Preparing for 2010 and the Next Major Milestones in the HCFC Phaseout

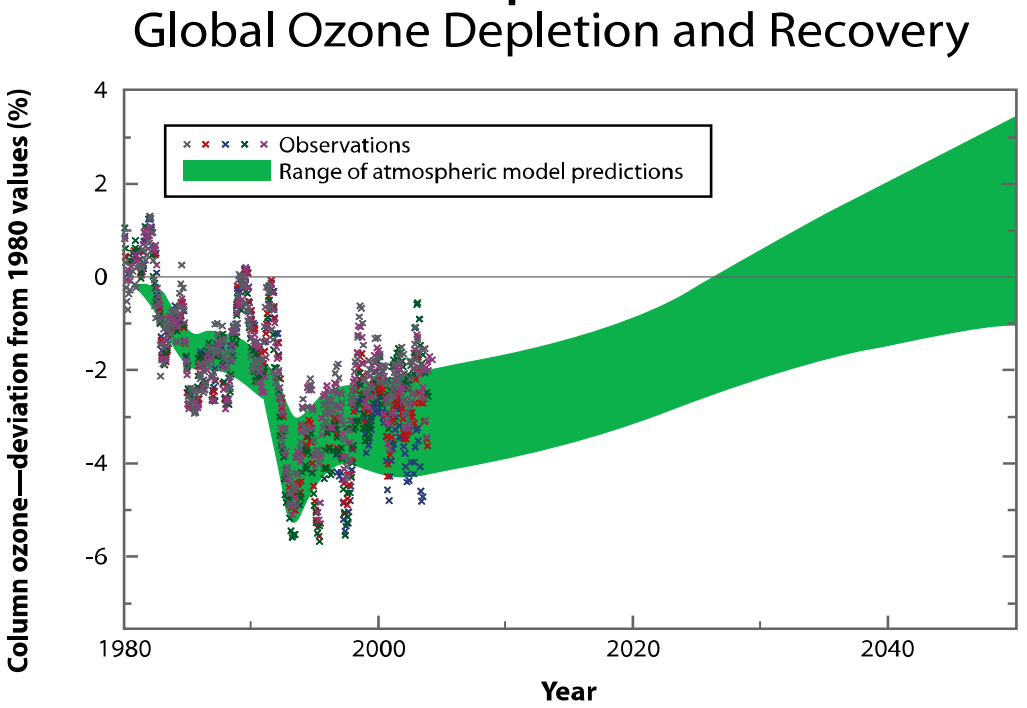
February 4, 2009

Agenda

1. Phase-out – Global Context
2. Proposed Allocation Rule
3. Proposed Pre-Charged Appliances Rule
4. How these Rules Work Together

Montreal Protocol

- US has been a global leader
  - First with 26 other nations to sign Protocol in 1987
- "Most successful international environmental treaty ever" – 193 nations, measurable requirements
- Restores ozone layer and prevents harmful effects of higher UV radiation
  - 6.3 million U.S. skin cancer deaths prevented by 2165
- Greenhouse gas co-benefits



U.S. HCFC Phaseout Regulations

- 1993 rule established HCFC framework/schedule
  - Stepwise reductions to meet Montreal Protocol
  - ‘Worst-first’ approach – 141b first, 22 & 142b next
- 2003 rule allocated allowances:
  - HCFC-141b phased out
  - Set consumption limits on HCFC-22 and HCFC-142b for individual companies
  - Must hold/expend consumption allowances to import virgin HCFC-22 and HCFC-142b in bulk
  - Montreal Protocol 35% step-down met
- New proposed rules will cut HCFC-22 supply more
  - Will meet new, stricter Montreal Protocol requirement (75% step-down)

Two Proposed Rules to Protect the Ozone Layer (December 23, 2008)

- "2010 Allocation Rule" sets new limits on HCFC production and import – continues Montreal Protocol phase down
- "Pre-Charged Appliance Rule" bans sale/distribution (including import) of AC & R products and components pre-charged with HCFC-22
- Proposed rules will restrict the availability and use of HCFC-22 starting in 2010
- To ensure stricter cap is met, EPA is balancing:
  - Servicing needs for existing equipment
  - Availability of recycled/reclaimed refrigerant
  - Market needs/dynamics for other HCFCs

