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Development of HFC Regulations and Lessons Learned – The Canadian Experience

Martin Sirois
Environment and Climate Change Canada
CCAC WS, Montreal, Canada
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Purpose

- To provide an overview of the Government of Canada's approach to controlling HFCs
 - Phasing down HFCs
 - Implementing the Kigali Amendment
 - Product Specific Controls
 - Lessons learned in developing regulations



Regulatory Development Process

- Broad stakeholder consultations took place throughout 2015 and 2016
 - Open and transparent process
- Proposed *Regulations Amending the Ozone-depleting Substances and Halocarbon Alternatives Regulations* were published in the *Canada Gazette*, Part I on November 26, 2016
 - Additional 75-day public comment period
- Final Regulations were published in the *Canada Gazette*, Part II on October 18, 2017
 - Coming into force 180 days from publication date



Objectives of the Regulations

- Implement Canada's obligations under the Montreal Protocol to phase down HFCs
 - Gradually reduce HFC consumption in Canada as per Kigali Amendment
- Avoid future emissions of HFCs, thereby minimizing their impact on climate
- Contribute to Canada's commitment under the Paris Agreement



Regulatory Framework

- Combines a phase-down of consumption with product-specific controls
 1. **Phase-down** – gradually reduces HFC consumption as per Kigali Amendment
 2. **Product-specific controls** – establish prohibitions on the import and manufacture of certain products or systems that contain or are designed to contain HFCs



Phase-Down

- Applies to companies importing and/or exporting **bulk** HFCs
- Establishes reduction steps in HFC consumption from a baseline level from a 10% reduction in 2019 down to a plateau of 15% in 2036
 - Permitting and reporting system already in place since December 2016
 - Quota system starts on January 1, 2019
- HFCs contained in pre-charged products or systems (e.g., cars, foams, A/C systems, domestic appliances) are not considered bulk and would not be included in the phase-down
 - Such products or systems are covered under the product-specific prohibitions



Product-Specific Controls

- Four sectors are targeted:
 - Refrigeration and air-conditioning systems
 - Mobile air-conditioning systems
 - Foam products
 - Aerosol products
- Product-specific controls prohibit, by a specific year, the import and manufacture of certain products or systems that contain or are designed to contain:
 - Any HFC with a global warming potential (GWP) greater than the designated limited; or
 - A blend that contains any HFC where that blend has a GWP greater than the designated limit

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Controls on Refrigeration and Air Conditioning systems

- It is prohibited to import or manufacture RAC systems that contain a refrigerant where:
 - the HFC refrigeration has a GWP > the specified limit;
or
 - the refrigerant blend that contains any HFC has a GWP > the specified limit
- It does not prevent the servicing, use and sale of refrigeration and air conditioning systems manufactured or imported before the date of prohibition

Note: foam products used in refrigeration and air conditioning systems also subject to controls



Product-Specific Controls

Product	GWP Limit	Timeline
Aerosols	150	2019
Foams	150	2021
Mobile air-conditioning	150	2021 model year
Stand-alone medium temp refrigeration	Commercial or industrial – 1 400 Domestic appliances – 150	2020 2025
Stand-alone low temp refrigeration	Commercial or industrial – 1500 Domestic appliances – 150	2020 2025
Centralized refrigeration system	2200	2020
Condensing Unit	2200	2020
Chillers	750	2025
Mobile refrigeration	2200	2025

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Why Combine a Phase-Down with Product-Specific Controls?

- **Phase-down**

- Implements Canada's obligations under the Kigali Amendment
- Ensures reduction in HFCs entering the Canadian market
- Pushes market toward transition while allowing business flexibility
- However, does not directly control quantities of HFCs for continuous servicing needs and used in existing equipment

- **Product-Specific Controls**

- Ensure more rapid deployment of products and systems using low GWP alternatives in sectors where alternatives are known to be available
- Reduce servicing needs for high-GWP HFC systems more rapidly
- Aligning with US EPA SNAP Rules to extent possible

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Lessons Learned in Developing Regulations

Phase-Down

- Proceed with consumption and production surveys and/or establish licensing and reporting system as soon as possible
 - Gathering robust consumption and production data is key in establishing baseline and phase-down
 - Provides early signal of efforts required to meet freeze and early reduction steps
- Quota system should provide some flexibility
 - Baseline years are in the past (2011-2013)
 - Allows for late “HFC Entrants” up to 2014 to have a quota
 - Does not limit quotas in specific sectors
 - Companies with allowances have flexibility to apply it to any sectors as long as they comply with their maximum allowed quantities calculated in CO2 equivalent



Lessons Learned in Developing Regulations (..2)

Product-Specific Controls –GWP limits and Timelines

- Avoid picking winners and losers – providing flexibility
 - Does not prohibit specific HFCs or prescribe available alternatives for different products and equipment
 - Allow for broader range of alternatives to be used
 - Allow time for flammability and standards issues to be addressed
 - Target sectors, applications where alternatives are readily available or are known to become available in near future, e.g, domestic A/C not included due to uncertainty surrounding suitable alternatives
- Align with neighbor countries to the extent possible
 - Allow for same alternatives
 - Avoid market disruptions

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For more information

Ozone Layer Protection Programs
Chemical Production Division
Environment and Climate Change Canada
Place Vincent Massey
351 St. Joseph Blvd., 11th Floor
Gatineau, Canada, Quebec K1A 0H3

Tel: 819-938-4228

Fax: 819-938-4218

Email: ec.gestionhalocarburess-halocarbonsmanagement.ec@canada.ca

