Draft India Cooling Action Plan

Why in news?

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The Ministry of Environment, Forests and Climate Change has released a draft India Cooling Action Plan (ICAP).

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What is the Plan on?

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- The many high-temperature cities in India are only set to get hotter in the coming future.
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- The requirement for cooling is thus being recognised as key to health and well-being.
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- The ICAP comes as an effort to assess this requirement and plan ahead.
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- The draft by the MoEF Ozone Cell provides a 20-year perspective, with projections for cooling needs in 2037-38.
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- It aims to provide sustainable cooling while keeping in mind, the need to protect the ozone layer from substances that can deplete it.
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What are the highlights?

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- **India** - The document puts India at the bottom in “access” to cooling, compared to the rest of the world.
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- This is reflected in “low per-capita levels” of energy consumption for space cooling.
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- It stands at 69 kWh for India as against the world average of 272 kWh.
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- **Requirement** - The cooling requirement in India is projected to grow around 8 times by 2037-38.
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- This is in terms of tonnes of refrigeration (TR) required.
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- The building sector shows the most significant growth in required TR, nearly 11 times as compared to 2017-18.
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- The cold-chain and refrigeration sectors grow around 4 times the 2017-18 levels.
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- The transport air-conditioning grows around 5 times the 2017-18 levels.
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- The growing transport sector and income levels will increase ownership of cars, a majority of these air-conditioned.
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- It is thus expected to have a growth rate of almost 9% annually up till 2040.
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- For space cooling, room air-conditioners constitute the dominant share of cooling energy consumption.
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- It was around 40% in 2017-18 and projected to grow to around 50% in 2037-38.
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- **Approach** - The draft looks at two scenarios:
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i. a reference scenario that assumes current policies and level of effort
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ii. an intervention scenario that factors in impacts of new interventions
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- The intervention scenario suggests that the projected total refrigerant demand can be reduced by 25-30% by 2037-38.
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- This is achievable only through improvements in cooling equipment

efficiency, and operation and maintenance (O&M) practices.
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What are the suggestions made?

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- The MoEF states that the plan takes a holistic and balanced approach.
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- It proposes combining active (air-conditioning) and passive cooling strategies.
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- For instance, it considers
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i. passively-cooled building design that deploys natural and mechanical ventilation
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ii. promoting the use of energy-efficient refrigerant
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iii. adoption of adaptive thermal comfort standards to specify pre-setting of temperatures of air-conditioning equipment
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iv. development of energy-efficient and renewable-energy-based cold chains for perishable foods
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- Even by 2038, a significant percentage of households will not be able to afford refrigerant-based cooling equipment.
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- Therefore, wider proliferation of thermally efficient residential built spaces is required.
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- They should have reduced heat load and enhanced ventilation.
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- This should be coupled with efficient non-refrigerant-based cooling equipment, such as fans and coolers.
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What are the global commitments?

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- A large part of the cooling demand is met through refrigerant-based cooling.
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- These refrigerants are regulated under the Montreal Protocol.
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- It regulates on Substances that Deplete the Ozone Layer, and India is a signatory to it.
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- In 2016, the Kigali Amendment to the Protocol was made.
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- India and few other developing countries agreed to phase down hydrofluorocarbons (HFCs) by 85% of their 2024-26 levels by 2047.
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- HFCs are commonly used in air-conditioners and as refrigerants.
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Source: Indian Express

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