

## Timeline of Actions on HFCs

April 15, 2015

### **2015 North American Amendment Proposal to Control HFCs**

The United States, Canada, and Mexico submitted a [proposal](#) to amend the Montreal Protocol to phase down production and consumption of HFCs. The proposal builds on the commitments made over the past few years by countries seeking to transition to more climate-friendly alternatives. This amendment proposal includes a four-step phasedown for developed and developing countries at varying timescales using HFC and HCFC baselines for both developed and developing countries, although the developing country baseline is calculated using the same years as those for developed countries.

November 6, 2015

### **Dubai Pathway on HFCs**

All 197 parties to the Montreal Protocol have agreed on a "Dubai Pathway" for controlling HFCs. The parties agreed to work together, within the Montreal Protocol, to approve an HFC amendment by first resolving challenges and generating solutions in a contact group on the feasibility and ways of managing HFCs at Montreal Protocol meetings. This outcome was agreed after extensive negotiations during the 27<sup>th</sup> Meeting of the Parties (MOP 27) to the Protocol in Dubai in November 2015. Read the [press release](#). [Exit](#)

October 15, 2015

### **Private-Sector Commitments and Progress to Address HFCs**

A suite of new private-sector commitments to reduce the use and emissions of HFCs was announced from a diverse set of 16 industry associations and companies – including chemical producers, manufacturers of equipment that use HFCs, and end-users. U.S. companies are at the cutting edge when it comes to developing the next generation of safe and cost-effective alternatives to HFCs and also incorporating these alternatives into American cars, air conditioners, refrigerators, foams, and other products.

- **Chemours** announced that its Opteon™ family of low-GWP products is anticipated to reduce greenhouse gas emissions globally by 300 million tons of CO<sub>2</sub> equivalent by 2025, which represents more than a 20 percent increase from its September 2014 projections. In addition, Chemours today agreed to control and, to the extent feasible, eliminate by-product emissions of HFC-23 at all its fluorochemical production facilities worldwide. Furthermore, Chemours today agreed to use in the U.S. only feedstock HCFC-22 from producers that control and, to the extent feasible, eliminate by-product emissions of HFC-23 at their production facilities in North America. Chemours was created through the spin-off of DuPont Performance Chemicals in July 2015, and it

continues to facilitate the global transition to more sustainable refrigerants as the largest global supplier of HFO-1234yf.

- **Daikin Industries Ltd.** announced its commitment to strictly control and, to the extent feasible, eliminate by-product emissions of HFC-23 at its fluorochemical production facilities worldwide. Daikin's plant in Decatur, Alabama, was the first plant in the U.S. that committed to the destruction of HFC-23 when it started operations in 1994. Today's commitment extends to all Daikin facilities worldwide and is estimated to reduce global emissions by almost 7 million metric tons of CO<sub>2</sub> equivalent per year. Daikin recently also announced that it is offering companies worldwide free access to 93 patents in order to encourage the development and commercialization of comfort cooling and heating technologies that use R-32 – a refrigerant with a lower global warming impact than most common refrigerants in use today – as a single-component refrigerant. Daikin is one of the world's largest air conditioner and refrigerant manufacturers.
- **Danfoss** announced its multi-million dollar investment in a state-of-the-art application development and testing center in North America that will help to facilitate the transition to low-GWP refrigerants through providing air conditioning and refrigeration manufacturers with additional capacity to test new equipment using low-GWP refrigerants for performance and safety. The center is anticipated to come online in 2016 and it will accommodate equipment sizes up to 150 tons of refrigeration. Danfoss is an international manufacturer of high-efficiency products used in air-conditioning and refrigeration systems.
- **Demilec** announced the planned release of its first hydrofluoroolefin (HFO)-blown spray foam insulation with availability by mid-2016. In addition, today it announced that it plans to completely transition to HFO-blown insulation by the end of 2017. Demilec is a polyurethane insulation foam company in the business of lowering energy consumption and promoting sustainable products in the building envelope. With a focus on sustainability, Demilec's closed cell products currently contain over 20 percent renewable recycled content. This year, Demilec will recycle the equivalent of 35 million plastic bottles. Demilec, one of the industry's largest spray foam companies, has provided insulation solutions for over 30 years.
- **Dow Chemical** announced its commitment to the elimination of high-GWP HFCs in its spray foam adhesive product line. More specifically, Dow Building Solutions is reformulating their one component spray foam adhesive product line for the commercial roof adhesive market to use low-GWP blowing agents instead of HFCs. In addition, its tile roof spray foam adhesive product line will be transitioned to low-GWP blowing agents in the next two to three years. Together, these actions will avoid approximately 200,000 metric tons of CO<sub>2</sub> equivalent per year. Dow Chemical is a global advanced materials, specialty chemicals, and plastics company.
- **Fomo Products** announced that 95 percent of its one component aerosol can products will be converted from HFCs to HFOs and hydrocarbons by summer 2016. In addition, today it announced that 25 percent of all of its low-pressure spray polyurethane foam formulations will be converted from HFCs to HFOs by summer 2016. Fomo Products is one of the largest producers of low-pressure polyurethane products in North America.
- **Hillphoenix** announced that it will launch in Q4 2015 a CO<sub>2</sub> booster system that is intended for stores with a smaller footprint. In addition, it announced that it has completed its second commercial installation of an ammonia / CO<sub>2</sub> cascade system for

