



TECHNOLOGY TRANSITIONS PROGRAM

WHAT YOU NEED TO KNOW FOR JANUARY 1, 2025

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Webinar Technical Overview

Call-in Details

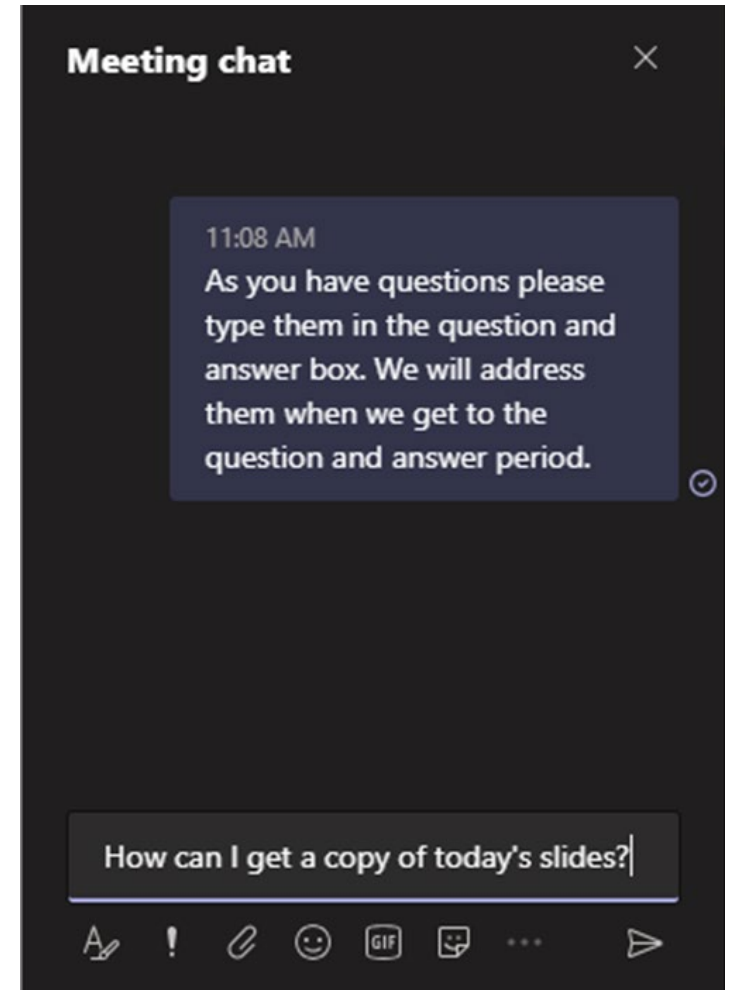
1-206-800-4483

October 17 ID: 146 702 07#

October 22 ID: 569 346 463#

Question and Answer (Q&A) Session

- Participants are muted
- Questions will be moderated at the end
- To ask a question, enter it into the chat box



Webinar Feedback and Materials

Recording and Slides

- The presentation is being recorded
- Materials from this webinar will be posted on the EPA's Reducing HFCs Public Meetings web page: www.epa.gov/climate-hfcs-reduction/public-meetings

Outline

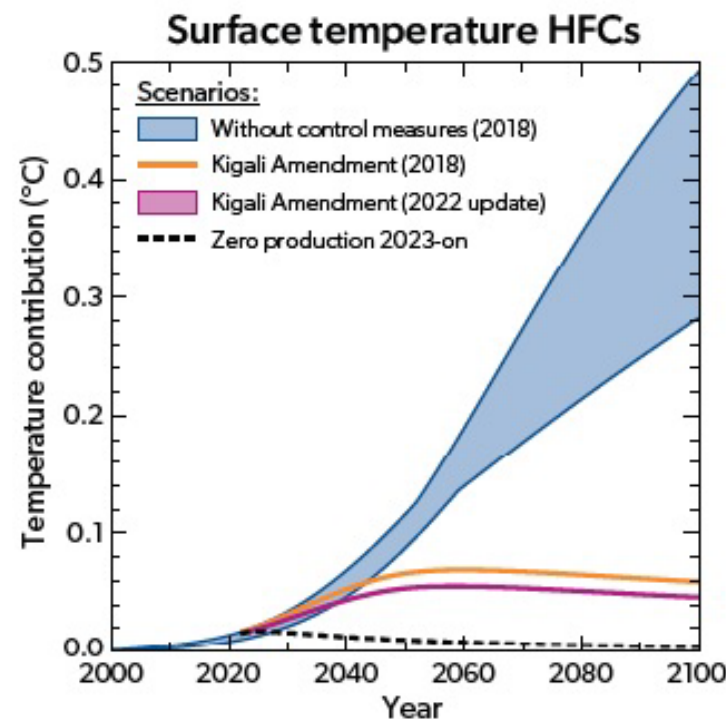
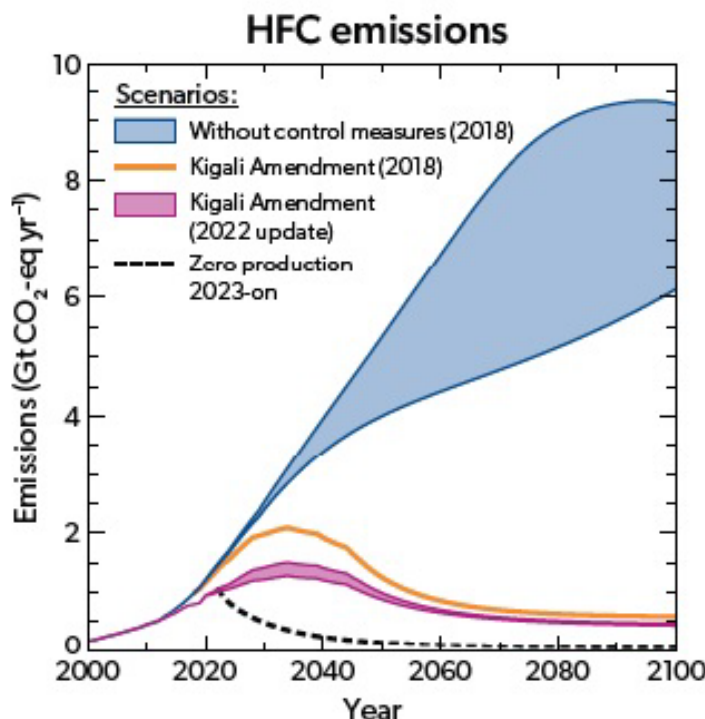
- Global Phasedown and AIM Act
- Technology Transitions Program
 - General Requirements:
 - Labeling, Reporting, Recordkeeping
 - Aerosols Requirements
 - Foams Requirements
 - Refrigeration, Air Conditioning, and Heat Pump Requirements
- Additional Resources
- Recap
- Q&A



