

SUMMARY

Final Rule – Phasedown of Hydrofluorocarbons: Establishing the Allowance Allocation and Trading Program under the American Innovation and Manufacturing (AIM) Act

1. INTRODUCTION

The U.S. Environmental Protection Agency (EPA) released its final rule on September 23, 2021, establishing the allowance allocation and trading program for the phase down of hydrofluorocarbons (HFCs). This rule is expected to be published in the Federal Register within the next several weeks.

The final rule was issued pursuant to *The American Innovation and Manufacturing Act of 2020* (AIM Act) (42 U.S.C. §7675), which grants EPA authority to phase down HFC production and consumption, maximize recovery and reclaim and to minimize atmospheric releases, and restrict the use of HFCs in newly manufactured equipment on a sector-by-sector basis.

The AIM Act is based on Title VI of the Clean Air Act, enacted as part of the Clean Air Act Amendments of 1990. This means the AIM Act can be implemented in a similar fashion to the phase out of ozone-depleting substances (ODS) in the 1990s and early 2000s. The AIM Act is not formally a part of the Clean Air Act, but many of the Clean Air Act's administrative provisions, such as those involving rulemakings, record keeping, enforcement, and other ministerial requirements, apply to EPA's implementation of the AIM Act.

This final rule establishes the HFC production and consumption baselines that will underpin the gradual reduction in HFC production and consumption beginning next year and continuing through 2036, at which time the phase down will plateau at 15 percent of the baseline. The final rule also sets forth the methodology EPA will use to allocate allowances for 2022 and 2023, leaving open the possibility of changes to this methodology for allocations in 2024 and beyond. EPA also establishes other basic features of the AIM Act's implementation, such as the issuance of application-specific allowances, rules for trading allowances, and various compliance and enforcement measures.

2. PRODUCTION & CONSUMPTION BASELINE

EPA determined the production and consumption baselines in accordance with the formula provided in subsection (e)(1) of the AIM Act – *i.e.*, the average annual quantity of all regulated substances produced/consumed in the United States in 2011-2013, plus 15 percent of HCFC and 0.42 percent of CFC production/consumption in 1989.¹

The final rule expresses the baseline in terms of millions of metric tons of exchange value equivalent (MMTEVe). The term exchange value is a proxy for carbon dioxide (CO₂) equivalent units. Note that Global Warming Potential (GWP) is also expressed in CO₂ equivalent units.

The production and consumption baselines established by the final rule are as follows:

- **Production Baseline:** 382.6 MMTEVe
- **Consumption Baseline:** 303.9 MMTEVe

The baselines are important because they determine the number of production and consumption allowances available for use in a given year, based on the phase down schedule provided in subsection (e)(2)(C) of the AIM Act.

Beginning January 1, 2022, the AIM Act expressly prohibits the production or consumption of a regulated substance in the United States without a corresponding quantity of production and/or consumption allowances.

3. ALLOWANCE ALLOCATION & TRADING

A. In General

In 2022 and 2023, EPA can allocate 90 percent of the production and consumption baselines. Beginning in 2024, EPA will only be able to allocate 60 percent of the production and consumption baselines.

For calendar years 2022 and 2023, EPA will allocate 344.3 MMTEVe of production allowances and 273.5 MMTEVe of consumption allowances. Note that these are “calendar-year” allowances, only valid for the calendar year in which they are issued. These allowances cannot be banked and do not carry forward. EPA has not established company-specific baseline allowances that have value throughout the phase down, as it did under Title VI.

¹ Consumption is defined as production plus imports minus exports of HFCs. Consumption represents the total supply available in the United States.

Under subsection (e)(2)(D) of the AIM Act, EPA is required to allocate allowances for a given year by October 1st of the prior year. In the final rule, EPA stated it will announce the allocation of allowances by October 1, 2021, for calendar year 2022, based on the methodologies and other requirements in the final rule. EPA further stated it will announce the allocation of allowances for calendar year 2023 by October 1, 2022.

All allowances are weighted by exchange value (*i.e.*, CO₂ equivalence), to allow for equivalency across different HFCs and to align with the production and consumption baselines, which were established by the AIM Act in exchange value terms.

Each allowance corresponds to one MTEVe or CO₂ equivalent unit. For the production and/or consumption of a regulated substance, if no exception applies, an entity must expend at least 0.1 allowances to cover such production and/or consumption. As under Title VI of the Clean Air Act, HFC production requires both a production allowance and a consumption allowance, while importing HFCs requires only a consumption allowance.

For blends, the final rule notes that allowances are required only for the quantities of regulated substances contained in the blend and not the blend's other components (which may add to the overall GWP of the blend).