use in supermarket applications. Furthermore, based on its successful installation of the first two CO<sub>2</sub> ice rinks in Anchorage, Alaska, Hillphoenix is planning for the future introduction of this CO<sub>2</sub> booster system technology, contingent on EPA approval of CO<sub>2</sub> as a refrigerant in ice rink applications. Hillphoenix is a Dover Company and a manufacturer of commercial refrigerated display cases and specialty products, refrigeration systems, integrated power distribution systems, and walk-in coolers and freezers.

- **Honeywell** announced that its Solstice® line of low-GWP products is anticipated to reduce greenhouse gas emissions globally by 475 million tons of carbon dioxide equivalent by 2025, which represents a 36 percent increase from its September 2014 projections. In addition, Honeywell today committed that, to the extent possible, it will use feedstock HCFC-22 from producers that strictly control and, to the extent feasible, eliminate by-product emissions of HFC-23 at their production facilities worldwide. Honeywell is a global technology and manufacturing company that serves customers worldwide with aerospace products and services; control technologies for buildings, homes, and industry; turbochargers; and performance materials.
- **Ingersoll Rand** announced that it will reduce its refrigerant-related emissions from products by 50 percent and emissions from its operations by 35 percent by 2020. It will also invest \$500 million on research and development (R&D) for long-term emissions reductions. As part of this commitment, Ingersoll Rand today announced that Thermo King trailer, self-powered truck, and marine refrigeration products with strong efficiency performance and a lower-GWP refrigerant will be available to U.S. customers by 2017, contingent on SNAP approval. In addition, the Trane high-performance chiller portfolio with low-GWP refrigerant alternatives will be available in the U.S. by the end of 2018, with commercial availability dependent on receiving SNAP approval for some new refrigerants. Ingersoll Rand is focused on creating comfortable, sustainable, and efficient environments.
- **Johnson Controls, Inc.** announced multiple actions that it is committed to taking over the course of the next year. In response to changing market conditions and the preferences of some of its customers, Johnson Controls will expand the availability of high-efficiency, low-GWP refrigerant options in its commercial air conditioning and industrial refrigeration product portfolio; offer new equipment that can be readily retrofitted in the future with high-efficiency, low-GWP options for customers who are concerned that they will not receive the full economic and environmental benefit over the entire life of their HFC equipment; and develop aftermarket retrofit services to address the installed base of HFC equipment for customers that want to convert their existing equipment to low-GWP refrigerants. To support the safe use of some mildly-flammable, low-GWP refrigerants, Johnson Controls is pledging up to \$100,000 to accelerate and fund independent, third-party, peer-reviewed research to help develop practical and fact-based safety standards related to the use of these refrigerants. In addition, it is making a commitment to support and participate in the development and standardization of service technician and operator training for the safe use of these refrigerants. Johnson Controls' Building Efficiency business delivers products, services, and solutions that increase energy efficiency and lower operating costs in buildings.
- **NCFI Polyurethanes** announced several commitments in support of its goal to convert its entire commercial construction product line to low-GWP products. First, it announced

