

# Reducing Your Refrigerant Footprint



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Refrigerants are compounds whose chemical and physical properties are harnessed for use in air-conditioning and chilling equipment. Some of these compounds, called hydrofluorocarbons (HFCs), are potent greenhouse gases. HFC refrigerants impact the environment when they are released from refrigerant systems. The widespread adoption of HFC refrigerants has been due to the phase-out of ozone-depleting chlorofluorocarbons, but HFC refrigerants contribute significantly to greenhouse gas emissions worldwide. Fortunately, your business can reduce its refrigerant footprint in several ways.

## Fix leaks!

Impacts from HFC refrigerants are only realized when the compounds are released to the environment. For instance, the US Environmental Protection Agency estimates that 34% of the greenhouse gas footprint of grocery stores is due to refrigerant leaks alone. This amount is greater than the fuel used by transporting goods and natural gas used to heat stores in the winter combined and is surpassed only by carbon emissions from electricity use (49%).

Do the following to prevent leaks:

- Regularly inspect equipment for leaks (monthly or bimonthly) with an electronic leak detector. Compressor racks are the largest source of leaks (34%). Learn more at [www.epa.gov/sites/production/files/documents/leakpreventionrepairguidelines.pdf](http://www.epa.gov/sites/production/files/documents/leakpreventionrepairguidelines.pdf).
- Check refrigerant receiver levels regularly.
- Follow the manufacturer recommended maintenance schedule.

## Focus on energy efficiency!

By becoming more energy efficient, you can reduce your chilling needs, including reducing the size of your chilling system and the refrigerant charge of the system. Improving energy efficiency can also reduce equipment run-time and wear and tear on parts, which can contribute to leaks. The following are strategies to improve energy efficiency:

- Improve insulation.
- Upgrade to sealed freezer units instead of open bin systems.
- Use advanced refrigeration techniques, such as evaporative coolers, to boost chilling equipment efficiency.

## Consider alternatives!

Drop in replacements with lower global warming potential may be available for your existing equipment. Consult with the manufacturer or your service technician.

If you are purchasing new equipment, consider systems that run on carbon dioxide or other low global warming potential refrigerants.

Would you like to know more about refrigerants and what your company or community can do? Contact Ben Jarvis at [ben.jarvis@deq.idaho.gov](mailto:ben.jarvis@deq.idaho.gov) or (208) 373-0146.