For calendar year 2024 and beyond, EPA stated in the final rule it will undertake a new rulemaking and potentially explore different approaches to allocating allowances. The AIM Act does not specify how EPA must allocate allowances, save for the so-called "application specific allowances" set forth in subsection (e)(4)(B)(iv), as described more fully below. So, EPA is well within its AIM Act authority to consider and utilize alternate allocation methodologies in future rulemakings.

B. Allocation Methodology

In determining its allocation methodology, EPA stated it will consider the need to provide "as seamless a transition as possible" to an allowance-holding regime as well as factors such as equity, timeliness of implementation, and availability of robust data.

In terms of eligibility, only HFC producers and importers operating in 2020 will receive allowances (although the agency will give consideration to companies inactive in 2020 due to extraordinary circumstances).

Allowances will be allocated based on the average of a company's three highest years of production and consumption (not necessarily consecutive) from 2011 to 2019.² EPA will divide each company's average by the sum of all companies' averages to determine each company's share of the allowances in the general pool. EPA then will multiply each producer's or importer's share by the general allowance pool to determine each company's calendar year production and/or consumption amounts, with allowances issued to the tenth of an MTEVe.

Note that prior to allocating allowances, EPA will draw from the general pool a quantity of allowances sufficient to cover application-specific allowances and the general set aside, which are discussed more fully below.

By October 1, 2021, EPA will issue production and consumption allowances and application-specific allowances for calendar year 2022. EPA will issue allowances from the set-aside pool by March 31, 2022. Any unused allowances from the set-aside pool will be issued pro-rata to companies in the general pool by that time as well.

C. Additional Consumption Allowances

The final rule sets forth a process for entities exporting HFCs to request additional consumption allowances, per the statutory definition of consumption, which subtracts any amounts exported. In effect, EPA will "refund" consumption allowances expended to produce or import a quantity of a regulated substance in a given year if that same quantity were exported in that same year.

Timeliness matters, as the production, import, and export must all occur in the same year. Accordingly, EPA will grant or deny requests for additional consumption allowances within 15 business days.

D. Application Specific Allowances

One significant departure from the text of the AIM Act originally introduced in the U.S. Senate in October 2019 is the requirement that six sectors be allocated "the full quantity of allowances necessary, based on projected, current, and historical trends" for the exclusive use in those

² EPA will consider as a single entity a company that acquired another company over this time period. Where a company has spun off an entity it wishes to receive allowances, that company must make a formal request of the agency to allocate allowances to the spun-off entity.

sectors for calendar years 2022-2025, with the possibility of extensions granted by EPA for additional periods of up to five years.³

The final rule establishes a framework for issuing allowances to entities in these sectors and limits transfers of these allowances to other end users in each sector. Noteworthy is the creation of a third category of allowances, after production allowances and consumption allowances, for these select applications, referred to as “application-specific allowances,” which can be expended either to produce or import HFCs. These HFCs can only be used in the specific sector for which the allowances were allocated and not used outside that sector.

EPA will allocate application-specific allowances directly to the end-users in these sectors, who then can “confer” allowances to a producer or importer to supply them with HFCs. “Conferring” allowances can be done across a supply chain. This does not count as a transfer and incur the five percent “offset” requirement. (Regular transfers also can still occur, but only within each sector.) The final rule also provides for the issuance of allowances to producers or importers if needed to support the use of a regulated substance in one or more of these sectors.

E. Allowance Set Asides

EPA established a set-aside pool of 7.5 MMTEVe of allowances (comprising less than three percent of the total number of allowances allocated in 2022) for three types of users:

- end users in application-specific sectors EPA has not yet identified or verified by the date of the final rule;
- importers that otherwise would have qualified for consumption allowances but are not yet identified or verified by the date of the final rule; and
- importer that are new to the market by November 30, 2021.

Allowances allocated to new market entrants are not transferrable.

F. Allowance Trading

The final rule provides for the trading of allowances among entities but imposes an “offset” of five percent of the quantity of allowances transferred, for the benefit of the environment. In

³ These sectors are: (1) propellants in metered-dose inhalers; (2) defense sprays; (3) structural composite preformed polyurethane foam for marine use and trailer use; (4) etching of semiconductor material or wafers and the cleaning of chemical vapor deposition chambers within the semiconductor manufacturing sector; (5) mission-critical military end uses, such as armored vehicle engine and shipboard fire suppression systems and systems used in deployable and expeditionary applications; and (6) onboard aerospace fire suppression.

other words, for every 100 allowances traded, EPA would reduce an additional 5 allowances from the transferor's allowance balance.

