iFOREST INTERNATIONAL FORUM FOR ENVIRONMENT, SUSTAINABILITY & TECHNOLOGY

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Press Release

Meeting India's rapidly increasing air-conditioning and refrigeration demand through super efficient appliances, natural refrigerants and not-in-kind cooling technologies, is a win-win for the climate and the economy, says iFOREST.

1. The demand for air conditioning is growing at 10-15% annually in India due to a combination of factors including increasing affluence and rising temperatures due to global warming.
2. The average energy efficiency of air conditioners sold in Indian markets are among the lowest compared to other emerging and developed economies. They also use refrigerants that have medium to high-Global Warming Potential (GWP).
3. If India starts enhancing the energy efficiency of ACs at double the current rate (from 3% to 6% annually), and replace medium to high-GWP refrigerants with natural refrigerants, it can reduce cooling energy demand by 40% and greenhouse gas (GHG) emissions by 400 million tonnes/ annum by 2030. This is more GHG abatement than installing 100 GigaWatt (GW) of solar PV plants.
4. India has huge potential to improve on access and availability of green cooling by:
   - Strengthening implementation of India Cooling Action Plan (ICAP);
   - Mainstreaming natural refrigerant and not-in-kind (NIK) technologies for residential and commercial cooling; and,
   - Enhancing energy efficiency standards for cooling appliances.
5. Using natural refrigerants like hydrocarbons in ACs and shifting to NIK technologies will also give a big boost to Make in India.

New Delhi, July 23: The 'Green Cooling in India' webinar organised by the International Forum for Environment, Sustainability and Technology (iFOREST), brought together Government officials, air-conditioning & refrigeration industry representatives, policy experts and researchers to discuss the opportunities of boosting energy efficient and low-GWP (global warming potential) cooling systems in India. A series of policy briefs Green Cooling was also released at the event.

The inaugural session was attended by Dr Anshu Bharadwaj, CEO, Shakti Sustainable Energy Foundation, Shri Aditya Narayan, Additional Director, Ozone Cell, Ministry of Environment, Forest & Climate Change (MoEF&CC) and Chandra Bhushan, CEO, iFOREST.

Speaking at the event, Aditya Narayan, emphasised on the importance of staying on track with the implementation of the India Cooling Action Plan (ICAP) in order to maximise environmental, developmental and climate benefits while providing sustainable cooling for all. "Synergies in existing government programmes and policies will be crucial for ICAP's successful implementation," said Mr Narayan

Dr Anshu Bharadwaj, also emphasized on importance of achieving the goals of the ICAP while considering natural refrigerants as suitable alternatives to high-global warming potential Hydrofluorocarbons (HFCs). He also added that the air conditioning (AC) demand in the residential sector is growing rapidly, and it is the right time for a course correction from high-global warming potential (GWP) refrigerants and inefficient ACs said Dr Bharadwaj.

Presenting the main findings of the research, Chandra Bhushan, CEO of iFOREST said that, "Given the increasing temperature due to global warming, cooling is now a basic developmental need. But if we continue using the current cooling technologies, then it will further exacerbate warming. We need to break this vicious cycle by meeting by ever growing cooling demand through super-efficient appliances, natural refrigerants and not-in-kind cooling technologies."

The iFOREST research, which was released at the webinar, found the following:

- There is huge potential to enhance energy efficiency of ACs in India. The average energy efficiency of ACs sold in the country is much lower than those sold in other developed and emerging economies. In fact, much higher efficiency appliances are available in the Indian market, which needs to be promoted.
- Indian manufacturers are currently using HFCs and HCFCs as refrigerants that have high global warming potential (GWP). The next generation of refrigerants with low GWP – HFOs – are patented by MNCs. India can move to natural refrigerants like hydrocarbons to avoid the patent-trap.
- Bureau of Indian Standards (BIS) has already released voluntary safety standards on the use of natural refrigerants in ACs, which should be used by manufacturers to promote Make in India ACs and refrigeration systems.
- But ultimately, India will have to shift its cooling demand to Not-in-Kind (NIK) Technologies that can significantly reduce energy and refrigerant requirements. These technologies like evaporative cooling, structural cooling system, solar cooling etc. will also promote Make in India.
- Overall technology is not a barrier. India has all the technologies to move to super-efficient appliances, natural refrigerants and not-in-kind cooling technologies. The biggest barrier is market readiness, lack of awareness among end-uses and capacity gap among the stakeholders in the cooling supply chain.
- iFOREST research highlights the importance of policies to promote these technologies and economic incentives to make natural refrigerant and NIK technologies cost competitive. Boosting up the domestic manufacturing infrastructure and supporting start-ups and R&D centres will be crucial. A positive outcome of this will be bolstering of skills and jobs and realise the Make in India vision.
- A key mode of operationalising Green Cooling in India is the implementation of ICAP. iFOREST analysis finds that about 60% of the ICAP's short-term recommendations (to be realised by 2024 across sectors) have shown no progress in their implementation till date.

Speaking at the event various panellists also emphasized on implementation aspects of ICAP, promoting natural refrigerants and NIK technologies.

About ICAP's implementation, Sumedha Malaviya, World Resources Institute (WRI) India emphasized on the role of state governments. Drawing on examples of states, such as Telangana, she said that "It is very important to bring the State Governments on board in this. Otherwise, it will remain a top-down process and implementation will be undermined."

On NIK technologies, Apurupa Gorthi, researcher at iFOREST stated that "lack of awareness, high cost, difficulty with retrofitting and skeletal manufacturing setup" are some of the barriers for mainstreaming it. Talking about the way to overcome this and promote NIK technologies and natural refrigerants, Tanmay Tathagat, of Environment Design Solutions emphasized that "cost effectiveness will be a key aspect and also having quality standards". Prasanna Rao Dontula of A.T.E Group also pointed on the need of awareness among industries and stakeholders, to promote these.

The panel discussion on integrating energy efficiency with the refrigerant transition focused on financing this transition. Prima Madan of Natural Resource Defence Council (NRDC) said that "we need tools for facilitating the joint transition of refrigerant and energy efficiency. Recent negotiations at the Montreal Protocol have made a progress on this front. Additional financial mechanism will have a key role to play".

Concluding the meeting, Chandra Bhushan added that "successful implementation of the ICAP would need three elements: priority list of actions that can be measured and tracked, localisation of ICAP through the involvement of state and city governments and by explicitly incentivising natural refrigerants and NIK".

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