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Phasing Down HFCs Under Montreal Protocol Can Cut Climate Pollution Twice Over

Drives Super-Efficient Air Conditioning, Refrigeration, and Cuts Super Greenhouse Gases

Relief for electricity grids in developing countries, savings for consumers, businesses

1 July 2013, Bangkok – A global phase-down of hydrofluorocarbons (HFCs) under the Montreal Protocol will drive the development of super-efficient air conditioning and refrigeration that in turn reduces energy use and carbon dioxide pollution, according to representatives from the global air conditioning and refrigeration industry, meeting 30-31 June in Bangkok to showcase progress in developing high-efficiency, climate-friendly alternatives to HFC refrigerants.

The carbon dioxide reductions will be in addition to the direct climate benefits from reducing HFCs, which are referred to as super greenhouse gases because molecule for molecule they are a thousand or more times more powerful at warming the atmosphere than carbon dioxide. Reducing HFCs under the Montreal Protocol can avoid the equivalent of up to 100 billion tonnes of carbon dioxide pollution by 2050 and prevent up to [0.5C of warming by the end of the century](#).

In addition to the significant climate benefits from phasing down HFCs, deploying super-efficient air conditioners can significantly reduce energy use and carbon dioxide pollution by 2020 and avoid the need for more than 100 medium-sized (500-megawatt) power plants, according to a 2013 assessment commissioned by the [Super-efficient Equipment and Appliance Deployment \(SEAD\) Initiative](#) of the Clean Energy Ministerial, a forum that brings together ministers with responsibility for clean energy technologies from the world's major economies and ministers from a select number of smaller countries leading in various areas of clean energy.

The energy savings from super-efficient air conditioners and refrigeration have the important benefit of easing pressure on aging electricity grids, especially in developing countries. In India, for example, [air conditioners account for 40% to 60% share of peak electricity](#) demand during the summer months in many cities. Super-efficient air conditioners and refrigeration also save money for consumers and businesses.

Industry associations and businesses from Europe, Japan, and the U.S. supported controlling HFCs under the Montreal Protocol to ensure a level playing field and provide the regulatory certainty firms favor when making decisions about how much to invest in new climate-friendly technologies to replace HFCs and the inefficient equipment using these chemicals. The alternative is a growing patchwork of national and regional HFC regulations.

"The business case for natural refrigerants as alternatives to HFCs is growing day-by-day. In commercial refrigeration we already have several thousand new food retail stores worldwide using either CO₂ (R744), ammonia, or hydrocarbons. The customers for these new technologies are buying them because they are more energy efficient. Any pro-active policy can only help accelerate this transition," said Marc Chasserot, Managing Director, Shecco.

"The challenge that we have in the industry today is with regulatory certainty. We know that next generation, low GWP options are available for most all air conditioning applications, but the industry simply cannot invest the necessary capital unless we are certain that the next generation refrigerants are

needed, and what performance characteristics and GWP levels will be acceptable,” explained Mike Thompson, Global Leader of Refrigerant Strategy Climate Solutions for Trane, Thermo-King.

“While industry is working now to commercialize new lower-GWP refrigerants and foam blowing agents that are safe, energy efficient, reliable, and cost-effective, it finds that international policy certainty drives alternative development – and alternative development drives efficiency,” stated Dave Stirpe, Executive Director, Alliance for Responsible Atmospheric Policy, an organizer of the technology seminar.

“Past phase-outs of refrigerants under the Montreal Protocol over the past 25 years have driven improvements in energy efficiency of up to 30% and sometimes up to 50%” said Durwood Zaelke, President of the Institute for Governance & Sustainable Development in Washington, DC. “The energy savings may be rival the direct climate benefits of reducing HFCs, which are already huge—ten time more than the Kyoto Protocol has been able to do to date.”

“This one, two punch makes the HFC phase-down under the Montreal Protocol the best deal going for the Planet, as well as for business and consumers,” Zaelke added.

President Obama made both appliance efficiency and HFC reductions a prominent part of the [Climate Action Plan](#) that he announced last week, with strategies for fast reductions of HFCs in the U.S., as well as high-level support for an HFC amendment under the Montreal Protocol.

Earlier in June, U.S. President Obama and Chinese President Xi agreed “to work together and with other countries through multilateral approaches that include using the expertise and institutions of the Montreal Protocol to phase down the production and consumption of HFCs.” In the same week, a strong majority of the European Parliament’s Environment Committee voted to strengthen the EU’s F-Gas Regulation to phase down HFCs.

Last week, the Parties to the Montreal Protocol took another major step forward at their mid-year working group meeting, launching formal discussions on HFC controls. On the table are two proposals to amend the Protocol to phase down HFCs, one by the Federated States of Micronesia, Morocco and the Maldives, and another by the United States, Canada and Mexico.

The conference, "Advancing Ozone and Climate Technologies: Next Steps", was attended by representatives from dozens of companies that make and use HFC alternatives for air conditioning, refrigeration, insulating foam, and other applications.

Sponsors included UNDP, UNEP, Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants, the U.S. EPA, European Commission, and the Alliance for Responsible Atmospheric Policy.

The conference program is [here](#).
IGSD’s *Primer on Short-Lived Climate Pollutants* is [here](#).