Global Hydrofluorocarbons (HFC) Phasedown and AIM Act

A global HFC phasedown is expected to avoid up to 0.5 °C of global warming by 2100

- HFCs are used in refrigeration, air conditioning, foam blowing, aerosols, and fire suppression
- HFCs are climate-damaging greenhouse gases with global warming potentials (GWPs) hundreds to thousands of times higher than carbon dioxide (CO₂)
- Absent effective regulations, HFC use and emissions are expected to continue increasing rapidly worldwide



0.46 °C

WMO Scientific Assessment of Ozone Depletion: 2022, GAW Report No. 278, Figure ES-4

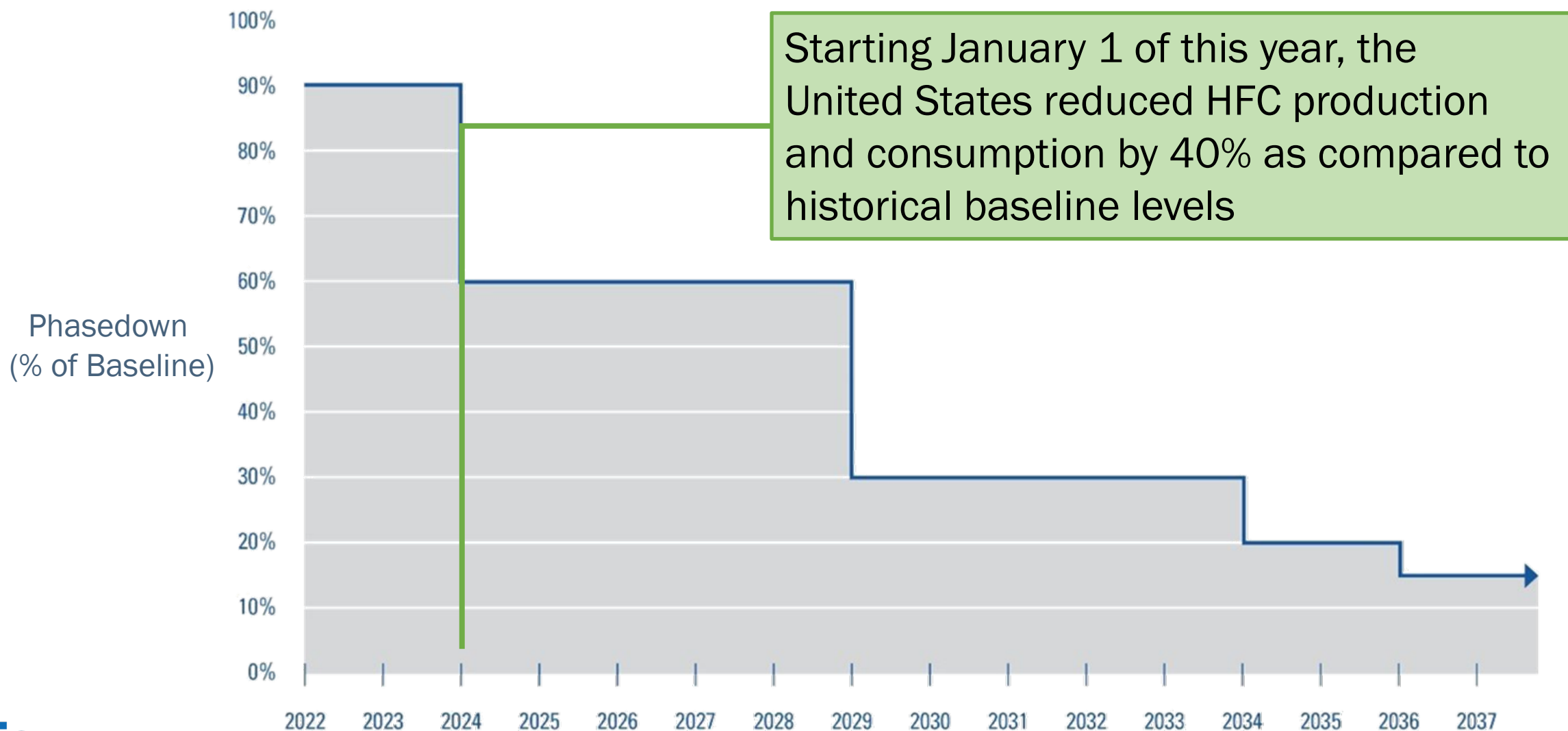
The American Innovation & Manufacturing (AIM) Act

By 2036, The AIM Act phases down HFC production and consumption by:

85%

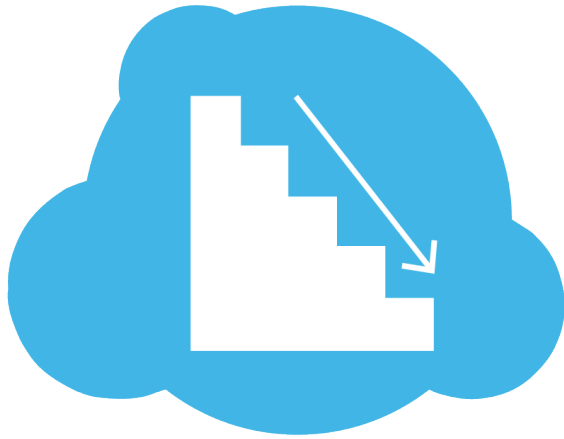
Lists 18 HFCs as regulated substances

HFC Phasedown Schedule



The American Innovation & Manufacturing (AIM) Act

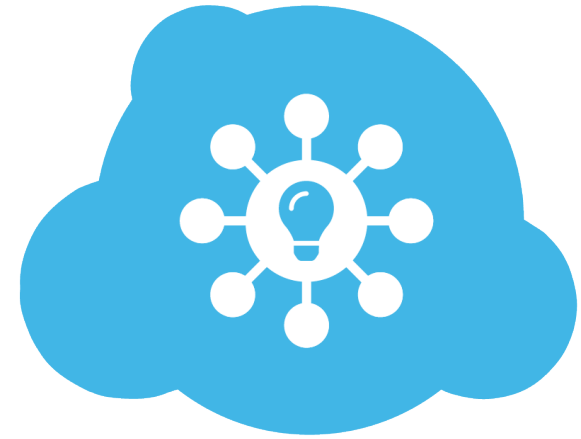
The AIM Act authorizes EPA to regulate HFCs in **three main ways**:



