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UNDERSTANDING THE TRANSITION

A2L REFRIGERANTS

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Understanding the Transition to A2L Refrigerants and Frequently Asked Questions

We are approaching the end of the first quarter of 2024, which means we are just nine short months away from the mandated refrigerant transition that will profoundly impact the HVAC-R industry. It is important that we educate, plan, inventory, and execute our project quotes with the reduction of hydrofluorocarbons (*HFCs*) and the AIM Act in mind.

What are HFCs?

HFCs are potent greenhouse gases developed and manufactured as replacements for ozone-depleting substances. These fluorinated chemicals have no known natural sources. They can have impacts on the climate hundreds to thousands of times greater than the same amount of carbon dioxide (CO2). The impact is measured by the global warming potential (GWP) of a substance; one kilogram of a greenhouse gas with a GWP of 700 has an impact on the climate that is 700 times stronger than one kilogram of CO2, which has a GWP of 1.

What is the AIM Act?

The American Innovation and Manufacturing Act of 2020 (AIM Act) enacted on December 27, 2020. The AIM Act mandates the phasedown of HFCs by 85 percent from historic baseline levels by 2036 and authorizes EPA to address HFCs in three main ways:

1. Phasing down HFC production and consumption through an allowance allocation program
2. Facilitating sector-based transitions to next-generation technologies
3. Issuing certain regulations for the purpose of maximizing reclamation and minimizing releases of HFCs from equipment

To achieve the first part, the phasedown of HFCs through an allowance program, EPA established the HFC Allocation Program in the Allocation Framework Rule. This phasedown schedule started with a 10% reduction in 2022 and a further decrease in 2024 to 60% of baseline levels.

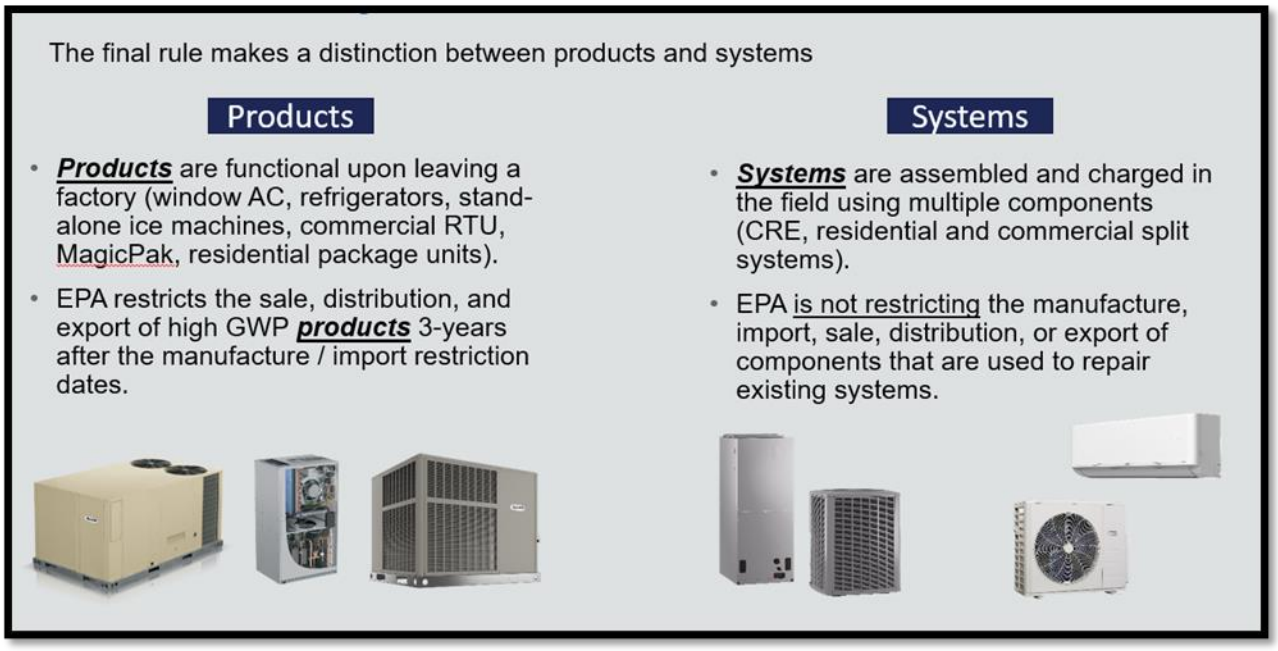
Will I be able to continue to use my air conditioner?

Yes, you can continue to use your air conditioner. The Technology Transitions final rule does not limit the use of any existing product or system. This rule is forward looking and restricts new products and systems from being placed on the market or entering operation after December 31st, 2024. This rule is designed specifically so that owners of refrigeration and air conditioning systems and products can continue to use and repair legacy systems throughout their useful life.

