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OXFORD FUTURE OF COOLING: COOLING FOR COP26 WEBINAR SERIES

October 25, 2021: Cooling for Climate Action with Tracey Crowe (SEforAll) and Kate Hughes (BEIS)

On thin ice: sustainable cooling for all in a warming world

Cooling accounts for 7% of emissions and demands 20% of global power in buildings. Demand for cooling – critical for thermal comfort, food security, reliable medical systems, and other development needs – will rise in a warming world, with growing incomes. Following a BAU pathway, by 2050, demand for cooling is projected to triple, making up 30% of energy consumption.

This huge rise in demand has the potential to drive up emissions and exacerbate the very problem it is designed to alleviate: exposure to dangerous heat. However, governments, business, and financial institutions can shift the trajectory of cooling towards sustainability, achieving development goals in the same stroke.

As we move towards one of the most important rounds of the UNFCCC Climate Negotiations, the Oxford **Future of Cooling Programme** is hosting a series of online seminars leading up to COP26, linking to the programme's **framework on sustainable cooling**. The **seventh, and final, webinar in the series, Cooling for Climate Action**, engaged in conversation with Tracey Crowe, Chief of Staff and Senior Director of Internal Programmes at Sustainable Energy for All (SEforAll) and Kate Hughes, Director for International Climate Change at the UK Department for Business, Energy, and Industrial Strategy (BEIS).



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Two birds, one stone: sustainable cooling for climate and development

The sustainable cooling transition has gained momentum since the 2016 Kigali Amendment to the Montreal Protocol with increased attention from governments, business, financial institutions, civil society, and academia. Yet, cooling is still often seen as a luxury or consumer good rather than a strategic climate and development priority. A 2017 study showed that **less than 1% of development aid financing was dedicated to cooling.**

The cooling challenge, tackled comprehensively, can **avoid between 4 and 8 years of emissions and cut global warming by up to 1C by 2100.** This includes investing in passive measures and design, increasing energy efficiency of appliances and systems, and phasing down the use of high GWP refrigerants.

Sustainable cooling carries a multitude of development benefits for health, food security, and livelihoods, **linked to all 17 sustainable development goals** (SDGs) and, in particular, supports the achievement of sustainable energy for all (SDG7). According to SEforAll's landmark **Chilling Prospects series**, more than 1 billion people are without access to cooling and a further 2.34 billion people – together, almost half the world's population - are without access to sustainable cooling. This need must be met through passive design such as the **million cool roofs challenge**, super-efficient appliances as seen in the **Global Cooling Prize**, and fast phase-down of high GWP refrigerants through the Kigali Amendment to the Montreal Protocol, now **ratified by more than 125 countries.**

Cooling for COP26: delivering climate commitments

As outlined in the Oxford Future of Cooling **framework for sustainable cooling**, governance is a critical lever to align the many distributed actors operating within the cooling sector and steer the transition towards achieving climate and development goals. The sustainable cooling transition will be shaped by local, national, regional, and international instruments, policies, and processes.

One opportunity to drive and amplify action on sustainable cooling is through the UN Framework on Climate Change Convention (UNFCCC). The speakers called for action across the four priorities of the COP26 Presidency, including:

- **Mitigation** of emissions from cooling is necessary to keep 1.5 alive.
 - o Governments are called to join the **Super-efficient Equipment and Appliances Deployment** (SEAD) Initiative's **Product Efficiency Call to**



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- Action** which aims to double product efficiency by 2030 in four high energy-using products including air conditioning and refrigeration.
- Businesses are called to join the **Race to Zero** to deliver on the Net Zero Cooling Pathway. More than 10 cooling manufacturers have already joined the Race to Zero including Trane Technologies, Electrolux, Johnson Controls, Danfoss, Schneider Electric, Orbia, GEA, Advansor, Philips, Godrej, and Hitachi.
 - Governments, businesses, financial institutions, and civil society are called to make **Energy Compacts** – commitment to high ambition action on decarbonizing energy systems. Cooling must be a key component of these energy compacts with the **UNE Cool Coalition signalling how to drive impact** in their own Energy Compact.
 - **Adaptation** and resilience as critical in a warming world with sustainable cooling delivering the face of extreme heat.
 - Governments, nationally and locally, must take robust action to ensure preparation for current and future risks of climate change, include extreme heat. Sustainable cooling can help people avoid **extreme heat, associated health risks** as well as indirect risks.
 - **Finance** for sustainable cooling as critical to market transformation.
 - The UK Government has provided **£15 million for sustainable cooling innovation in collaboration with the IFC** and **£106 million for green construction** including incorporating passive cooling design.
 - The Green Climate Fund and World Bank ESMAP have **launched at \$157 million cooling facility** to support national cooling action plans in nine countries. More public finance facilities are needed globally to drive private finance to deliver access to cooling for all.
 - **Collaboration** to ensure an equitable transition to sustainable cooling.
 - Since its launch at the UN Climate Action Summit in 2019, the UNE coordination **Cool Coalition** has amplified the activities of distributed actors within the cooling sector to drive cooling for climate action.
 - The **Clean Cooling Collaborative** – formerly Kigali Cooling Efficiency Program – has accelerated sustainable cooling action in key cooling growth geographies and supported collaboration on industrial conversion, regulation, finance, and access.



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- The G7 has recognized the strategic importance of sustainable cooling through the 2019 **Biarritz Pledge for Fast Action on Efficient Cooling** with support from the Climate and Clean Air Coalition (CCAC) and, in 2021, with **renewed support for the SEAD Initiative** under the UK Presidency in the leaders communique.
 - **27 countries** have published or are developing a national cooling action plan (NCAP) to assess cooling needs and coordinate action across ministries and industry players. In addition, at least **55 countries have already included cooling in their nationally determined contributions** (NDCs) as a key climate mitigation and adaptation measure. However, more commitments and plans are needed to achieve the benefits of sustainable cooling for all.

Cooling is critical in a warming world and must be recognized as an integral and integrated opportunity to address climate change, drive energy access, and achieve our sustainable development goals.

For questions on the policy recommendations above, please contact Dr. Radhika Khosla, co-lead of the Future of Cooling Programme at Oxford University (radhika.khosla@smithschool.ox.ac.uk) or Larissa Gross, Research Manager at E3G (larissa.gross@e3g.org)

Watch a recording of the webinar here.

About E3G

E3G is an independent climate change think tank accelerating the transition to a climate-safe world. E3G builds cross-sectoral coalitions to achieve carefully defined outcomes, chosen for their capacity to leverage change. E3G works closely with like-minded partners in government, politics, business, civil society, science, the media, public interest foundations and elsewhere.

More information is available at www.e3g.org

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