Phase down HFC production and consumption through an allowance allocation and trading program



Manage use and reuse of HFCs by maximizing reclamation and minimizing releases from equipment



Transition sectors to next-generation technologies through restrictions on use of HFCs (focus of this presentation)

Overview of Regulatory Actions to Date



Subsection (e) – Phasedown of Production and Consumption of HFCs

HFC Allocation Framework Rule 10/5/2021
([86 FR 55116](#))

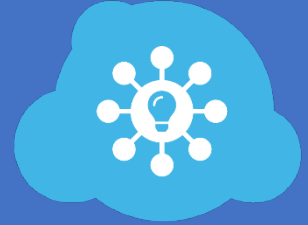
Allocation Rule for 2024 and Later Years 7/20/2023
([88 FR 46836](#))

Application-Specific Allowance Review Proposed Rule 9/16/2024
([89 FR 75898](#))



Subsection (h) – Management of Regulated Substances

Emissions Reduction and Reclamation Final Rule 10/11/2024
([89 FR 82682](#))



Subsection (i) – Technology Transitions

Technology Transitions Rule 10/24/2023
([88 FR 73098](#))

Residential & Light Commercial AC & Heat Pump Interim Final Rule 12/26/2023
([88 FR 88825](#))

Variable Refrigerant Flow Proposed Rule 6/26/2024
([89 FR 53373](#))

Technology Transitions Program

Overview of Subsection (i) – Technology Transitions

- Subsection (i) of the AIM Act authorizes EPA to restrict HFC uses
 - EPA can restrict, fully, partially, or on a graduated schedule, the use of regulated HFCs in any sector or subsector where HFCs are used
- EPA can initiate rulemakings on its own, or individuals and organizations can petition EPA



Technology Transitions Petitions

- Public may petition EPA to establish restrictions on sectors and subsectors where HFCs are used
- Petition process info on our website:
 - www.epa.gov/climate-hfcs-reduction/overview-petition-process
- AIM Act directs EPA to respond within a certain timeframe:
 - Grant or deny the petition within 180 days of receipt
 - Finalize a rule within two years of granting the petition

Petition Status

This table presents the current status of petitions received from newest to oldest:

Show entries

Search all columns: ✕

Filters				Filter ▼
Petitioner	Receipt Date	Topic	Please Submit Information to the Docket by*:	Status
Natural Resources Defense Council (NRDC), <i>et al.</i>	4/13/2021	Replicate HFC Prohibitions from SNAP Rules 20 & 21 ↗	6/8/2021	Granted
Environmental Investigation Agency (EIA), <i>et al.</i>	4/13/2021	Restrict the Use of HFCs in Certain Stationary Refrigeration and Air Conditioning End-uses ↗	6/8/2021	Granted
Air-Conditioning, Heating, and Refrigeration Institute (AHRI), <i>et al.</i>	4/13/2021	Restrict the Use of HFCs in Residential and Light Commercial Air Conditioners ↗	6/8/2021	Granted

Statutory Factors

EPA must consider, to the extent practicable, the following factors when considering potential restrictions:

A. Best available data

B. Availability of substitutes:

- technological achievability
- commercial demands
- safety
- consumer costs
- building codes
- appliance efficiency standards
- affordability for residential and small business consumers
- other relevant factors, including the quantities of regulated substances available from reclaiming, prior production, or prior import

C. Overall economic costs and environmental impacts, as compared to historical trends

D. Remaining phase-down period for regulated substances under the final Allocation Rule

2023 Final Technology Transitions Rule – Overview

- Published October 24, 2023, [88 FR 73098](#)
- Restricts the use of higher-GWP HFCs in new equipment in over 40 subsectors across three sectors:
 - Aerosols
 - Foams
 - Refrigeration, air conditioning, and heat pump (RACHP)
- Requires labeling
- Requires annual reporting
- Establishes a process for responding to future petitions



Overview of Key Requirements

Restrictions

Compliance dates vary based on sector and subsector

- Earliest restrictions start January 1, 2025, or Model Year 2025 for light duty motor vehicles
- Latest restrictions start January 1, 2028

Labeling

New products and components using HFCs must be labeled based on compliance dates for the relevant subsector

Reporting

Companies that manufacture or import products and components covered by this rule must report annually to EPA

- First reports due March 31, 2026, based on 2025 data for all sectors

2023 Final Technology Transitions Rule – Restrictions

RACHP, Foams, Aerosols

- Restricts the domestic manufacture and import of new products that use HFCs above the GWP limit
 - Import occurs at the time of arrival in the United States (time a ship berths for vessel arrivals, border crossings for land arrivals, and first point of terminus in U.S. jurisdiction for arrivals via air).
- Prohibits the sale, distribution, and export of non-compliant products after three years

Restriction on the installation for RACHP systems (RACHP only)