Can I repair my existing residential air conditioning that uses higher-GWP HFCs?

Yes, you can continue to repair your existing refrigeration, air conditioning, and heat pump system. This includes replacing a major “component” like a condensing unit, heat pump, coil, or compressor. New components may also continue to be manufactured and imported to allow existing systems to be maintained for the length of their useful life. However, the availability of HFCs and components may lessen over time as HFCs are phased down. We anticipate availability will be drastically impacted in 2025.

The EPA maintained the requirement that split-system air conditioners/heat pumps (AC/HP) have an installation deadline of December 31, 2025, and commercial refrigeration utilizing a remote condensing unit have compliance deadlines based on the use of the system. The transition broke products into two different categories: System and Component/Product.



What is a “product” in the refrigeration, air conditioning, and heat pump sector?

A product is a type of appliance with a sealed refrigerant loop that simply needs to be plugged in, mounted, or hooked to a water line, to work. For example, window air conditioning units, residential dehumidifiers, packaged terminal air conditioners, commercial freezers, and vending machines are examples of products. If you need a heating, ventilation, and air conditioning technician to assemble and/or charge with refrigerant, it’s not a product. This follows the same interpretation previously used under the Clean Air Act (e.g., Section 608) and has been used for decades.

Is a condensing unit a product? What if it is charged at the factory?

A condensing unit is not a product for purposes of the Technology Transitions Program. It is a component of the system. Whether it is pre-charged, or field charged, it must be connected to an evaporator to serve its intended purpose.

What is a system?

A system for purposes of the Technology Transitions Program is an assemblage of separate components constituting the refrigerant loop that typically are connected and charged with refrigerant in the field. If you need a heating, ventilation, and air conditioning technician to assemble and/or charge with refrigerant, it's a system. For residential air conditioner split systems, a new system would be installed in a newly constructed home. A new system would also be installed if both the condensing unit and indoor coil are replaced together. The condensing unit contains the condenser coil and compressor, and the indoor coil is the evaporator.

Do I need to buy a whole new system with the lower GWP refrigerant, or can I replace the faulty component?

Homeowners can maintain and repair their systems throughout the useful life of the equipment. A homeowner can replace a faulty component (e.g., condensing unit, indoor coil, other smaller parts) with a similar R-410A component. On or after December 31, 2025, if a whole new system is installed it must use lower GWP refrigerant.

If I leave the existing refrigerant lines but replace the condensing unit and indoor coil, is it a new system?

Yes. Refrigerant lines are generally not removed when replacing the other mechanical components of a system. Therefore, even if refrigerant lines are unchanged, replacing all the other components would result in a new system for the purposes of the Technology Transitions Program.

Can I replace the condensing unit and replace the indoor coil later?

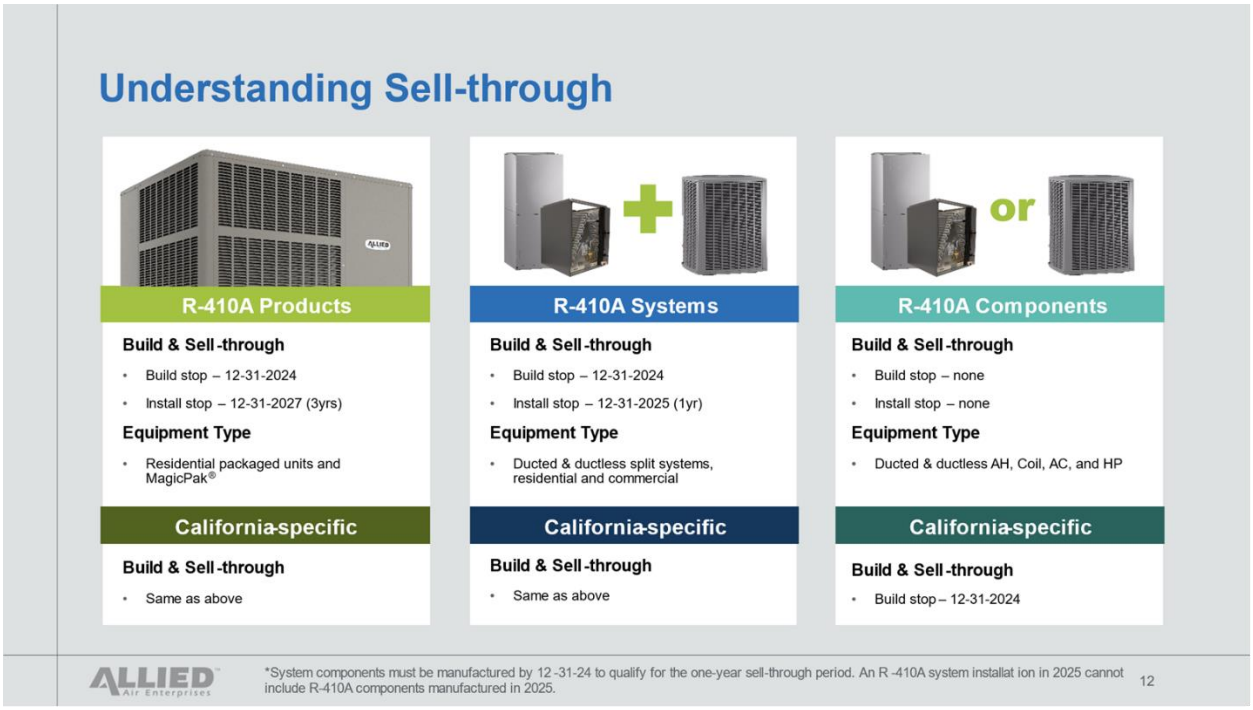
Yes. Systems may be repaired over time. Factors for homeowners to consider when deciding to repair or transition to a new system using a lower-GWP refrigerant include availability of components, energy efficiency, and total maintenance costs.

