

## **Title: Study on Promoting Sustainable Cooling Technologies in Data Centers.**

### **Request for Proposal**

#### **1. Background**

India is a Party to the Montreal Protocol since 1992 and has been implementing phase-out of production and consumption of Ozone Depleting Substances (ODSs). The production and consumption of Chlorofluorocarbons (CFCs), Carbon tetrachloride (CTC) and Halons has been successfully phased out in India as of 1st January, 2010. The phase-out of Hydrochlorofluorocarbons (HCFCs) is ongoing as per the accelerated phase-out schedule of HCFCs under the Montreal Protocol.

The HCFC Phase-out Management Plan (HPMP) is being implemented in the country. The Executive Committee (ExCom) of the Multilateral Fund (MLF) in its 91<sup>st</sup> meeting vide decision 91/45 approved the HPMP Stage-III for India. The UNDP is the lead implementing agency for implementation of HPMP Stage-III. United Nations Environment Programme (UNEP) and Deutsche Gesellschaft für Internationale Zusammenarbeit, (GIZ) Proklima, Government of Germany are the cooperating agencies.

The Ozone Cell, MoEF&CC is the National Ozone Unit of the Ministry of Environment, Forest and Climate Change (MoEF&CC), Government of India, is implementing the Hydrochlorofluorocarbons (HCFCs) Phase-Out Management Plan (HPMP) Stage -III.

The United Nations Environment Programme (UNEP) is the cooperating agency, to implement the non-investment component of India's HPMP Stage-III.

IT data centers represent a significant segment of the space cooling sector, as the continuous heat generated by IT hardware creates a constant and intensive cooling demand. Data centers rely on systems such as chillers, vapor compression refrigeration, Computer Room Air Conditioning (CRAC) units, and advanced liquid cooling technologies to manage their cooling needs. Given their high energy use and environmental impact, it is essential for data centers to transition to non-ODS (Ozone Depleting Substances) and low-GWP (Global Warming Potential) refrigerant technologies to reduce both ozone depletion and greenhouse gas emissions.

The PMU, Ozone Cell, MoEF&CC invites proposal for carrying out the activities listed in scope of work and deliverables given in Section 3 and 4 below respectively.

#### **2. Objective**

To conduct study on how to promote sustainable cooling technologies in data centers

#### **3. Scope of Work**

- a. The study will involve the collection, collation, and analysis of information through desk research and field visits, covering the following areas:

- i. Provide an overview of current cooling technologies, refrigerants, and typical cooling demand in IT data centres, with a focus on cooling loads, refrigerant use, and energy consumption patterns.
  - ii. Review current operations and maintenance (O&M) practices in Indian and global data centers, identifying sustainable and energy-efficient approaches such as airflow/temperature management, preventive maintenance, leak detection, refrigerant handling, and common challenges impacting energy and refrigerant use.
  - iii. Compile global practices and emerging trends in adopting low-GWP and energy-efficient cooling technologies, highlighting actionable lessons relevant for Indian data-centre facilities.
  - iv. Review existing national and international guidelines, standards, and regulations related to data center cooling, energy efficiency, environmental performance, and safe refrigerant handling to support the transition to low-GWP and non-ODS solutions.
  - v. Document case studies of successful adoption of low-GWP, non-ODS, and efficient cooling solutions in IT data centers, focusing on practical insights, challenges, O&M learnings, and real-world performance.
  - vi. Based on the findings of the study recommend best practices and strategies to promote sustainable, low-GWP, and energy-efficient cooling in data centers in data centers.
- b. Organize two (2) workshops (virtually) for creating awareness among the concerned stakeholders on how to promote the adoption low-GWP refrigerant technologies for IT data center. The workshops will involve participation from concerned stakeholders comprising representatives from Government departments, industry associations, industry experts, Data Centre Owners and Operators, Equipment Manufacturers and Technology Providers, business owners, facility managers, regulatory authorities, environmental NGOs, policymakers and researchers.

