies. Under HPMP – II, UNDP supports the Ministry of Environment, Forests and Climate Change (MoEF&CC), Government of India, which in turn support participating enterprises to effectively phase-out HCFCs.

The key elements of support include:

1) Strategy to phase-out HCFCs by adoption of non-ODS and low GWP technologies.
2) Implementation of policy and regulatory interventions to phase-out Ozone depleting substances; and
3) Awareness and capacity building of the foam & RAC sectors and stakeholders on implementation of HCFC phase-out activities.

The Project Objectives:

1. To facilitate India's compliance with the Montreal Protocol 2020 control targets, complete phase-out of HCFC-141b by 2020 and part phase-out of HCFC-22 in room air conditioners, manufacturing & servicing of Refrigeration and Air Conditioning (RAC) sector.
   - Sustainable reduction in the consumption of HCFCs through implementation of a combination of interventions i.e. technology transfer, training & capacity building, awareness, monitoring and management i.e. 5,800 MT of HCFC – 141 b (638 ODP tonnes) in foam manufacturing sector
   - 1140 MT (62.70 ODP tonnes) of HCFC – 22 in air-conditioning manufacturing sector
   - 1250 MT (68.75 ODP tonne) of HCFC– 22 in refrigeration and air-conditioning (RAC) servicing sector
2. To extend financial support to enterprises for conversion into use of non-ODS and low Global Warming Potential (GWP) technologies, technical assistance, training and capacity building, etc., as specified in the decision of the Ex-Com of the MLF, by availing funds made available to meet quantitative phase-out target of ODSs set for the country.

List of focus States/districts – National level Project - covering HPMP-II participating enterprises in India.

Overall Project Quality Rating (mark on the scale of 1 to 5 as per the following criteria):Exemplary (5)

Exemplary (5) *****	High (4) ****	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
All outputs are rated High or Exemplary	All outputs are rated Satisfactory or higher, and at least two criteria are rated High or Exemplary	One output may be rated Poor, and all other criteria are rated Satisfactory or higher	Two outputs are rated Poor, and all other criteria are rated Satisfactory or higher	One output is rated Inadequate, or more than two criteria are rated Poor

Budget 2020	5,833,803
Expenditure 2020	5,533,693
Delivery %	94.86

CONTENTS

ACRONYMS

GWP – Global Warming Potential
HCFC – Hydrochlorofluorocarbons
HPMP II – Hydrochlorofluorocarbons Phase-Out Management Plan -Stage II
ODP – Ozone Depleting Substances
RAC – Refrigeration and Air Conditioning

1. Executive Summary

The executive summary is a concise brief on the progress towards the project outputs during the reporting period. The section also includes key implementation challenges, lessons learned and way forward. It is also suggested to include key financial information, such as expenditure for the reporting period, cumulative expenditure and a delivery rate against budget.
(Suggested length - 400 words maximum)

The Hydrochlorofluorocarbons Phaseout Management Plan (HPMP II) aims to facilitate India's compliance with the Montreal Protocol's accelerated phase-out targets for India through complete phase-out of HCFC-141b use by 2020 in foam sector, and reduction in use of HCFC-22 in Refrigeration and Air-Conditioning (RAC) sector and focuses on supporting the HCFC Phase-out Management Programme (HPMP-II) through combination of sustainable interventions i.e. policy, regulatory, technical, financial and capacity building support besides monitoring and evaluation.

The project component on Phase-out of HCFC-141b in foam manufacturing sector included technology conversion support to foam manufacturing enterprises from HCFC-141b to non-HCFC technology and led to Phase-out of 5800 MT (638.02 ODP tonne) of HCFC-141b. The Phase-out of HCFC-22 in Refrigeration and Air Conditioning (RAC) Sector included technology conversion from HCFC-22 to non-HCFC technology with an output indicating Phase-out of 1140 MT (62.72 ODP tonne) of HCFC-22. Project management support extended includes:

i) Supervision and monitoring of implementation.
ii) Stakeholder meetings including with industry.
iii) Awareness workshops on low GWP alternatives to SMEs.
iv) Technical Assistance, monitoring and evaluation activities.
v) Third party verification of progress in Industries for monitoring.
vi) Verification of the implementation of activities at enterprise level.
vii) National Level verification as per agreement with the Ex-Com of the MLF; and
viii) Documentation and Materials including contingency expenditure etc.

