

Cooling All

India's cooling action plan a positive step but needs more work to be effective

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India got hotter by a degree Celsius over the last century, with the fastest rise in temperature observed in last two decades. Studies forecast a many-fold increase in the occurrence of extreme heat waves in the future. Heat-related mortality needs serious attention. Heat impact is worsened with increasing urbanization as the heat gets trapped in buildings, roads, and pollution. Furthermore, heat also ruins food and vaccines significantly cutting short their useful life. India faces a dual challenge. On the one hand, it has to ensure that people at risk get affordable and adequate access to means that provide relief from heat and on the other it has to limit the harm caused by the resultant energy and refrigerants used in mechanized cooling equipment and processes. To address this challenge, Ministry of Environment, Forest, and Climate Change (MoEFCC) recently released a draft India Cooling Action Plan (ICAP). The Plan estimates an eight-fold increase in the demand for cooling by 2037-38 as compared to 2017-18. It also provides a list of short, medium, and long term recommendations to reduce this cooling demand by 20-25% until 2037-38. The overarching goal of these recommendations is “to provide sustainable cooling and thermal comfort for all while securing environmental and socio-economic benefits for the society”. The plan is available on the ministry website for public comments. It is a positive step towards the stated objective but needs more work to achieve it.

First, on strategic level, the Plan rightly sets specific targets with timelines, for reduction of refrigerant demand by 20-25% until 2037-38, reduction of cooling energy requirements by 25-40% by 2037-38 and so on. However, the Plan has underplayed the need for setting monitoring and verification mechanisms to track the progress on these targets. These mechanisms could prescribe methods to calculate the reduction in the future cooling, energy, and refrigerant demand and specify data that needs to be periodically collected from various sources to verify the reduction. The Plan needs to also place equal emphasis on all the facets of its stated objective. A recent global report puts India as the country with the highest population facing cooling-related risks. ICAP recommends very few interventions to provide affordable and adequate means of cooling to people at high risk from both rural and urban areas. The recommendations of the plan mention several policy and regulatory interventions without actually quantifying the resources required to implement the same. Identifying the financing gap and planning for its provision is necessary for the success of the Plan.

Second, on operational level, the Plan can incorporate lessons learned from various existing policies to strengthen its recommendations. For instance, one of its recommendations is a

mandatory standards and labeling programme (S&L) for ceiling fans and high efficiency standards under S&L for air-conditioners and refrigerators. This programme requires appliances to have labels from 1-star rating (least efficient) to 5 star-rating (most-efficient). The programme has had success in creating awareness about energy efficiency but is not without limitations. In the case of ceiling fans, less than 10% of the total fans produced annually are star-labeled. Most manufacturers have resisted upgrading the efficiency standards since 2010. Although these standards are updated every 2 to 3 years, this process has mostly proved unfruitful. On the other hand, in the case of refrigerators, the standards have been updated regularly and are today one of the highest in the world. Here the manufacturers have responded by selling lower rated models. Only 2000 units out of 2.5 million frost-free refrigerators produced in 2017-18 were 5-star rated. The Plan, thus needs to detail out its recommendations to ensure such targets can be realistically achieved.

Third, the Plan mostly focuses on technology, regulations, and incentive schemes to achieve its goal. Human behaviour is a crucial dimension of the cooling challenge that the Plan has overlooked. For example understanding human behaviour can help determine a higher default temperature setting for air-conditioned spaces at which people feel comfortable leading to significant savings in electricity use. The recent [guidelines](#) issued by Bureau of Energy Efficiency ratify the same. At the same time understanding this behaviour can also help in knowing if people use air-conditioners for longer durations if running them becomes cheaper with increased efficiency. This phenomenon known as Rebound effect can substantially negate the benefits accrued from energy efficiency. Finally, studies also show that small but appropriate changes in policies and programmes addressing different biases inherent to the buyer's behaviour can have significant impact on costs and consumer's decision making. For instance, people tend to compromise and settle for a middle option when presented with menu of options. Does this result in consumers settling for 3-star appliances and can it be overcome by offering only 4 and 5 star rated appliances? Answers to questions like these can inform low cost policy interventions with significant benefits.

The Cooling Action Plan is a good opportunity to tackle a serious and urgent problem that India is currently facing. A holistic and well-balanced approach complemented with a prioritized and contextualized strategy can be key to tackle India's cooling challenge.

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