

FACT SHEET

Proposed Rule - Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing Act

What is the AIM Act and this proposal?

The American Innovation and Manufacturing (AIM) Act was enacted by Congress on December 27, 2020. The AIM Act directs EPA to address the environmental impact of hydrofluorocarbons (HFCs) in three ways: phasing down production and consumption, maximizing reclamation and minimizing releases from equipment, and facilitating the transition to next-generation technologies through sector-based restrictions. This proposed rule focuses on the first area – the phasedown of HFC production and consumption.

What is the HFC Phasedown?

The AIM Act directs EPA to phase down production and consumption¹ of HFCs (see Table 1) by 85% over the next 15 years through an allowance allocation and trading program. EPA must first establish the U.S. production and consumption baselines using a formula provided by the AIM Act that considers past HFC, hydrochlorofluorocarbon (HCFC), and chlorofluorocarbon (CFC) amounts.² By October 1 of each year, EPA must issue production and consumption allowances for the following year, relative to those baselines. EPA's current estimate of the maximum number of allowances that the Agency may allocate per year is shown in Table 2.

About HFCs

HFCs are potent greenhouse gases (GHGs) intentionally developed as replacements for ozone-depleting substances (ODS) in refrigeration, air conditioning, aerosols, fire suppression, and foam blowing sectors. They have global warming potentials (GWPs) (a measure of the relative climate impact of a GHG) that can be hundreds to thousands of times greater than carbon dioxide (CO₂). HFC use is growing worldwide due to the phaseout of ODS and increasing use of refrigeration and air-conditioning equipment globally.

¹ Consumption is the amount of HFCs newly added to the U.S. market through production and import, minus exports and destruction.

² Under the AIM Act, the production baseline is calculated by adding: (i) the average annual quantity of all regulated substances produced in the U.S., January 1, 2011-December 31, 2013, and (ii) 15% of the production level of HCFCs in CY 1989, and (iii) 0.42% of the production level of CFCs in CY 1989. Similarly, the consumption baseline is calculated by adding: (i) the average annual quantity of all regulated substances consumed in the U.S., January 1, 2011-December 31, 2013, and (ii) 15% of the consumption level of HCFCs in CY 1989, and (iii) 0.42% of the consumption level of CFCs in CY 1989.

Table 1: 18 Individual HFCs Listed in the AIM Act

Chemical Name	Common Name	Exchange Value
CHF_2CHF_2	HFC-134	1100
CH_2FCF_3	HFC-134a	1430
CH_2FCHF_2	HFC-143	353
$\text{CHF}_2\text{CH}_2\text{CF}_3$	HFC-245fa	1030
$\text{CF}_3\text{CH}_2\text{CF}_2\text{CH}_3$	HFC-365mfc	794
$\text{CF}_3\text{CHFCF}_3$	HFC-227ea	3220
$\text{CH}_2\text{FCF}_2\text{CF}_3$	HFC-236cb	1340
$\text{CHF}_2\text{CHFCF}_3$	HFC-236ea	1370
$\text{CF}_3\text{CH}_2\text{CF}_3$	HFC-236fa	9810
$\text{CH}_2\text{FCF}_2\text{CHF}_2$	HFC-245ca	693
$\text{CF}_3\text{CHFCHFCF}_2\text{CF}_3$	HFC-43-10mee	1640
CH_2F_2	HFC-32	675
CHF_2CF_3	HFC-125	3500
CH_3CF_3	HFC-143a	4470
CH_3F	HFC-41	92
$\text{CH}_2\text{FCH}_2\text{F}$	HFC-152	53
CH_3CHF_2	HFC-152a	124
CHF_3	HFC-23	14800

Table 2: HFC Phasedown Schedule and Consumption & Production Allowance Caps

Year	Consumption & Production Allowance Caps as a Percentage of Baseline	Estimated Consumption and Production Allowance Caps in MMTEVe*
Proposed Baseline**	Consumption: 299 MMTEVe Production: 375 MMTEVe	
2022–2023	90 percent	Consumption: 269.1 Production: 337.5
2024–2028	60 percent	Consumption: 179.4 Production: 225.0
2029–2033	30 percent	Consumption: 89.7 Production: 112.5
2034–2035	20 percent	Consumption: 59.8 Production: 75.0
2036 & after	15 percent	Consumption: 44.9 Production: 56.3

* Baselines are expressed in million metric tons of exchange value equivalent (MMTEVe), which is numerically equivalent to one million metric ton of CO₂ equivalent (MMTCO_{2e}).