Final Rule Exemptions

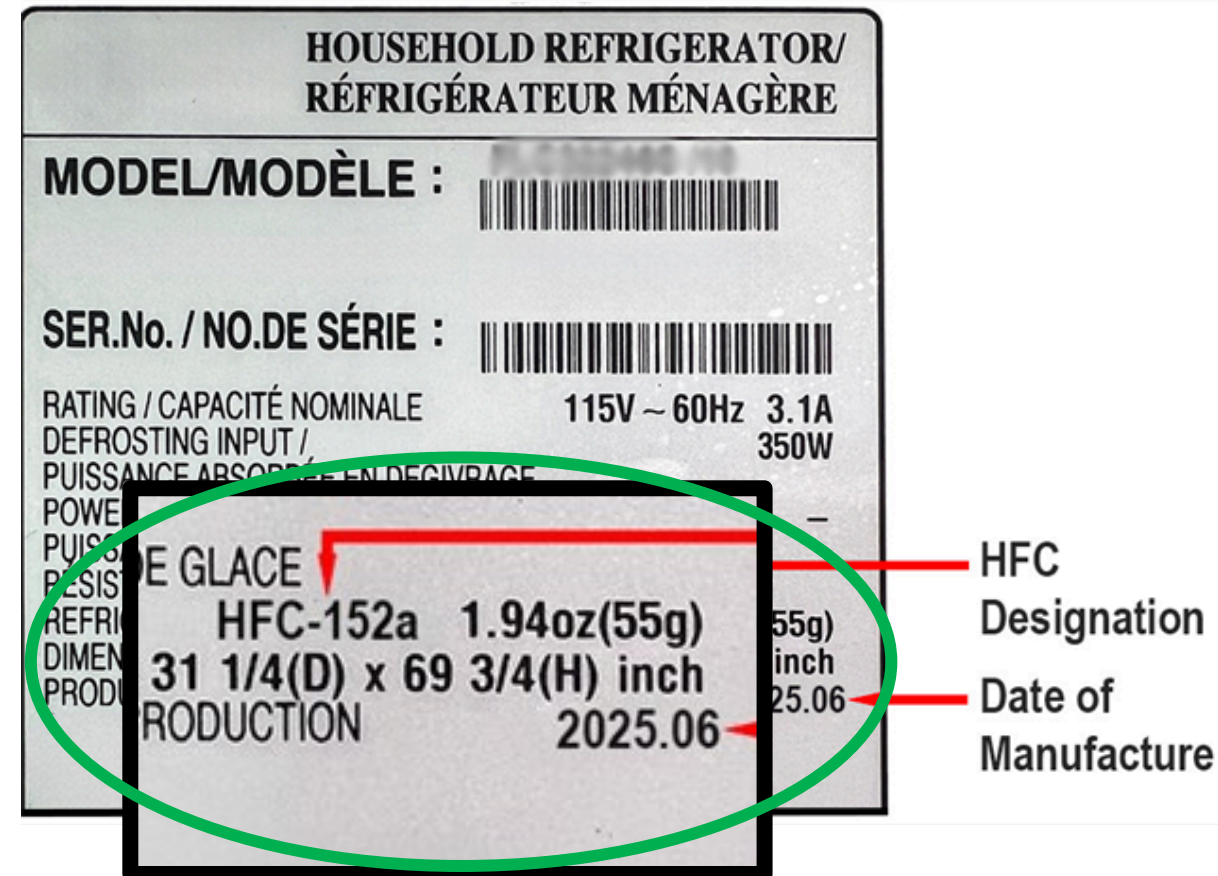
- The final rule exempts the following uses:
 - Used equipment in the covered subsectors (example: pre-owned vehicles)
 - Spray and pour foam used in space vehicles
 - Applications with a current qualification for application-specific allowances under subsection (e)(4)(B):
 - (1) Propellant in metered-dose inhalers
 - (2) Defense sprays
 - (3) Mission-critical military end uses
 - (4) Structural composite preformed polyurethane foam for marine use and trailer use
 - (5) Etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector
 - (6) Onboard aerospace fire suppression

Labeling, Reporting, and Recordkeeping

Labeling – General Requirements

- All regulated products, components, and systems must be labeled
- The label must include:
 - The name or ASHRAE designation of the HFC or HFC blend being used
 - “HFC-134a” or “1,1,1,2-Tetrafluoroethane” or “R-410A”
 - A trade name that does not specifically identify the HFC(s) is not acceptable.
 - Date of manufacture or first charge (minimum 4-digit year)
 - Day and Month information is optional
 - Motor vehicle air conditioning (MVAC) subsectors may use model year

Example label: household refrigerator



Labeling – General Requirements

- Labels must be:
 - (1) in English
 - (2) durable and printed or otherwise labeled on, or affixed to, the external surface of the product
 - (3) readily visible and legible
 - (4) able to withstand open weather exposure without a substantial reduction in visibility or legibility; and
 - (5) displayed on a background of contrasting color

Note: If a product or specified component is contained within a box or other overpack that reaches the consumer, the exterior packaging must also be labeled
- For products online:
 - Labels or the required information must be clearly included in information available prior to purchase, either in the text description or photo of the equipment

Labeling – General Requirements

- Additional labeling options
 - Packaging Materials:
 - Required information can be included in packaging materials (e.g., tag, pamphlet, or box containing the product)
 - Must be present with the product throughout distribution chain to fulfill the labeling requirement
 - QR Code:
 - On-product QR code can be used instead of a traditional label
 - QR code must direct to the required information and meet on-product label requirements
 - QR code must include adjacent text to indicate the purpose of the QR code, such as “contains HFC information” or “scan for HFC info”
 - Nonfunctional or unreadable QR code does not fulfill the labeling requirement

Reporting Overview

- Manufacturers and importers of products and specified components that use HFCs must report annually:
 - Subsector, HFC or HFC blend used, quantity manufactured, imported, and exported
 - Some additional requirements for specific subsectors
 - General company information (name, address, contact information...)
 - First reports are due **March 31, 2026**, for calendar year 2025 data
 - Reports must be signed and attested
 - Electronic reporting
- Process
 - EPA is currently designing the electronic reporting platform
 - Reporting forms under Office of Management and Budget (OMB) review as part of the program's Information Collection Request
 - EPA provide additional outreach and post forms prior to reporting deadline

Recordkeeping

- Manufacturers and importers must:
 - Retain records that form the basis of their reports and who the product was sold, distributed, or in any way conveyed to
 - Retain records for a minimum of three years and be made available to EPA upon request
- Import specific recordkeeping:
 - Records substantiating each import:
 - (1) a copy of the bill of lading for the import
 - (2) the invoice for the import
 - (3) the CBP entry documentation if applicable
 - (4) ports of arrival and entry through which the products passed, and
 - (5) country of origin and if different the country of shipment to the United States

Import Considerations

- Note: Providing details on the product and HFC or alternative in the cargo description can help to reduce potential unnecessary delays with reviewing your shipment and clearing customs
 - Example: A cargo description that says you are shipping a window air conditioner using R-290 is better than just stating “refrigerant” or “AC”

Aerosols Sector

Aerosols Restrictions

Subsector	GWP Limit	Manufacture and Import Compliance Date	Sale, Distribution, Export Compliance Date
Consumer aerosol products	150	January 1, 2025	January 1, 2028
Technical aerosol products		January 1, 2028	January 1, 2031

*This table is for informational purposes only and should not be relied on for compliance purposes. Please refer to 40 CFR Part 84, Subpart B for full details.

