



# CCAC HFC INITIATIVE

## WHY DO AWAY WITH HYDROFLUOROCARBONS ?

Developing and using technologies with low-Global Warming potential (GWP) cooling agents will help address climate change and provide energy efficiency gains for end users, be it domestic, commercial, or use in automobiles.

Hydrofluorocarbons (HFCs) are man-made replacements to ozone-depleting substances (ODS), but many of them are potent greenhouse gases with warming potentials a thousand times or more than that of CO<sub>2</sub> over a 100 year timeframe. Low-GWP alternatives do exist, and governments and the private sector have started to address the issue. Governments have agreed to negotiate an Amendment to the Montreal Protocol on Substances that Deplete the Ozone Layer to include a phase-down of HFCs. Private sector initiatives to reduce the use and emissions of high-GWP HFCs include an initiative by the Global Food Cold Chain Council to reduce high-GWP HFC emissions from food transportation and storage, and an initiative by the Global Refrigerant Management Initiative, to reduce HFC emissions from refrigerant servicing.

HFC emissions are relatively low at present, but observations show that the volume of HFCs in the atmosphere is increasing at a rate of 8-15% per year. Significant growth in HFC use is expected in developing countries because of population growth, rapid urbanisation, electrification and changing consumption patterns. Phasing down HFCs could provide mitigation equivalent to 100 billion tonnes of CO<sub>2</sub> by 2050. Furthermore, improving the energy efficiency of room air conditioning equipment alone, as a part of the HFC replacement transition, can provide further mitigation of up to 100 billion tonnes of CO<sub>2</sub> equivalent by 2050.



**CLIMATE &  
CLEAN AIR  
COALITION**  
TO REDUCE SHORT-LIVED  
CLIMATE POLLUTANTS

## WHO WE ARE

The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) HFC Initiative unites governments, intergovernmental organisations and civil society organisations to support the development and adoption of climate-friendly alternative technologies; build international awareness and support to curb HFC growth; encourage national, regional and global policies to reduce reliance on high-GWP HFCs; and encourage responsible management and better design of equipment to minimise leaks.

## WHAT WE OFFER

A platform for exchange and information on policy and technical issues, including present and projected use of high-GWP HFCs, good practice case studies, strategies for promoting climate-friendly alternative technologies, and technology demonstration.

Specific activities include:

- National HFC inventories (Current and projected use; opportunities to avoid growth in high-GWP HFCs);
- Case studies on low-GWP HFC alternatives (technology feasibility, cost savings, energy efficiency gains);
- Feasibility Study for District Cooling in high population density areas on the island of Male, Maldives;
- Technology demonstration projects to validate energy efficient alternative technologies to high-GWP HFCs in the areas of commercial cooling, food cold chain and mobile air conditioning;
- Policy and technology conferences and workshops to promote the use of low-GWP alternatives.

AN HFC PHASE-DOWN COULD PREVENT WARMING OF UP TO 0.1°C BY 2050 AND WARMING OF UP TO 0.5°C BY 2100.



“ As a small island developing state, the Maldives remain highly concerned of the projected impacts of climate change. In Maldives, over 60% of electricity consumed is for cooling. The CCAC feasibility study will allow us to explore the potential of district cooling in Male which could reduce energy use by 20% and promote a low-GWP HFC alternative technology. ”

**Thoriq Ibrahim, Minister of Environment and Energy, Republic of Maldives**

## AMBITIONS

Significantly reduce the projected growth of high-GWP HFCs in coming decades by mobilising the private sector, civil society, international organizations, and governments:

- By 2016, an HFC-phase down amendment to the Montreal Protocol is negotiated; followed by gradual reduction of HFCs by all countries;
- Countries promote public procurement of climate-friendly alternatives to HFCs;

