

Plan Now For R-22 Refrigerant Phase-Out

Current Situation:

R-22 refrigerant (Freon) is used in 90% of today's commercial air conditioning systems and has been for decades. The EPA strictly controls the production and importation of R-22.

In January 2013 the EPA issued orders for the reduction in the production and importation of R-22 in 2013 to 39 million pounds, down from the 55 million in 2012 and 100 million pounds in 2011. The EPA order has spurred price increases of 90 to 140% in the short time since the order was released. Due to these rapid price increases, contractors and suppliers have begun to hoard R-22 supplies and thus creating rationing and limited availability. Beyond the manageable price increases, the growing serious problem is the uncertainty of the availability of R-22 in the near future. If R-22 availability decreases, as is predicted, it will affect all businesses, industry, IT, and commercial real estate that need to repair or recharge their air conditioning units.



Alternatives: “Drop-in” refrigerants or 410A systems

If conditioned air is critical to running the business and R-22 is not available, then an alternative refrigerant or an entirely new system will need to be installed. There are alternative refrigerants to R-22 (like DuPont's M099 refrigerant) that can be “dropped in” to existing R-22 units with minor modifications to the unit. Yet extreme caution must be used with these drop-in alternative refrigerants because of significant issues with compatibility and being able to deliver the needed performance and cooling capacity.

The approved refrigerant for most new HVAC systems is 410A, but due to the higher pressures needed to work as an effective refrigerant, 410A cannot be used in R-22 systems. 410A systems have been available for commercial-grade HVAC for a few of years but the bulk of the buildings in the Sacramento Valley Region still use R-22. If an older R-22 system is to be replaced with a new 410A system, lead time for replacement units can be from up to 8 weeks or longer which would be unacceptable during the hot summer months.

Prepare for the Future: Protect your building investment, plan replacements now

Building owners and property/facility managers are strongly encouraged to review the type and age of their HVAC systems. The growing risk of R-22 availability may force building owners to change their HVAC systems sooner than anticipated. If the building has an R-22 system that is more than 10 years old, then start planning for the safe, systematic process of replacement. It is far more advantageous and cost effective for building owners to plan on systems changes now when the situation is still manageable. To wait until a catastrophic failure and or until the supply of R-22 is further depleted will be significantly more expensive, far less manageable, and more disruptive to your tenants and business operations.

Cooper Oates Air Conditioning will help you manage the entire life-cycle of your mechanical equipment so you can make a well-planned business decision around the soon-to-be obsolete system. We will help you develop a minimally disruptive plan that fits your bottom-line, time horizon and maintains a healthy, comfortable environment for your tenants. Our singular goal is to increase the return on your building investment by improving your energy efficiency and maximizing the life of your mechanical systems. Contact us at info@coacair or 916.381.4611 to get your plan started today.

R-22 Background

HCFC-22, or R-22 is a colorless gas better known by its trade name Freon and is most commonly used as a propellant and refrigerant. These applications are being phased out in developed countries due to the compound's purported ozone depletion potential.

Global use of R-22 continues to increase however due to the high demand in developing countries. In 2011, 55 percent of new air conditioning units were sold in the Asia Pacific region, Last year, China built more than 70 percent of the world's air conditioners, for commercial and domestic use and export. The most common coolant used in those units was R-22.

Clean Air Act

In 1987 the Montreal Protocol, an international environmental agreement, established requirements that began the worldwide phase-out of ozone-depleting CFCs (chlorofluorocarbons). In 1992 the Montreal Protocol was amended to establish a schedule for the phaseout of HCFCs (hydrochlorofluorocarbons).

The Montreal Protocol is codified in U.S. law through Title VI of the Clean Air Act. The Clean Air Act is the law that defines EPA's authority and responsibilities for enforcing the Montreal Protocol and for protecting and improving the nation's air quality and the stratospheric ozone layer.

Resources

The Montreal Protocol

<http://www.epa.gov/ozone/intpol/index.html>

EPA Clean Air Act - Title IV "Stratospheric Ozone Protection"

<http://www.epa.gov/oar/caa/title6.html>

Reference Materials

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http://www.nytimes.com/2012/06/21/world/asia/global-demand-for-air-conditioning-forces-tough-environmental-choices.html?pagewanted=3&_r=2&hp

1-30-2012 **ACCA Website**, "What's Going on with R-22"

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Lennox International Website, "Use of Alternate Refrigerants in HVAC Systems"

<http://www.lennox.com/about/consumer-protection.asp>

RSES Website, "Exploring the Differences Between R-410A and R-22"

http://www.rses.org/assets/rses_journal/1109_R410AvsR221.pdf