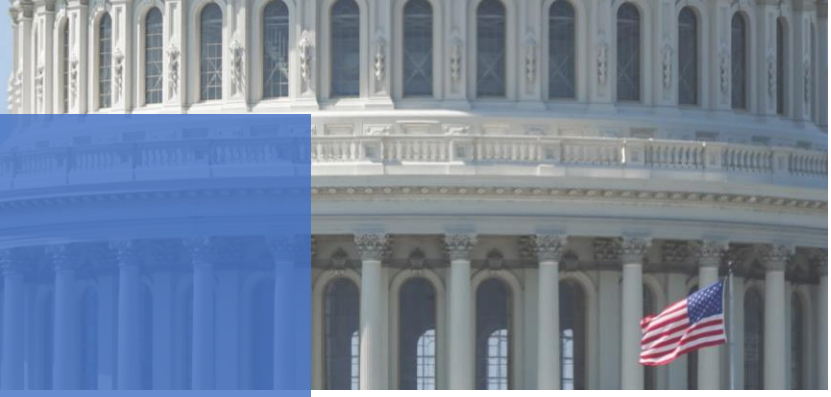


The Real Estate Roundtable

Fact Sheet: How Federal Rules on HFC Refrigerants Affect Buildings

January 7, 2025

The U.S. Environmental Protection Agency (EPA) has enacted the first-ever federal rules affecting how commercial and residential building owners and developers must manage emissions from greenhouse gases known as hydrofluorocarbons (HFCs).

HFCs are used in building air conditioning (AC), heat pump, and refrigeration systems. While traditional HFCs helped protect the ozone layer, they have high global warming potential and trap significantly more heat in the atmosphere than carbon dioxide. About 20% of global electricity consumption in buildings is from space cooling, which often uses high-emissions refrigerants.[1]

Legislative Background

In 2020, Congress passed the American Innovation and Manufacturing (AIM) Act. The AIM Act sets a target to reduce the manufacture and use of HFCs in the U.S. by 85% by 2036. To reach that deadline, Congress authorized EPA to pass a number of rules that impact the buildings sector. Two AIM Act programs are particularly relevant to commercial and residential owners and developers:

- Subsection (i): "Technology Transition Rules" concern the phasedown of traditional refrigerants from the marketplace and a transition to the A2L class of refrigerants, which have lesser climate impacts.[2]

- Subsection (h): "Emissions Reduction and Reclamation Rules" will affect how a subset of building owners must service and repair AC systems to prevent and detect HFC leaks.

- RER submitted extensive comments to EPA explaining the potential impact of these rules on real estate.[3]

"Technology Transition Rules" – Impact on Building Design, New Construction, and Retrofits

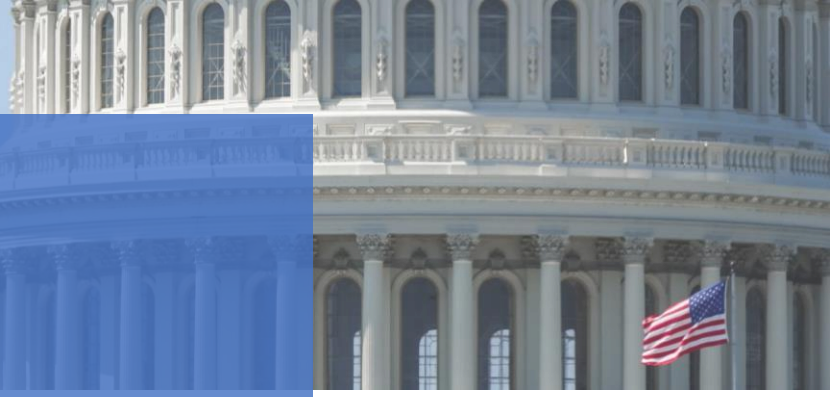
- EPA has issued three different subsection (i) rules to date to implement the "HFC phasedown."

- The subsection (i) rules prohibit installation, after certain deadlines, of building cooling systems that use traditional HFCs with high global warming potential and must use A2Ls instead.

- These deadlines pertain to system ***installations***. EPA's rules may require installs of a different kind of AC system than what a local code department may have originally permitted during the building's design phase.

- EPA's rules apply to ***new*** construction and installation of ***new*** AC, heat pump, and refrigeration systems that must be capable of accommodating A2L refrigerants.

[1] "The Future of Cooling," International Energy Agency (May 2018).
[2] A2L refrigerants have lower global warming impact but are characterized as "mildly flammable" for building code purposes.
[3] Comments from The Real Estate Roundtable on AIM Act implementation (Sept. 25, 2024).



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- EPA's rules also likely apply to existing building ***retrofits.*** When an existing building cooling system reaches the end of its useful life, the updated system that replaces it will need to use A2L refrigerants. RER is working with EPA to understand fully the impact of the Technology Transition Rules on building retrofits.