Schedule For Regulations

- Proposed rules → Dec. 23, 2008
- Comment periods close:
  - Pre-Charged Appliances → February 6, 2009
  - 2010 Allocation → March 9, 2009
- Final rule released → *Summer-Fall 2009?*
  - ***No HCFC-22 or HCFC-142b production or import unless the rule is complete***
  - Recognize businesses must plan
  - Looking for smooth transition, clear signals

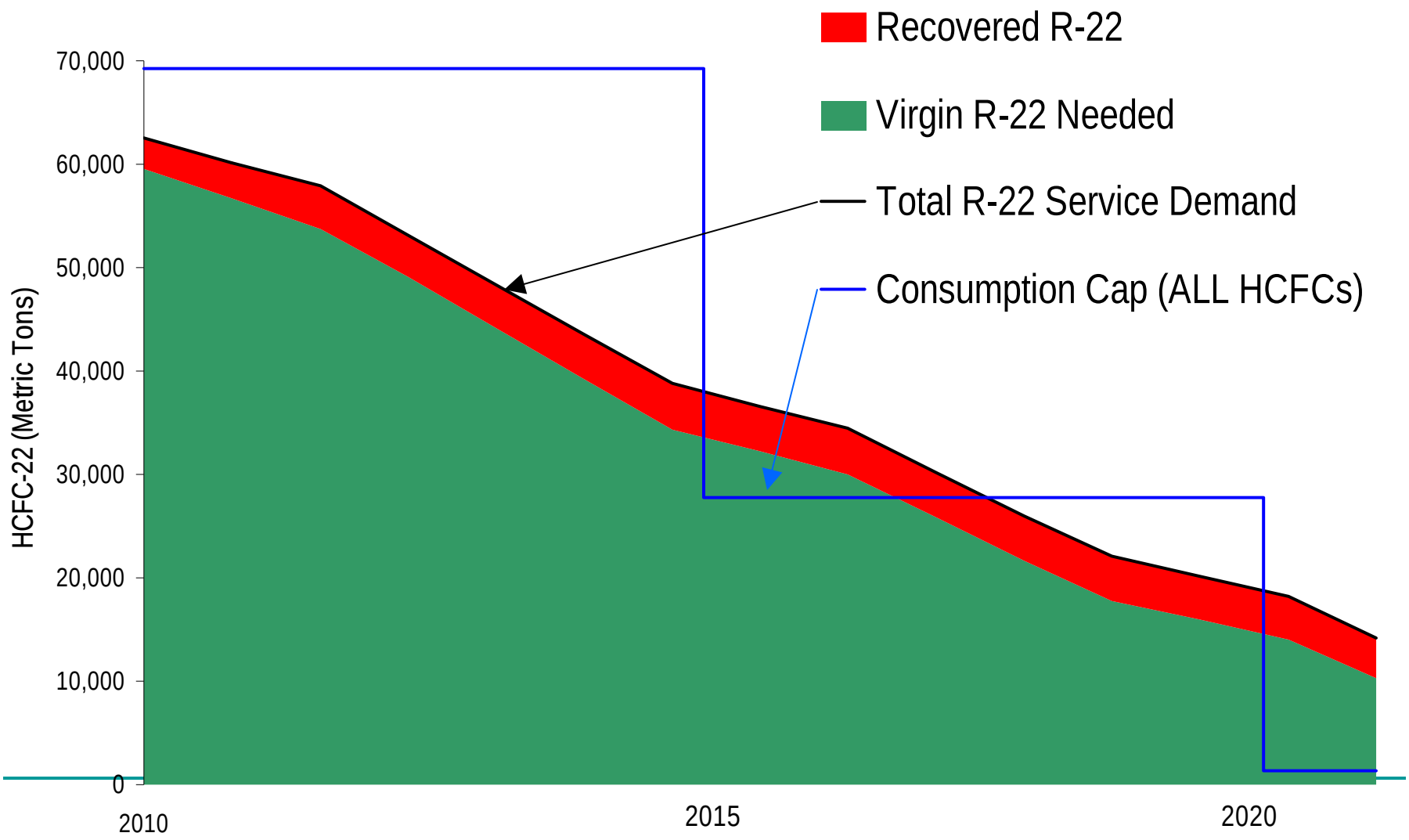
2010 Allocation Rule

- HCFC consumption must be reduced significantly to meet international obligations
- Proposes HCFC production and import limits for 2010-2014
  - Considers servicing needs of HCFC-22 equipment (93% of the cap)
  - Vast majority of allocations for HCFC-22, but only may be used to service equipment manufactured prior to January 1, 2010
  - Allocations also proposed for HCFC-123, -124, -142b, -225ca & -225cb: used as solvents, refrigerants, sterilants, fire protection agents & other uses

