



Ministry of Environment, Forest and Climate Change
Government of India





Overview of ICAP

India is a growing economy characterized by low penetration of airconditioning, rising per capita income, rapid urbanization and a largely tropical climate all of which would lead to a rise in the requirement for cooling. Addressing the rising cooling requirement is both a challenge as well as a unique opportunity, necessitating synergies in policies and actions to address the cooling requirement across sectors even while making cooling sustainable and accessible to all.

Against this backdrop, the Ozone Cell of the Ministry of Environment, Forest and Climate Change, Government of India proactively led the development of the India Cooling Action Plan (ICAP) 2019 – The ICAP serves to underscore the urgency of proactively and collaboratively addressing India's projected cooling growth and lays out sector-wise priorities and pathways for interventions. ICAP is the first-of-its-kind initiative in the cooling sector to be taken by any country in the world, which exemplifies integrated policy making and underscores the urgency of proactively and collaboratively addressing its cooling growth. The ICAP development process demonstrated high inter-ministerial and cross-sectoral collaboration in laying out actionable pathways to provide sustainable cooling over the next 20 years (2017-18 to 2037-38) to achieve sustainable cooling. It strikes a balanced approach to goal setting by establishing high-level nationwide targets but allowing the line ministries flexibility in setting their targets within a directional framework of recommendations.

ICAP's overall goals are:



Reduction of cooling demand across sectors by
20-25%, by 2037-38



Reduction of refrigerant demand by
25-30%, by 2037-38



Reduction of cooling energy requirements by
25-40%, all by 2037-38



Unified training and certification system for
service technicians



Recognizing
"cooling and related areas"
as a thrust area of research under the national science and technology programme.



Development Framework

For the development of the ICAP, working groups were constituted for mapping the following thematic areas:

- a) space cooling in buildings, air-conditioning technology,
- b) cold-chain and refrigeration,
- c) transport air-conditioning,
- d) refrigeration and air-conditioning service sector,
- e) indigenous production of refrigerants, and
- f) research and development.

It was ensured that every working group had adequate representation from the Government (Ministries and related government entities), Industries (manufacturers, refrigerant producers, and industry associations), and the Knowledge sector (research institutions, academia and civil society organisations) to obtain triple-sector alignment, right from the start.



Inter-ministerial Coordination

A Steering Committee with Representatives of various ministries was constituted for guiding and reviewing the documentation, reports, and recommendations developed by the ICAP thematic working groups.

An Inter-ministerial committee comprising subject matter experts, eminent representatives of think tanks, and industry representatives was also formed under the chairpersonship of the Secretary, MoEF&CC to oversee the development process. These Committees helped dovetail the recommendations of the ICAP with ongoing and planned policies and programmes residing with different ministries.



Dovetailing existing policies and priorities

The ICAP recommendations were deeply embedded within the context of the Kigali Amendment to the Montreal Protocol i.e. refrigerant transition towards more climate-friendly refrigerants.

ICAP also highlighted servicing sector as a thematic area to promote good servicing practices and minimize refrigerant emissions through skill upgradation of services technicians.

Further, ICAP recommendations also synergise with the programmes and schemes of Ministry of Skill Development and Entrepreneurship to bring about a positive change in the servicing sector.