Key challenges in project implementation include:

i. Phase-out of HCFCs without adversely affecting industrial and economic growth of foam and RAC sectors, while protecting consumer and public interests.
ii. Availability of cost-effective alternative technologies for HCFC 141b and HCFC22, as far as possible from indigenous sources.
iii. Decision XIX/9 of the 19th MOP emphasizes introducing safe and sustainable non HCFC and climate friendly technologies to maximize the environmental benefits, particularly on climate.
iv. Physical verification of technology conversion implementation projects in India for releasing financial support, due to prevailing COVID 19 travel restrictions and exposure risks to infection

Expenditure in 2020

Expenditure for reporting period	Cumulative Expenditure	% of total expenditure
5,533,693	10,458,494	36.55%

2. Situation Analysis

The background should be a short introductory of the project. The situation analysis and the objective sections of the Project Document can be referred to for this section. Also include an up-to-date overview of changes in the context and situations. (Suggested length - maximum half a page)

India is the second largest global producer of Hydrochlorofluorocarbons (HCFCs) after China. HCFCs are classified as controlled substances under Annexure- C, Group–1 of the Montreal Protocol. HCFCs besides ozone depleting potential (ODP) also possess high global warming potential. HCFCs are used for many applications, which includes as refrigerants (in refrigerators, freezers and air conditioning system), and as blowing agents in foam manufacturing, aerosols propellants, solvents and firefighting. Over the past two decades, India has successfully implemented ODS phase-out projects that helped the industry in smooth and systematic transition to ozone friendly alternatives. As per the accelerated phaseout schedule of the Montreal Protocol, the production and consumption of HCFCs need to be controlled and eventually phased-out. An Ozone Cell was set-up by the Ministry of Environment, Forest and Climate Change (MoEF&CC) to coordinate the implementation of the Montreal Protocol activities in India. The Ozone Cell is responsible for the effective and timely implementation of the Montreal Protocol and its ODS phase-out activities, coordinating with the Multilateral Fund (MLF) Secretariat, implementing agencies, industry associations, line ministries and other concerned stakeholders. India took proactive steps for implementation of the accelerated phase-out schedule of HCFCs, in line with the decision XIX/6 of the 19th Meeting of Parties of the Montreal Protocol held in September 2007. To this end, India prepared a Roadmap in 2009 describing the long-term vision and action plan including the policy instruments for phase-out of production and consumption of HCFCs in the country. It considered expected availability of technologies that are sustainable and have minimum cost impact on industry and consumers.

HPMP Stage I identified appropriate non-ODS technologies in foam manufacturing sector for the phase-out of HCFCs and 15 systems houses for developing polyol systems as blowing agents for rigid polyurethane foams and led to the Ozone Depleting Substances (Regulation and Control) Rules, 2000 published in the Gazette of India in April 2014.

HPMP Stage-II aims include following:

a) to facilitate India's compliance with the Montreal Protocol 2020 control targets, complete phase-out of HCFC-141b by 2020 and part phase-out of HCFC-22 in room air conditioners, manufacturing and servicing of Refrigeration and Air Conditioning (RAC) sector. The physical targets include following:
   - → Sustainable reduction in the consumption of HCFCs through implementation of a combination of interventions i.e. technology transfer, training & capacity building, awareness, monitoring and management i.e. 5,800 MT of HCFC – 141 b (638 ODP tonnes) in foam manufacturing sector
   - → 1140 MT (62.70 ODP tonnes) of HCFC – 22 in air-conditioning manufacturing sector

→ 1250 MT (68.75 ODP tonne) of HCFC– 22 in refrigeration and air conditioning (RAC) servicing sector

b) To extend financial support to the enterprises for conversion into use of non-ODS and low Global Warming Potential (GWP) technologies, and technical assistance, training & capacity building, etc., as specified in the decision of the Ex-Com of the MLF, by availing funds allocated to meet quantitative phase-out targets of ODSs set for the country.

3. Project Performance and Results

3.1. Contribution towards Country Programme Outcome

CPD Outcome: The Government, industry and other relevant stakeholders actively promote environmental sustainability and enhanced resilience of communities in the face of challenges of climate change, disaster risk and natural resource depletion			
Indicator(s): 6.2 Extent of implementation of HCFC phase-out management plan	Baseline: 10% (2017) reduction from the set country baseline	Target(s): 35% (2022) reduction from the set country baseline	**Achievement(s):** 1. Government of India achieved over 896 ODP tonnes (53%) reduction (phase-out) by January 2020, which is much higher than the targeted 562.87 ODP tonnes (35%) 2. Out of the achieved reduction of over 896 ODP tonnes, the UNDP supported through HPMP-I phase-out of 341.77 ODP tonnes; and HPMP-II is currently supporting phase-out of 280.888 ODP tonnes by supporting 159 foam enterprises, so far by replacing through HCFC 141b phase-out. The total contribution 622.658 ODP tonnes through HPMP-I and HPMP-II together, so far, accounts to over 69% of total reduction achieved by India).

