



# EPA Regulatory Update

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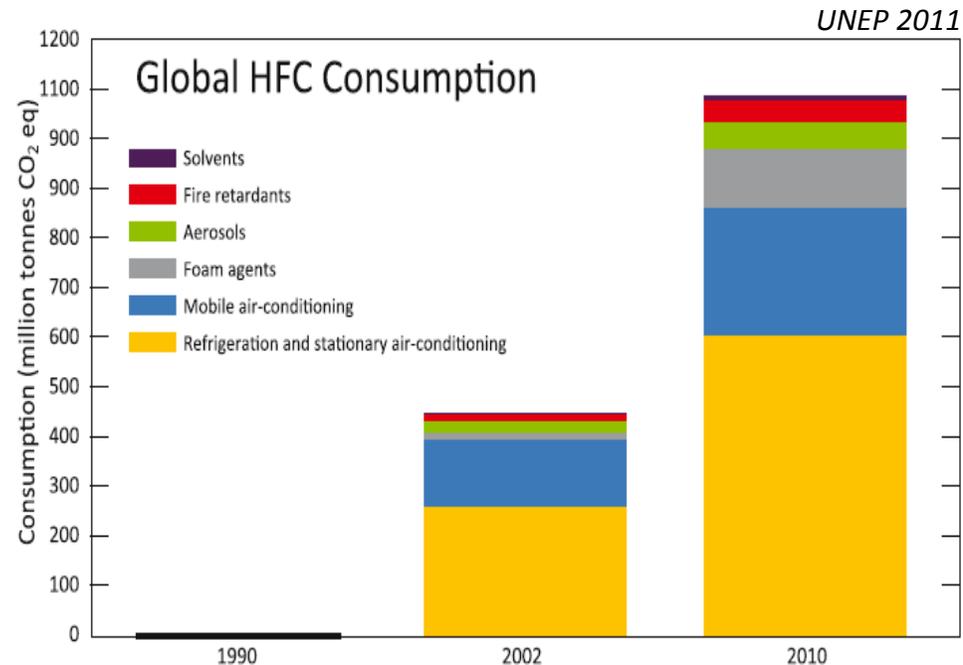
Energy & Store Development  
Conference  
New Orleans, LA  
September 13, 2016

**Drusilla Hufford, Director  
Stratospheric Protection Division  
U.S. Environmental Protection Agency**



# Why are Hydrofluorocarbons (HFCs) a Concern?

- Use and emissions of HFCs are growing rapidly, because they are replacements for ozone-depleting substances (ODS) being phased out under the Montreal Protocol
- HFCs are used in Air Conditioning (A/C), Refrigeration, Foam Blowing, Fire Suppression, Aerosols, Solvents
- When President Obama announced his Climate Action Plan in 2013, it was estimated that, without action, U.S. HFC emissions would double from current levels by 2020, and triple by 2030



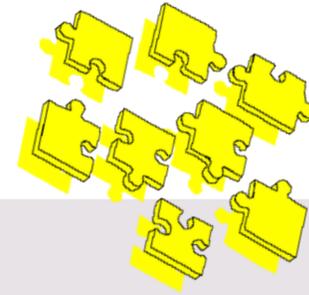


# President's Climate Action Plan

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- The CAP directed EPA to take action on HFCs domestically:
  - Use existing Clean Air Act authority of ***Significant New Alternatives Policy (SNAP) Program*** to approve climate-friendly chemicals and prohibit certain uses of most harmful chemical alternatives
  - Provide ***federal leadership by purchasing*** cleaner alternatives to HFCs whenever feasible and by ***transitioning*** to equipment using safer, more sustainable alternatives
  - Review national refrigerant management plan, leading to regulatory progress as well as industry/gov't commitments at White House (Fall 2014 and 2015)
- And internationally:
  - Support negotiations under ***Montreal Protocol*** to phasedown HFCs
  - Work with partners in the ***Climate and Clean Air Coalition (CCAC) to Reduce Short-Lived Climate Pollutants*** to promote climate-friendly alternatives to high-GWP HFCs, address standards, and reduce HFC emissions



Evaluates alternatives and lists them as:

**Acceptable**  
those that reduce *overall* risk to human health & environment

**Acceptable with use restrictions**  
if needed to ensure safe use

**Unacceptable**

Sectors include:

Aerosols

Foams

Refrigeration and Air Conditioning

Solvents

Fire Suppression

Adhesives, Coatings, Inks, etc.

