

Are you considering a new or retrofitted refrigeration system?

R-22 Replacements and Low-GWP System Selection Considerations

Advisory to all refrigeration facility owners/operators, service technicians and contractors:

By 2020, the U.S. EPA plans to stop allowing production and import of virgin HCFC-22 (R-22) in the United States. Additional state and national regulations are expected over time to further reduce the use of high-GWP refrigerants.

Be advised that common replacements for R-22, such as HFCs R-404A, R-507A, and R-407B, have been delisted by the U.S. EPA and will no longer be acceptable for retail food for both system retrofits and new systems as of July 16, 2016 and January 1, 2017, respectively because of their high GWP values and the availability of alternatives with lower GWPs.

One of the important considerations in selecting a system retrofit or a new system is the refrigerant's global warming potential (GWP). Not all refrigerants have the same GWP. Some companies have been converting from HCFC-22 (R-22) to even higher-GWP refrigerants. This is contrary to the progressively changing regulatory framework to require lower-GWP refrigerants.

National and international efforts to phase-down the global use of HFCs may affect future price and availability of high-GWP refrigerants. New low-GWP technologies and solutions are advancing rapidly and are available today.

Systems with the lowest GWP values include ammonia and carbon dioxide (CO₂). Cascading CO₂ systems using a reduced refrigerant charge, with CO₂ as the secondary coolant, result in much lower overall greenhouse gas (GHG) emissions and are available today for a wide variety of applications. New hydrofluoroolefin (HFO) refrigerants and HFO blends with lower GWPs are also now available for a wide variety of applications including retrofits and cascading systems.

The Refrigerant Management Program has prepared two informational websites relevant to choosing a new system:

- Understanding GWP: www.arb.ca.gov/cc/rmp/rmpwhatisgwp.htm
- Low-GWP technologies for new and retrofitted systems: www.arb.ca.gov/cc/rmp/rmpnewsystem.htm

RMP Contact information

Website: www.arb.ca.gov/rmp

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