

Enabling a Global Transition to Sustainable Cooling

G20 India Presidency – Energy Transition Working Group *Gandhinagar*



April 3, 2023

1000 – 1230 (IST)

Summary Report



KEY TAKEAWAYS

- We need cooling to keep people healthy, vaccines stable, food nutritious, energy supply stable, economies productive, and environment clean. In a warming world, cooling is not a luxury but a necessity and a human right.
- Cooling is one of the most critical blind spots in today's energy debate and one of the biggest contributors to global warming. The demand for cooling is now greater than the demand for heating.
- Addressing the cooling challenge requires a multi-sectoral, inter-agency coordination and international cooperation
- India's G20 Presidency and UAE's COP28 Presidency presents an opportunity to increase ambition and bring forward commitments to action on sustainable cooling – including on energy efficiency, promoting behavioral change, and mobilizing investments and commitments to financing.
- India has made significant progress on policy and plans for cooling such as launching India's National Cooling Action Plan (NCAP). It's best practices, lessons learned, and experiences could be leveraged to other countries.
- The COP28 UAE's Global Cooling Pledge seeks to facilitate and encourage state and non-state actors to co-develop and sign on to higher ambitions to enable access, adaptation, resilience, and mitigation as they transition to sustainable cooling solutions.
- As initial steps G20 countries could endorse the Global Cooling Pledge, leverage existing platforms such as the Cool Coalition to advance international cooperation, and take opportunities to scale up sustainable cooling.

CONTEXT OF THE SESSION

In a warming world, cooling is a necessity. As the demand for cooling increases, so will associated greenhouse gas emissions. Unmanaged cooling growth would play a significant part in keeping fossil-fueled sources of electricity on the system and slow the transition to a clean, resilient energy system. Cooling currently accounts for 7% of global GHG emissions, and with the status quo, emissions will triple by 2050.

A transition to efficient, climate-friendly cooling could cut eight years' worth of global emissions but rapid action is needed. The Kigali Amendment to the Montreal Protocol, which has already been ratified by over 100 countries, provides a great opportunity to couple the phasing down of HFCs with improved cooling efficiency. In addition to cooling efficiency standards, improved design of buildings and districts, as well as passive, nature-based solutions can increase access to affordable sustainable cooling for all.

REPORT OF THE SESSION

Mr. Abhay Bakre - Director General, Bureau of Energy Efficiency, Ministry of Power, Government of India — extended a warm welcome. He outlined the importance of sustainable cooling given rising urbanization and increased demand, and related emissions, from air conditioners. He stressed that the cooling sector could not be ignored from discussions on energy transition. Efficient sustainable cooling systems adopting advanced technologies can reduce active and passive loads.

He noted that cooling should be at the heart of energy transition plans. India is currently implementing the [National Cooling Action Plan \(NCAP\)](#) — adopting a sectoral approach to cooling. India sees international cooperation on this Plan as invaluable.

Mr. Saood Al Noori - Head of Diplomatic Engagement, Office of the UAE Special Envoy for Climate Change — showcased the [Global Cooling Pledge](#). Cooling is not only a mitigation or an adaptation issue but a matter of climate justice, as heat primarily affects the lowest income families. Many actors have made cooling one of their top climate concerns. The UEA wants COP28 to be a cool COP.

To generate momentum for global action and increased ambition on sustainable cooling through the India G20 Presidency and UAE COP28 Presidency, the **Bureau of Energy Efficiency, Ministry of Power, Government of India**, in partnership with the **United Arab Emirates (UAE) COP28 Presidency** and the **United Nations Environment Programme-led Cool Coalition** convened the **"Enabling a Global Transition to Sustainable Cooling"** G20 side event.

The Side Event convened senior official representatives from G20 and non-G20 countries to share high-level interventions on their actions on sustainable cooling, discuss on how G20 and COP28 processes can amplify such action and enhance global collaboration and seek feedback and participants' initial perspectives on the [Global Cooling Pledge](#).

