



# **EPA Regulatory Update**



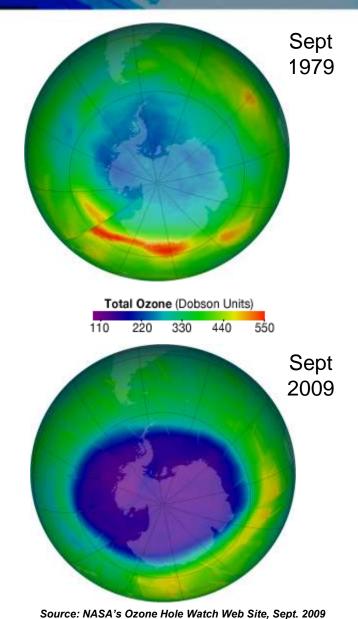


### **EPA Regulatory Topics**

- R-22 Phaseout & Supply
- R-22 Use
- Proposed Amendments to §608 Regulations
- SNAP
- Greenhouse Gas Reporting
- Pre-Charged Appliances
- Metered Dose Inhalers
- Display Case Insulating Foam
- Possible Future Regulatory Topics?



- Chlorine in stratosphere increased steadily from 1960 & peaked at end of 20<sup>th</sup> century
- Expected to gradually decrease through 21<sup>st</sup> century
- End of 21<sup>st</sup> century, ozone-depleting chemicals back to 1960 level



Source: Twenty Questions and Answers about the ozone layer: 2010 Update (Scientific Assessment of Ozone Depletion: 2010)

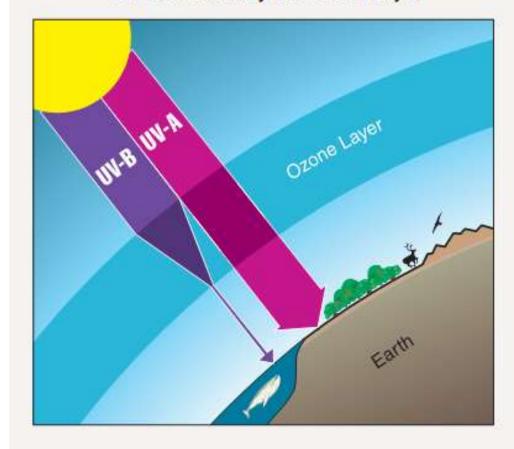




# Environment & Health: Protection by the Ozone Layer

- Ozone layer shields Earth from ultraviolet radiation:
  - Skin cancer
  - Cataracts
  - Weakened immune systems
  - Damage to plant life, single-cell organisms, aquatic ecosystems
- Economic impacts

UV Protection by the Ozone Layer





### R-22 Phaseout & Supply

- Goal = gradually transition away from R-22
- Phaseout not meant to cause shortages in 2010 meant to get us to zero by 2020
- Jan 1<sup>st</sup>, 2010: decreased amount of R-22 allowed to be produced or imported for domestic use
- 2012-2014: R-22 phaseout continues with annual step-down approach
- 2015: R-22 supply will be maximum 10% of baseline
- 2020: Phaseout of all production and import of R-22



#### Clarification on R-22 Use in Supermarkets

- Virgin R-22 is only allowed for maintenance and repair (i.e. servicing) of existing systems
- Changes to an existing R-22 system that expand the system (increase the cooling capacity) are not considered regular servicing/maintenance
  - Virgin R-22 may not be used
  - Whole system must now use recovered or reclaimed R-22
- Keep detailed records of recovered or reclaimed
   R-22 used



# Goals: Proposed Amendments to §608 Regulations

- Reduce use/emissions of ozone-depleting refrigerants to lowest achievable level
- Establish similar requirements for owners/operators of comfort cooling, commercial refrigeration, & industrial process refrigeration appliances
- Clarification of definitions & regulatory interpretations
- GreenChill Webinar-EPA's Proposed Amendments to the §608 Leak Repair Regulations
  - http://epa.gov/ozone/partnerships/greenchill/events.html
     -under Webinar Archives



#### Proposed Amendments to §608 Regulations

- Lowers leak repair "trigger rate" from 35% to 20%
- Requires verification & documentation of all repairs
- Requires retrofit or retirement of appliances that cannot be sufficiently repaired
- Allows for flexibility in repair or retrofit timelines
- Requires replacement of appliance components with history of failures
- Mandates recordkeeping of determination of full charge & fate of recovered refrigerant



# Timing: Proposed Amendments to §608 Regulations

- Next step: respond to all public comments
- Finalize the rule
- Broader EPA review
- Broader review by other federal agencies, coordinated by the White House's Office of Management & Budget
- Publication in Federal Register (Goal is mid 2012)



### SNAP – New Refrigerants

- Proposed Hydrocarbon Rule
  - Allows use of R-600a (Isobutane), R-441A (HCR-188C1) in new household refrigerators & freezers
  - Allows use of R-290 (Propane) in new retail food selfcontained units
  - Use conditions: equipment must meet UL standards, charge limit of 57 grams of R-600a and 150 grams of R-290, red colored ports, unique fittings

