

Sustainable Purchasing Guide

Refrigerant-Using Equipment



Use this Guide When Purchasing

- Commercial ice machines
- Commercial refrigerators and freezers
- Lab grade refrigerators and freezers
- Light commercial HVAC equipment
- Residential refrigerators and freezers
- Room air conditioners
- Vending machines



Purchasing more sustainable refrigerant-using appliances and HVAC equipment can significantly reduce energy consumption and contribute less to global warming than conventional alternatives.

How to Purchase

Check with your facility maintenance department and/or central procurement office to find out if you have any standards and/or existing contracts employees are required to use to purchase appliances and/or HVAC equipment. When you are seeking these products in a store or online, check the product details to confirm that it meets the Minimum Requirements listed below.



Product Requirements - *specify or seek:*

MINIMUM REQUIREMENTS/SPECIFICATIONS	LEADERSHIP OPPORTUNITY
<ul style="list-style-type: none">• Product currently has an ENERGY STAR certification• The refrigerant type is listed as “lower impact on global warming”	<ul style="list-style-type: none">• Product currently has an ENERGY STAR Most Efficient certification (which automatically uses a climate-friendly refrigerant)

Eco-Labels to Look For



Large Refrigerant-Using Building Equipment

The ENERGY STAR program does not cover all types of HVAC equipment and appliances. Even for certain large equipment it does cover—such as geothermal systems, air-source and mini-split heat pumps, and central or mini-split air conditioners—it doesn't specifically address the use of climate-friendly refrigerants. To identify products that do use lower-impact refrigerants, purchasers will need to use different strategies. For example, they can:

- Work with designers and/or equipment suppliers to request equipment with a low-GWP refrigerant, whenever feasible, when designing new capital projects or replacing equipment at end-of-life.
- Look for large HVAC systems that use “natural” refrigerants such as propane (R-290) and isobutane (R600a), which both have a GWP of 3. Some of these larger systems are ENERGY STAR-certified.
- Consider and mitigate any potential fire safety issues associated with some “natural” refrigerants (e.g., ammonia, propane, butane). This may include siting the equipment in an insulated area to protect against potential lightning strikes and overheating of these flammable refrigerants.

Benefits

- **Saves energy and money:** Purchasing ENERGY STAR-certified appliances and HVAC equipment ensures that it is among the most energy-efficient products of its kind on the market, reducing energy costs. Ask your utility if any ENERGY STAR-certified appliances or HVAC equipment qualifies for utility rebates, which lower their initial cost.
- **Reduces impact on climate change:** Purchasing energy-efficient appliances and HVAC equipment that use refrigerants with a lower impact on global warming reduces greenhouse gas emissions that contribute to climate change, which has been linked to sea level rise as well as increasingly severe wildfires and storms.
- **Future proofs your investment:** Choosing appliances and HVAC products that use climate-friendly refrigerants will increase the likelihood that replacement refrigerants will be available and not prohibited by new regulations phasing out high-GWP refrigerants.

PRODUCT REGISTRIES

Find/verify refrigerant-using equipment by using the following online certified product registries:

- [ENERGY STAR](#)
- [ENERGY STAR Most Efficient](#)

How to Identify Appliances and HVAC Equipment that Use Climate-Friendly Refrigerants



Refrigerant Type ⓘ

- Clear selections
- Lower impact on global warming (92)

The ENERGY STAR Product Finder makes it easy to identify models that use climate-friendly refrigerants. When purchasing the product types listed above, use the “Refrigerant Type” filter and select the option labeled “lower impact on global warming.”

Related Tips

Implement Refrigerant Leak Detection and Maintenance Best Practices

It's important to prevent and quickly respond to refrigerant leaks, because when they're released from equipment that's when they contribute to climate change. To prevent refrigerant releases, take these steps:

- Adopt a refrigerant management plan and mission statement.
- Conduct an inventory of all systems that use refrigerants.
- Determine the type and amount of refrigerant each piece of equipment uses.
- Do not “top off” refrigerant, when refilling.
- Check for leaks regularly.
 - Require contractors and facilities staff to keep a leak detection tracking schedule for equipment.
 - Consider using automatic leak detection equipment.
- Repair refrigerant leaks promptly.
- Use U.S. EPA-certified technicians to conduct repairs.
- Reclaim refrigerant in equipment at the end of its useful life (using U.S. EPA-certified reclamation companies).
- Keep records of all refrigerant purchases, leaks, repairs, storage, and disposal.



Additional Resources

- The [California Air Resources Board \(CARB\) Refrigerant Management Program](#) identifies legal requirements that facilities with equipment containing more than 50 pounds of high-GWP refrigerant must follow in order to minimize refrigerant emissions. These include conducting and reporting periodic leak inspections, promptly repairing leaks, and keeping service records onsite.
- [New York State Assessment of Natural Refrigerants: A Report to the NYS Department of Environmental Conservation](#) by Effecterra (2023).
- Go to the [StopWaste Sustainable Purchasing website](#) for additional implementation resources such as other [Sustainable Purchasing Guides](#), [compliant product lists](#), [contracting resources](#), and other support tools.