Description of output level/outcome level results achieved in 2020:

UNDP extended high priority to the HPMP Stage-II implementation, as a result technology conversion support is being extended to 159 enterprises in Foam sector and 4 enterprises in refrigeration and air conditioning (RAC) sector, so far. The participating enterprises adopted alternative technologies for phase-out of HCFC-141b from foam sector with chemicals having zero Ozone depleting potential (ODP) and low global warming potential (GWP); and alternatives for phase-out of HCFC-22 in RAC Sector. UNDP demonstrated its commitment by extending policy interventions, technical support, institutional strengthening, and project management interventions in accelerating the implementation of HPMP-II, that directly transfers the benefit to the participating enterprises, particularly in this COVID-19 pandemic.

Means of Verification

1. **No. of signed MoAs between Govt. of India and enterprises**
2. **No. of payments (instalments) released to the enterprises, upon implementation of set milestones in the Agreement**
3. **No. of physical verifications completed to verify the implementation progress**
4. **No. of participants in workshops, and hand holding support through CIPET, Bhubaneshwar**
5. **Reduction in number of milestones for MSMEs**
6. **Reduction in number of physical verifications in case of MSMEs**
7. **Releasing additional eligible payments, for maximisation of support to the foam enterprises**
8. **Disbursed amounts to enterprises**

3.2. Progress towards Project Results/Outputs

Project Output I: Effective solutions developed at national and sub-national levels for sustainable management of natural resources, ecosystems, ozone depleting substances (ODSs), chemicals and wastes.

Indicator(s)	Baseline	Target(s)	Achievement(s)
Support phasing out of Hydrochlorofluorocarbon carbon (HCFC) from Foam and RAC sector in India by providing technology conversion support to switch to non-ODS alternatives under Montreal Protocol.	10% (2017)	35% (2022)	55.76%

Description of output level <u>results achieved</u> in 2020:

HPMP-I has resulted in phase-out of 341.77 ODP tonnes (HCFC-141b- 310.53 + HCFC-22- 31.24) out of Baseline i.e. 1608.2 ODP tonnes.

Under HPMP-II, HCFC-141b has been phased out completely i.e. remaining 554.97 ODP tonnes (through HPMP-II: 280.888 + through ban: 274.082) by January 1, 2020. Therefore, through HPMP-I + HPMP-II + HCFC-141b ban, so far phased-out 341.77 + 554.97 = 896.74 ODP tonnes out of baseline 1608.2 ODP tonnes

Overall Output Status (mark the output on the scale of 1 to 5 as per the following criteria): **Exemplary (5)**

Exemplary (5) *****	High (4) ****	Satisfactory (3) ***	Poor (2) **	Inadequate (1) *
The project is expected to over-achieve targeted outputs and/or expected levels of quality, and there is evidence that outputs are contributing to targeted outcomes	The project is expected to over-achieve targeted outputs and/or expected levels of quality	The project is expected to achieve targeted outputs with expected levels of quality	The project is expected to partially achieve targeted outputs, with less than expected levels of quality	Project outputs will likely not be achieved and/or are not likely to be effective in supporting the achievement of targeted outcomes

Means of Verification:

- **No. of signed MoAs between Govt. of India and enterprises**
- **No. of payments (instalments) released to the enterprises, upon implementation of set milestones in the Agreement**
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- **Reduction in number of milestones for MSMEs**
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- **Releasing additional eligible payments, for maximisation of support to the foam enterprises**
- **Disbursed amounts to enterprises**

4. PROJECT RISKS AND ISSUES

This section identifies and analyses project risks and issues that:
1) had an impact on project deliverables[1] (quality, schedule, etc.) During the reporting period, or
2) were newly identified during the reporting period and are being addressed by the project (in the case of risks, "addressed" means to mitigate their effects or decrease the likelihood of impact, and in the case of issues, how to resolve them).

a. Updated Project Risks and Actions

Project Risk 1:

In early 2020, a complete lockdown imposed as a preventive measure to contain COVID 19 pandemic. The lockdown hindered the movement of people, thereby, it was not feasible to conduct physical site verifications. To facilitate India's compliance with the Montreal Protocol 2020 control targets, through complete phase out of HCFC-141 B in Foam sector and phase-out of HCFC-22 in RAC sector, as per the MOA between ozone cell MoEF&CC and industry, a third-party physical verification of manufacturing facilities need to be conducted in order to process third/ fourth/ fifth milestone-specific disbursements, as applicable.