Technology Transitions Restrictions – Aerosols

Technical aerosols

- Cleaning products for removal of grease, flux and other soils from electrical equipment or electronics
- Refrigerant flushes
- Products for sensitivity testing of smoke detectors
- Lubricants and freeze sprays for electrical equipment or electronics
- Sprays for aircraft maintenance
- Sprays containing corrosion preventive compounds used in the maintenance of aircraft, electrical equipment or electronics, or military equipment
- Pesticides for use near electrical wires or in aircraft, in total release insecticide foggers, or in certified organic use pesticides for which EPA has specifically disallowed all other lower-GWP propellants
- Mold release agents and mold cleaners
- Lubricants and cleaners for spinnerets for synthetic fabrics
- Duster sprays specifically for removal of dust from photographic negatives, semiconductor chips, specimens under electron microscopes, and energized electrical equipment
- Adhesives and sealants in large canisters
- Document preservation sprays
- Wound care sprays
- Topical coolant sprays for pain relief
- Products for removing bandage adhesives from skin

Labeling – Aerosol Sector Labeling Requirements

- Aerosol product labels must identify all the HFCs used in the product
- Label must include date of manufacture (minimum 4-digit year)
 - Day and Month information is optional
- If multiple HFCs are used, or an HFC with a GWP greater than the limit is used (HFC-134a), label must include either:
 - (1) the weights of the HFC(s) relative to the other propellants, solvents, or to the other HFCs
 - (2) the specific text “GWP <150”

Example label: aerosol deodorant

The image shows a sample aerosol deodorant label with several callouts highlighting required information:

- PRODUCT DATE: 9/2025** (circled in green) with a callout pointing to the **Date of Manufacture** requirement.
- HFC 152a** (boxed in black) with a callout pointing to the **HFC Designation** requirement.

The label itself contains the following text:

Drug Facts

Active ingredient
Aluminum Chlorohydrate (23.3%)

Purpose
Antiperspirant

Uses • reduces body odor

Warnings
For external use only. Do not use on broken skin. Stop use if rash or irritation occurs. • Ask a doctor before using if you have kidney disease • KEEP OUT OF REACH OF CHILDREN. • USE ONLY AS DIRECTED. INTENTIONAL MISUSE MAY BE DANGEROUS. • CONCENTRATING AND INHALING THE CONTENTS MAY BE DANGEROUS OR FATAL.

Directions Apply to underarms. If dispenser clogs, rinse in warm water.

Inactive ingredients
Butane, Cyclopentasiloxane, HFC 152a, Isobutane, PPG-14 Butyl Ether, Fragrance (Parfum), Distearidimanium Hectorite, Propane, BHT, Propylene Carbonate.

Labeling – Aerosol Sector Labeling

Pesticide Labeling

- **Question:** How do I label my pesticide product so that it complies with the 2023 Technology Transitions Rule requirements and the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) requirements?
 - **EPA Response:** Pesticide Registration Notice 98-10 discusses the revision, addition or deletion of non-Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) related label elements through non-notification. EPA considers the information described above [referring to Technology Transition labeling requirements] to be non-FIFRA related. As such, the Agency does not require notification or approval of such changes to the label before product is distributed or sold. Please note that the additional information added to a pesticide label through non-notification must not be false or misleading or detract from the information required by FIFRA.

Aerosols Sector Reporting

Draft aerosols sector reporting form:

<i>Select from dropdown</i>	<i>Select from dropdown</i>	<i>Select from dropdown</i>	<i>Enter data</i>	<i>Select from dropdown</i>
Sector	Subsector	Additional Subsector Information	Additional Product Information [optional]	Identity of the HFC or HFC Blend Used
1 Aerosols	Technical aerosol products	Cleaning products for removal of grease, flux and other soils from electrical equipment or electronics		HFC-134a
2 Aerosols	Consumer aerosol products	Consumer Aerosol		HFC-152a

<i>Enter data</i>	<i>Select from dropdown</i>	<i>Calculated - No Entry Required</i>	<i>Enter data</i>	<i>Enter data</i>	<i>Enter data</i>
Mass of the Regulated Substance	Mass of the Regulated Substance Units	Mass of the Regulated Substance (Metric Tons)	Number of Units		
			Domestically Manufactured	Imported	Exported
500.00	pounds (lb)	0.23	30	50	20
300.00	kilograms (kg)	0.30	20	10	30

Foams Sector

Technology Transitions Restrictions – Foams

Subsector	GWP Limit	Manufacture and Import Compliance Date	Sale, Distribution, Export Compliance Date
Polyurethane (rigid, flexible, integral skin, laminated boardstock)	150	January 1, 2025	January 1, 2028
Polystyrene extruded boardstock and billet and extruded sheet			
Phenolic insulation board and bunstock			
Polyisocyanurate laminated boardstock			
Polyolefin			

Restrictions apply to blown foam products (e.g., boardstock), products incorporating closed-cell blown foam (e.g., appliances containing insulating foam), and pre-blended polyol products (e.g., polyurethane foam blowing systems).

*This table is for informational purposes only and should not be relied on for compliance purposes. Please refer to 40 CFR Part 84, Subpart B for full details.

