



WORLD SUSTAINABLE DEVELOPMENT SUMMIT 2022

**TOWARDS A RESILIENT PLANET:
ENSURING A SUSTAINABLE AND EQUITABLE FUTURE**

February 16-18, 2022 (Virtual)



Financing the implementation of India Cooling Action Plan

THEMATIC TRACK SUMMARY

Venue: Kaziranga

Date: February 16, 2022

Time: 3:30- 5:00 PM (IST)

Suggested Citation

World Sustainable Development Summit (2022), Financing the implementation of India Cooling Action Plan, Thematic Track Summary (Rapporteur: Gaurav Phore), New Delhi: The Energy and Resources Institute.

Actionable Messages

Message 1: There is a need to identify financial mechanisms to invest in the cooling sector to provide thermal comfort as a developmental need for India

Message 2: Cold chains need a developmental framework that can accommodate the solutions in time of uncertainty

Message 3: A new standards labeling program is required for the low GWP equipment with a focus on the environmental friendliness of refrigerants.

Message 4: India has adopted an ambitious goal of net zero by 2070 and it will permeate into India's policies.



Narrative

Mr R R Rashmi started the session with his welcome address that highlighted the importance of cooling. He said that India through the Make in India initiative has made tremendous progress in the area of energy efficiency and energy improvements not only in technological advancements but also in the application of building consumer awareness, greater stakeholder participation, and greater sensitivity to minimize energy consumption. The key challenge for India is to devise a roadmap for the integrated cooling action plan that inherent the sustainable cooling strategies at all levels of governance and should not just limit to central level.

Mr John A. Roome informed that the du heat stress in India, the wet-bulb temperature could exceed the survival threshold of 35 degrees Celsius in a few of locations in India. He further said that unless the cooling access gap is addressed, the development objective of India would be impeded and lead to loss of productivity, jobs, and health. He said that by 2038, India will have air conditioning access at 40% from the current 8%. In the agriculture and health care sector the current cooling access through cold-chains for fresh produce is at only 4% which leads to significant loss and missed opportunity in terms of increasing incomes for the poor and middle-income farmers.

Mr Jigmet Takpa highlighted the ICAP and India's commitments to Montreal Protocol. The diversity of cooling need from those of urban to undeveloped population, large buildings to urban slums to rural huts, the human comfort, cold chains for food and vaccines, each of this required with different financial models. ICAP, a policy initiative of the MoEFCC has the potential to provide social, economic, and environmental benefits related to reducing refrigerant use, climate change mitigation, and sustainable development goals. ICAP has considered interdependency on policy interventions and strives to formalize energy efficiency with HCFC phase-out and high GWP HFC phase-down schedules under the Montreal Protocol.

Mr Sanjay Seth thanked all the speaker in the inaugural session of the event.

Mr Abhas Jha presented the Operationalising the ICAP study "Developing a policy roadmap to support the implementation of ICAP". He shared the finding of the World Bank study with the key opportunity areas under various sectors. He shared that climate change will lead to a significant increase in heat stress in India. Many Climate models have projected the change in temperature in India relative to the 1960s would be as high as 5 degrees Celsius. He further talked about the exponential growth demand in space cooling would present potential opportunities to address the cooling access. The highlighted opportunity areas are reducing cooling the demand through passive designs, improving the energy efficiency of the equipment, shifting the demand to low carbon technologies to provide cooling, and improving city's adaptation through nature-based solutions. **Mr Jha** also talked about the key opportunity areas in the transport air conditioning, cold chain and refrigeration, and refrigerants sector. He said that the study has also proposed interventions to operationalize the ICAP recommendations and identify the additional opportunities areas in space cooling, heat stress in cities, and pharma cold-chains. A roadmap based on the market size, investment opportunities, emission reduction and policy convergence is also developed under the study. **Mr Jha** then started the panel discussion and invited the esteemed speakers by asking specific actions.

Ms Lily Riahi informed the panel about the residential air-conditioning electricity demand is outpacing the new solar add-on in the grid and the RAC demand is only going to increase in the coming years that would be undercutting our efforts to reduce the power sector emissions. She highlighted that the cooling sector requires targeted policy, technology, and market levers to enable holistic solutions to address cooling, leveraging synergies across sectors, utilizing passive cooling to the fullest extent possible and meeting the mechanical cooling needs with the lowest possible energy and emissions footprint. She pointed out that developers are not responsible for long-term energy use of buildings and there are no intensives for deploying efficiency in this sector. Efficiency standards and building codes will certainly shift the market but low cost financing targeting those first time buyers who can finally afford an AC is really going to be a key. She further said that affordable housing is a key opportunity to drive efficient thermal comfort for end users and developers linked to green buildings, efficient ACs and fans backed by low cost financing.

Mr Arijit Sengupta informed the panel about the steps taken by BEE in the cooling sector. He mentioned the standards and labelling that BEE launched to reduce the electricity consumption load from ACs and refrigerators. The green building codes have been able to reduce the cooling load through passive design techniques. He mentioned a cold chain report about the pack houses operation and maintenance guidelines and design guidelines being developed BEE along with The World Bank that will be available in the public domain soon. He also mentioned the development of a district cooling code by BEE carrying forward the work done by UNEP and EESL. He said that there is a lot of potential in the cooling sector investments but there are many challenges as well.

Mr Umamaheshwaram informed the panel on the need of certification for the city officials to get them trained on the energy efficiency, thermal comfort, urban planning, etc. **Mr Asheesh Fotedar** shared his learnings in the development of cold chains and the challenges faced during the COVID. He informed about the framework requirement for the development of cold chains. **Mr Sanjay Seth** talked about the basics of thermal comfort requirements of a home and informed that the housing for all scheme has missed the integration of thermal comfort. He informed that TERI is now working with the Ministry of Housing and Urban Affairs to integrate thermal comfort into the design process.

Mr Richie Mittal informed the works done by the ISHRAE that can bring a great value to the cooling sector. He informed that the low GWP refrigerants are needed to be developed in India, so that their adoption can be accelerated. He also said that there is an opportunity to transition to low GWP refrigerants when the existing equipment are replaced.

Mr Ashish Saraswat thanked all the speakers for joining the event in their busy schedules and giving their addresses to the audience while highlighting on the important issues. He further thanked the WSDS and TERI team in making the event a success.

Making Words Count @WSDS 2022

“ Cooling is an important sector for our future actions as well as energy-saving, energy efficiency, and comprehensive movement towards net zero.

Mr R R Rashmi
Former Special Secretary, MoEF&CC and Distinguished Fellow, TERI

“ Climate change will lead to a significant increase in heat stress in India. Many Climate models have projected the change in temperature in India relative to the 1960s would be as high as 5 degrees Celsius.

Mr John Roome,
Regional Director, The World Bank

“ The diversity of cooling need from those of urban to undeveloped population, large buildings to urban slums to rural huts, the human comfort, cold chains for food and vaccines, each of this required with different financial models.

Mr Jigmet Takpa
Joint Secretary, MoEF&CC

“ In recent years, the amount of residential air conditioning electricity demand on the grid has outpaced the amount of new solar capacity being added to the grid.

Ms Lily Riahi
Coordinator, Cool Coalition, United Nations Environment Programme