Therefore, physical verification of implementation progress is a potential bottleneck, in COVID19 Pandemic.

Actions taken:

1. Remote video inspection using online tools for third milestone, was discussed at length for adoption as a back-up; Even the possibility for reduction in physical verifications and protocols in that situation was deliberated as second back-up.
2. Slides on guidance for industrial workers has been prepared concerned to COVID 19 Pandemic and share to the Government

b. Updated Project Issues and Actions

Project Issue 1: Approval of third tranche for HPMP-II implementation
Actions taken: UNDP extended its support for preparation of III trance request and facilitated in securing he same from the MLF in its 86th Meeting in Nov'2020.

Project Issue 2: Strengthening financial support to enterprises participating in HPMP-II implementation
Actions taken: The Government of India considered initially to disburse a part of the eligible amount to enterprises, in view of more number of enterprises list provided by the industry association, whereas the foam enterprises participated in the HPMP-II programme are 159 only. Therefore, in this year (2020), the consideration of the Government has been revised and additional eligible disbursement are considered,

[1] A deliverable is defined as the result of an activity or in other terms the product which contributes to the achievement of project outputs).

and this additional disbursement is planned in two instalments i.e. one with second payment and the other with final installment. This revision rationalized the disbursements and encouraged the enterprises in implementation of the technology conversion projects.

5. LESSONS LEARNED

This section should capture the lessons learned to ensure on-going learning, knowledge sharing and communication within the organisation and with the partners/donors. It should include analysis on the following contents:

1) *Key project successes and factors which supported these successes.*

- Government of India achieved 896.74 ODP tonnes (53%%) reduction (phase-out) by January 2020, which is much higher than the target of 562.87 ODP tonnes (35%).
- Out of the achieved reduction of 896.74 ODP tonnes, the UNDP supported through HPMP-I 341.77 ODP tonnes and HPMP-II supporting 280.888 ODP tonnes through 159 foam enterprises, so far through HCFC 141b phase-out. The total contribution 622.658 ODP tonnes through HPMP-I and HPMP-II together, so far, accounts for 69.44% of total reduction achieved by the Govt. of India).
- Factors supporting these results include the technical handholding and financial support within the regulatory framework ensures optimum participation of enterprises under HPMP-II. UNDP facilitated in securing financial support for HPMP Stage-II from the Multilateral Fund this year as well i.e. third tranche of USD 14.79 Million has been cleared by the MLF for the Govt. of India. The MLF funds are effectively availed for facilitating the technical and financial support to the participating enterprises in HPMP-II. These funds further facilitate the Govt. of India to consider two more RACs, for signing the agreements for implementation of the technology conversion projects.

2) *Difficulties encountered and measures taken to overcome these difficulties;*

- COVID 19 pandemic and associated travel restrictions and health considerations have impacted in starting the third-party field verification of the progress in enterprises. A plan was chalked out to conduct remote video inspection in case of continued Covid-19 restrictions. However, once commenced, the third party verification firm geared up from September 2020 and accomplished visits, by effective mobilization of Teams.

3) *Analysis on what could have been done differently / better to attain the project results.*

Speedy clearances in Ozone Cell and MPU could have further increased the **disbursements.**

4) *Recommendations to improve future programming.*
……
(Suggested length – half a page to 1 page)

6. THE WAY FORWARD/ KEY PRIORITIES FOR 2021

This section should summarize the achievements, challenges and lessons learned as well as explain the way forward, including relevance of the project and necessary revisions that will be made to the project and plans of the upcoming reporting period. Any funding gaps, resource requirements as well as further partner engagement plans can be specified in this section. This should include any modifications that need to be made to indicators, baselines, targets as well data collection and monitoring to track progress

If this is a Final Report and if applicable, also mention on sustainability of the project and/or plans on future projects that may supplement / scale up the achievements of this project.
(Suggested length – half a page to 1 page)

- Compliance with HCFC phase-out targets, as per the accelerated phase-out schedule of the Montreal Protocol, in accordance with the Agreement between the Ex-Com of the MLF and the Government of India;
- Sustainable reduction of 8,190 MT or 769.49 ODP tons of HCFC consumption from the starting point of 1691.25 ODP tons by 2023, contributing to India's compliance well in advance with the control targets for Annex – C, Group – 1 substances (HCFCs) under the Montreal Protocol;
- Net direct CO2-equivalent emissions reduction of about 8,530,900 MT per year from 2023 onwards

Dr Ruchi Pant
Chief (Climate Change, Resilience and Chemicals Management)