Trane Technologies / Office of Information and Regulations (OIRA) American Innovation and Manufacturing (AIM) Act Technology Transition (TT) Rule

TRANE TECHNOLOGIES

Agenda

- Introductions
- Trane Technologies
- American Innovation and Manufacturing (AIM) Act feedback

Trane Technologies thanks the Environmental Protection Agency Staff for their work on the American Innovation and Manufacturing (AIM) Act.

- EPA staff has completed a tremendous body of work in writing the AIM Act framework rules, allocation rules, and now this technology transition regulation, while listing products under the Significant New Alternatives Policy (SNAP) program, all in record time.
- The long-term environmental benefit of the AIM Act is result of the phase-down of the supply of HFCs. No technology transition will impact that benefit, and the HFC price increases and lack of availability of refrigerants of the supply shortages will provide a market force to transition to lower GWP where possible, as the designed construct of the AIM Act.
- The technology transitions provide clarity and certainty for manufacturers to ensure sufficient time to develop and certify new products for use.

Trane Technologies Supports…

- A 1-year sell-through limit for installation
- GWP limits and transition dates for imported products containing HFCs regulated under the AIM Act
- Use of 150 GWP, 300 GWP, and 700 GWP to categorize GWP limits as reasonable, given currently available alternatives.
- Inclusion of a mechanism to allow for exceptions or enforcement discretions if alternatives are not available or the transition is delayed for a legitimate reason.
  - There have been issues with access to HFC replacements
- Continued maintenance of existing equipment throughout its lifetime.
- A January 1, 2026, transition date for refrigeration equipment that requires the use of A2L or A3 refrigerants, due to delays in adoption of standard into building codes.
- Use of the Date of Manufacture simplifies enforcement as a clear compliance date that everyone in the supply chain can understand without unnecessarily stranding scarce assets.

Other countries continue to need American manufactured equipment designed to use current refrigerants, in the near term.

• EPA continue to allow for the export and sale of equipment containing or designed to contain controlled substances at currently used GWP levels. Other jurisdictions may not have building codes updated to allow for next generation refrigerants, while depending on supply from the U.S.. Banning these sales would harm American manufacturing and limit access to receiving markets further encouraging the sale and use of older or refurbished equipment with potentially lower energy efficiency that may leak more refrigerant.

For example, revisions to the 2020 editions of the Canadian National Model Codes are underway and Canadians purchase the majority of the AC / HP equipment from the U.S.. Other countries are in a similar position and would unduly be impacted by this requirement disadvantaging US manufacturing further. Countries that depend on US imports should continue to be allowed to have access to products until such time as they determine that they are prepared for the transition to next generation alternatives.

Canadian Commission on Building and Fire Codes. (2022, October 24). *Public review on proposed changes to the 2020 National Model Codes – Fall 2022*. Retrieved January 25, 2023, from https://ccbfc-cccbpi.ca/en/getinvolved/public-review-on-proposed-changes-to-codes-canada-publications-2022/

Trane Technologies is Seeking Clarification and Supports….

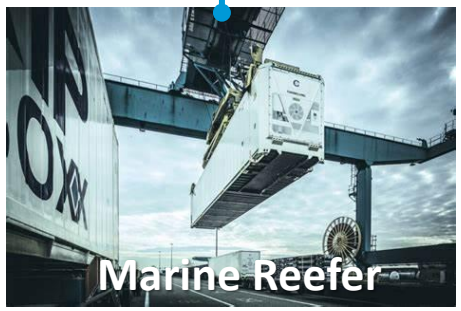
- The proposed January 1, 2025, 700 global warming potential (GWP) limit for refrigerants used in air conditioning (AC) equipment and heat pumps, including commercial unitary AC (CUAC), commercial unitary heat pumps (CUHPs) operational above 65,000 BTUs, provided there is a clarification that CUACs and CUHPs are included in the residential and light commercial SNAP category.
  - Replacement of compressors, air handlers and components should be allowed for CUAC and CUHP equipment having 62.5 tons capacity or more, as this larger equipment is often built into building design (e.g., data centers) and must have multiple compressor replacements during its lifetime. The condenser or condensing unit is often housed outside and needs to be replaced several times during its lifetime. It would be cost prohibitive to replace the indoor units with A2L compatible units instead of allowing for maintenance and repair.
- The proposed January 1, 2026, 700 GWP limit for refrigerants used in variable refrigerant flow (VRF) equipment, proposed for January 1, 2026.

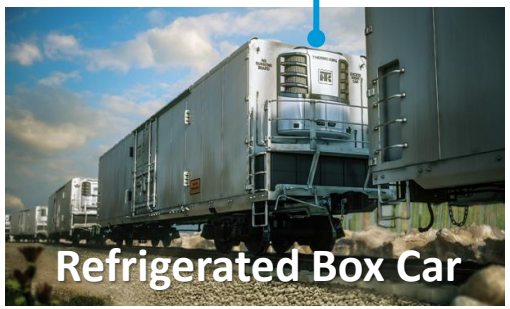
Trane Technologies Supports…

- A January 1, 2025, single 700 GWP limit for all markets where chillers are used, (e.g., computer room air conditioning (CRAC), ice skating rinks, buildings etc.)
  - This will eliminate market confusion and additional costs and delays in the transition. Chillers are well maintained with very low leak rates and refrigerant is responsibly collected at end-of-life, and the same products are often used in many markets
  - Excluding equipment where the temperature of the chilled fluid leaving the equipment (i.e., the supply temperature to the facility) is less than –58 °F (-50 °C).
  - CRAC equipment should have a 700 GWP limit and not be included with Industrial Process Equipment.

