

Draft India Cooling Action Plan

Why in news?

\n\n

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

\n\n

What is the Plan on?

\n\n

\n

- The many high-temperature cities in India are only set to get hotter in the coming future.

\n

- The requirement for cooling is thus being recognised as key to health and well-being.

\n

- The ICAP comes as an effort to assess this requirement and plan ahead.

\n

- The draft by the MoEF Ozone Cell provides a 20-year perspective, with projections for cooling needs in 2037-38.

\n

- It aims to provide sustainable cooling while keeping in mind, the need to protect the ozone layer from substances that can deplete it.

\n

\n\n

What are the highlights?

\n\n

\n

- **India** - The document puts India at the bottom in “access” to cooling, compared to the rest of the world.

\n

- This is reflected in “low per-capita levels” of energy consumption for space cooling.

\n

- It stands at 69 kWh for India as against the world average of 272 kWh.
 \n
- **Requirement** - The cooling requirement in India is projected to grow around 8 times by 2037-38.
 \n
- This is in terms of tonnes of refrigeration (TR) required.
 \n
- The building sector shows the most significant growth in required TR, nearly 11 times as compared to 2017-18.
 \n
- The cold-chain and refrigeration sectors grow around 4 times the 2017-18 levels.
 \n
- The transport air-conditioning grows around 5 times the 2017-18 levels.
 \n
- The growing transport sector and income levels will increase ownership of cars, a majority of these air-conditioned.
 \n
- It is thus expected to have a growth rate of almost 9% annually up till 2040.
 \n
- For space cooling, room air-conditioners constitute the dominant share of cooling energy consumption.
 \n
- It was around 40% in 2017-18 and projected to grow to around 50% in 2037-38.
 \n
- **Approach** - The draft looks at two scenarios:
 \n

\n\n

- \n
- i. a reference scenario that assumes current policies and level of effort
 \n
- ii. an intervention scenario that factors in impacts of new interventions
 \n

\n\n

- \n
- The intervention scenario suggests that the projected total refrigerant demand can be reduced by 25-30% by 2037-38.
 \n
- This is achievable only through improvements in cooling equipment efficiency, and operation and maintenance (O&M) practices.
 \n

\n\n

What are the suggestions made?

\n\n

- \n
- The MoEF states that the plan takes a holistic and balanced approach.
- \n
- It proposes combining active (air-conditioning) and passive cooling strategies.
- \n
- For instance, it considers
- \n

\n\n

- \n
- i. passively-cooled building design that deploys natural and mechanical ventilation
- \n
- ii. promoting the use of energy-efficient refrigerant
- \n
- iii. adoption of adaptive thermal comfort standards to specify pre-setting of temperatures of air-conditioning equipment
- \n
- iv. development of energy-efficient and renewable-energy-based cold chains for perishable foods
- \n

\n\n

- \n
- Even by 2038, a significant percentage of households will not be able to afford refrigerant-based cooling equipment.
- \n
- Therefore, wider proliferation of thermally efficient residential built spaces is required.
- \n
- They should have reduced heat load and enhanced ventilation.
- \n
- This should be coupled with efficient non-refrigerant-based cooling equipment, such as fans and coolers.
- \n

\n\n

What are the global commitments?

\n\n

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

\n\n

\n\n

Source: Indian Express

\n