Considers:

Ozone-Depletion Potential (ODP)

Global Warming Potential (GWP)

Flammability

Toxicity

Local Air Quality

Ecosystem Effects

Occupational & Consumer Health & Safety



# Significant New Alternatives Policy (SNAP) Program: Rules & Notices

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- Since 1994, through SNAP, EPA has:
  - Reviewed and listed over 400 alternatives in eight major use sectors including refrigeration and air conditioning
  - Maintained ongoing dialogue with stakeholders through meetings and sector-specific workshops to deepen our understanding of the range of alternatives, ongoing transitions, where & why options are limited, and other issues
- Since 2014, EPA has issued 6 SNAP actions:
  - Notices (October 2014, July 2015, May 2016) expanded list of alternatives, including for several refrigeration and A/C uses
  - Low-GWP Refrigerants Rule (April 2015) expanded list of acceptable alternatives
  - Change of Status Rule (July 2015) addressed specific HFC uses where there are safer alternatives, finding some refrigerants unacceptable with time to transition

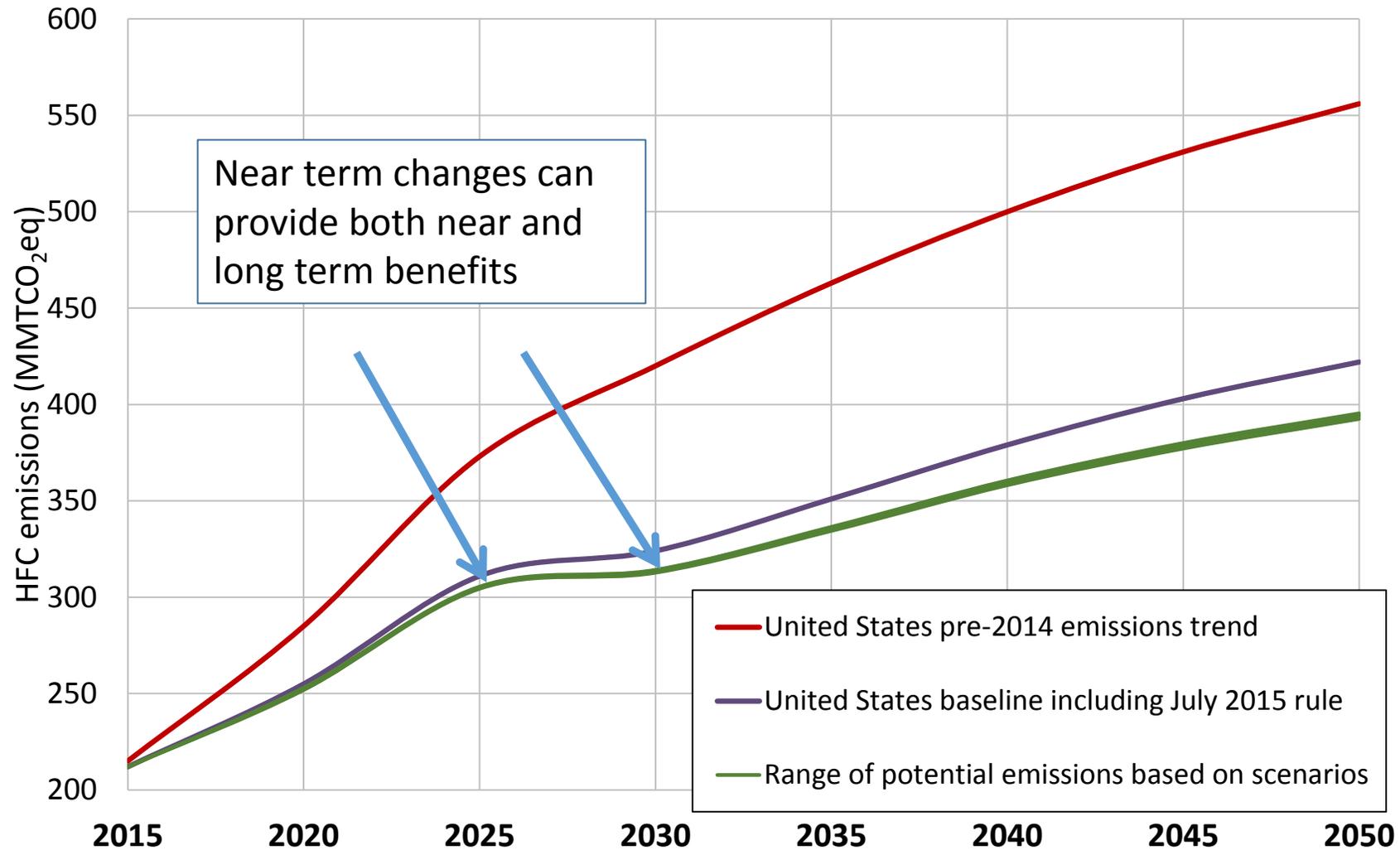


# Significant New Alternatives Policy (SNAP) Program: Proposed Rule

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- April 2016 proposed rule covers the refrigeration and air conditioning, foam blowing, and fire suppression sectors
- Changes of status for refrigeration and A/C uses would occur between January 2021 – January 2024
- Estimated avoided emissions up to 7 MMTCO<sub>2</sub>eq in 2025 and up to 11 MMTCO<sub>2</sub>eq in 2030
- In response to stakeholder requests, EPA extended the comment period for the rule; it closed June 16
- We are now actively reviewing comment and preparing responses as we draft a final rulemaking
  - Proposal now undergoing interagency review

