



# India's servicing sector: key to lifecycle refrigerant management and energy-efficiency in cooling

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# Impacting sustainable development at scale with data, integrated analysis, and strategic outreach

## TRANSFORMATIONS

Low-carbon Economy

Energy Transitions

Power Markets

Industrial Sustainability

Sustainable Livelihoods

## QUALITY OF LIFE

Clean Air

Sustainable Water

Sustainable Food Systems

Sustainable Cooling

Sustainable Mobility

## ENABLERS

Sustainable Finance

Technology Futures

Circular Economy

Climate Resilience

International Cooperation

**200+**

Multidisciplinary team

**320+**

Peer-reviewed publications

**160+**

Instances of increased data transparency

**460+**

Roundtables & conferences

**22**

Indian states engaged

**110+**

Bilateral & multilateral initiatives promoted

### *SPECIAL INITIATIVES*

CEEW Centre for Energy  
Finance

Powering  
Livelihoods

Emerging Economies

UP State Office

## Why we need to make cooling sustainable in India

- India has one of the lowest access to cooling across the world, which is reflected in its low per- capita levels of energy consumption for space cooling, at 69 kWh, as compared to the world- average of 272 kWh (ICAP 2019). This number will improve as the demand for cooling grows.
- India's 2021-2022 Economic Survey estimates that India could lose 5.8% of its working hours, equivalent to 34 million full-time jobs in absolute terms, to heat-stress events by 2030
- India's share of the total electricity demand for cooling expected to increase from 7% in 2020 to almost 20% in 2030

# RAC servicing sector is extremely important for a successful refrigerant transition

→ **Safety priorities:** HFC phase-down and resulting influx of multiple alternatives

- Flammability and toxicity risks

→ **Direct impacts on:**

(i) Consumption of refrigerants

- Servicing sector responsible for nearly **40% of total refrigerant** consumption in India

(ii) Optimum and efficient performance of in-use air conditioning equipment

- **60-80% appliance efficiency** contingent on installation and servicing
- In business as usual (BAU) scenario, **600 gigawatts** of additional power required by 2050 for ACs in India
- **300 million ACs** to be sold in India in next 20 years

→ Training, certification and formalisation of the service sector therefore key for India's sustainable cooling transition.

- Livelihood enhancement
- Registered workforce can access social security
- Jobs to grow from 2,00,000 (2018) to about 20,00,000 (2038)

# ICAP has earmarked several goals for the enhancement of servicing sector

## Standardising trainings

- Overarching goals within ICAP:
  - ✓ Establish standardised training curricula (2022-23)
  - ✓ Mandatory adherence to standardized training curriculum by all training providers (approx. by 2030-31)
  - ✓ Training for 100000 service technicians

## Establishing a Universal Certification System

- Overarching goals within ICAP:
  - ✓ Operationalise central voluntary certification scheme through a single government entity under a single framework (2023-24)
  - ✓ Certification of about 50 per cent service technicians by 2022-23
  - ✓ Universal mandatory certification of all technicians by 2037-38



