Regulating HFCs: An Opportunity for Climate Protection in New Jersey

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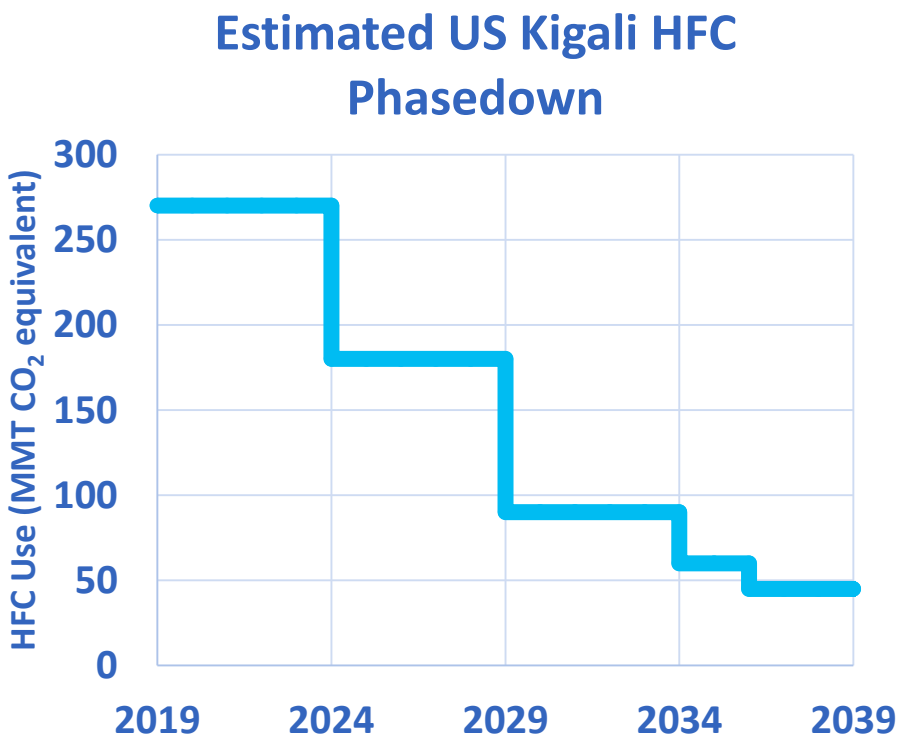
Why HFCs?

- HFCs, or hydrofluorocarbons, are potent greenhouse gases used as substitutes for ozone-depleting substances (ODSs)
- HFCs have large global warming potential, a measure of their ability to warm climate
  - On average >1,000 the GWP of CO_2
- Several industries use HFCs for/as:
  - Refrigeration and air conditioning
  - Foam blowing
  - Solvents
  - Propellants

Global Phasedown & U.S. Federal Regulations

- The Montreal Protocol, the treaty that saved the ozone layer, was amended in 2016 to phase down HFCs worldwide under the Kigali Amendment
  - Averts 0.23-0.36°C of warming by 2100
  - Supported by industry and environmentalists
- U.S. has not yet ratified Kigali
  - A D.C. Circuit ruling upset EPA's "SNAP" regulations that started the transition from HFCs to safer alternatives
  - States are filling the gap by adopting state-level SNAP regulations



U.S. EPA's Significant New Alternatives Policy (SNAP) Program

- EPA's SNAP program manages lists of chemicals approved and prohibited for use as alternatives to ODSs
- In 2015 and 2016, EPA issued 2 regulations prohibiting use of HFCs in specific applications where there are safer alternatives, as of particular deadlines

2015 SNAP Rule:

HFC End Use	Unacceptable Date:
Aerosols	2016/2018
Foams (except spray)	2017-2021
Supermarket systems	2017
Remote Condensing Units	2018
Vending Machines	2019
Stand-alone Refrigeration	2019/2020
Motor Vehicle AC	Model Year 2021

2016 SNAP Rule:

HFC End Use	Unacceptable Date:
House Refrigerators & Freezers	2021
Refrigerated Food Proc./Dispensing	2021
Cold Storage Warehouses	2023
Chillers	2024
Spray Foam	2020/2021
Total Flooding fire suppression (PFCs)	2017

State Action: An Opportunity

- New Jersey can join the ranks of states adopting EPA's SNAP regulations at the state level
- California has already adopted state SNAP regs
- New York, Maryland, Connecticut, Washington are following suit, with more states to follow
- Benefits:
  - ✓ HFC emissions reductions that contribute significantly to state GHG targets
  - ✓ Most industry and NGOs in support
  - ✓ States regs modeled on federal rules whose technical basis has already been upheld by DC Circuit
  - ✓ Industry already complying with early deadlines, and already planning on complying with the rest

Benefits & Costs for New Jersey

Nationwide, EPA estimates that the SNAP rules would reduce HFC emissions by the equivalent of up to 31 million metric tons of carbon dioxide (CO_2-e) in 2020, 70 million tons in 2025, and 112 million tons in 2030. Weighted for New Jersey's share of the U.S. population (2.7%), this would result in the following **benefits**:

	2020	2025	2030
Emissions Reductions (million metric tons CO_2-e)	0.8	1.9	3.0
Societal Benefit (millions)*	$32	$76	$120

*Assumes $40/ton social cost of carbon

Weighted for NJ share of U.S. population, **costs** to NJ businesses estimated at less than about $3 million/year

Further analysis (e.g., considering state-specific degree-days, prevalence of air conditioning, etc.) could yield more specific benefit and cost estimates for New Jersey, but given the magnitude of benefits and costs at the national level, we can be sure of l**arge net benefits for New Jersey!**

Thank you!

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Benefits of Kigali Amendment