Under Title VI, EPA applied offsets of 1 percent and 0.1 percent to ODS allowance transfers, making this 5 percent offset a significant increase. However, EPA noted in the final rule that, assuming trading represents between 5 and 30 percent of consumption allowances in a given year, that would reduce the total HFC allowance pool between 0.25 and 1.5 percent. EPA also noted it "may revisit" the size of the offset as the phase down proceeds.

G. International Transfers

The final rule's provisions regarding international transfers of production allowances are structured similarly to the provisions governing international transfers under the ODS phaseout. See 40 CFR 82.9(c) and 82.18(c).

When a transfer request is submitted, EPA will review whether the foreign country where the foreign company is located meets the conditions under subsection (j)(1) of the AIM Act regarding similar constraints on HFC production and consumption.

If the country satisfies those conditions, the transfer can be permitted, although the final rule provides EPA with substantial discretion to deny transfers on other grounds, such as possible economic hardships, potential effects on trade, and potential environmental implications.

Upon approving an international transfer, EPA will revise downward the number of production allowances available for that given year in accordance with the statutory formula provided in subsection (j)(2)(A)(i)-(iii) of the AIM Act. Approval by the foreign country to which allowances are being transferred will not be a precondition of EPA approval, but the final rule does require the transferring company to submit a signed document from an official representative in that country's embassy in the United States stating that the appropriate authority within that country has revised its domestic production limits to accommodate the transfer.

All requests for international transfers must be submitted by October 1st of the year prior to the year the transferred allowances would be useable.

H. Importing Reclaimed HFCs

HFCs that are reclaimed domestically do not require production or consumption allowances. However, HFCs reclaimed abroad that are then imported into the United States will require consumption allowances, unless such reclaimed HFCs are being imported solely for the purpose of destruction.

From an allowance accounting perspective, the final rule states that importing reclaimed HFCs destined for destruction still would require consumption allowances, which then would be subtracted from allowance holding obligations upon the destruction of the imported reclaimed HFCs.

4. COMPLIANCE & ENFORCEMENT

In the final rule, EPA characterizes the measures described below as part of a “multifaceted approach to deter, identify, and penalize illegal activity.” Moreover, subsection (k) of the AIM Act applies certain provisions of the Clean Air Act to EPA’s implementation of the AIM Act’s provisions. This means the violation of any requirement established by EPA in this final rule (and any future rules issued by the agency under the AIM Act) are subject to federal enforcement and the penalties set forth in section 113 of the Clean Air Act, including the penalties in section 113(b) for civil judicial enforcement and section 113(c)’s criminal penalties.

A. Administrative Consequences of Noncompliance

EPA will withhold (not allocate), retire (not use), or revoke (take back) allowances as a penalty for certain actions or inactions, including submitting false, inaccurate, or misleading information, failing to comply with the AIM Act and its implementing regulations, and violating Anti-Dumping/Countervailing Duties or other Department of Commerce and U.S. Customs and Border Protection Trade Laws.

These “administrative consequences” may be in addition to other penalties for noncompliance.

B. Electronic Tracking

EPA will require QR codes on containers imported, sold or distributed, or offered for sale or distribution by producers or importers as of January 1, 2025. Then, beginning January 1, 2027, EPA will require a QR code on every container of HFCs sold or distributed, purchased or received, or attempted to be purchased or received.

C. Refillable Cylinders & Container Labeling

The final rule prohibits importing or filling disposable cylinders domestically beginning on January 1, 2025, and prohibits the sale of regulated substances contained in disposable cylinders effective January 1, 2027.

Cylinders are required to be labeled in accordance with specified requirements, with the final rule stating that EPA will presume unlabeled or illegibly or improperly labeled cylinders to be

full of HFC-23, with consumption allowances weighted to HFC-23's exchange value required to import the cylinder.⁴

The final rule further prohibits the import of HFCs in cylinders designed to hold 100 pounds or less for transformation or destruction, out of EPA's concern this could lead to the submission of false information as to allowance-holding obligations. The final rule also requires allowances to cover imports of heels in cylinders.

D. Third Party Auditing & Data Transparency

The final rule requires third-party auditing of companies' recordkeeping and reporting and will make public HFC production and consumption data for the general public. In particular, the following information will not be eligible for CBI treatment and will be disclosed publicly:

- each company's EVE allowance allocation, with allowance balances periodically updated throughout the year;
- reported facility-level chemical-specific production data, including total production, and production for feedstock and destruction;
- production data provided by chemical manufacturing facilities that produce HFC-23, specifically the amount and type of chemicals intentionally produced on a facility line that also produces HFC-23;
- company-level, chemical-specific data on individual import and export shipments, including chemical type, quantity, source country, HTS code, port of entry, date, and the intended use if for destruction or transformation;
- facility-level chemical-specific destruction data;
- all data reported on transshipments; and
- companies receiving transferred allowances and the quantity of allowances received.

