



Update on EPA Actions

ATMOsphere America 2014

June 18-19, San Francisco

EPA Actions Described in this Presentation

- Recent Actions
 - Exemption to the Venting Prohibition for 3 specific refrigerant substitutes
- On-going/Near Term Actions
 - Hydrochlorofluorocarbon (HCFC) Phase Out Allocations
 - President's Climate Action Plan – on Hydrofluorocarbons (HFCs)
 - International
 - Amendment Proposal to add HFCs to Montreal Protocol
 - Domestic
 - Federal procurement of alternatives to HFCs
 - Significant New Alternative Policy (SNAP) new listing regulation
 - SNAP status change regulation

Venting Exemption for 3 Specific Refrigerant Substitutes

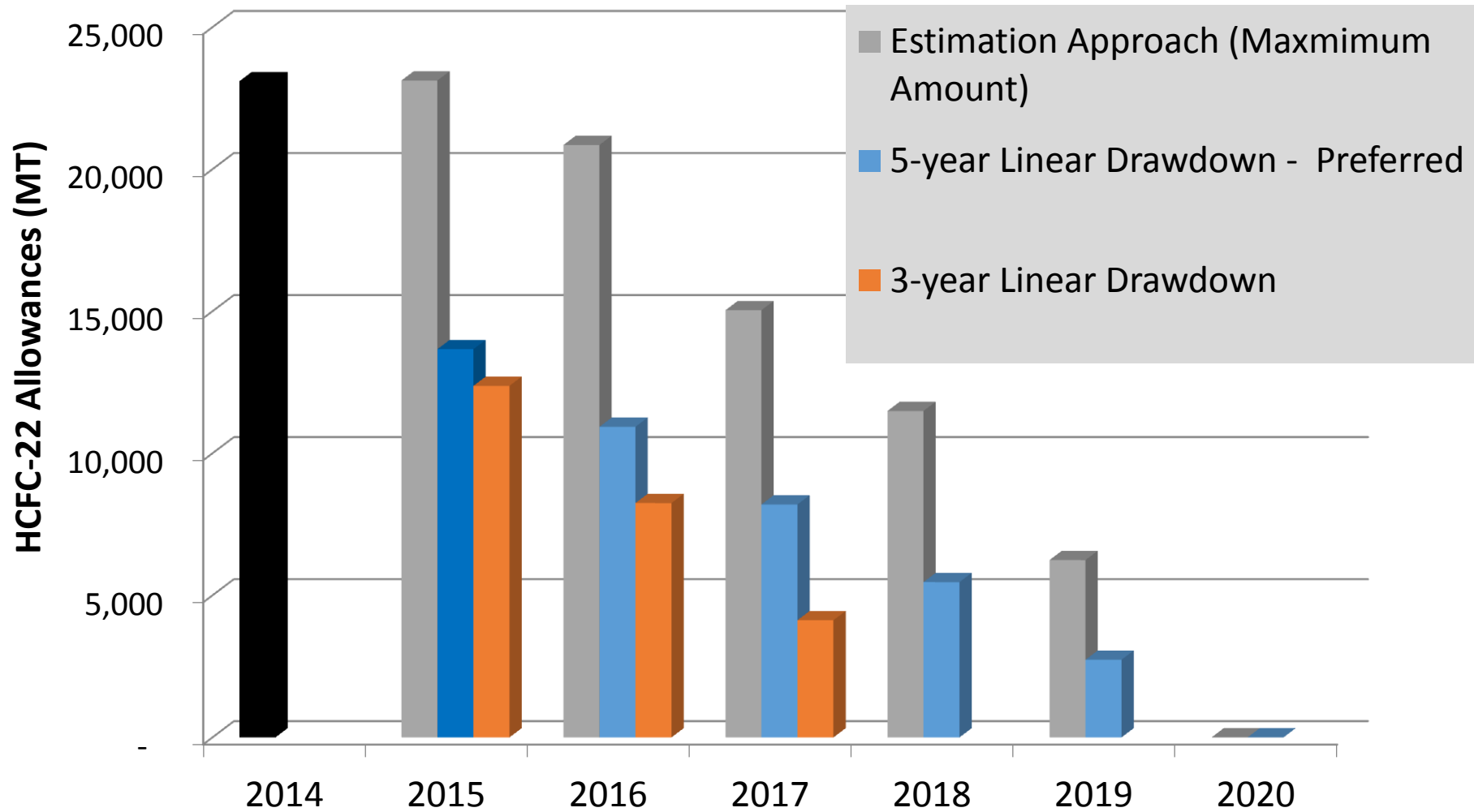
- Final Rule published 5/23/2014
- Exemption for 3 Specific HCs from the Venting Prohibition
 - Section 608 of Clean Air Act prohibits venting ODS and their substitutes during maintenance, service, repair or disposal
 - EPA determined the release of the 3 specific HCs from specific end-uses does not pose a threat to the environment
- Exemption for 3 Specific Substitutes and Their End-Uses
 - R-600A (isobutane) & R-441A: for household refrigerators & freezers & combinations
 - R-290 (propane): for retail food refrigerators and freezers (standalone units)

HCFC-22 Phase Out Timeline

- **Jan. 1, 2010:** HCFC-22 may only be produced or imported for use in servicing and maintaining pre-2010 systems
- **Jan. 1, 2015:** Allowed production/import will be at least 45% below 2010 level, as required by the Montreal Protocol
- **Jan. 1, 2020:** No production or import of HCFC-22
 - Used, recovered and recycled material may still be used
 - Virgin material imported or produced before Jan. 1, 2020 may still be used until 2030

Approaches for HCFC-22 Phase Out

Comparison of EPA's Three Proposals



These 3 approaches are shown in Table 1 of the Proposed Rule

What Does the President's Climate Action Plan Say about HFCs?