that it will complete the formulation of roofing foams to use low-GWP blowing agents by 3Q 2015. Second, NCFI Polyurethanes announced that it will complete the formulation of open- and closed-cell polyurethane foam wall spray with climate-friendly blowing agents by 4Q 2015. Third, it announced that it will complete the formulation of an entire construction products line with low-GWP blowing agents by the end of 2016. Finally, NCFI Polyurethanes announced that it will complete the formulation of low-GWP custom formulated product foams (taxidermy, automobile, marine, and medical) by the end of 2016. Reformulation will also be complete for rigid molding and integral skin foams in the same time period, prior to their transition compliance dates. NCFI Polyurethanes is a division of Barnhardt Manufacturing Company and a leader in the manufacturing of flexible polyurethane foam. It offers a complete line of flexible foams for furniture seating, transportation seating, bedding, carpet underlay, and packaging. In addition, it innovates polyurethane foam solutions for spray foam insulation, roofing, marine flotation, packaging, specialty molding, and many other uses.

- **Roundy's Supermarkets, Inc.** announced that it has joined EPA's GreenChill program, which is a partnership between EPA and food retailers to reduce refrigerant emissions and decrease their impact on the ozone layer and climate change. Roundy's also announced that it will use HFC-free transcritical CO<sub>2</sub> refrigeration technology in the six new stores that it is opening in the following locations next year: Orland Park, Illinois; Westmont, Illinois; Naperville, Illinois; two stores in Chicago, Illinois; and Shorewood, Wisconsin. Starting in 2016, Roundy's will use this technology in all new store builds. In addition, today it announced that it will also use this technology in all future store remodels that involve the replacement of the entire refrigeration system. Roundy's is a retail grocery company that serves customers throughout Wisconsin and in the greater Chicago area under four retail banners: Pick 'n Save, Copps, Metro Market, and Mariano's. In 2014, Roundy's became the first grocer in Wisconsin, and the third in the U.S., to utilize a transcritical CO<sub>2</sub> refrigeration system.
- **Target** announced that all of the new stand-alone coolers in its stores with a compressor capacity below 2,200 btu/hr will be HFC-free starting in January 2016. This action has Target moving out of HFC refrigerants in these applications long before the SNAP requirement comes into place in 2019. Target also announced its commitment to expand the use of CO<sub>2</sub> refrigeration systems in new stores, and it currently has seven systems operating in Target stores and two additional stores under development that will use these refrigeration systems. In addition to using CO<sub>2</sub> refrigeration systems, Target announced its plans to expand its use of HFO blends in refrigeration systems that are good candidates for this technology. Furthermore, Target announced that its College Park, Maryland, location received GreenChill certification. Target is an upscale discount retailer with more than 1,800 stores in the U.S.
- **Thermo Fisher Scientific** announced that it will transition its entire platform to hydrocarbons by 2020. In particular, 20 percent of its entire medical and laboratory cold storage portfolio will be HFC-free by the end of 2016, 65 percent of its refrigeration systems will be HFC-free by the end of 2017, and it will be 80 percent HFC-free on blowing agents by the end of 2017. At the same time, it will reduce the energy consumption of its entire cold storage portfolio by more than 50 percent by 2020. Thermo Fisher Scientific is one of the world's largest manufacturers of scientific and medical cold storage equipment.