Overview of Servicing Sector

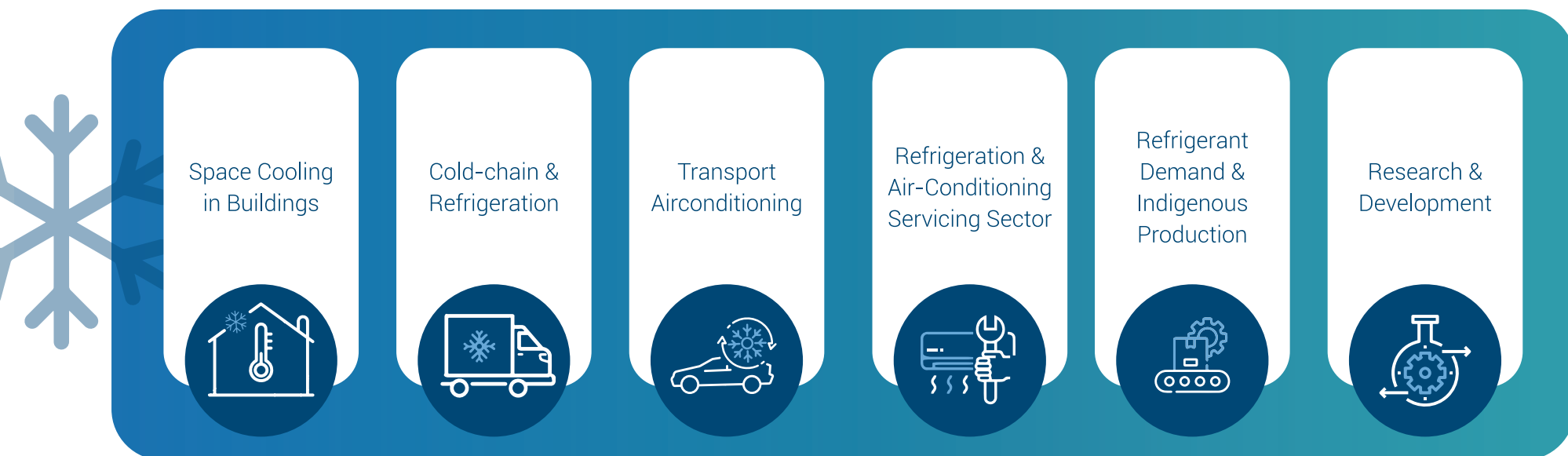
A large part of the cooling demand is catered through refrigerant-based cooling globally across sectors. Servicing sector is directly related to the consumption of refrigerants and optimum and efficient performance of in-use air conditioning equipment. This sector is largely unorganized and presents an immediate opportunity for securing environment benefits and livelihoods enhancement of service technicians through training and certification. Use of good servicing practices by service technicians reduce refrigerant leakage and minimize the indirect emissions of equipment related to power generation by maintaining the rated energy efficiency of in-use equipment. It is estimated that servicing sector consumes more than 45% of the total refrigerant consumption in the country. The Montreal Protocol's Technology and Economic Assessment Panel (TEAP) Report (2018) observes that proper maintenance and servicing can curtail up to 50% reduction in performance and maintain rated performance over lifetime.

Training and certification of RAC service technicians have potential to provide significant environment and livelihood benefits. These could be achieved through appropriate skill development of service technicians, along with creating a market demand for skilled technicians, which shall be a key driver.



Operationalization of Recommendations

To operationalize the recommendations of ICAP, MoEF&CC has decided to constitute six thematic working groups.



Towards operationalizing the recommendations for each thematic area, thematic working groups comprising representatives from line ministries/ departments, industry and industry associations, think tanks and experts have been constituted by the Ministry to develop an implementation framework for the recommendations given in the ICAP for each thematic area. A Steering Committee under the Chairpersonship of Secretary, MoEF&CC has also been constituted to guide and oversee the implementation framework and finalize the action points identified by the Thematic Working Groups for operationalizing the recommendations.

The thematic working group on servicing sector during its three meetings has identified a list of action points for operationalizing the recommendations of the ICAP. The action points have been identified after mapping the recommendations given in the ICAP with the on-going government programmes/ schemes handled by different ministries/ departments/agencies of the Government and inputs provided by the members during the meeting. Further, the action points were discussed in the meeting of the Steering Committee and were adopted during the meeting, which are tabulated in Table-1.

Table-1

Action points for operationalizing the recommendations of India Cooling Action Plant (ICAP) for the thematic area on Servicing Sector

Sr. No.	Recommendations on Servicing Sector as per ICAP	Synergies to be made with existing governmental schemes/ programmes	Agencies	Agreed Action	Remarks
1	2	3	4	5	6
1.	Assess demand and availability of trained RAC service technicians across the country, as well as the availability and quality of training institutions	Pradhan Mantri Kaushal Vikas Yojana (PMKVY) – Skill India Mission	<ul style="list-style-type: none"> Ministry of Skill Development (MSDE) Refrigeration and Air-conditioning Manufacturers Association (RAMA) National Centre for Cold-chain Development (NCCD)-Cold Chain Society for Indian Automobile Manufacturers (SIAM) - MAC Ozone Cell, MoEF&CC 	<p>ESSCI, MSDE to provide information about trend technicians including their RAC training network.</p> <p>RAMA to provide information about number of RAC servicing technicians through its member industries including their dealers and service network.</p> <p>Compilation of information, estimation, and projection of number of service technicians as follows:</p> <p>(a) RAC sector by RAMA</p> <p>(b) MAC sector by SIAM</p> <p>(c) Cold Chain sector - NCCD</p>	CEEW informed that it is working with RAMA in carrying out the assessment relating to number of service technicians.
2.	Industry to adopt unified training and certification system to deliver and commit employing fixed number of trained candidates		<ul style="list-style-type: none"> RAMA Ministry of Commerce and Industry, DPIIT 	<p>AC manufacturing industries should register in the unified training and certification system of MSDE for service technicians and to implement unified training and certification system in their training centres.</p> <p>DPIIT, Ministry of Commerce and Industry to issue an Advisory to all the RAC equipment Manufacturers</p>	--