Servicing Existing HCFC-22 Equipment after 2010

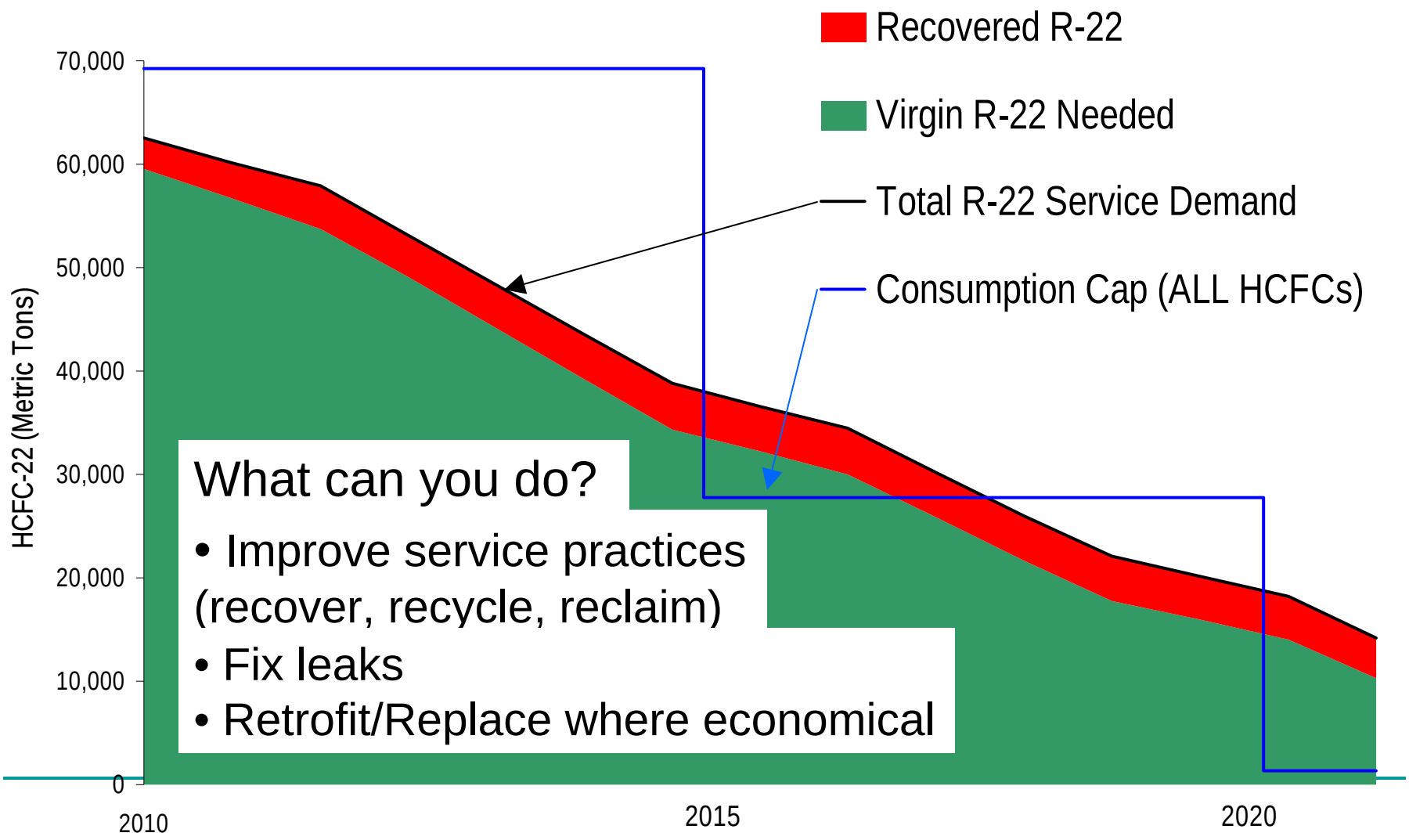
- Consumers **won't be** required to stop using HCFC-22
- Consumers **won't be** required to replace existing equipment
  - Existing (pre-2010) equipment using HCFC-22 (or blends containing it) **may be** serviced as usual
- But much less HCFC-22 will be available
  - Increasing role for reclamation!