- **The Alliance for Responsible Atmospheric Policy** announced that it will work with the Air Conditioning, Heating and Refrigeration Institute (AHRI); ACCA – The Indoor Environment and Energy Efficiency Association; Heating, Air-Conditioning and Refrigeration Distributors International (HARDI); and EOS Climate to develop and implement a Reclaimed HFC Credit Bank that can be a component of the Global Refrigerant Management Initiative (GRMI) that was announced at the United Nations Secretary General's 2014 Climate Summit. GRMI is developing initiatives aimed at reducing global HFC emissions by 30 percent to 50 percent within 10 years. The Reclaimed HFC Credit Bank aims to utilize an HFC reclaim protocol under the American Carbon Registry to provide certified carbon credits for reclaimed HFC material, thereby helping to realize GRMI's commitment. The goal is to implement a market mechanism that allows building owners, manufacturers, and industry participants to expand the use of reclaimed HFCs. There will be a pilot project in 2016, with full implementation in the U.S. in 2017. The Reclaimed HFC Credit Bank is envisioned as being both consistent with, and further supportive of, domestic regulations concerning refrigerant management, including the extension of regulations issued under Section 608 of the Clean Air Act to HFCs.
- **The Air Conditioning, Heating and Refrigeration Institute (AHRI)** today announced that it has formed a committee of experts to identify and prioritize research projects needed to fill critical knowledge gaps for the safe use of mildly-flammable refrigerants, and that it will commit \$1 million to this new research effort to support code and standard activities related to the use of such refrigerants.

September 16, 2014

### **Private Sector Commitments to Reduce HFC Emissions and Catalyze Global HFC Phase Downs**

Twenty-two private-sector companies and organizations made commitments that would avoid the equivalent of 700 million metric tons of CO<sub>2</sub> emissions through 2025. The commitments announced cover the entire HFC supply chain, from where the chemicals are produced, where they are used in manufacturing, and where consumers see them in stores. These industry associations and companies are making significant commitments to phase out or phase down their use of HFCs and transition to climate-friendly alternatives that are good for the environment and good for business.

- **The Alliance for Responsible Atmospheric Policy:** an industry coalition representing more than 95 percent of U.S. HFC production and a significant majority of the user industries, is announcing actions today that support a Montreal Protocol amendment to phase down the production and consumption of HFCs. The Alliance also announced today that it commits to take actions and support policies with a goal to reduce global HFC greenhouse gas contribution by 80% by 2050 relative to current emissions. This will be accomplished by advancing technologies; improving servicing practices; increasing recovery, reclamation, and reuse; and conducting technology assessments and workshops.
- **Air Conditioning Heating & Refrigeration Institute:** an industry association representing 90% of US air conditioning manufacturing and 70% of the global industry,

announced today that its member companies will commit to spending \$5 billion in new R&D and capital expenditures to develop and commercialize low global warming potential (GWP) technologies over the next ten years. During the past decade, the Institute has worked diligently to reduce the potential impact of refrigerants on the Earth's climate, including spending close to \$2 billion since 2009 researching low-GWP refrigerants and technologies.

- **Arkema:** a diversified worldwide manufacturer of specialty industrial chemicals and high performance materials for use in renewable energies and other sectors, announced today that it is committed to the development of climate-friendly products to provide a timely and adequate global supply base. Arkema commits to reduce GHG emissions from its operations by an additional 30% by 2020, as well as its net energy purchases by 1.5% on average each year through the year 2020. Finally, Arkema agrees to control, and to the extent feasible, eliminate byproduct emissions of HFC-23, the most potent HFC, at all its fluorochemical production facilities worldwide.
- **Coca-Cola:** the world's largest beverage company, has set a goal for 100 percent of its newly purchased cold drink equipment to be HFC-free. To date, Coca-Cola has more than 1 million units of HFC-free refrigerated equipment in use throughout its global system, achieving 30% use of HFC-free refrigeration equipment this year. In the U.S., Coca-Cola has already purchased 20,000 HFC-free units in 2014. The company is also increasing the energy efficiency of its refrigeration equipment, which has improved by more than 50 percent since 2000.
- **Carrier:** a global manufacturer and distributor of high-technology heating, air conditioning and refrigeration solutions and part of United Technologies Corp., announced today its commitment to pursue the commercialization of HFC-free refrigerants in road transportation refrigeration by 2020, building on its expertise with HFC-free carbon dioxide refrigerant in marine container and food retail refrigeration. Carrier's Syracuse, New York facility developed the world's first carbon dioxide technology for marine container refrigeration and is pursuing similar technology for road transport refrigeration. Carrier's CO2OLtec commercial refrigeration systems using carbon dioxide refrigerant are installed in nearly 1,000 supermarkets across Europe.
- **Danfoss:** an international manufacturer of high efficiency products used in air-conditioning and refrigeration systems, announced today that it is championing a stakeholder task force to accelerate adoption of standards and building codes for next generation, low-GWP refrigerants. Danfoss will partner with the Alliance for Responsible Atmospheric Policy to establish this task force.
- **DuPont:** the science company that invented fluorinated refrigerants and has helped lead the global transition to continually more sustainable refrigerants, announced today that its new products are anticipated to reduce greenhouse gas content of refrigerants by some 90 million tons carbon dioxide equivalent in the U.S., and 245 million tons worldwide by 2025, reducing greenhouse gases by a similar amount. This includes five products already in the market or soon to be introduced that provide alternatives in applications as varied as insulating foam production, commercial and retail refrigeration, automobile and building air conditioning, refrigerated transport, and industrial energy efficiency.