#### Final rule

- Intra-EPA review completed
- Interagency review begun (< 90 days from early Sept.)</li>
- EPA Administrator reviews & signs rule, published
- Final rule expected later this year / early next year



#### SNAP – New Refrigerants

# Listing Planned for this Fall

- R-407F in retail food refrigeration, and cold storage warehouses
- Hot Shot 2 (HFC blend) in retail food refrigeration, vending machines

#### **Under Review**

- R-290/Propane in vending machines
- HFO-1234yf in retail food stand-alone units, household refrigerators & freezers, vending machines
- RS-50 in retail food refrigeration



#### SNAP – Not Under Review!

- Carbon Dioxide for vending machines
- HFO-1234yf for commercial rack systems
- HFO-1234yf blends for retail food refrigeration
- HFO-1234ze for retail food refrigeration
- Hydrocarbons for commercial rack systems
- R-600a/Isobutane for retail food selfcontained units
- Hydrocarbons for air conditioning



### Greenhouse Gas Reporting Program

- Goal is to collect information on greenhouse gases to inform future policy decisions
- Gathers information from the sources of 85-90% of U.S. greenhouse gas emissions
- Reporting only, no control or use requirements



# Subpart QQ - Imports and Exports of Fluorinated Greenhouse Gases in Pre-Charged Equipment & Insulating Foam

- Importers and/or exporters if either their total imports or their total exports of fluorinated greenhouse gases in equipment and foams is ≥ 25,000 MTCO2e per year
- First annual report due Sept. 30, 2011
- March 31<sup>st</sup> in subsequent years



# Did I import more than 25,000 MTCO<sub>2</sub>e?

- How many MTCO<sub>2</sub>e of fluorinated greenhouse gas refrigerant did I import inside pre-charged equipment, appliances, etc.?
- How many MTCO<sub>2</sub>e of fluorinated greenhouse gases did I import in closed-cell foam (incl. inside equipment, appliances, etc.)?



### Pre-Charged Appliance Rule

- Prohibits sale & distribution of
  - A/C & refrigeration appliances pre-charged with R-22
  - Components pre-charged with R-22
- Applies to appliances & components manufactured on/after 1/1/2010
  - Allowed to import a used soda vending machine containing R-22 that was manufactured prior to 1/1/10
  - Allowed to purchase a dry R-22 component to repair an existing R-22 refrigeration system



#### Metered-Dose Asthma Inhalers

- Epinephrine metered-dose asthma inhalers use CFC-12 as a "puffing" agent
- Sold over-the-counter as Primatene Mist
- Manufacture & sale banned as of Dec. 31, 2011 – must be removed from shelves





### Display Cases & Insulating Foam

- Display cases manufactured before 2007 probably used R-22 as the foam blowing agent for insulating foam
  - At end of life, insulating foam gets shredded or degrades in landfill
  - Harms ozone layer and contributes to climate change just like R-22 refrigerant being vented
- By properly disposing of display cases & insulating foam, a typical supermarket can prevent:
  - 200 lbs. of R-22 blowing agent: 165 MTCO<sub>2</sub>eq (carbon dioxide emissions from 18,000 gallons of gas)



### Display Cases & Insulating Foam

- Possible rebates from power company for upgrades to more energy efficient display cases
  - Must prove energy efficiency improvements
  - Must properly destroy insulating foam



- Pilot project with Orange & Rockland Utilities
  - Have the recycler
  - Have the utility
  - Just need the supermarket!



# Possible Regulatory Topics in 2012

- Revamping reclaimer requirements?
- Reusable 30 lb. cylinders?
- Revamping service tech certification?
- SNAP evaluation of additional substitute refrigerants & technologies
- Finalizing rule for 2012-2014 R-22 phaseout



# Supermarket Industry

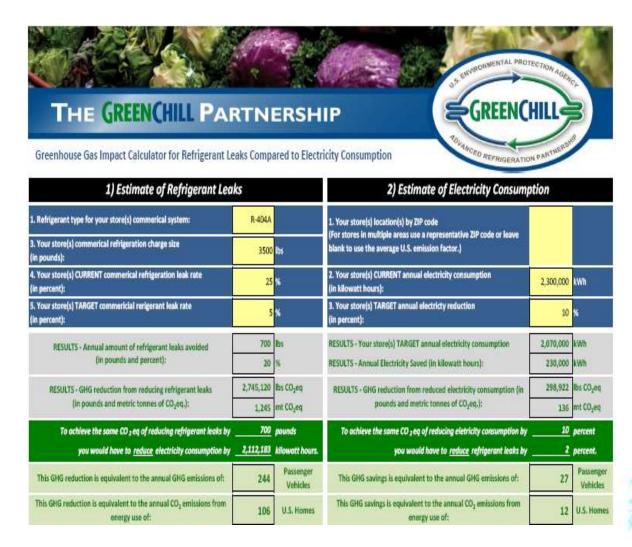






#### Calculator: Climate Impact of Refrigerant Leaks

Calculate the climate impact of your store or company's electricity consumption & refrigerant leaks at <a href="https://www.epa.gov/greenchill">www.epa.gov/greenchill</a> (under Reports, Guidelines and Tools -> Tools and Calculators)





# Calculator: Climate Impact of Refrigerant Leaks

- Uses electricity as comparison
- Average supermarket's refrigerant leaks impact climate as much as the store's entire annual electricity use

To achieve the same CO $_2$ eq of reducing refrigerant leaks by $_{\_}$	700 pounds
you would have to <u>reduce</u> electricity consumption by _	2,112,183 kilowatt hours.
To achieve the same CO $_2$ eq of reducing eletricity consumption by	10 percent
you would have to <u>reduce</u> refrigerant leaks by	2 percent.