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1	2	3	4	5	6
3.	Integrate with vocational training centre platform of National Council for Vocational Education and Training (NCVET) to have real-time information on trained service technicians	Vocational Training platform of NCVET, MSDE	NCVET, MSDE	NCVET, MSDE to Integrate the proposed service technicians unified training and certification module in the Vocational Training Centre Platform.	--
4.	Establish public procurement policies for Government departments and organizations to engage services of trained & certified technicians, and creating mass awareness among the consumers	Government E-Marketplace (GeM), Ministry of Commerce and Industry	GeM	GeM to promote engagement of trained and certified RAC technicians amongst government departments and organisations	<ul style="list-style-type: none"> GeM has introduced "Repair and Overhauling Service" which can be used for RACs. Ozone Cell has initiated a study in association with The Energy and Resources Institute (TERI) for public procurement policy of trained service technicians.
5.	Develop standardized curricula and training processes for both technicians and master trainers including training duration, trainers qualification and training infrastructure across multiple agencies	Vocational education and training scheme of MSDE	Directorate of Training, MSDE NCVET, MSDE	MSDE to constitute a committee to developing a unified certification and training system for RAC service technicians, to be adopted by all agencies imparting RAC servicing training. DGT/NCVET to constitute a committee for periodic updation of syllabus of RAC trade in ITIs/training of RAC Service technician on upcoming refrigerates/blends including energy efficiency. Under HPMP Stage-III, training Infrastructure at around 100-120 ITIs is to be strengthened. DGT to constitute a committee for the same.	<ul style="list-style-type: none"> ITI syllabus has been updated during 2018 with significant inputs from Ozone Cell, MoEF&CC MSDE (ESSCI): ESSCI is in a good position to undertake this as we have already executed the HPMP skill development and certification programme with Ozone Cell, MoEF&CC. MSDE (DGT): In the 16th Meeting of National Skills Qualifications Committee (NSQC) of NCVET held on 24th February 2022, the Committee accorded "in-principle" approval to the proposal of the DGT for restructuring and rationalizing all existing Craftsmen Training Scheme (CTS) and Craft Instructor Training Scheme (CITS) Courses. Accordingly, with a view to rationalize the qualifications and to bring it on National
6.	Operationalize unified certification scheme through a single government entity under a single framework		Ozone Cell, MoEF&CC		



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					<p>Occupational Standards (NOS)/ learning outcomes basis, CTS courses of duration one (1) year and two (2) years, that are currently being offered with 1600 learning hours in each year, are now being rationalized to 1,200 learning hours and mapping with NOS.</p> <p>The workshop for restructuring the CTS syllabus with multi stake holder teams, consisting of members from CSTARI, NIMI, DGT/NSTIs, SSC representatives, Instructors from ITIs and industry experts for rationalizing/restructuring the syllabus including syllabi under Refrigeration and Air conditioning group of trades is under progress.</p> <ul style="list-style-type: none"> MSDE (DGT): The course under CTS, CTS-DST, CTS-Flexi-MoU, CITS etc under DGT are certified through single platform: https://ncvtmis.gov.in
7.	Promote online refresher training courses on new and upcoming technologies as skill enhancement support for technicians	Scheme of NCVET, MSDE	MSDE	NCVET, MSDE to constitute a committee develop standardized online training courses on emerging technologies	--

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8.	Introduction of Social Security schemes with adequate health and life insurance coverage for the RAC service technicians	Pradhan Mantri Kaushal Vikas Yojana (PMKVY) – Skill India Mission	Ministry of Labour	<ul style="list-style-type: none"> Training programmes for service technicians to include a module on social security schemes. Ministry of Labour to introduce social security schemes with adequate health and life insurance coverage for the RAC service technicians. 	--
9.	Ensure universal coverage of Social Security schemes for technicians	Social Scheme under Ministry of Labour			





WHOM TO CONTACT TO LEARN MORE ABOUT OZONE

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