HCFC-22 Supply and Demand



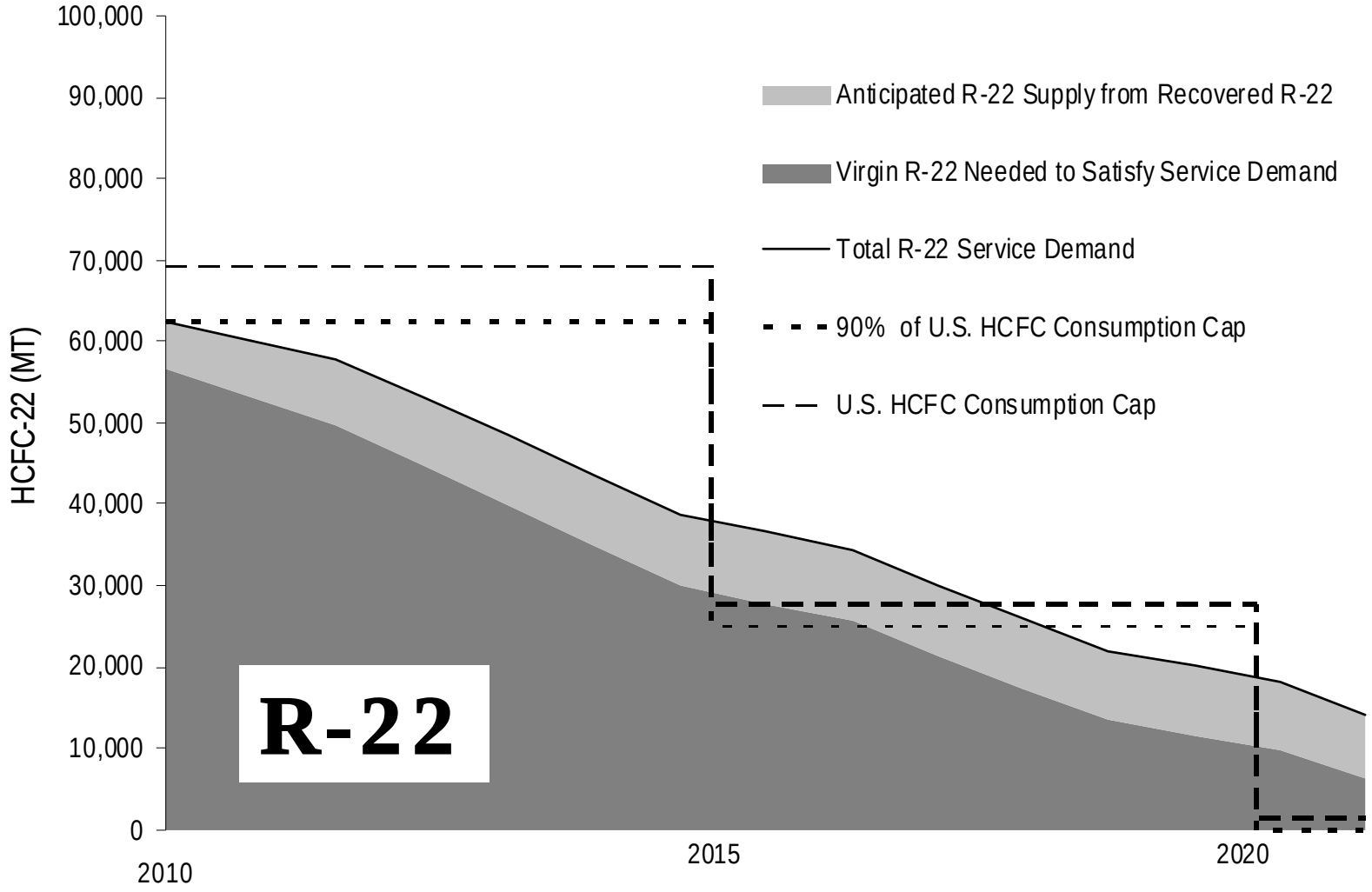
Source: EPA's Vintaging Model (VM IO file_2007_11-12-07)