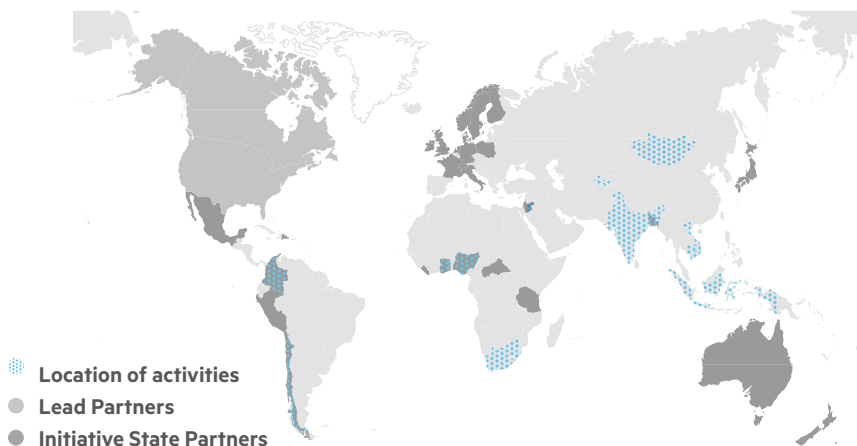
- Dramatic reduction of HFCs in the food cold chain;
- 30-50% reduction of HFCs by 2025 in the refrigerant servicing sector.

## RESULTS SO FAR

- 6 HFC inventories completed in 6 countries; additional 8 inventories underway;
- 5 case studies on the use of low-GWP HFC alternatives in the commercial refrigeration sector developed;
- 10,000 hours of training held, benefitting over 900 participants;
- 4 major conferences organised, promoting alternative technologies and policies;
- Increased support from the public and private sector, and civil society, to phase down the global consumption of high-GWP HFCs;
- Catalysed industry action through private sector-led initiatives like the Global Food Cold Chain Council and the Global Refrigerant Management Initiative.

## PARTNERS, ACTORS AND LOCATION OF ACTIVITIES

Governments, civil society and industry are welcome to engage in the initiative.



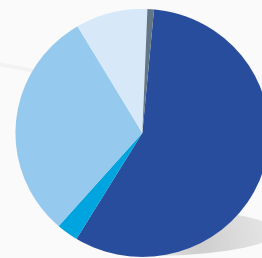
**Initiative non-State Partners:** European Commission, ClimateWorks, Environmental Defense Fund (EDF), Environmental Investigation Agency (EIA), Institute for Advanced Sustainability Studies (IASS), Institute for Governance and Sustainable Development (IGSD), International Climate Change Partnership (ICCP), International Council on Clean Transportation (ICCT), Natural Resources Defense Council (NRDC), Terre Policy Centre, UNDP, UNEP, UNIDO, and World Bank.

**Initiative Actors:** The Alliance for Responsible Atmospheric Policy, Australian Refrigeration Association, Centro Studi Galileo, CLASP, The Coca Cola Company, DuPont, European Partnership for Energy and the Environment (EPEE), Honeywell, Ingersoll Rand, Refrigerants Australia, Refrigerants Naturally!, and Shecco.

## ABOUT THE CCAC

The Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants (CCAC) is a voluntary global partnership of governments, intergovernmental organizations, business, scientific institutions and civil society committed to catalysing concrete, substantial action to reduce SLCPs (including methane, black carbon and many hydrofluorocarbons). The Coalition works through collaborative initiatives to raise awareness, mobilise resources, and lead transformative actions in key emitting sectors.

## FUNDING



Total approved funding from the CCAC Trust Fund:

**USD 3,199,590**

Technology Demonstration Projects

**USD 1,836,590**

HFC Ville

**USD 18,800**

Conferences

**USD 292,090**

HFC Inventories

**USD 965,910**

Good Practice Case Studies

**USD 86,200**



## MORE INFORMATION

[www.ccacoalition.org/en/initiatives/hfc](http://www.ccacoalition.org/en/initiatives/hfc)

[WWW.CCACCOALITION.ORG](http://WWW.CCACCOALITION.ORG)

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