#### **4. Schedule**

The duration of completion of all the activities as per the scope of work is 6 months from the date of award of the assignment

#### **5. Timeline and reporting**

- Inception report with detail methodology and a clear work plan with timelines– Within 1st month of project inception
- Mid-term report with progress update highlighting key insights, challenges, and proposed next steps – End of 3<sup>rd</sup> month.
- Final report, submission - End of 6<sup>th</sup> month

#### **6. Terms of Payment**

1. 50% after signing the agreement.
2. 30% after submission of mid-term report.
3. 20% after submission of final report and acceptance by MoEF&CC.

#### **7. Eligibility Criteria**

- a. Average Annual financial turnover during the last three years, ending 31 March 2025, should be at least INR 10 lakhs (to be supported with financial statements / audited balance sheets of the last three financial years).
- b. Minimum 3 years' experience working in the field of Montreal Protocol/ International Environmental Convention in related areas or reputed Academic / Research Institution having expertise in the area (to be supported by letter of award and contract).
- c. Experience of executing at least 3 assignments of order value INR 15 lakhs in the field of Montreal Protocol/ international/ multilateral conventions for government/ PSUs, autonomous bodies, international organizations, bilateral and multilateral bodies (to be supported by letter of award and contract).

## **8. Submission of Proposal**

The proposal will be submitted in two parts involving Technical and Financial Proposals in two separate sealed envelopes. Proposal sent by Email/Fax will not be entertained. Last date of acceptance of the duly filled and completed bids is 19 February 2026, by 17:30 Hours at the following address:

**The Director,  
Ozone Cell  
Ministry of Environment, Forest and Climate Change (MoEF&CC)  
1<sup>st</sup> Floor 9 Intuition Area, Lodhi Road  
New Delhi - 110 003**

The study title and the proponent's information should be included on the envelope.

### **a) Technical Proposal**

The Technical Proposal should include the following:

- i. Introduction.
- ii. Details of experience of similar work.
- iii. Approach and Methodology.
- iv. Work Plan.
- v. Details of Technical Team (include one page CV each of the persons to be associated) including qualification in relevant areas

### **b) Financial Proposal**

The Financial Proposals should include the total lump-sum cost in INR inclusive of all taxes, travel and other expenses related to the assignment.

## 9. Evaluation and Selection

Evaluation Criteria (will be applied only to those who meet the eligibility criteria and their marks)

Sr. No.	Criteria	Marks	
	Sub-criteria	Total criteria	Sub-criteria
1	Past Experience of the Firm	40	
	<ul style="list-style-type: none"> <li>Number of years relevant experience <ul style="list-style-type: none"> <li>3 –6 Years</li> <li>More than 6 Years</li> </ul> </li> <li>Experience of working with government/ PSUs, autonomous bodies, international organizations, bilateral and multilateral bodies <ul style="list-style-type: none"> <li>3 -6 Assignments</li> <li>More than 6 Assignments</li> </ul> </li> </ul>		20 10 20  20  10 20
2	Methodology, Work Plan and Understanding of TOR	20	
	<ul style="list-style-type: none"> <li>Understanding of TOR</li> <li>Approach and methodology</li> <li>Work plan with timelines</li> </ul>		06 08 06
3	General profile of qualifications, experience and number of key staff	25	
	<ul style="list-style-type: none"> <li>Qualifications</li> <li>Relevant experience</li> </ul>		10 15
4	Overall financial strength of the firm in terms of turnover, profitability and cash flow (liquid assets) situation	15	
	Turnover figure for last three years <ul style="list-style-type: none"> <li>15 - 20 lakhs</li> <li>20 - 25 lakhs</li> <li>25 lakhs and above</li> </ul>		5 10 15
5	Total	100	

The minimum cut off will be 75 (Seventy-Five) marks for technical proposal and competency.

## 10. Selection Methodology

Quality and cost based selection

a. Technical proposal -70%

b. Financial proposal -30%

Financial proposals will be opened only for the technically qualified bidders and will be given cost score based on relative ranking of prices, with 100 marks for the lowest bidder and pro-rated lower marks for higher priced offers. The total score shall be obtained by weighting the quality and cost scores and the bidder that obtains the combined highest score will be considered for award.