HCFC-22 Supply and Demand



Source: EPA's Vintaging Model (VM IO file_2007_11-12-07)

Scenario: Projected R-22 Needed with 20 Percent Recovery



Source: EPA's Vintaging Model (VM IO file_2007_11-12-07)

Important Findings of Serving Tail Analysis

- In 2010, HCFC-22 needs are 93% of the 2010 cap
- Other HCFCs are just a small % of use
- In 2015, HCFC-22 needs will exceed the 2015 cap by more than 10,000 metric tons
- Recovery and reuse needed to provide room under the cap and meet demand for all HCFCs
- "What can you do?
  - Improve service practices (recover, recycle, reclaim)
  - Fix leaks
  - Retrofit/Replace where economical"

2010 Allocation Rule Continues Implementation of Use Ban

Self-effectuating ‘use’ ban -- Clean Air Act §605(a):

Effective January 1, 2015*, it shall be unlawful for any person to **introduce into interstate commerce or use** any class II substance [HCFC] unless such substance:

1) has been used, recovered, and recycled;
2) is used and entirely consumed in the production of other chemicals; or
3) is used as a refrigerant in **appliances manufactured prior to** January 1, 2020*

*Use ban for HCFC-22 accelerated to 2010

"Appliances Manufactured Prior to"

- When is an appliance manufactured?
- EPA proposed:
  - Refrigerant loop complete
  - Holds the complete and proper charge
  - Ready for use for its intended purposes
- Why it's tricky:
  - Refrigerators and room air-conditioners may be manufactured at a "manufacturing facility"
  - Commercial refrigeration, split-systems, cold storage warehouses generally field charged with refrigerant, refrigerant loop typically completed onsite

Pre-Charged Appliances

- Proposed ban on the sale/distribution of AC & R products and components pre-charged with HCFC-22 as of 1/1/2010
  - Components include linesets, condensing units, TXVs
- Ban would not apply to pre-charged appliances manufactured before 1/1/2010
- Ban would not apply to pre-charged components manufactured before 1/1/2010
- Levels playing field
  - 2010 Allocation Rule and existing requirements effectively prohibit U.S. manufacturers from charging newly-manufactured appliances with virgin HCFC-22
  - this proposed rule stops import of such items

How Would the Proposed Rules Work Together?

- “Appliance” means any device that contains and uses a refrigerant and which is used for household or commercial purposes, including an air conditioner, refrigerator, chiller, or freezer. Components such as condensing units, line sets, and expansion valves would *not* be considered “appliances”
- “Appliances manufactured prior to January 1, 2010” means before that date, refrigerant loop is completed and appliance can function, holds complete and proper charge, and is ready for use for its intended purposes
- “Interstate commerce” means entire distribution chain up to and including point of sale to ultimate consumer, including sale or distribution of imported products as well as or distribution of products intended for export

How Would the Proposed Rules Work Together?

- Allows self-contained, factory-charged *appliances* (e.g., pre-charged window units, PTACs, and some commercial refrigeration units) manufactured *before* January 1, 2010
- Allows pre-charged appliance *components* manufactured before January 1, 2010 and used to servicing existing (pre-2010) appliances
- Generally, sale/distribution would *not* be allowed for pre-charged appliances/components (charged with HCFC-22 or a blend containing it) *manufactured on or after January 1, 2010*
  - Proposed exemption for pre-charged appliances/components charged with reclaimed refrigerant
- *Servicing* of existing (pre-2010) appliances containing HCFC-22 would be allowed
  - Servicing includes replacing components
  - Pre-charged component manufactured before January 1, 2010 could be used
  - “Dry” (nitrogen charged) components could be used

Additional Information

- Additional Info:
  - www.epa.gov/ozone/title6/phaseout/classtwo.html
  - www.epa.gov/ozone/title6/allowance.html

- Contact us:
  - Cindy Newberg: (202) 343-9729
  - Ross Brennan: (202) 343-9226
  - Julius Banks: (202) 343-9870
  - Jeremy Arling: (202) 343-9055
  - emails: *Last.First*@epa.gov