



COP28UAE



**Global Collaboration for Innovation on Sustainable Cooling:
Solutions for Market Transformation**

UNFCCC Side-event at COP28, Dubai, UAE

Date: Monday, December 4, 2023

Time: 11:30 am - 1:00 pm

Venue: Blue Zone, SE Room 8

Event Partners:

The Energy and Resources Institute (TERI), India

Natural Resources Defense Council (NRDC), United States

New Energy and Industrial Technology Development Organization (NEDO), Japan

EVENT NOTE

Background

Climate change is fuelling longer, hotter, and more frequent heatwaves across the globe. The Sixth Assessment Report of the Intergovernmental Panel on Climate Change on adaptation, flagged, that human-induced global warming will have more far-reaching impacts than previously anticipated. The report clearly highlights that the heat and humidity projected for the coming decades could be extremely challenging to survive.

Rising heat brings with it, the challenge of access to climate-friendly cooling. Staying cool during extreme heat is about more than comfort—it has an impact on life and death. It is also essential to keep food fresh, vaccines safe, for employee productivity and digital economies. Sustainable Energy for All estimates that, almost 2.5 billion people do not have access to climate-friendly cooling solutions. Conventional cooling, such as air conditioning, is responsible for over seven per cent of global greenhouse gas emissions.

If not managed properly, energy needs for space cooling will triple by 2050. Cooling is typically energy intensive and can be highly polluting for the climate, as the energy used to power this equipment is still mainly from conventional sources. The Economist Intelligence Unit estimates that the global electricity demand for space cooling will grow by six per cent annually from 2019-2030, i.e., from 3,300 to 5,950 terawatt-hours (TWh). Rising cooling demand also presents a challenge for managing the peak demand for electricity and stress on the energy grid worldwide. The International Energy Agency projects that the global room AC demand will triple by 2050. Even in an efficient cooling scenario, which anticipates ~45% energy savings, the global energy demand for cooling is predicted to surge by 50% by 2050 (IEA, Future of Cooling, 2018).

The rising challenge of cooling is particularly important for the countries such as India in the global south, which not only has a high growth economy but also, has rapidly increasing cooling demands. It is important for countries in the global south to get it

right from the start to avoid a built up of emissions from inefficient technologies and solutions.

The challenge of cooling will need rapid innovation across the sectors of space cooling, transport, and cold chain. It is estimated that climate-friendly cooling could cut eight years' worth of global emissions. Meeting future cooling needs sustainably can also reduce the cost of renewable energy build out by \$3.5tn, by 2030. The challenge is to match the speed and scale of developing and implementing, innovative and sustainable cooling solutions with the growing demand for cooling.

Event Objective

This side event organized by TERI, NRDC and NEDO will bring together global stakeholders to discuss innovative solutions that address the complexities of climate change with a focus on heating and cooling challenges in emerging economies. Speakers will reflect on innovative technologies and policies related to the Internet of Things, Artificial Intelligence, food security, thermal comfort, LiFE, productivity, and more. The event will highlight examples of technological innovations in the refrigeration and air conditioning sector as well as passive cooling strategies. The discussion will be around three specific topics:

- 1) Innovative technology for enabling low-carbon cooling and investment
- 2) Mobilizing financing for implementing low-carbon cooling solutions at scale and
- 3) Role of partnerships and collaboration in advancing development and implementation of cooling innovations across countries.

Organized in two sections, the event will begin with remarks by government representatives. This will be followed by a technical presentations and discussions with experts from academia, civil society, industry and philanthropy. They will discuss policy, technology, and market transformation with a focus on innovation and sustainable cooling.

Draft Agenda

11:30- 11:35 am	Welcome Address Dr. Vibha Dhawan, Director General, TERI
11:35- 12:00 pm	High-Level Session on ways of institutionalizing and scaling technology innovations for sustainable cooling through partnerships and collaborations Moderated by: Manish Bapna, President and CEO, NRDC <ol style="list-style-type: none">1. Ali Zaidi, Assistant to the President and White House National Climate Advisor, United States2. Vijay Menghani, Chief Engineer, Central Electricity Authority, Government of India

	<ol style="list-style-type: none"> 3. Shinichi Kihara, Director General for International Policy on Carbon Neutrality, Ministry of Economy, Trade and Industry of Japan 4. David Sandalow, Integral Fellow, Center on Global Energy Policy, Columbia University
12:00- 12:55 pm (including 15 mins Q&A with the audience)	<p>Technical Panel Discussion on Examples of Innovations in Sustainable Cooling</p> <p>Moderator: R R Rashmi, Distinguished Fellow and Programme Director, Earth Science and Climate Change</p> <p>Panelists:</p> <ol style="list-style-type: none"> 1. Michihiro Kishimoto, Environment Strategy Director, Environment Strategy Business Division, Hitachi, Ltd 2. Noah Horowitz, Program Director, Clean Cooling Collaborative 3. Prima Madan, Senior Advocate, Cooling and Efficiency, International Program, NRDC 4. Shaurya Anand, Research Associate, TERI 5. Abas Jha, Practice Manager, Climate Change and Disaster Risk Management, South Asia Region, World Bank <p>Audience Q&A</p>
12:55- 1:00 pm	<p>Closing Remarks</p> <p>Masatsugu Yoshioka, Executive Director, NEDO</p>
Total: 90 min	

In the event you cannot join us in person, you can livestream our event [HERE](#).