# HFC Emissions Reductions: up to 7 MMTCO<sub>2</sub>eq in 2025 and up to 11 MMTCO<sub>2</sub>eq in 2030





# Federal Procurement

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- Federal Acquisition Regulatory (FAR) Council has worked to support federal leadership in purchase of alternatives to HFCs
- Final rule issued May 16, 2016
  - DoD, GSA, NASA joint rule with significant EPA input
- Directs federal agencies to purchase, where feasible, safer alternatives to high-GWP HFCs and encourages transition over time to equipment using more sustainable alternatives
- By providing links to SNAP lists that ease access to information and updates, positions agencies for success in meeting GHG emission reduction goals in Executive Order 13693, *Planning for Federal Sustainability in the Next Decade*



## Section 608: National Refrigerant Management Program

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- Purpose of Section 608 of Clean Air Act: Reduce emissions of ODS and substitute refrigerants during the maintenance, service, repair and disposal of refrigeration and A/C equipment
- Current requirements include:
  - Prohibition against knowingly venting (ODS and substitute refrigerants)
  - Service practices (ODS)
  - Safe disposal requirements (ODS)
  - Leak repair and prevention for larger appliances (ODS)



# Section 608: National Refrigerant Management Program Updates

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- EPA proposed rule in November 2015 - in response to CAP and industry petitions – to accomplish these things:
  - Extend Section 608 requirements to HFCs and other substitutes that are not exempt from the venting prohibition
  - Decrease leaks from large equipment
  - Enhance clarity and ease of compliance
  - Further strengthen incentives supporting careful refrigerant management
- Estimated benefit: reductions of 7.5 MMTCO<sub>2</sub>eq – the equivalent of taking ~1.6 million cars off the road each year
- Estimated annual cost: \$63 million; the regulated community would experience \$52 million in cost savings related to reduced purchases of refrigerant
- We’re reviewing comments to support thoughtful but expeditious final rule; now undergoing interagency review



# Air Conditioning Growth

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**The Washington Post**

Energy and Environment

## The world is about to install 700 million air conditioners. Here's what that means for the climate

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By [Chris Mooney](#) and [Brady Dennis](#) May 31

- “The world is poised to install 700 million air conditioners by 2030, and 1.6 billion of them by 2050. In terms of electricity use and greenhouse gas emissions, that’s like adding several new countries to the world.”
- To address this challenge, it will be vital to combine domestic regulations controlling HFCs with broader international efforts (Montreal Protocol), to support global efforts to adopt lower-GWP efficient A/C technology.



# Montreal Protocol and HFCs

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- *The Dubai Pathway on HFCs* adopted at the November 2015 Meeting of the Parties states countries will “work within the Montreal Protocol to an HFC amendment in 2016.”
  - The U.S., Canada, and Mexico proposed an HFC phasedown amendment, as well as Island States, EU and India
- Meetings continue throughout 2016: April in Geneva, July 18-23 in Vienna, October 2016: Meeting of the Parties in Kigali, Rwanda
- The U.S. is demonstrating domestic leadership through executive actions and private sector commitments
  - Will reduce global HFC consumption by more than a billion metric tons of CO<sub>2</sub>eq through 2025
  - American businesses, including the commercial refrigeration industry, are already developing and implementing climate-friendly alternatives to HFCs



## Broader International/USG/Industry Partnerships

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- **Advanced Cooling Challenge:**
  - Launched June 2016 at the Clean Energy Ministerial (CEM) by Canada, China, India, Saudi Arabia and the United States
  - Global campaign challenges governments, companies, and other stakeholders to develop and deploy at scale super-efficient, smart, climate-friendly and affordable cooling technologies.
  - Commitments already made by many companies with support from environmental and public health groups
- Also at CEM, Secretary Moniz announced that the U.S. Department of Energy with AHRI and ASHRAE would be devoting \$5.2 million funding for flammable refrigerant research, to support revising standards for safe use of A2, A2L and A3 refrigerants
  - California (ARB) is contributing additional funds to support this effort



## Summary

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- There is tremendous momentum and progress in the effort to phasedown HFCs, and identify and support transition to lower-GWP alternatives
- Global focus of efforts to identify alternatives, find and solve trouble spots and sectors needing attention, can help avoid buildup of high-GWP HFCs as demand grows in developing countries
- EPA appreciates technical exchanges and continues to work to complete current rulemakings, informed by industry requests and comments



# Thank You!

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- Drusilla Hufford, U.S. EPA
- 202-343-9101
- [hufford.drusilla@epa.gov](mailto:hufford.drusilla@epa.gov)