** These proposed baselines are based on currently available data, and the final figures may change based on an evaluation of all available data and information received prior to the final rulemaking.

Who May be Affected by this Proposed Rule?

Companies that produce, import, export, destroy, reclaim, or otherwise distribute HFCs may be potentially affected by the proposed rule. Companies may also be potentially affected if using HFCs to manufacture refrigeration and air-conditioning equipment, foams, aerosols, and fire suppressants, and in the six applications³ specified in the AIM Act.

What are the Costs and Benefits of this Proposed Rule?

American consumers are expected to benefit from transitioning away from HFCs to environmentally safer alternatives and more energy-efficient cooling technologies.

EPA estimates that the present value of the cumulative benefits of this action are \$283.9 billion from 2022 through 2050. In 2036 alone, the year the final reduction step is made, this rule is expected to prevent 187 MMTCO₂e emissions – roughly equal to the annual GHG emissions from one out of every seven vehicles registered in the United States.

EPA conducted an environmental justice analysis that determined overall reductions in GHG emissions from this rule would benefit populations that may be especially vulnerable to damages associated with climate change, such as the very young, elderly, poor, disabled, and indigenous populations. As the proposal moves forward, EPA will further consider the impacts on at-risk communities.

What are Key Provisions of the Proposed Rule?

To implement the allowance allocation and trading program, EPA is proposing to:

- Establish the HFC production and consumption baselines and codify the phasedown schedule (as shown in Table 2).
- Establish an initial methodology for issuing allowances for 2022 and 2023, while seeking input on methods to implement the program over the longer term, by proposing to:
 - Issue allowances to companies that produced and/or imported HFCs in 2020, based on past production and/or consumption values. The Agency is seeking comment on which years to use between 2011-2019.
 - EPA is not listing the projected number of allowances that each company would receive in the proposed rule.

³ The AIM Act requires EPA to allocate allowances sufficient to meet the full quantity needed for six specific applications for five years following enactment. The six applications are: propellants in metered-dose inhalers; defense sprays (e.g., bear spray); structural composite preformed polyurethane foam for marine use and trailer use; etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector; mission-critical military end-uses; and on board aerospace fire suppression. The allowances EPA is proposing to allocate for these applications would be for the exclusive use in one of the six applications.

- Issue “application-specific allowances” directly to the entities, including the U.S. Department of Defense, that operate within the six applications listed in the AIM Act. These entities would be able to confer their allowances to producers or importers to acquire needed HFCs.
- Set aside some allowances for application-specific end users and small importers that are only identified after the public comment period ends. The set aside as proposed would also be available in small quantities to new market entrants that are small businesses.
- Establish a methodology for trading allowances between companies, while requiring an offset of allowances to further benefit the environment.

To ensure compliance with the phasedown limits, EPA is proposing to:

- Establish an electronic tracking system for the movement of HFCs through commerce;
- Require the use of refillable cylinders;
- Establish administrative consequences (e.g., revocation or retirement of allowances) for noncompliance that would be in addition to any civil and criminal enforcement action; and
- Establish recordkeeping and reporting, third party auditing, and data transparency requirements.

EPA will accept comments on this proposal for 45 days after publication in the Federal Register and hold a public hearing. The agency plans to finalize this rule later this year.

For more information on the rule and how to comment, please visit:

<https://www.epa.gov/climate-hfcs-reduction/proposed-rule-phasedown-hydrofluorocarbons-establishing-allowance-allocation>.



Additional Resources

Protecting Our Climate by Reducing Use of HFCs: <https://www.epa.gov/climate-hfcs-reduction>

Greenhouse Gas Reporting Program: <https://www.epa.gov/ghgreporting/fluorinated-greenhouse-gas-emissions-and-supplies-reported-ghgrp>

Contact EPA: spdcomment@epa.gov

