The Alliance
for Responsible Atmospheric Policy

Technology Development and an Amendment to the Montreal Protocol

The Parties to the Montreal Protocol are approaching an agreement to phase down the global warming potential (GWP) of hydrofluorocarbons (HFCs) under the Protocol, with the agreement likely to involve significant reductions in the total tons CO2eq of HFC consumption by 2050.

A recently published analysis of measurements of atmospheric concentrations of HFCs suggests that commercial and industrial refrigeration, mobile air conditioning and all other uses contribute about one third each of the world's GWP-weighted HFC emissions. Multiple low-GWP options are currently being implemented for commercial and industrial refrigeration in non-Article 5 countries, and a number other alternatives to high-GWP HFCs are currently being tested in multiple global evaluation programs. The transition to low-GWP options has begun for mobile air conditioning in non-Article 5 countries. Existing and emerging HFC regulations in non-Article 5 countries will accelerate the adoption of these alternatives and the further development and adoption of low-GWP alternatives in other sectors. These developments provide confidence that non-Article 5 countries can achieve significant reductions in GWP-weighted HFC consumption by 2030, and suggest Article 5 countries would have the necessary alternatives available to slow and then reverse their GWP-weighted HFC consumption increases before 2030.

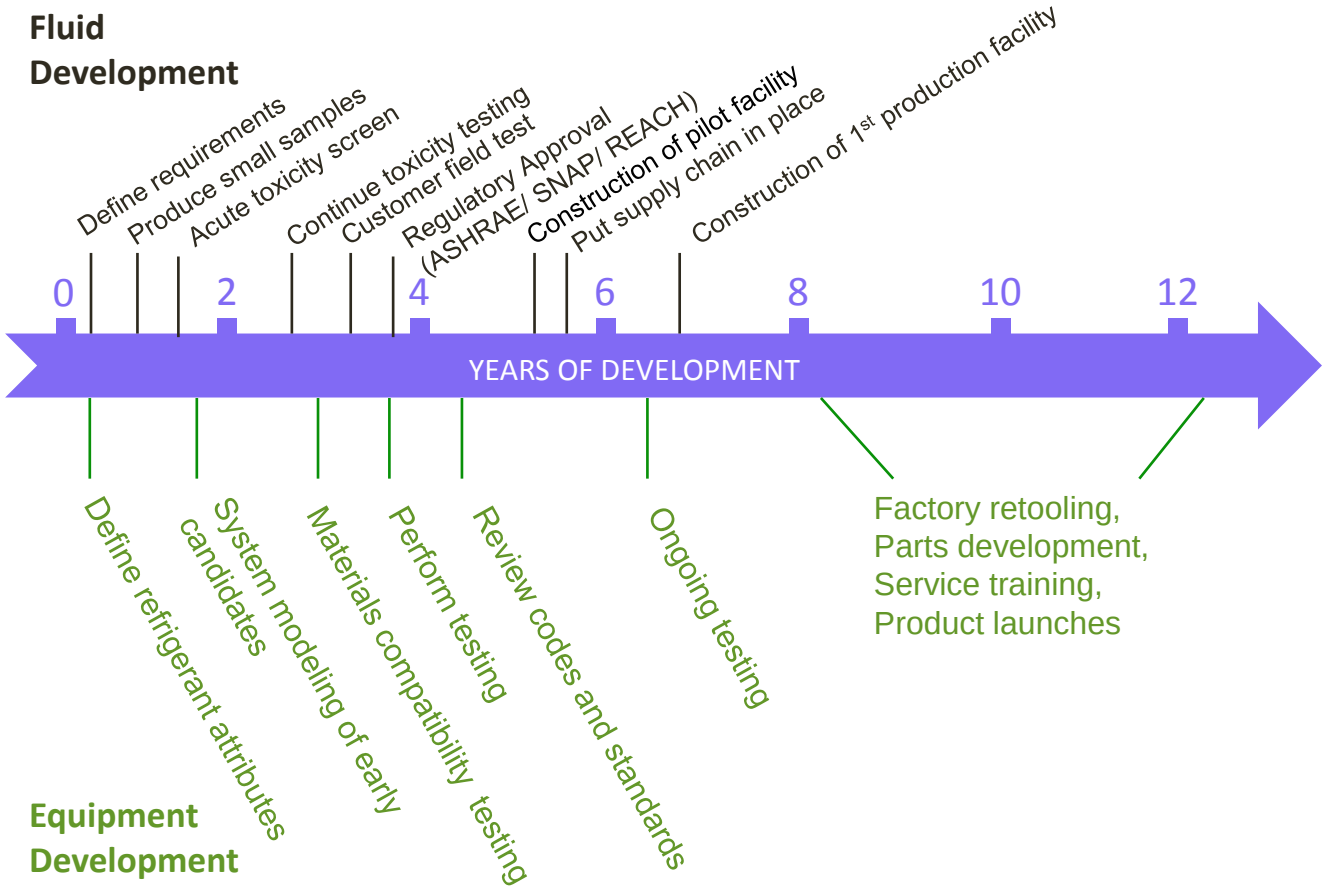
A key factor leading to the success of the Montreal Protocol in significantly reducing the consumption of ozone depleting substances has been the Parties' willingness to establish reduction schedules based upon the knowledge available at the time the schedules are set, and to modify those schedules based on updated information on science and technology development.

Parties should continue this practice of flexibility as they negotiate phase down schedules for high-GWP HFCs. This flexibility could be demonstrated by setting a phase down schedule for near term HFC reductions along with a long term reduction goal for 2050, combined with a commitment to review the status of science and technology developments in a reasonable period of time (such as a decade) to determine any appropriate adjustments to the schedule.

Such a scheme could help build the consensus required for adoption of an HFC amendment. Low-GWP alternatives are currently available for some but not all applications. Setting a schedule for reductions to 2030 that can be achieved based on currently or soon-to-be-available technologies, combined with a longer term target and such a technology review, would provide all parties the confidence to adopt an amendment.

The history of the Montreal Protocol shows that once a reduction schedule is set for a class of compounds, industry responds with rapid development and deployment of alternatives.

DEVELOPMENT TIMELINES FOR NEW PRODUCTS



An interim review of scientific and technical developments would provide the Parties with the ability to assess and adapt to alternatives for continued GWP-weighted reduction to achieve the 2050 goal. These time frames also suggest that the rapidly developing suite of low GWP alternatives will be mature products by the time the Article 5 parties begin their transition, such that intellectual property issues should not be a barrier to their adoption by those parties.