## Financial Impact Calculator: Refrigerant Leaks

 Calculate how much product a store must sell to pay the replacement cost of leaked refrigerant.

You have to sell 19,514 gallons of milk to pay the replacement cost of 100 pounds of refrigerant

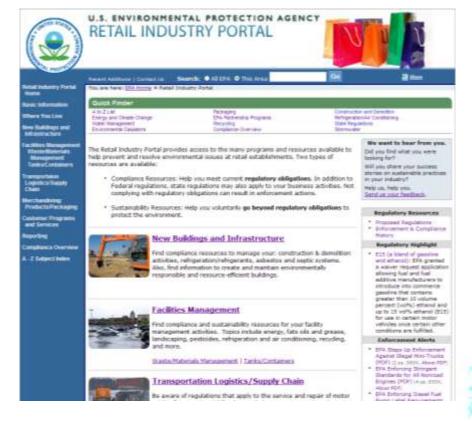




#### Energy & Store Development Conference

#### EPA's Retail Web Portal

- Combines all relevant EPA regulatory, compliance, & sustainability info for retailers in one place
- Go to www.epa.gov/retailindustry
- Webinar recording on EPA's Retail Portal available under Archives at <a href="http://www.epa.gov/greenc">http://www.epa.gov/greenc</a> hill/events.html
- Developed together with FMI, RILA, & NRF





### GreenChill's Monthly Webinar Series

 Past GreenChill webinars available under Archives at

http://www.epa.gov/greenchill/events.html

 Send email to <u>EPA-GreenChill@stratusco</u> <u>nsulting.com</u> to receive invitations to GreenChill's monthly webinars.





#### **Best Practices Guidelines**

- GreenChill Leak Prevention & Repair Guideline
- GreenChill Installation Leak Tightness Guideline
- GreenChill R-22 Retrofit Guideline
- Available at

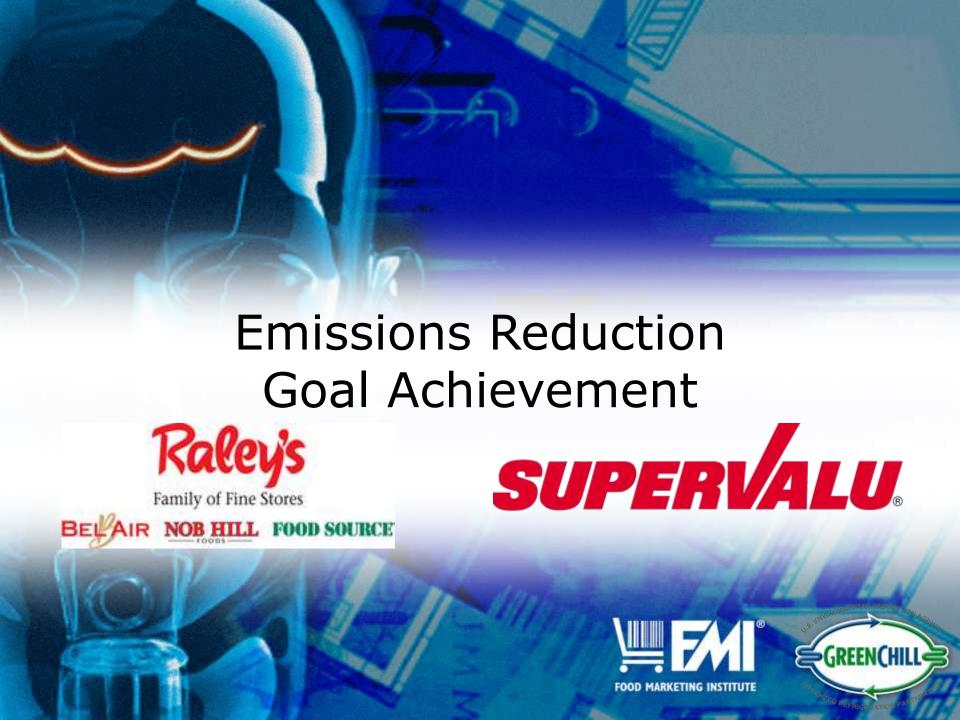
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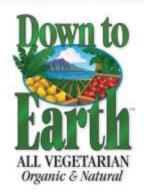




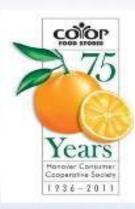


# New GreenChill Partners















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