



World Sustainable
Development Summit

BUSINESS DAY

5 OCTOBER 2016
INDIA HABITAT CENTRE, NEW DELHI

BEYOND 2015: PEOPLE, PLANET & PROGRESS
MOBILISING BUSINESS STRATEGIES AND SOLUTIONS

Background Note:

Transitioning to More Efficient HVAC systems with Low GWP Refrigerants

Use of ozone depleting chlorofluorocarbons (CFCs) is being phased out from all countries in the world, through coordinated action under the Montreal Protocol on Substances that Deplete the Ozone Layer. Starting in 2015, developing countries began phasing out one of the last remaining families of ozone depleting gases – hydrochlorofluorocarbons (HCFCs), reducing their use to 90% of the baseline calculated using 2009-2010 levels. By 2030, HCFCs will be limited to 2.5 per cent of baseline for servicing of existing equipment, and completely phased out by 2040.

In 2015, India joined over 100 countries in favour of phasing down use of HFCs, and submitted an amendment proposal to Montreal Protocol. At the 27th Meeting of Parties to Montreal Protocol, countries agreed upon the Dubai Pathway, to work towards an HFC amendment in 2016. At the next Montreal meeting in Kigali, Rwanda to be held in October 2016, Parties are expected to negotiate an HFC amendment and begin discussions on the modalities of a phasedown, including baseline selection, freeze date, and phase down schedules for developed and developing countries. India expects to achieve a balanced agreement incorporating key components like access to technology for companies, access to finance, focus on energy efficiency, and capacity building are addressed in an amendment agreement.

As India phases out HCFCs, and embarks upon an HFC phase down, it seeks to avoid following the footsteps of industry in developed countries by leapfrogging to alternatives with lower global warming potential (GWP). This transition offers an opportunity to maximize climate benefits by minimizing both: direct emissions from refrigerant use, and indirect emissions through energy use, by selecting alternatives that result in higher efficiency systems. While several sectors – industrial foams, automobile air conditioning for example – have alternatives well on their way to commercialization, other industry sectors are not yet equally prepared to make a transition. Availability of affordable and feasible alternatives for such sectors is yet to be determined, and needs strong support from domestic and international governments, a focus on research, development and deployment (RD&D) and also support from the Montreal Protocol.

India has been an active and constructive participant in the search for solutions and continues to do so by expanding R&D activities and industry-led innovations in search for low-GWP HFC alternatives. Finding alternatives to HFCs also opens several challenges including dealing with flammability, development of new standards for appliances and buildings, toxicity of refrigerants, challenges related to equipment design, training of technicians, to name a few.

Another key action is to replace old equipment with newer, more energy efficient ones. Filling the next generation of refrigerant gases in yesterday's and today's ACs will cancel out much of these hard won gains unless the systems are optimized. Energy Efficiency is therefore a key element in the

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global collaboration to preserve the ozone layer, and mitigate climate change. The Multilateral Fund under the Montreal Protocol currently ignores Energy Efficiency and this is a serious issue.

The proposed thematic discussion session with expert stakeholders is being organised to address the following questions:

1. How can energy efficiency be taken into account as a key selection criterion, as HFCs are phased down under the Montreal Protocol? How can the Protocol provide funding support for transitions offering greater energy efficiency?
2. What are long term, low-GWP solutions for the room air conditioning sector, for medium and large sized chillers, and how far has current technology reached?
3. What are challenges that industry and research community faces in research on alternative refrigerants? Specifically:
 - a) How to address the issue of patents on new technologies, which may at times act as a barrier to wide-spread adoption?
 - b) What is India's domestic research capacity, and what is needed to bolster India's ability to ambitiously phase down of HFCs?
 - c) How do we address the issues of additional and predictable finance?

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