Title: Study on Not-in-Kind (NIK)/ Indigenous Cooling Technologies in Refrigeration and Air-condition (RAC) Sector

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) it its 91st meeting vide decision 91/45 approved the HPMP Stage-III for India.

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.

India Cooling Action Plan (ICAP) was launched in 2019 to address the cooling requirement across sectors including reducing cooling demand, refrigerant transitioning, enhancing energy efficiency and advancing cooling technology options and improving access to cooling in more equitable manner. ICAP promotes Not-in-Kind (NIK) refrigeration and air-conditioning (RAC) technologies such as Indirect Evaporative Cooling, Radiant Cooling, Solar Vapor Absorption Machine (VAM), Structure Cooling, Thermal Energy Storage, Tri-generation, District Cooling Systems to meet rising cooling demand. Not-in-Kind (NIK) cooling technologies offer an alternative pathway by delivering thermal comfort through passive, hybrid, or thermally driven mechanisms that do not rely on high-GWP refrigerants or compressor-based cooling.

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 assess the potential of Not-in-Kind (NIK) cooling technologies in Refrigeration and Air-condition (RAC) Sector by mapping existing systems, evaluating their performance and benefits, reviewing enabling policies, examining opportunities for indigenous development or adaptation, and identifying promotion pathways particularly through renewable energy integration.

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. Overview of the available not in kind (NIK) cooling technologies in space cooling sector for India namely Indirect Evaporative Cooling, Radiant Cooling, Solar Vapor Absorption Machine (VAM), and Structure Cooling.
ii. Document the performance impacts of each NIK cooling technology including cooling load reduction, energy demand, and system-level efficiency across India's different climatic zones, with specific emphasis on hot and humid regions
iii. Assess which NIK cooling technologies are of indigenous origin or manufactured in India, and analyze their potential for scaling under local conditions.
iv. Map the ecosystem of Indian manufacturers and service providers. Conduct market assessment and identify key barriers for their adoption.
v. Map the current regulatory and standards framework (BEE, BIS) to identify gaps, safety compliance needs, and opportunities for policy and standard development for NIK cooling technologies.
vi. Document global trends, successful case studies, and best practices in implementing NIK cooling technologies highlighting lessons learned, challenges faced and adaptable solutions under Indian conditions.
vii. Examine the potential for integrating renewable energy sources with NIK cooling technologies to enhance their economic and environmental viability.
viii. Based on the findings of the study develop propose recommendations to promote NIK and Indigenous technologies in the space cooling sector of India.

Organize two (2) workshops (virtually) for creating awareness among the concerned stakeholders on how to promote indigenous/not-in-kind Indian RAC technology, renewable energy powered systems through business models like public/private partnerships utility-style contracts and Power Purchase Agreements. The workshops will involve participation from concerned stakeholders comprising representatives from Government departments, industry associations, industry experts, RAC manufacturers, business owners, developers, facility managers, financial institutions, 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 3rd month.
- Final report, submission - End of 6th 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 31st March, 2025, should be at least INR 5 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 10 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)
1st Floor, 9 Institutional 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	
	• Number of years relevant experience		20
	○ 3 –6 Years ○ More than 6 Years		10 20
	• Experience of working with government/ PSUs, autonomous bodies, international organizations, bilateral and multilateral bodies		20
	○ 3 -6 Assignments ○ More than 6 Assignments		10 20
2	Methodology, Work Plan and Understanding of TOR	20	
	• Understanding of TOR • Approach and methodology • Work plan with timelines		06 08 06
3	General profile of qualifications, experience and number of key staff	25	
	• Qualifications • Relevant experience		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 • 5 - 10 lakhs • 10 - 15 lakhs • 15 lakhs and above		5 10 15
5	Total	100	

The minimum cut o ff 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.