Labeling – Foam Sector Labeling Requirements

- Foam product labels must identify all the HFCs used in the product
- If multiple HFCs are used, or an HFC with a GWP greater than the limit is used, label must include either:
 - (1) the weights of the HFC(s) relative to the other blowing agents or to the other HFCs
 - (2) the specific text “GWP <150”

Example label: XPS boardstock

The image shows a sample label for 'HIGH PERFORMANCE XPS INSULATION'. The label is light blue with dark blue and black text. At the top left, it says 'HIGH PERFORMANCE XPS INSULATION'. To the right of this, in large bold letters, is '150', with 'COMPRESSIVE STRENGTH 15 PSI' written in smaller text below it. Below the main title, there is a dark blue horizontal bar with a white checkmark icon on the left and the text 'INSULATION MEETS ALL FEDERAL AND STATE EMISSION REGULATIONS IN THE USA AND CANADA.' on the right. Further down, on the right side, it says 'R-7.5' in large bold letters, with '1.5 INCH THICKNESS' written below it. On the left side, there is a section titled 'FOR USE IN:' followed by a list of applications: 'EXTERIOR FOUNDATION', 'INTERIOR FOUNDATION', 'EXTERIOR SHEATHING', 'CAVITY WALLS', and 'COMMERCIAL APPLICATIONS'. In the center of the label, there is a white rectangular box with a black border. Inside this box, it says 'PRODUCTION DATE: 03/2025' and 'CONTAINS HFC-152a'. A green circle is drawn around this white box. To the right of the label, there are two red horizontal lines pointing to the 'PRODUCTION DATE' and 'CONTAINS HFC-152a' text, with labels 'Date of Manufacture' and 'HFC Designation' respectively.

150
COMPRESSIVE STRENGTH 15 PSI

INSULATION MEETS ALL FEDERAL AND STATE EMISSION REGULATIONS IN THE USA AND CANADA.

R-7.5
1.5 INCH THICKNESS

FOR USE IN:
EXTERIOR FOUNDATION
INTERIOR FOUNDATION
EXTERIOR SHEATHING
CAVITY WALLS
COMMERCIAL APPLICATIONS

PRODUCTION DATE: 03/2025

CONTAINS HFC-152a

Date of Manufacture

HFC Designation

Labeling – Foam Sector Labeling Requirements

- Foam product labels must identify all the HFCs used in the product
- If multiple HFCs are used, or an HFC with a GWP greater than the limit is used, label must include either:
 - (1) the weights of the HFC(s) relative to the other blowing agents or to the other HFCs
 - (2) the specific text “GWP <150”

Example label:

Two-component polyurethane foam system



Foams Sector Reporting

Draft foams sector reporting form:

<i>Select from dropdown</i>	<i>Select from dropdown</i>	<i>Enter Data</i>	<i>Select from dropdown</i>	<i>Enter mass or density depending on the product data available</i>	
Sector	Subsector	Additional Product Information [optional]	Identity of the HFC or HFC Blend Used	Mass of the Regulated Substance	Mass of Regulated Substance Units
1 Foam	Integral skin polyurethane		HFC-152a	5.00	ounces (oz)
2 Foam	Polystyrene extruded sheet		Custom Blend #1	1.00	pounds (lb)
3 Foam	Extruded polystyrene (XPS) boardstock and billet		Custom Blend #2	0.50	kilograms (kg)
4 Foam					
5 Foam					

<i>Enter data if shaded blue</i>		<i>Enter data if shaded blue</i>	<i>Enter data if shaded blue</i>	<i>Enter data if shaded blue</i>	<i>Enter data if shaded blue</i>	<i>Enter units if shaded blue</i>
Density of the Regulated Substance	Density of the Regulated Substance Units	Number of Units			Volume of Foam	
		Domestically Manufactured	Imported	Exported	Domestically Manufactured	Domestically Manufactured Units
		100	15	25		
		233	100	98		
		160	220	0		

Refrigeration, Air Conditioning, and Heat Pump Sector

2023 Final Technology Transitions Rule – Restrictions

Products (RACHP, Foams, Aerosols)

- Restricts the domestic manufacture and import of new ***products*** that use HFCs above a specified GWP threshold
 - Import occurs at the time of arrival in the United States (time a ship berths for vessel arrivals, border crossings for land arrivals, and first point of terminus in U.S. jurisdiction for arrivals via air)
- Prohibits the sale, distribution, and export of non-compliant ***products*** after three years

Systems (RACHP only)

- Prohibits installation of new RACHP ***systems*** that use HFCs above a specified threshold
- No restrictions on manufacture, import, sale, distribution, or export of ***components*** used to repair existing RACHP systems

RACHP Product Manufacture vs System Installation

- A ***product*** is functional upon completion of manufacturing in a factory
 - Functional means that the equipment's refrigeration circuit is complete, it is charged with refrigerant, and it is ready for use for its intended purpose.
 - EPA considers an RACHP product to be functional upon leaving the factory even if it still must be connected to water lines or electrical circuits in the field.
 - Examples of products include window air conditioning units, refrigerators, commercial freezers, and self-contained ice machines.
- A ***system*** is functional upon installation in the field when it is assembled from multiple components or charged with refrigerant
 - Components include equipment such as compressors, condensers, evaporators, metering devices, connecting tubing, and display cabinets.
 - Examples include supermarket refrigeration systems with a centralized compressor room, retail food cases with remote condensing units, and mini-split air conditioners.

Existing RACHP Systems

This rule does not restrict the continued use of existing equipment

- Existing systems can be serviced and repaired throughout their useful life
- Components needed to repair existing RACHP systems may continue to be manufactured, imported, sold, distributed, or exported

Additional examples of equipment the final rule does not cover:

- Products in the possession of the end user
- Personal items crossing the border
- Refrigerated shipping or transportation containers currently in use



Note: EPA has granted two petitions asking the Agency to reconsider whether condensing units for residential and light commercial AC and heat pumps should be restricted. This will be addressed in an upcoming rule.

New Equipment (RACHP)

- Restrictions apply to new equipment
- Modifying an existing system can result in it being considered “new”
 1. Increasing the total cooling capacity in BTU
 2. Complete replacement of all components within a system at once or over time
 3. Replacing 75% or more of the evaporators (by number) and 100 percent of the compressor racks, condensers, and connected evaporator loads of an existing system would trigger the requirements of new systems.

