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COP29
Baku
Azerbaijan

COP29 Official Side Event

Cooling the Heat: Enhancing Energy Efficiency of the Refrigeration and Cooling Sector

14 November 2024 | 11:30 - 13:00 (AZT)

As the planet continues to warm up, the need for more cooling will increase exponentially. But this additional cooling cannot come at the expense of the environment. Energy efficient and sustainable cooling is therefore critical to help keep the planet cool and avoid future emissions.

This side event will explore how limiting hydrofluorocarbons (HFCs) under the Montreal Protocol, recognised as one of the most successful environmental treaties, could prevent up to 0.5°C of global warming. By improving energy efficiency in cooling, this impact could potentially double. The event will highlight national experiences, challenges, and solutions for sustainable cooling and showcase the latest scientific projections, which indicate that reducing HFCs with high global warming potential could avoid 0.3°C to 0.5°C of warming this century. Additionally, enhancing energy efficiency in refrigeration and air-conditioning equipment through the transition to low-GWP alternatives could amplify the climate benefits anticipated from the Kigali Amendment.

The session will emphasise the potential for achieving near-zero emissions in the cooling sector by 2050 through the adoption of low- and zero-GWP refrigerants, improved energy efficiency, and reduced building cooling loads. It will address barriers to accessibility, coordination, and financing for energy-efficient equipment and will discuss the role of integrated policy approaches and broad stakeholder engagement to mobilise finance, advancing progress under both the Montreal Protocol and the Paris Agreement.

UNDP

Multilateral Fund for the Implementation of the Montreal Protocol

UNIDO

U4E United for Efficiency

giz Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH

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Hubert Zan *doubles as the Assistant Manager responsible for Energy Efficiency Regulation at the Renewables and Energy Efficiency Directorate (REEE) of the Ghana Energy Commission and an Energy Transformation expert. He worked for over a decade enforcing National regulations on Energy Efficiency and environmental regulations on phasing out CFC-based and now HCFC-based refrigerators and air conditioners respectively in Ghana as well as phasing-down HFC. He is the focal person for the ECOFRIDGES GO project in Ghana which introduces innovative financial mechanism to help salaried workers own highly energy efficient appliances.*

Marco Duran *works with the International Institute of Refrigeration as the Head of Policy and Global Partnerships. Previously, with the UN Environment Programme as an Energy Efficiency and Cooling Specialist he led energy efficiency market transformation projects in Southeast Asia, the Caribbean and Africa. He has contributed as an author for publications such as the Global Cooling Watch, Chilling Prospects and Cooler Finance, and has served as a trainer on refrigeration policy related topics for energy efficiency policymakers and national ozone officers. Marco holds a degree in mechanical engineering and a master's in Energy and Environment.*

Yaqoub Al-Matouq *is a member of the National Ozone & Climate Change Committee in the Environmental Protection Agency of Kuwait. He received his BA in mechanical engineering. His career in the HVACR sector started in 1992 and with UNEP started in 2003. Yaqoub participated as a lead negotiator for Kuwait delegation and the GCC in Montreal Protocol meetings, as a coordinator of A5 parties under the Montreal Protocol, coordinator of the Asia Pacific group region, member of the Executive Committee for the Multilateral Fund of the Montreal Protocol since 2008, and refrigeration consultant in UNIDO and UNEP projects in West Asia. He is also a lecturer in HVACR related courses.*

Helen Walter-Terrnoni *is the Global Director of Policy and Advocacy for Trane Technologies. Helen works at the cross-roads of sustainability and policy and holds a graduate degree in engineering with a concentration in environmental engineering from Syracuse University. Helen has led transitions in technology, manufacturing, and business, including low global warming potential refrigerant development, supply chain, environmental mitigation, hazardous process safety, and strategic planning. Helen has worked in the refrigeration, foams, and environmental space for nearly 30 years. She is a co-chair of the UN Montreal Protocol Foams Technical Options Committee and member of the Technical and Economic Assessment Panel.*

Yichi Zhang *acquired his bachelors and masters degree at Tsinghua University and got his PhD in heating and cooling systems in Chalmers University of Technology in Sweden. He has a background in energy planning, HVAC systems engineering and building physics and joined Midea Building Technologies division as R&D engineer in 2023. His main focus area is residential heat pump and its applications towards carbon neutrality. He has worked closely with Chinese top universities and design institutes on innovative heating terminal and developed photovoltaic thermal panels and prototype dual source heat pump. He is now leading a small team working on intelligent terminal control to utilize building thermal mass for flexible energy control and renewable integrations.*

Anderson Moreira do Vale Alves is *the Regional Technical Advisor for Asia-Pacific of the Chemicals and Waste Hub of the United Nations Development Programme (UNDP).Anderson currently leads the regional team of the Chemicals and Waste Hub assisting countries in the Asia and the Pacific overseeing the implementation of Policies, Programmes and Projects under the frameworks of the Montreal Protocol, the Stockholm Convention on Persistent Organic Pollutants and the Minamata Convention on Mercury, including the connecting areas of Cooling Efficiency, Waste Management and Circular Economy. A national from Brazil, he has been working with the with Montreal Protocol and Chemicals and Waste for the past 20 years.*

Yulia Suryanti *is the Director General of Climate Change at the Ministry of Environment and Forestry of the Government of Indonesia responsible for the implementation of climate change mitigation, REDD+ and ozone-depleting substances management. This is includes developing, implementing and monitoring national and sub-national policies and tools; coordinating and synchronising national policies and tools; as well as providing technical guidance and supervision.*