I am designing a new house/addition to an existing house - what system can I install?

Any system first charged with refrigerant on or after December 31, 2025, (i.e., a newly installed system) must use refrigerant with a GWP less than 700. Note that the compliance date applies to the day the system is charged. The GWP limits do not apply to any new system installed before that date.

If I have existing R410A inventory, what are the sell-through rules?

When it comes to the sell-through of our current inventory, there continue to be regulatory rules to be defined. For now, the rules look like this:



Manufacturers can build R410A product through December 31st, 2024.

- ✓ Residential packaged,vertical packaged units will have an installation date requirement of December 31st, 2027.
- ✓ Ducted and ductless residential systems will have an installation date requirement of December 31st, 2025.
- ✓ Ducted and ductless air handler, coil, air conditioner, and heat hump components will not have an installtion requirement date as long as they are replacement products and not a complete system.

While the HVAC-R community is applauding the revised sell-through provision by the EPA, industry experts say that it's important not to perceive it as an extension to market R-410A equipment. That's because manufacturers are actively preparing to shift to low-GWP alternatives this year, and they will be reluctant to prolong the supply of R-410A equipment. It is imperative that we educate, plan, and execute our project quotes with the reduction of hydrofluorocarbons (HFCs) and the AIM Act in mind as we work through the last three quarters of 2024.

Do you need more education on the transition to A2L refrigerant? Reach out to your sales representative. Hercules remains at the forefront of educating our dealers on this mandate.

Hercules INDUSTRIES

LOCATIONS

Commercial Division
5050 Florence St
Denver, CO 80238
303-388-8999

Denver North
490 East 52nd Ave, Suite 110
Denver, CO 80216
(720) 274-7157

Fort Collins
1701 Oak Ridge Drive
Fort Collins, CO 80525
(970) 225-9016

Colorado Springs
1383 Vapor Trail
Colorado Springs, CO 80916
(719) 574-3231

Pueblo
720 W. 6th St.
Pueblo, CO 81003
(719) 545-0409

Grand Junction
1453 4th Ave.
Grand Junction, CO 81501
(970) 242-6455

Salt Lake City
475 North Billy Mitchell Rd.
Salt Lake City, UT 84116
(801) 977-9705

Sandy
8385 S. Allen St. #139
Sandy, UT 84070
(801) 307-0342

Albuquerque
499 Industrial Ave. North East
Albuquerque, NM 87107
(505) 998-0353

Roswell
1208 N Grand Ave.
Roswell, NM 88201
(575) 627-3303

Phoenix
3898 N 28th Ave
Phoenix, AZ 85017
(602) 266-9920

Surprise
11560 N. Dysart Road #132
Surprise, AZ 85379
(623) 473-8684

Flagstaff
255 S Babbitt Drive
Flagstaff, AZ 86001
(928) 774-4351

Tucson
3195 E 36th St.
Tucson, AZ 85713
(520) 622-4299

Tempe
404 West 21st St.
Tempe, AZ 85282
(480) 736-1701

Show Low
1400 Lumberman's Loop
Show Low, Az. 85901
Phone: 928-235-2905

El Paso
200 Chelsea St.
El Paso, Texas 79905
Phone: (915) 778-9377

Las Cruces
1713 Buildtek Ct.
Las Cruces, NM 88005
(575) 556-9451

Cheyenne
265 North American Road
Cheyenne, WY 82007
(307) 635-2286

Casper
215 Progress Circle
Mills, WY 82644
(307) 237-5923

www.herculesindustries.com

Denver/Evans Headquarters
1310 West Evans Ave
Denver, CO 80233
303-937-1000