The final rule indicates that sales data, business relationships, pricing information, and other elements reported pursuant to the QR tracking system and by application-specific allowance holders will remain entitled to confidential treatment.

⁴ The 100-year GWP of HFC-23 is 14,800, according to Assessment Report 4 of the IPCC

E. Illegal Trade

The final rule prohibits the sale or distribution, or offer for sale or distribution, of regulated substances that were illegally produced or imported. This provides EPA with broad authority to hold liable any entity that “substantially facilitates or contributes to bringing about or effectuating a sale” of illegally produced or imported regulated substances.

5. OTHER PROVISIONS

a. HFC-23 Controls

In the final rule, EPA is effectively moving to prohibit any emissions of HFC-23. The AIM Act does not contain any express emission limitations. But EPA considers the “creation” of HFC-23 beyond insignificant quantities inadvertently or coincidentally resulting from various specific circumstances to be “production” under the AIM Act.

However, the final rule states that production and consumption allowances cannot be expended for HFC-23 “production” if that HFC-23 is being emitted and not captured and either destroyed or sold for consumptive use.

This means if a facility were to emit HFC-23 into the atmosphere, it would automatically violate the AIM Act and the EPA requirement that production of a regulated substance be covered with production and consumption allowances.

The final rule requires at least 99.9 percent of HFC-23 emissions to be captured. The destruction of captured HFC-23 by an EPA-approved technology (which can occur offsite by a third party) does not require production and consumption allowances but selling captured HFC-23 for use does incur allowance-holding obligations.

These requirements for HFC-23 emissions will take effect on October 1, 2022, with compliance deferrals potentially available for up to six months for facilities able to demonstrate substantial progress toward controlling HFC-23 emissions.

b. Imported Products Containing

EPA stated the term “import” applies only to bulk substances and not to HFCs contained in imported products, meaning consumption allowances are required for the import of bulk HFCs and not for the import of products containing HFCs.

In making this determination, EPA concluded the definition of “consumption” is “ambiguous and does not speak directly to whether imported products containing HFCs be included in the consumption baseline or subject to the allowance obligation.” Moreover, EPA stated it “further

concludes” that the AIM Act’s definition of consumption is “reasonably interpreted *not* to encompass imports of products containing HFCs” because it:

- is consistent with EPA’s longstanding practice under “closely related” provisions of Title VI of the Clean Air Act; and
- would create “severe implementation difficulties” involving decades-old baseline data that likely no longer exists and sweeping up retailers with compliance obligations they did not reasonably expect.

The final rule contains considerable discussion of EPA’s determination on this point. The agency’s objective seems to be to show the AIM Act does not provide clear direction and, as a result of this ambiguity, EPA has discretion to adopt a reasoned interpretation of the statute.

While such discretion cuts both ways and does not, by itself, preclude a change in the agency’s position in the future, it seems unlikely, future legal challenges notwithstanding, EPA would change course in the near future and decide to require allowances to cover imports of products containing HFCs.

c. Environmental Justice

Per Executive Order 14008 (86 FR 7619, January 27, 2021), EPA conducted an environmental justice analysis as part of the rulemaking and sought to incorporate environmental justice considerations into the final rule. As a general matter, EPA noted the final rule reduces greenhouse gas emissions, which creates a benefit to populations vulnerable to climate impacts. EPA further noted the transition from HFCs to HFC substitutes potentially implicates toxic feedstocks, byproducts, or catalyst changes (*e.g.*, carbon tetrachloride, tetrachloroethylene, and trichloroethylene) that, if released locally, can have adverse effects.

EPA’s analysis showed the total baseline cancer risk and total respiratory risk from air toxics is variable but generally higher and in some cases much higher within one to ten miles of an HFC production facility. EPA also found that higher percentages of “low-income Black or African-American individuals live near several HFC production facilities compared with the appropriate national and state level average.”

However, EPA acknowledged it remains unclear the extent to which these baseline risks are directly related to HFC production and recognized both the potential for facility emissions to decline over the course of the phase down and the generally low likelihood of feedstock uses materially contributing to locally elevated risk.

EPA’s environmental justice analysis did not affect core aspects of this particular final rule, but the agency did conclude that facility-level, chemical-specific production data would not be entitled to confidential treatment and will be released to the public to allow neighboring communities to see how emissions from a particular facility compare to changes in HFC production levels.

For future AIM Act rules, including in particular the allocation rule for calendar year 2024, EPA indicated it may revisit its environmental justice analysis and consider additional requirements, likely under other federal authorities, if data indicates some form of intervention is needed to reduce risk of disproportionate impacts associated with HFC production.