- Continue international diplomacy
 - Lead negotiations under the Montreal Protocol to phase down HFCs
 - Global phase down could reduce over 90 gigatons of CO₂eq by 2050, equal to roughly two years worth of current global GHG emissions
 - Work with partners in the ***Climate and Clean Air Coalition to Reduce Short-Lived Climate Pollutants*** to promote climate-friendly alternatives to high-GWP HFCs, address standards, and reduce emissions from HFC use
- Address through domestic actions
 - Use existing Clean Air Act authority of ***Significant New Alternatives Policy (SNAP) Program*** to approve climate-friendly chemicals, prohibit some uses of most harmful chemical alternatives
 - Provide federal leadership by ***purchasing cleaner alternatives to HFCs*** whenever feasible and by ***transitioning to equipment using safe, more sustainable alternatives***



2014 North American Amendment Proposal To Add HFCs to the Montreal Protocol

- Proposed amendment would:
 - Control HFC production and consumption
 - Create a phase *down*, not phase *out*, of HFCs
 - Control by-product emissions of HFC-23
- Why the Montreal Protocol
 - More Than 20 Years Experience With the sectors
 - Air-conditioning, refrigeration, solvents, foams, aerosols, adhesives, coatings & inks, and fire suppression
 - Existing appropriate support structure
 - Multilateral Fund
 - Technology and Economic Assessment Panel (TEAP)
 - Science Advisory Panel (SAP)
- Cumulative Benefits of 2014 Amendment Proposal
 - Estimated range of benefits through 2050: 93,800 – 115,000 MMTCO₂e

Momentum is Building for Amendment Proposal

- In 2013:
 - Bilateral outcomes with China to work together and with other countries to address HFCs under MP
 - G-20 agreement to use institutions & expertise of MP to phase down HFCs
 - Arctic Council Declaration to use MP to phase down HFCs
 - CCAC Ministerial Communiqué endorsing MP phase down
- June 5, 2014, Brussels G-7 Summit Declaration:
 - *We will work together and with others to phase down the production and consumption of hydrofluorocarbons (HFC) under the Montreal Protocol. We will also continue to take action to promote the rapid deployment of climate-friendly and safe alternatives in motor vehicle air-conditioning and we will promote public procurement of climate-friendly HFC alternatives*

Domestic - Immediate Next Steps by EPA

- Share information to facilitate and focus individual stakeholder input
- Currently planning two separate rulemakings
 - 1) New SNAP Listing Rule
 - Would propose adding new low GWP refrigerants as acceptable subject to use conditions
 - Expected timing: proposed rule this spring
 - 2) SNAP Status Change Rule
 - Would propose changing the status of certain high GWP HFCs
 - Expected timing: proposed rule in the summer

Some Key Principles Guiding Our Thinking for SNAP Actions

- SNAP should continue its end use by end use and chemical by chemical approach
 - No across the board GWP cut offs
 - No prohibition on HFCs as a whole, or in any one sector
- We continue to evaluate new alternatives
 - New HFCs or HFC blends may be listed if risk is not greater than other acceptable substitutes
- Recognition that timing is a critical dimension and that each end use has unique considerations
 - Consider the useful lifetimes of equipment
- SNAP benefits from the input of stakeholders
 - EPA is engaging through large stakeholder meetings, workshops and individual meetings

Low-GWP Refrigerants – SNAP Listing Rule

- EPA is developing a proposed rule that would expand the list of low-GWP, climate-friendly alternatives for air conditioning and refrigeration applications
 - Add alternatives particularly where current options are limited
 - Since these refrigerants are flammable, EPA is planning to propose appropriate use conditions that adopt safety standards

Refrigerant	GWP	End Use and Application EPA is Considering					
		Household Refrigerators	Retail refrigerator stand-alone	Vending	Very Low Temp Ref	Heat Transfer	Home AC-Self-contained
Ethane	6				✓	✓	
Iso-butane*	8		✓	✓			
Propane*	3	✓		✓			✓
R-441A* (HC blend)	<5		✓	✓			✓
HFC-32	675						✓

**listed 12/2011 for other refrigeration application*

Current Thinking – Possible SNAP Status Changes

- Consumer Aerosols (non-medical & non-technical aerosols)
 - Change status for HFC-134a, HFC-227ea and HFC-125
 - Retain HFC-152a
- Various foam blowing end uses
 - Change status by foam type, generally HFC-134a and higher GWPs
- Commercial Refrigeration
 - Vending Machines and Stand-Alone Reach-In Coolers
 - Change the status for HFC-134a and HFC blends with higher GWPs
 - Multiplex Supermarket Systems
 - Change the status for R-507A, R-404A and other HFC blends with high GWPs
 - Retain R-407A , R407F, others
- Motor Vehicle Air Conditioning
 - Change the status for HFC-134a