Refrigeration, AC, and Heat Pumps Restrictions

Subsector	Global Warming Potential Limit or Prohibited Substances	Manufacture and Import Compliance Date	Sale, Distribution, and Export Compliance Date
Stationary residential and light commercial air conditioning and heat pumps products (e.g., window units, PTACs)	700	January 1, 2025	January 1, 2028
Residential dehumidifiers	700	January 1, 2025	January 1, 2028
Household refrigerators and freezers	150	January 1, 2025	January 1, 2028
Vending machines	150	January 1, 2025	January 1, 2028
Motor vehicle air conditioning – light-duty passenger vehicles	150	Model Year 2025, (restrictions start October 24, 2024)	October 24, 2027
Retail food – refrigeration stand-alone units	150	January 1, 2025	January 1, 2028
Chillers (as a stand-alone product) – comfort cooling	700	January 1, 2025	January 1, 2028

*This table is for informational purposes only and should not be relied on for compliance purposes. Please refer to 40 CFR Part 84, Subpart B for full details.

Refrigeration, AC, and Heat Pumps Restrictions

Subsector	Global Warming Potential Limit or Prohibited Substances	Manufacture and Import Compliance Date	Sale, Distribution, and Export Compliance Date
Refrigerated transport – intermodal containers with refrigerant temperature entering the evaporator equal to or above –50 °C (–58 °F)	700	January 1, 2025	January 1, 2028
Refrigerated transport – road self-contained products	See rule for list of prohibited substances	January 1, 2025	January 1, 2028
Refrigerated transport – marine self-contained products	See rule for list of prohibited substances	January 1, 2025	January 1, 2028
Chillers (as a stand-alone product) – ice rinks	700	January 1, 2025	January 1, 2028

*This table is for informational purposes only and should not be relied on for compliance purposes. Please refer to 40 CFR Part 84, Subpart B for full details.

Refrigeration, AC, and Heat Pumps Restrictions

Subsector	Global Warming Potential Limit or Prohibited Substances	Installation Compliance Date
Residential and light commercial air conditioning and heat pump systems (e.g., unitary split, mini-splits)	700	January 1, 2026 ¹ (see footnote)
Chillers – comfort cooling	700	January 1, 2025
Chillers – ice rinks	700	January 1, 2025
Refrigerated transport – intermodal containers with refrigerant temperature entering the evaporator equal to or above –50 °C (–58 °F)	700	January 1, 2025
Refrigerated transport – road systems	See rule for list of prohibited substances	January 1, 2025
Refrigerated transport – marine systems	See rule for list of prohibited substances	January 1, 2025

¹ New systems with a GWP above 700 can be installed until January 1, 2026, so long as all components are manufactured or imported prior to January 1, 2025 (refer to the Interim Final Rule for additional details).

*This table is for informational purposes only and should not be relied on for compliance purposes. Please refer to 40 CFR Part 84, Subpart B for full details.

Labeling – RACHP Sector Labeling Requirements

- “Specified components” must be labeled
 - Condensing units, condensers, compressors, evaporator units, and evaporators must be labeled – even if unfilled – to indicate the HFC(s) or HFC blend(s) intended for use in the equipment.
 - If intended for use with an HFC or HFC blend that exceeds the GWP limit, the label must state “For servicing existing equipment only”

Example label: specified component

MANUFACTURE DATE: 1/2026

CONDENSER TYPE: AIR COOLED

UNIT ENTERING ELECTRICAL SERVICE

VOLTS: 460	PHASE: 3	Hz: 60
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MINIMUM CIRCUIT AMPACITY 36.3 AMPS
MAX. OVER CURRENT PROTECTION 60 AMPS

	QTY	VAC	PH	RLA	LRA
COMPRESSOR	1	460	3	26.3	139

	QTY	VAC	PH	FLA	HP
FAN MOTORS	2	460	1	3.4	3/4
CRANKCASE HTR				0.22	
RECEIVER HTR				N/A	

Date of Manufacture

HFC or HFC Blend Intended for Use

Intended for use with: R-457A/R-516A/R-471A
For servicing existing equipment only with: R-404A/R-407A/R-448A

Existing System Use Only for HFC Blend that Exceeds GWP Limit

Labeling – RACHP Sector Labeling Requirements

- Field-charged equipment must be labeled at the time of first charge to indicate
 - 1) the HFC or HFC blend being used and
 - 2) the date of first charge (at a minimum, the four-digit year)
- New labels must be affixed near but not covering the original specified component label

Example label: installed system

The image shows a technical label for an HVAC system. Two green circles highlight specific information: 'MANUFACTURE DATE: 8/2026' and 'REFRIGERANT R-32'. Red arrows point from text labels on the right to these circles. A red arrow also points from the text 'Date of First Charge' to a box at the bottom right containing 'INITIAL CHARGE ADDED: 8/2026'.

MODEL **MANUFACTURE DATE: 8/2026** ← Date of Manufacture

UNIT SUPPLY VOLTS 208/230 PHASE 1 Hz 60 MAX.VOLTAGE 253 MIN.VOLTAGE 198
APPROVED FOR HACR BREAKERS OR TIME DELAY FUSES.
BREAKER 15 AMPS
MAX.FUSE 20 AMPS MIN.CIRCUIT AMPACITY 13
FAN MOTOR F.L.A. 0.35 W(OUTPUT) 40

REFRIGERANT R-32 ← HFC or HFC Blend Intended for Use

IF THE LIQUID LINE EXCEEDS 70 FT., PLUS 1 OZ. PER ADDITIONAL 5FT. LIQUID LINE.
INSTALLER TO MARK : TOTAL CHARGE 4 LBS. 7 OZ.
DESIGN PRESSURES PSIG 550 HI SIDE 330 LO SIDE
*SUITABLE FOR OUTDOOR INSTALLATION.
WEIGHT 91 LBS.
SERIAL NO. _____

Date of First Charge → INITIAL CHARGE ADDED: 8/2026

Labeling – RACHP Sector Labeling Requirements

- Charge size required for specific subsectors
 - Industrial process refrigeration (without chillers)
 - Retail food refrigeration—supermarket systems
 - Retail food refrigeration—remote condensing units
 - Cold storage warehouses
 - Self-contained refrigerated food processing and dispensing products
- Harvest rate and machine type (batch or continuous) required for specific subsectors
 - Self-contained automatic commercial ice machines
- Other subsector-specific requirements
 - Exiting fluid temperature for industrial process refrigeration chillers
 - Designed refrigerant temperature range when it enters the evaporator for industrial process refrigeration systems without chillers