The private sector, development banks, financial institutions, and philanthropies were also invited to discuss how the transition to sustainable cooling can be accelerated through collaborative approaches.

In collaboration with G20 President India, the UNEP Cool Coalition, and other partners, the COP28 Presidency is working to develop the [Global Cooling Pledge](#) and a menu of options to deliver a significant collective response to the cooling challenge. The actions range from nature-based solutions (NbS) to appliance efficiency policy to innovation investments.

The [Global Cooling Pledge](#) will be launched at the CEM meeting in Goa. This will be followed by campaigning until COP28. COP28 hopes to make cooling a strategic investment for the economy, the most vulnerable, and the climate.

Dr. Ajay Mathur - Director General, International Solar Alliance — highlighted that the [Global Cooling Pledge](#) can help countries institutionalize cooling action. He proposed global lessons for institutions to promote sustainable cooling, particularly as global demand for cooling is much greater than the demand for heating:

- 1. Identify seasonal energy efficiency ratios:** Each country has different temperatures and equipment (fans, air conditioners or evaporative coolers) have different efficiencies at different temperatures. These ratios should be captured.

2. Look at how energy efficiency is integrated into the building envelope:

Integrating cooling into the building code is important and institutions are important in facilitating this. The Bureau of Energy Efficiency introduced and updated the energy conservation building code.

3. Give more importance to the agricultural cold chains: Large parts of the world face crop failure due to the lack of efficient cold chains. With the declining price of solar energy, it is now possible to have solar power cold storages.

Ms. Gauri Singh - Deputy Director General, IRENA - provided reflections on the importance of behavioral change to promote sustainable cooling. There is a need to incorporate the aspects of how regulations and guidelines to make people behave in a certain way. In Japan, delegations have moved from showing up to events formally dressed to wearing clothes more appropriate for ambient temperatures in the 24-25 range. Adopting these types of changes internationally, can have a huge impact.

Cooling is going to see a big increase in demand for electricity and it is important that this demand is not met by increased use of fossil fuels, but that it can be managed sustainably. Off-grid solutions (such as cooling in the agriculture value chain) are also increasingly important to raise incomes in rural areas.

Mr. Alok Kumar - Secretary, Ministry of Power, Government of India - noted that cooling emissions will be a major challenge to achieving carbon neutrality by 2050, but also present an opportunity.

India has taken several steps in promoting efficient cooling as one of the first countries to implement the NCAP process in all sectors. We have a very strong standards process in place for efficiency, making it mandatory to label air conditioners. Concerning behavioral change, India has already implemented 24 degrees as a default setting.

In many countries, energy prices are not cost-effective. Governments are slow to keep energy prices at a profitable level. Governments need to better target subsidies and to avoid disruptions. Collectively, we should talk more about cost-effective energy prices.

There is also a need to look at pricing time, to better manage demand to help avoid peak capacity. It is very important to push industries to smooth out their demand and shift it, which can save a lot of peaking systems on energy and electricity supply.

Ms. Lily Riahi - Global Coordinator of Cool Coalition, UNEP - provided concluding remarks:

1. It is important to look at this issue from the perspective of demand efficiency and to incorporate costs into deliberations on collective cooling action. Policies have a key role in bring low-cost solutions to market.
2. International cooperation on sustainable cooling is critical to achieve the energy transition and the development of a resilient, clean electricity grid, while providing thermal comfort for all.
3. India has developed several policies and programs to promote thermal comfort and sustainable cooling for all, including being the first country to develop a comprehensive NCAP. These can be shared with other heat-stressed countries.
4. The leadership of India G20 Presidency and UAE COP28 Presidency present a golden opportunity to build worldwide momentum on the transition to sustainable cooling.

