Press Release

Rampant leakage and unnecessary refilling of climate-warming refrigerants is costing consumers Rs. 7000 crores annually and damaging the climate - iFOREST National Survey

- iFOREST survey of 3,100 households across 7 cities reveals rising AC demand, rampant refrigerant leakage and refilling, and the urgent need for regulations to manage climate-warming refrigerants.
- Consumers are conscious of energy efficiency but lack awareness about refrigerants. Most purchase 3-star or above rated ACs and keep their thermostats at 22°C or higher.
- Around 40% of ACs are refilled annually, costing consumers ₹7,000 crore and releasing 52 Mt CO_2e in 2024 alone.
- Ideally, ACs should require refilling only once in five years. In India, they are being refilled every two to three years.
- Total AC emissions hit 156 Mt CO_2e in 2024—equal to all passenger cars—and will more than double to 329 Mt by 2035, making ACs the top GHG-emitting appliance by 2030.
- Proper lifecycle refrigerant management could avoid 500–650 Mt CO_2e emissions between 2025 and 2035, worth $25–33 billion in carbon credits, while saving consumers $10 billion in unnecessary refilling costs.

New Delhi, September 15, 2025: Ahead of World Ozone Day, the International Forum for Environment, Sustainability & Technology (iFOREST) released findings from a first-of-its-kind national survey on India's residential air conditioning (RAC) sector.

The National Survey covered 3,100 households across seven major cities – Delhi, Mumbai, Chennai, Kolkata, Pune, Ahmedabad, and Jaipur. The findings, presented at a virtual workshop titled *The Climate Cost of Air Conditioning*, highlight the rapid rise in AC ownership, high refrigerant leakage, sub-optimal servicing, and policy gaps, underscoring the urgent need for comprehensive Lifecycle Refrigerant Management regulations.

"The sale of room ACs has been growing exponentially since 2020. In the next ten years, the number of ACs will triple to 245 million. But are we operating and maintaining our ACs to reduce their environmental impacts? To find this out, we conducted a survey in seven major cities and found that while consumers are conscious of energy efficiency, they are not aware of refrigerants and their environmental costs. We also lack regulations and systems to control

refrigerant leakage," said Chandra Bhushan, CEO of iFOREST.

Key Findings

- **Rapidly expanding cooling demand:** India's RAC market is booming, driven by urbanisation, rising incomes, and intensifying heat. About 80% of households own ACs less than five years old, and 40% less than two years old—showing an exponential rise in ownership in just the past five years.

- **ACs are now essential appliances:** Of households with ACs, 87% own just one, while 13% own two or more. Air conditioning is no longer a privilege of the rich; even lower-income groups are now purchasing ACs.

- **1.5 tonne AC dominates:** Units of 1.0–1.5 TR make up over 90% of household ACs, with 1.5 TR alone accounting for 74% of the total.

- **High awareness of energy efficiency:** Nearly 98% of households own 3-star to 5-star rated ACs. The 3-star category dominates with 60%, while 5-star models make up 28%.

  Households also maintain thermostats at optimal levels. Contrary to popular belief, the most preferred national setting is 23–25°C. About 67% of households set ACs above 23°C, a trend consistent across cities.

- **India's RAC stock will triple by 2035:** The total stock is expected to grow from 76 million in 2025 to at least 245 million by 2035, even at a modest 10% annual sales growth. Notably, sales since 2020 have risen at 15–20% annually.

- **Servicing amounts to refrigerant refilling:** In India, refrigerant refilling is treated as standard practice, unlike global norms. Around 80% of ACs older than five years require annual refilling, and even one-third of newer units (less than five years) are refilled every year. Overall, 40% of all ACs are refilled annually. Ideally, ACs should be refilled only once in five years.

- **High costs for consumers and the climate:** In 2024, ACs required 32,000 tonnes of refrigerant refills. At an average refilling cost of ₹2,200 per AC, households spent ₹7,000 crore ($0.8 billion). Under a Business-as-Usual scenario, annual costs will quadruple to ₹27,540 crore ($3.1 billion) by 2035.

These refrigerants have extremely high global warming potential—HFC-32, the most common, is 675 times more potent than CO_2. Resulting emissions were 52 Mt CO_2e in 2024, rising to 84 Mt CO_2e by 2035.

- **Mounting GHG burden of ACs:** Total AC-related emissions, including both refrigerant leakage and electricity use, reached 156 Mt CO_2e in 2024—equivalent to emissions from all passenger cars in India. If unchecked, emissions will more than double to 329 Mt CO_2e by 2035. By 2030, ACs will become the highest GHG-emitting appliance in the country. An AC in India, refilled every two years, emits as much GHG as a passenger car.

- **Lack of regulations and enforcement:** While the India Cooling Action Plan aims to cut refrigerant demand by 25–30% by 2037–38, it lacks enforceable measures to prevent leakage or ensure safe disposal. Similarly, the amended 2023 E-Waste Rules include provisions for refrigerant recovery from scrapped ACs, but implementation remains weak.

- **The potential of lifecycle refrigerant management:** Proper LRM could avoid 500–650 Mt CO_2e emissions between 2025 and 2035, worth $25–33 billion in carbon credits, while saving consumers $10 billion in unnecessary refilling costs.

"India must adopt a comprehensive Lifecycle Refrigerant Management regulation, including Extended Producer Responsibility for AC manufacturers to recover, recycle, and safely dispose of refrigerants. Such regulations are being implemented in countries including Canada, Australia, the EU, China, and Singapore. Effective refrigerant management is a win-win solution: lower household expenses, reduced refrigerant wastage, and significant climate gains," added Bhushan.

About iFOREST

The International Forum for Environment, Sustainability and Technology (iFOREST) is an independent non-profit research and innovation organisation working on pressing environment-development challenges in India.

We conduct independent evidence-based research, develop new knowledge and innovative solutions, convene stakeholders to increase awareness and build consensus to scale up green solutions.

Visit: https://iforest.global/ for more information.

Contact information

Shriya Mohan

Communications Lead, iFOREST

+91 7042144726 |shriya@iforest.global