- **Emerson Climate Technologies:** a global manufacturing and technology company in the heating, air conditioning and refrigeration industry, today announces its 2015 environmental stewardship initiatives, reinforcing its commitment to the development of low-GWP refrigerants and higher efficiency technologies. Emerson will launch a full line of compressors, flow and electronic controls approved with three non-flammable low-GWP HFCs. These refrigerants are 50 percent lower in GWP compared to today's choices. Emerson will also expand its full line of Scroll compressors for commercial refrigeration use in supermarkets and convenience stores that will be 15 percent more efficient than today's products. In July 2015, Emerson will expand its solutions offering for use with carbon dioxide, a non-HFC and energy-efficient refrigerant, with its complete line of compressors, flow controls, discrete and system electronic controls. Emerson invests nearly two-thirds of its global R&D resources on developing low-GWP and energy efficient products, solutions and services, and will continue increasing its investment in 2015 with the opening of its new global innovation center in Dayton, Ohio. The center will focus on ways to solve energy and environmental challenges affecting everything from homes to data centers.
- **Goodman Manufacturing Company:** an air conditioning and heating equipment manufacturer, announced today its commitment to have a full product line of low-GWP air conditioners and/or heat pumps after completion of working with EPA and other stakeholders to permit low-GWP refrigerants in both building codes and EPA's SNAP program.
- **Hillphoenix:** a Dover Company and manufacturer of commercial refrigerated display cases and specialty products, refrigeration systems, integrated power distribution systems and walk-in coolers and freezers, announced today that it is commercializing a 100% HFC-free, carbon dioxide booster system now commercially viable for all climate regions. Hillphoenix is also introducing an HFC-free hydrocarbon self-contained door case and a recently re-engineered service called "Close the Case" that utilizes the company's door technology to retrofit existing open display cases.
- **Honeywell:** a global technology and manufacturing company, serving customers worldwide with aerospace products and services; control technologies for buildings, homes, and industry; turbochargers; and performance materials, plans to transition the majority of its high-GWP HFC production to new low-GWP production. These changes will reduce Honeywell's annual production of high-GWP HFCs by nearly 50 percent on a carbon dioxide equivalent basis prior to 2020, with a cumulative elimination of more than 350 million metric tons carbon dioxide equivalent by 2025. To achieve this goal, Honeywell anticipates spending a total of more than \$880 million for research and development and new capacity, mainly in the United States. Honeywell has commercialized a wide range of Solstice®-brand HFC replacements for use as refrigerants, insulating agents, aerosols, and solvents, which are being rapidly adopted. Honeywell also announced today the start-up of two new Solstice production plants in Baton Rouge, Louisiana, to manufacture these materials. Honeywell also agrees to strictly control and, to the extent feasible, eliminate byproduct emissions of HFC-23, the most potent HFC, at Honeywell fluorochemical production facilities.