# Various skilling initiatives have been linked with ICAP implementation in India

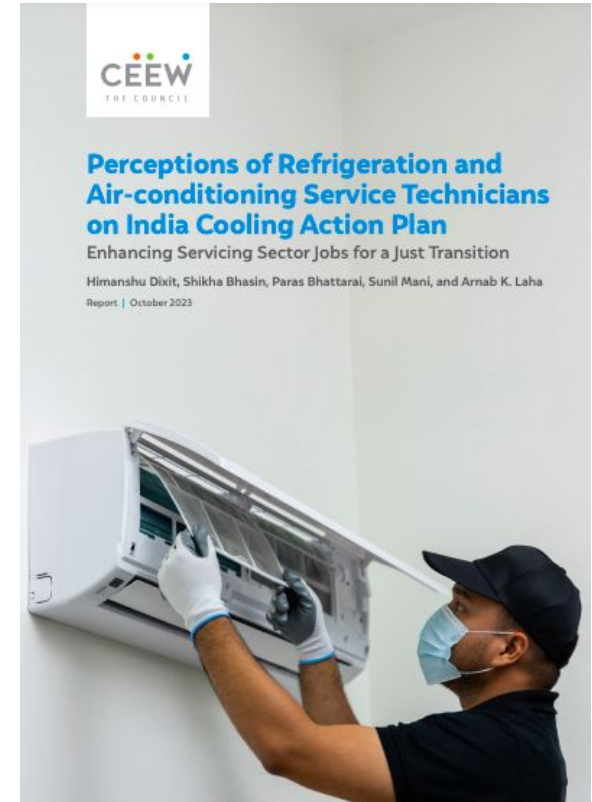
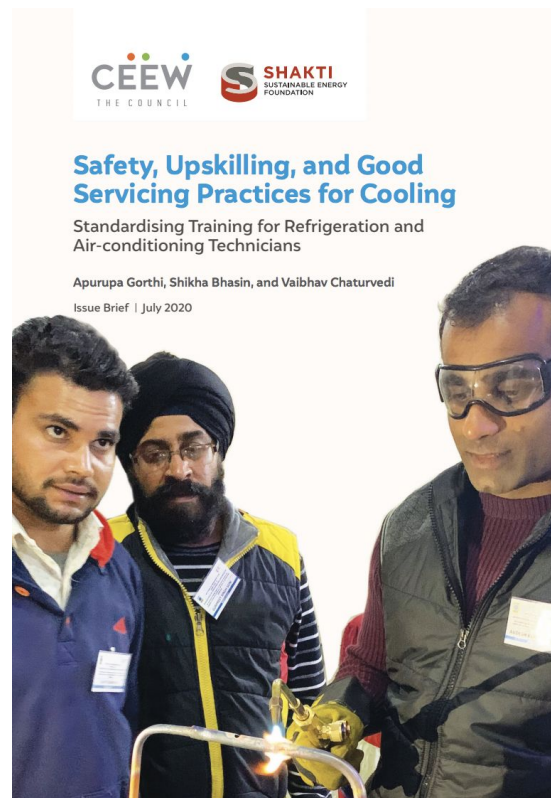
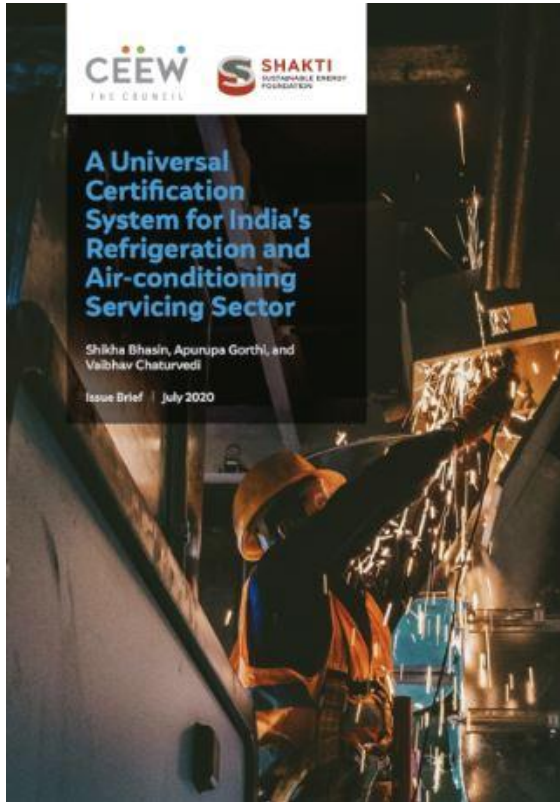
- Partnership between Ministry of Skill Development and Entrepreneurship (MSDE) and Ministry of Environment
- Training and Upskilling of 100000 service technicians under Recognition of Prior Learning (RPL) project: **40000+ trainings done**
- Upskilling programmes under Multilateral Fund (MLF) support: **20000+ trainings under HPMPs**
- Trainings undertaken by private sector as well

The MoU was signed at a ceremony held in the Ministry of Environment, Forest and Climate Change in the august presence of Dr. Harsh Vardhan, Minister for Environment, Forest and Climate Change, Shri Dharmendra Pradhan, Minister for Petroleum and Natural Gas and Minister for Skill Development and Entrepreneurship, and Dr. Mahesh Sharma, Minister of State Environment, Forest and Climate Change.



*The collaboration between the two ministries marks an important step towards the country's commitment to a better and cleaner environment by addressing the issue of ozone layer protection and reduction in indirect Green House Gas (GHG) emissions from refrigeration and air-conditioning equipment.*

# CEEW on advancing ICAP goals: prioritising skills, training and certification



# Skilling and certification programmes will have to look at upcoming requirements of the servicing sector

- Leverage digital networks for training interventions
- Integrate **energy-efficiency and end of life management of refrigerants** in the training curricula
- Familiarise technicians with **smart technologies** to leverage them to deliver better quality servicing and transparency
- **Certification** to deal with the lemon market problem
- Social security and small-financing schemes for enterprise development and possession of right tools and tackles
- **Standardisation of tools** for delivery of good servicing practices (GSPs)



**Thank you**

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