Typical Applications or Use Cases for Transport

PRECISE TEMPERATURE CONTROL FOR TRANPORT





Typical Applications or Use Cases for Transport

COMFORT COOLING, HEATING & INDOOR AIR QUALITY

Small adjustments are needed to the limits proposed for the transport refrigeration sector

• ASHRAE class A1 refrigerants must be available for transport refrigeration equipment, and R-452A must be allowed for use to prepare for this transition, especially for frozen cargo for marine containers, as A2L refrigerants are not allowed under the International Maritime Organization . The listed banned refrigerants proposed could be reasonable provided R-452A is listed as approved well before the transition, so that OEMs can receive other approvals for use.

•Harmonization is needed as shipping containers can be used for multiple modes of transportation (intermodal) both nationally and internationally.

•A distinct category and definition are needed for “Stand-alone Transport Refrigeration” for equipment that must be operational during transport (i.e., food storage on aircrafts, shipping medicines etc.). A1 refrigerants are required for this category.

- The following refrigerants could be banned for “Stand-alone Transport Refrigeration”: R-404A, R-507, R-507A, R-428A, R-422C, R434A, R-421B, R-408A, R-422A, R-407B, R402A, R-422D, R-421A, R-125/R-290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, R-134a, and R-410B
- A sub-category under the SNAP program may be needed for stand-alone transport equipment under “stand-alone equipment”, which lists refrigerants needed for this equipment.

Small adjustments are needed to the limits proposed for the transport refrigeration sector

- Trane Technologies supports the following proposed refrigerant bans for refrigerated transport: truck, trailer, aircraft, and rail as A1 refrigerants are required for this category: R-404A, R-507, R-507A, R-428A, R-422C, R434A, R-421B, R-408A, R-422A, R-407B, R402A, R-422D, R-421A, R-125/R290/R134a/R-600a (55/1/42.5/1.5), R-422B, R-424A, R-402B, GHG-X5, R-417A, R-438A, and R-410B.
    - Marine could be added to this list of refrigerated transport if there were an allowance for the use of R-452A for frozen cargo under the Significant New Alternatives Policy (SNAP) program.
    - Please note that “transport refrigeration road” and “intermodal transport” are not standard terminology for these products, markets or uses.
- Refrigerated containers, shipped by any means, that are imported into the U.S. and intended for export, passing through the US should continue to be allowed to be serviced with existing, in-kind refrigerants, as it is unlikely that the thousands of refrigerated containers shipped around the world will transition in conformance with this timeframe globally.

Definitions

“New Air Conditioning Equipment”

(1) First installed using new components, used components, or a combination of new and used components;

(2) An existing system with a single condenser and single evaporator that has a new exterior condenser, condensing unit, or remote condensing unit; or

(3) An existing system having more than one condenser and/or more than one evaporator that is modified such that the system has undergone cumulative replacements, within any three-year time period, of 75 percent or more of its indoor evaporator units (by number) and 100 percent of its air source or water source condensing units.

“Date of Manufacture of Self-contained Equipment” as the date found on the nameplate for equipment charged at the factory. Self-contained equipment manufactured prior to an effective compliance date of January 1, 2026 to be charged with the HFC or HFC blends allowed prior to January 1, 2026

“New Refrigeration Equipment” is equipment that is first installed using new components, used components, or a combination of new and used components, or modified such that any refrigeration equipment in a new facility that is first installed using new components, used components, or a combination of new and used components applicable to refrigeration end-uses, in new construction; an existing facility not previously used for cold storage, retail food refrigeration, commercial refrigeration, industrial process refrigeration, or ice rinks; or an existing facility used for cold storage, retail food refrigeration, commercial refrigeration, or industrial process refrigeration that has undergone replacement of 75 percent or more of its evaporators (by number) and 100 percent of its compressor racks, condensers, and connected evaporator loads.

Administrative Requirements

- Eliminate additional labeling requirement if the date of manufacture, HFC, and GWP are included in another label or nameplate to avoid duplication**.** Current safety standards and Significant New Alternatives Policy (SNAP) program require that equipment be labeled with the type of refrigerant per design. Certification should not be necessary as an additional requirement. The current labeling and recordkeeping practices are well-proven to allow for compliance analysis and enforcement without this additional requirement
- Annual reporting of bulk chemical use in equipment rather than the more detailed reporting proposed in the NOPR is reasonable.
  - Manufacturers sell tens of thousands of stock-keeping units (SKUs) that would need to be collated and reported on. Reporting specific SKU level information to EPA would be excessively time-consuming and burdensome. Most other federal regulatory reporting, such as to Department of Energy (DOE), Federal Trade Commission (FTC), and EPA ENERGY STAR® is based on a single annual report with more high-level information.
  - Accounting only for refrigerant added in manufacturing sites would lead to an inaccurate accounting of refrigerant banks and servicing needs because equipment and piping charging is completed in the field.
  - Reclaimed refrigerants are already reported to EPA through GHG RP.
  - Manufacturers should only report on the total annual HFC content imported in equipment, exported in equipment, and incorporated into equipment in CO_2 eq units by controlled substance rather than blend.
  - A 45-day reporting requirement is untenable. Current GHG RP compliance requirements allow for reporting up to 90-days.
  - Clarification is needed regarding recordkeeping requirements as many OEMs have distribution channels. Some of these separate, small companies sell equipment to a contractor or distributor who do not store records for long periods of time. Clarification that recordkeeping requirements apply to the OEM and not distribution networks would be helpful.
  - Administrative controls such as recordkeeping, third party auditing, and data transparency requirements are reasonable especially within the existing confidential e-GGRT system GRG RP QQ report be updated for effective reporting of bulk HFCs imported in equipment, exported in equipment, and charged into equipment at plant sites

Thank-you!

For additional information, please contact Helen Walter-Terrinoni Director-Global Climate Policy
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