RACHP Sector Reporting

Draft RACHP sector reporting form (1/3):

<i>Select from dropdown</i>		<i>Select from dropdown</i>	<i>Select from dropdown</i>	<i>Enter Data</i>	<i>Enter Data</i>
Sector	Product or Specified Component	Subsector	Additional Subsector Information	Equipment Type (e.g., compressor) [optional]	Additional Equipment Information (e.g., model number) [optional]
1 RACHP	Product	Motor vehicle air conditioning	Medium-duty passenger vehicles, heavy-duty pick-up trucks, complete heavy-duty vans		
4 RACHP	Specified Component	Residential and light commercial air conditioning and heat pumps	Residential and light commercial air conditioning and heat pump products (e.g., window units, portable room air conditioning)	Condensing unit	
5 RACHP	Product	Chillers (as a stand-alone product)			

RACHP Sector Reporting

Draft RACHP sector reporting form (2/3):

<i>Select from dropdown</i>	<i>Select from dropdown</i>	<i>Enter data</i>	<i>Select from dropdown</i>
Does the product or specified component include closed-cell foam containing a regulated substance?	Identity of the HFC or HFC Blend Used in Product or Specified Component	Charge Size (including holding charge or no charge, if applicable)	Charge Size Units
No	HFC-134a	1.1	pounds (lb)
No	R-410A	no charge	
Yes	HFC-152a	5	kilograms (kg)

RACHP Sector Reporting

Draft RACHP sector reporting form (3/3):

<i>Enter data if shaded blue</i>	<i>Select from dropdown</i>	<i>Enter data</i>	<i>Enter data</i>	<i>Enter data</i>
Mass of the Regulated Substance	Mass of the Regulated Substance Units	Number of Product or Specified Component Units		
		Domestically Manufactured	Imported	Exported
11	pounds (lb)	11,100	5,000	2,200
0		230	400	122
5	kilograms (kg)	1,000	240	200

Additional Resources

Technology Transitions Program Resources

Frequently Asked Questions Webpage

www.epa.gov/climate-hfcs-reduction/frequent-questions-phasedown-hydrofluorocarbons#technology-transitions-program

Sample Questions from our FAQs

Where can I get information on substitute refrigerants?

Sources of information on substitute refrigerants include the EPA's [Significant New Alternatives Policy Program](#), as well as the United Nations Environment Programme Ozone Secretariat's [Technology and Economic Assessment Panel \(TEAP\) reports](#).

Do all aerosols, foams, and RACHP equipment have to be labeled?

No. Only products and equipment that contain an HFC must be labeled in accordance with this rule. Many products in these sectors do not use HFCs and do not need to be labeled. Companies may voluntarily choose to indicate on a label that it does not use HFCs.

Technology Transitions FAQs

EPA United States Environmental Protection Agency

Search EPA.gov

Environmental Topics ▾ Laws & Regulations ▾ Report a Violation ▾ About EPA ▾

Reducing HFCs CONTACT US

Reducing HFCs Home

HFC Allowance Allocation and Reporting

Technology Transitions

Managing Use and Reuse

HFC Data Hub

Notices and Rulemakings

Public Meetings and Other Resources

Frequent Questions on the Phasedown of Hydrofluorocarbons

This page features responses to common questions on the phasedown of hydrofluorocarbons (HFCs) under the American Innovation and Manufacturing (AIM) Act.

On this page:

- [1. Overview of HFCs and the AIM Act](#)
- [2. The HFC Allowance Allocation Program](#)
 - [What does the HFC Allocation Program do?](#)
 - [How are allowances related to the production or import of bulk HFCs?](#)
 - [How does EPA determine allowance allocations?](#)
 - [How are allowances used?](#)
 - [How do transfers and conferrals work?](#)
 - [How is EPA ensuring compliance?](#)
 - [Auditing under the HFC Allocation Program](#)
 - [How have the HFC Allocation Program requirements changed since the Allocation Framework Rule?](#)
 - [The HFC Data Hub](#)
- [3. The Technology Transitions Program](#)
 - [General Questions on the Technology Transitions Program](#)
 - [Questions on Restrictions of HFCs in Technologies](#)
 - [Questions on Products](#)
 - [Questions on Systems](#)

HFC PHASEDOWN
American Innovation & Manufacturing (AIM) Act
U.S. Environmental Protection Agency Program

- Frequent questions and answers are regularly added to our FAQ webpage.
- If you have a question, check here!

Technology Transitions Program Resources

Additional Resources

Program website	www.epa.gov/climate-hfcs-reduction/technology-transitions
FAQ website	www.epa.gov/climate-hfcs-reduction/frequent-questions-phasedown-hydrofluorocarbons#technology-transitions-program
Final rule fact sheet	www.epa.gov/system/files/documents/2023-10/technology-transitions-final-rule-fact-sheet-2023.pdf
GWP restrictions and compliance dates by sector and subsector	www.epa.gov/climate-hfcs-reduction/technology-transitions-hfc-restrictions-sector
Reducing HFCs website	www.epa.gov/climate-hfcs-reduction
Ozone layer protection website	www.epa.gov/ozone-layer-protection

Still have questions? Reach out to us:
HFCTransitions@epa.gov

Recap

Recap

Restrictions

Compliance dates vary based on sector and subsector

- Earliest restrictions start January 1, 2025, or Model Year 2025 for light duty motor vehicles
- Latest restrictions start January 1, 2028

Labeling

New products and components using HFCs must be labeled based on compliance dates for the relevant subsector

Reporting

Companies that manufacture or import products and components covered by this rule must report annually to EPA

- First reports due March 31, 2026, based on 2025 data for all sectors

Thank you!

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Stratospheric Protection Division

Office of Atmospheric Protection, Office of Air and Radiation

U.S. Environmental Protection Agency

www.epa.gov/climate-hfcs-reduction

Q&A