- State and local agencies across the nation are updating their mechanical, fire, and other codes to ensure that newly installed building cooling systems use A2L refrigerants to comply with EPA's federal rules. (See interactive code map of the American Heating and Refrigeration Institute [AHRI])

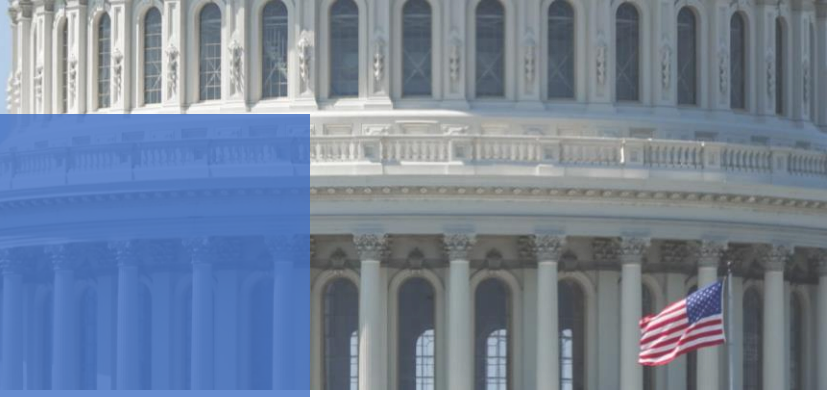
- Real estate owners and developers should be aware of EPA's different installation deadlines. They should consult each EPA regulation (linked below) depending on the type of building and AC system at issue.

EPA Regulation	Subsectors/System Type – Examples	Installation Deadline
• 88 Fed. Reg. 73,098, Oct. 24, 2023 ("October 2023 Final Rule") • EPA fact sheet • EPA website	• Chillers (comfort cooling) • Window and Portable AC units • Cold Storage Warehouses • Data Centers • Retail Food Supermarkets	• Jan. 1, 2025 • Jan. 1, 2025 • Jan. 1, 2026 • Jan. 1, 2027 • Jan. 1, 2027
• 88 Fed. Reg. 88,825, Dec. 26, 2023 ("Interim Final Rule") • EPA website (fn. 6)	Residential and Light Commercial Air Conditioning and Heat Pumps (e.g., mini-splits, unitary systems)	• Jan. 1, 2026 • Components must be manufactured in the U.S. or imported before Jan. 1, 2025
• 89 Fed. Reg. 100,381, Dec. 12, 2024 ("VRF Final Rule") • EPA website (fn. 7)	Variable Refrigerant Flow (VRF) Systems	• Jan. 1, 2027, or • Jan. 1, 2028 – in buildings that received a local permit that approved a non-A2L system prior to Oct. 5, 2023 • Components must be manufactured in the U.S. or imported before Jan. 1, 2026

HFC Emissions Reduction and Reclamation ("ER&R") Rule – Impact on Building Management

- Final Rule, 89 Fed. Reg. 82,682 (Oct. 11, 2024)
- EPA fact sheet
- EPA's FAQs

The Emissions Reduction and Reclamation Rule implements AIM Act subsection (h). It establishes the first-ever federal rules for management practices to service, repair, and dispose of HFCs in certain building cooling equipment.



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The rule is detailed and lengthy. It does **not** apply to all buildings and cooling systems. Asset owners should consult EPA's materials linked above to determine if they are subject to these requirements. In general:

- **Leak Detection and Repair**
  - *Starting on Jan. 1, 2026:* Certain building owners must implement improved leak detection and repair measures for "refrigerant-containing appliances" containing at least 15 pounds of HFC refrigerants.
  - *Does* apply to supermarkets, convenience stores, restaurants, and food service establishments.
  - *Does* apply to "complex customized refrigerant-containing appliances," like ice rinks, "industrial ice machines," and appliances used "directly" to "generate" electricity. (Building thermal energy storage systems are not specifically mentioned).
  - Does *not* apply to appliances in the "residential and light commercial AC and heat pump" sector.
  - Consult 40 C.F.R. 84.102 for more details.

- **Automatic Leak Detection (ALD)**: For large systems using 1,500 pounds or more of refrigerants, automatic leak detection must be installed.
  - *Starting on Jan 1, 2026*: For **new** commercial and industrial refrigeration appliances installed thereafter.
  - *Starting on Jan. 1, 2027:* For commercial and industrial refrigeration appliances installed on or after Jan. 1, 2017 and before Jan. 1, 2026.
  - Requires 3 years of recordkeeping.
  - Consult 40 C.F.R. 84.108 for more details.

- **Recycling and Disposal**: Standards set for the recycling and disposal of HFCs to minimize emissions during equipment maintenance or replacement.
  - *Starting on Jan. 1, 2026:* No one can sell, identify, or report a refrigerant as being "reclaimed" if it contains more than 15% of newly-manufactured HFCs ("virgin HFC") by weight.
  - Any reclaimed HFCs must be labeled appropriately.
  - *Starting on Jan. 1, 2029:* Servicing and repair of refrigerant-containing equipment must be done with reclaimed HFCs in supermarkets and "automatic commercial ice makers"
  - Consult 40 C.F.R. 84.112 for more details.