- **Johnson Controls:** a global multi-industrial company, announced today that it commits to using the lowest GWP option for each application that best fits the needs of its customers from the standpoint of safety, efficiency, reliability, availability, and economy. Johnson Controls also commits to spend \$50 million over the next three years to develop new products and improve and expand its existing low-GWP portfolio, of which a significant portion of that investment will address products that traditionally use HFC refrigerants. The company has spent more than \$26 million over the past three years in the development of low-GWP technologies.
- **Kroger:** one of the world's largest retailers, announced today that it will join U.S. EPA's GreenChill program. Kroger, in joining GreenChill, commits to establishing a refrigerant inventory and set emissions reduction targets; using advanced refrigeration technologies in new and remodeled stores where feasible; collaborating across the industry to identify and share service and operational practices that reduce emissions. Kroger is committed to reducing climate-damaging refrigerant emissions and exploring new designs that reduce the potential for these emissions.
- **Lapolla:** a manufacturer and global distributor of spray foam insulation and reflective roof coating technology, announced today that it commits to transitioning its entire product line of foam and coating systems to no longer use high-GWP HFCs by 2016. Lapolla will also provide more than 18 seminars on the importance of eliminating high-GWP HFCs from the environment.
- **Los Angeles Department of Water and Power (LADWP):** the largest municipal utility in the U.S., plans to include a criterion for low-GWP HFCs in its energy efficiency incentives for residential refrigerators, which would begin the market transformation to phase down high-GWP HFC use by sending the right signal to both manufacturers and consumers. Combating climate change is a top priority for LADWP, which has recently adopted an aggressive new energy efficiency goal to supply 15% of expected power needs in 2020 through energy efficiency, and has also committed to eliminate coal fired generation from its electricity supply by 2025, two years ahead of California mandates.
- **Mission Pharmacal:** a third-generation, family-owned and operated healthcare company whose focus is to bring safe, innovative and high-quality products to physicians, patients and consumers, announced today the introduction of a Dr. Smith's® zinc oxide diaper rash spray that uses a new low-GWP aerosol technology. Mission Pharmacal is also announcing the introduction of a rash and skin spray and an adult barrier spray that utilize the same technology. Mission Pharmacal commits to continued development of aerosol products that help curb emissions of HFCs.
- **PepsiCo:** one of the world's largest food and beverage companies, announced today a goal that all of its future point of sale equipment (coolers, vending machines and fountain dispensers) purchased in the United States, will be HFC-free by 2020. To meet this goal, PepsiCo will begin purchasing new HFC-free equipment starting in 2015. Outside of the United States, PepsiCo has already begun this process by buying more than 290,000 HFC-free pieces of equipment since 2009. To minimize the impact of existing equipment, PepsiCo has innovated its coolers and vending machines to improve their energy efficiency by 60% compared with a 2004 baseline and since 2010 has been using



a 100% HFC-free insulation/foam for all new equipment. PepsiCo reports that the new insulation/foam eliminates 75% of HFC based direct emissions and that these combined efforts have reduced total GHG emissions by 18% since 2007.

