

# Making cooling cleaner and more efficient

## The India Cooling Action Plan

In March 2019, India became one of the first countries in the world to launch a national roadmap to meet its burgeoning cooling needs—The India Action Cooling Plan. Several efforts supported by Shakti helped to contribute to this important development.

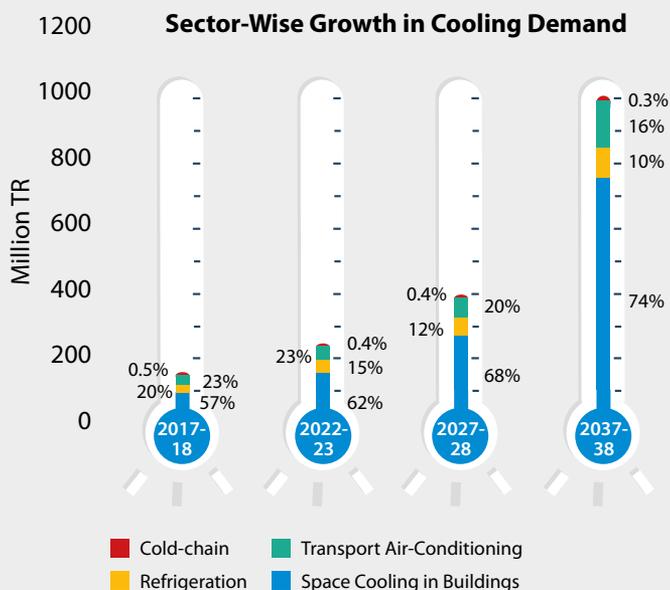
### India's cooling needs are rapidly growing

With heat waves sweeping across cities in India, rapid urbanization and a growing population, the need for cooling solutions is more urgent than ever.

India's cooling demand is projected to grow by eight times in the next 20 years. Adding to this pressure, the demand for air-conditioners (ACs) is rapidly increasing. Under a 'Business as Usual' scenario, room ACs will add 800 GW to the peak demand by 2050. This will lead to a significant increase in the energy demand for cooling, stress on the electricity grid and higher emissions, in addition to the release of HFCs, which are high Global Warming Potential (GWP) gases.

### The opportunities: Cooling efficiency and the phase down of HFCs

Foreseeing the complex energy trends and challenges that India would have to confront, Shakti was one of the first



Source: The India Cooling Action Plan

to identify early action opportunities for cooling efficiency and phasing down HFCs, areas that can play a profound role in shaping the future sustainability of the country. For over five years now, we supported our grantee partners—Alliance for an Energy Efficient Economy (AEEE), Council on Energy Environment and Water (CEEW), The Energy and Resources Institute (TERI), Centre for Science and Environment (CSE) and CEPT University—to build a fact-base on these opportunities through policy research, analysis and consensus building.

Our support has, in the long run, strengthened the technical capacity of our grantee partners and enabled them to enhance their impact. As a result, there is now a solid analytical foundation on areas like space cooling, thermal comfort in buildings, the implications of an HFC phase down and alternative refrigerants, which did not exist before. Our support also helped convene meaningful stakeholder dialogue and outreach—which helped define better cooling efficiency strategies for India. In March 2019, India became one of the first countries in the world to launch a national roadmap to meet its burgeoning cooling needs. Several efforts supported by Shakti helped to push the needle on this important development.



## Informing India's stance on climate-friendly cooling at Kigali and beyond

As India geared up for the Kigali Montreal Protocol Meeting in October 2016, the question of feasible pathways for phasing down HFCs became more pressing. The early-action efforts supported by Shakti provided the credible and reliable information solutions required for India to take a more informed stance on the HFC phase down.

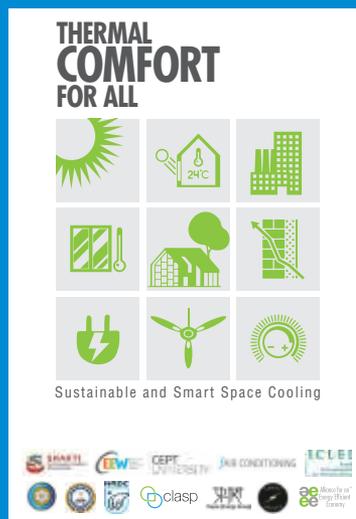
Shakti also provided the support for its grantees to attend the Kigali Montreal Protocol meeting, as well as other international meetings held under the Montreal Protocol. Because of the groundwork already laid, our grantees continuously informed India's position and bridged knowledge gaps with robust analysis and findings on ozone-friendly, climate-friendly refrigerants. But more importantly, this participation enabled our grantees to move beyond the focus of the Montreal Protocol and look at the larger issue of providing sustainable and clean cooling to all.

Then, in adopting the Kigali amendment with nearly 200 other countries, India sent a clear message to the world on the need to transition to ozone-friendly, climate-friendly alternatives. In the immediate year that followed Kigali, we continued to support forward thinking efforts, one being a first of its kind study on improving servicing and installation practices in the AC sector to make systems more safe, reliable, and climate-friendly.

## The India Action Cooling Plan (ICAP) unfolds

Years of work then came together when in March 2018, the Ministry of Environment, Forest and Climate Change (MOEFCC), prioritized the drafting of a national cooling action plan, creating six thematic working groups for this purpose: Space Cooling and Cold Chain, Air Conditioning and Refrigeration Technology, R&D and the Production Sector, Servicing Sector, Transport Air Conditioning, and Cross-Cutting Policy Regulation.

The MOEFCC engaged our grantees, AEEE, CEEW and TERI as experts, who by virtue of being a part of the Sustainable Smart Space Cooling Coalition and also being supported separately by Shakti, were prepared with the expertise required to contribute to the plan. AEEE, CEEW and TERI led four of the thematic working groups working on the ICAP. CSE was a member of the thematic group on Research and Development (R&D) and the Production sector. They submitted a number of critical recommendations to address cooling requirements across sectors. In addition, all thematic groups had representation



## Convening the Sustainable and Smart Space Cooling Coalition

In 2016, Shakti supported the AEEE to convene the Sustainable Smart Space Cooling Coalition bringing together our grantee partners and other think tanks working in sustainable habitat and comfort conditioning. The idea behind the coalition was to build a platform that could, under its aegis, effectively synthesize the technical work being carried out and meaningfully engage with policy making bodies. The coalition's first report titled 'Thermal Comfort for All' provided a comprehensive overview of the interrelated key aspects of space cooling. Since it began, the coalition has been helping to coordinate analytics and outreach to inform emerging perspectives on efficient cooling strategies that can rise to the climate challenge.

from at least one coalition member, which helped to advance the research that informed the development of the plan.

Since much of the groundwork was laid, our grantees were able to develop their recommendations in a short time-frame of five months. The outcomes of Shakti's sustained grant making in cooling efficiency strategies were realized when the draft India Cooling Action Plan was officially launched in September 2018. India is one of the first countries in the world to develop a national plan to address its burgeoning cooling needs. The highlight of the plan is that it proposes ways to provide equitable access to cooling for all while mitigating the energy and environmental impacts, all of this keeping a 20 year time-frame in view.

The final ICAP plan was released in March 2019, an important guiding document for managing India's growing cooling demand.

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