MODERATED DISCUSSION: GLOBAL COOLING PLEDGE

Mr. Rahma Al Shamsi – Senior Specialist, COP28 UAE Presidency – and Mr. Tomas Anker Christensen – Climate Ambassador, Denmark - introduced the roundtable discussion by presenting the [Global Cooling Pledge](#). Outcomes for COP28 include ensuring cooling plays a major role in the climate discussions such as through the Global Cooling Stocktake to understand where we are in relation to the Paris Agreement in maintaining the 1.5 degree target.

Denmark and the UK spoke about the importance of behavioral change through education of citizens. The UK praised India's experience with LIFE and suggested looking at how the LIFE mission could be integrated within the Pledge.

Singapore and Korea raised the importance of innovation. Singapore adopted innovative solutions to reducing emissions from cooling through its Cooling Singapore 2.0 program. Korea noted that innovative business models should be replicated elsewhere which requires the building of technical capacity and financial support.

South Africa, UAE and Singapore highlighted initiatives to improve energy performance standards for buildings and cooling equipment through Green Building Codes. UAE highlighted that the [Global Cooling Pledge](#) is comprehensive and offers considerable potential for capacity building and unified regulations.

Switzerland stressed the importance of actions to understand the local context such as heat mapping.

Japan's priority is promoting energy efficiency through investing money in energy saving and new technologies.

All countries noted they were keen to work with international partners to advance cooperation on sustainable cooling and spoke of the significance of implementing interagency cooling solutions.

MODERATED DISCUSSION: INDIA'S JOURNEY TO SUSTAINABLE COOLING

Mr. Brian Motherway - Head of the Energy Efficiency Division, International Energy Agency – introduced the second roundtable discussion by talking about cooling as the blind spot in the energy transition. If we get right policies, there is an opportunity to deliver cooling to millions of people in a way that greatly limit the growth in energy demand and therefore emissions growth. He stressed that the [Global Cooling Pledge](#) is important to demonstrate leadership from the top and that there is a national commitment to sustainable cooling.

Mr. Sarbojit Pal - Manager of Partnerships, Clean Energy Ministerial Secretariat – spoke about leveraging global action platforms to transform cooling, such as the UK and IEA's SEAD initiative. He encouraged discussions on the [Global Cooling Pledge](#) and encouraged SEAD members to consider creatively leveraging existing platforms such as the Cool Coalition to help deliver on the Pledge goals.

Alliance for an Energy Efficient Economy (AEEE), CEEW and Tabreed - noted India's expertise in cooling policy and action plans which other countries in the south can learn from. India has played a leading role by developing the NCAP and contributing to the development of the Cool Coalition NCAP methodology – which is a clear opportunity for collaboration with other countries to disseminate lessons learned and best practices. AEEE supported the establishment of an international sustainable cooling center in India that will serve as a global resource on the policy, technology, behavioral and financing fronts.

Despite the progress on the policy front - **RMI India Foundation and CEEW** - noted that there was still progress to be made on implementation. Particularly around building capacity with regards to building codes and passive cooling. **NRDC India** emphasized that the cooling community should support the [Global Cooling Pledge](#) in its implementation.

Danfoss Climate Solutions and GIZ– stressed the importance of a coordinated approach to accelerate the energy transition. There needs to be a legal framework, cooling guidelines, qualified people, a private sector committed and willing to push the issue, an informed civil society, and a massive acceleration in the availability of renewable energy. **Carrier Transicold India and South Asia** noted the importance of the private sector for innovation. He emphasized that more work needs to be done to establish green and efficient cold chains globally and to incorporate the digital solutions

SEforAll and AEEE - spoke about the role of COP28 and the [Global Cooling Pledge](#) to serve as a catalyst for changes in policy actions and investments in sustainable cooling to mobilize new commitments for financing, both from the private sector but also from developing climate finance institutions. AEEE proposed that COP28 establish a dedicated cooling finance facility to meet the initial capital expenditure and deployment requirements in the most vulnerable countries.