- **Red Bull:** the creator of the energy drink category, announced today that it will order an estimated 32,000 climate-friendly hydrocarbon coolers for 2015. Red Bull will also implement ongoing training of cooler service technicians from six partner companies for the repair and proper disposal of these coolers. Red Bull has committed to 100% procurement of ECO-Coolers for the cooling of its beverages where technically and legally feasible. Red Bull's ECO Coolers use up to 45% less energy than previous generations of cooling equipment and have an average energy saving of 23% compared to other conventional refrigerators.
- **SEVO Systems:** a global manufacturer of non-HFC fire system technologies, announced today that it commits to enabling a reduction of the equivalent of 12 million metric tons of carbon dioxide by 2020 by transitioning to a low-GWP alternative. This technology will be released using innovative fire suppression systems utilizing the unique properties of 3M™ Novec™ 1230 Fire Protection Fluid.
- **Target:** an upscale discount retailer with approximately 1775 stores in the US, recently opened two new cold storage facilities expanding its refrigerated warehouse space by nearly one million square feet. These new facilities, designed with ammonia, an HFC-free refrigerant, also eliminate the use of HFC refrigerants in their heating, ventilating, and air conditioning systems and reduce their carbon impact by 900 metric tons of CO<sub>2</sub>. The company also has five stores that use carbon dioxide refrigeration systems and commits to expanding this technology to two additional sites in 2015. Target is also partnering with chemical producers to test a new generation of refrigerants, hydrofluoroolefins (HFOs) that do not affect the ozone layer and have at least a 60% lower GWP than the products they are replacing. In addition, Target is working with the manufacturer of beverage coolers to test HFC-free solutions this fall.
- **Thermo King:** a brand of Ingersoll Rand that manufactures transport temperature control systems, is announcing that it will offer its customers safe, reliable, and energy efficient product alternatives and retrofit services for marine, truck and trailer applications using a refrigerant with about half the GWP compared to what is currently used. These new offerings will be available in 2015-2016 in Europe, the Middle East, and Africa, and to the United States upon EPA approval of the alternative refrigerant. Thermo King reports that this alternative would avoid the equivalent of approximately 1.6 million metric tons of carbon dioxide in the US by 2020.
- **True Manufacturing:** the largest manufacturer of self-contained commercial refrigeration in the nation, announced today that it commits to using only climate-friendly, low-GWP refrigerants and low-GWP blowing agents, in all future general use and refrigeration product development. Over the next five years True Manufacturing will develop low-GWP replacements for its existing products. True Manufacturing reports that these improvements will reduce emissions of climate-damaging HFCs by more than 200,000 million metric tons of CO<sub>2</sub> equivalent.

May 9, 2014

### **2014 North American Amendment Proposal**

The United States, Canada, and Mexico submitted an amendment to the Montreal Protocol to phase down the production and consumption of HFCs. This amendment proposal includes a four-step phasedown for developed and developing countries at varying timescales using HFC and HCFC baselines for both developed and developing countries, although the developing country baseline is calculated using later years than those proposed in 2013. Read the [proposed amendment](#). [Exit](#)

April 18, 2013

### **2013 North American Amendment Proposal to Phase Down HFCs**

The United States, Canada, and Mexico submitted a joint proposal to amend the Montreal Protocol in respect of the HFC phasedown. This amendment proposal – which is slightly more aggressive for developed countries than previous proposals – includes a four-step phasedown for developed and developing countries at varying timescales using an HCFC baseline for developing countries and HFC and HCFC baseline for developed countries. The baselines for all countries are calculated using later years than those proposed in 2011 and 2012. Read the [proposed amendment](#). [Exit](#)

May 11, 2012

### **2012 North American Amendment Proposal to Phase Down HFCs**

The United States, Canada, and Mexico submitted a joint proposal to amend the Montreal Protocol in respect of the HFC phasedown. The amendment proposal included a five-step phasedown for developed and developing countries at varying timescales. Read the [proposed amendment](#). [Exit](#)

May 9, 2011

### **2011 North American Amendment Proposal to Phase Down HFCs**

United States, Canada, and Mexico submitted a joint North American proposal to phase down the consumption and production of HFCs under the Montreal Protocol. The amendment proposal included a six-step phasedown for developed and developing countries at varying timescales using an HCFC baseline for developing countries and HFC and HCFC baseline for developed countries. Read the [proposed amendment](#). [Exit](#)

November 8, 2010

### **2010 North American Amendment Proposal to Phase Down HFCs**

The United States, Canada, and Mexico jointly proposed an amendment that would phase down the production and consumption HFCs under the Montreal Protocol. This HFC amendment proposal builds on efforts undertaken in 2009 by the North American Parties along with the Federated States of Micronesia and Mauritius.

November 4, 2009

**2009 North American Proposal to Phase Down HFCs**

The North American amendment proposal served as a starting point for discussions to adopt an amendment to the Montreal Protocol on HFCs. The United States joined the Governments of Canada and Mexico in support of the North American proposal to phase down the use of HFCs. This was an historic proposal where the three North American governments joined together to propose global action to address a common threat to our environment.