



THE FREON[®] FACTOR:

ISSUES AND STRATEGIES FOR BUSINESS
OWNERS WITH OLDER HVAC SYSTEMS

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Issues and strategies for business owners with older HVAC systems

It's impossible to read today's headlines without seeing news of climate change and the various policy changes enacted to combat it. While global initiatives are the source of some controversy, what cannot be disputed are the ways in which current federal environmental policy will affect your bottom line.

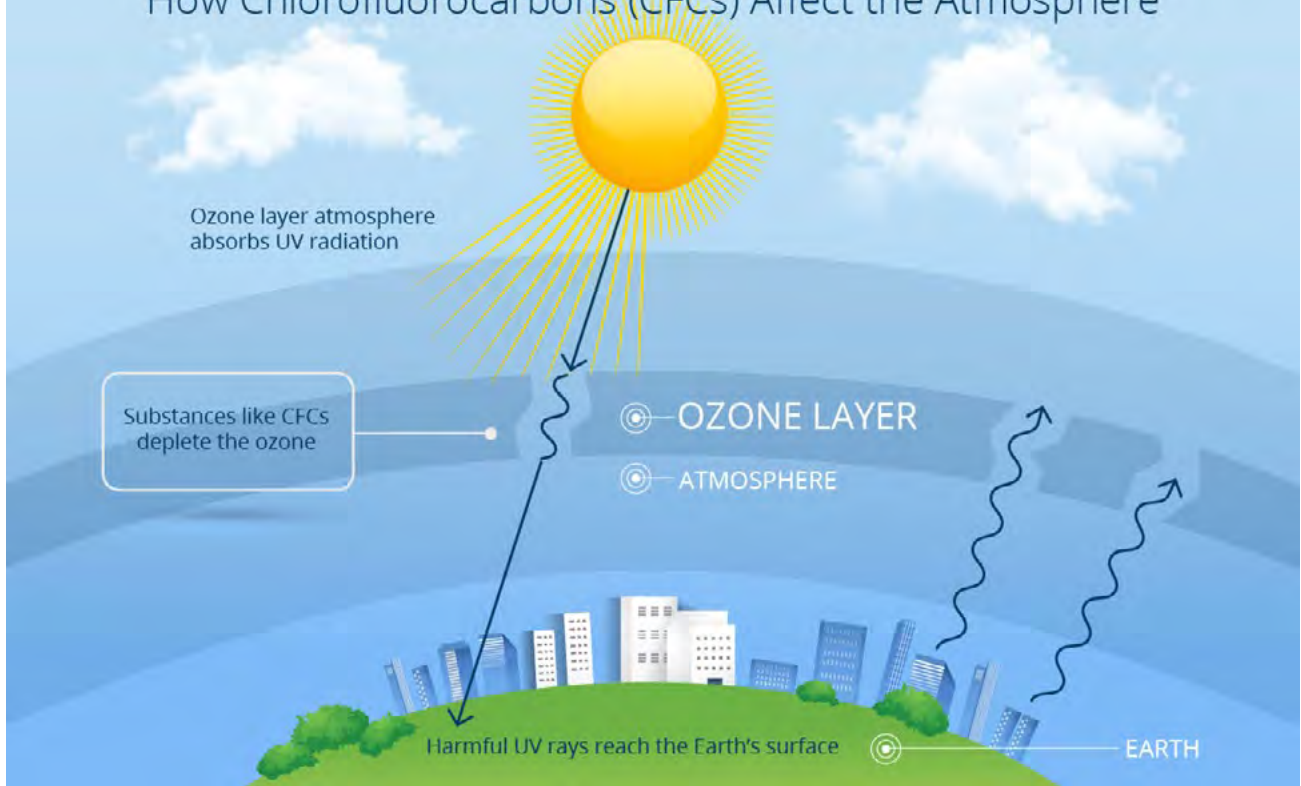
If you are fortunate enough to have air conditioning equipment manufactured and installed after 2009, read no further. For now, you won't have to consider refrigerants or their consequences. However, if your HVAC unit is one of the hundreds of thousands that runs on refrigerants to be phased out, the prohibitive costs of its repair may make your HVAC system's replacement an urgent priority.

Refrigerant gas has been used in mechanical cooling systems since they were invented in the late 19th century. Initial systems used dangerous chemicals like ammonia and sulfur dioxide to cool homes and office buildings. However, due to their obvious toxicity, these were soon abandoned as researchers developed better synthesis techniques that made chlorofluorocarbons cheaper and more practical for use.

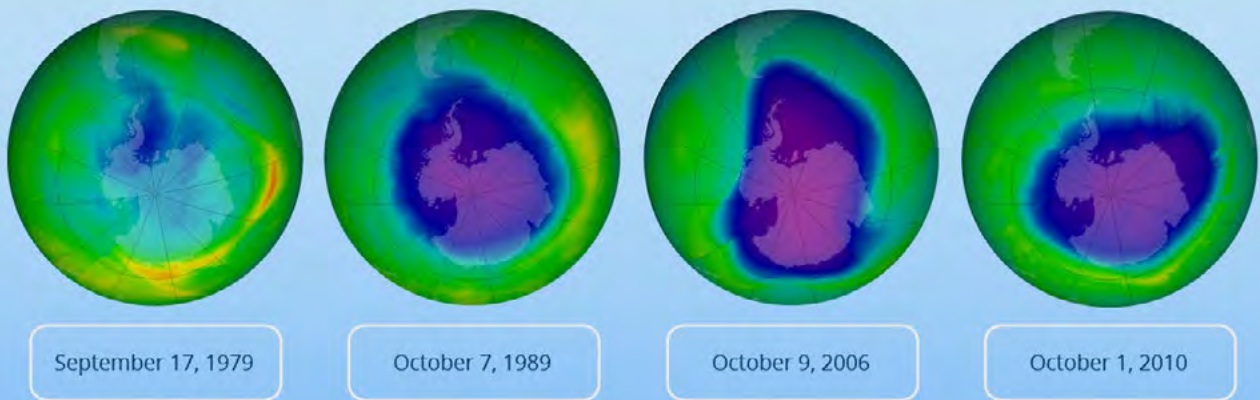
With a trademark name of "Freon®," or R22 in general use, this chlorofluorocarbon and its close relative R12 were initially slated to be phased out of production for their perceived contributions to the disintegration of the ozone around our planet. Both refrigerants were shown to break down in the stratosphere, with their chlorine atoms acting as a catalyst to break down this critically important atmospheric layer.



How Chlorofluorocarbons (CFCs) Affect the Atmosphere



Ozone Destruction Over Time



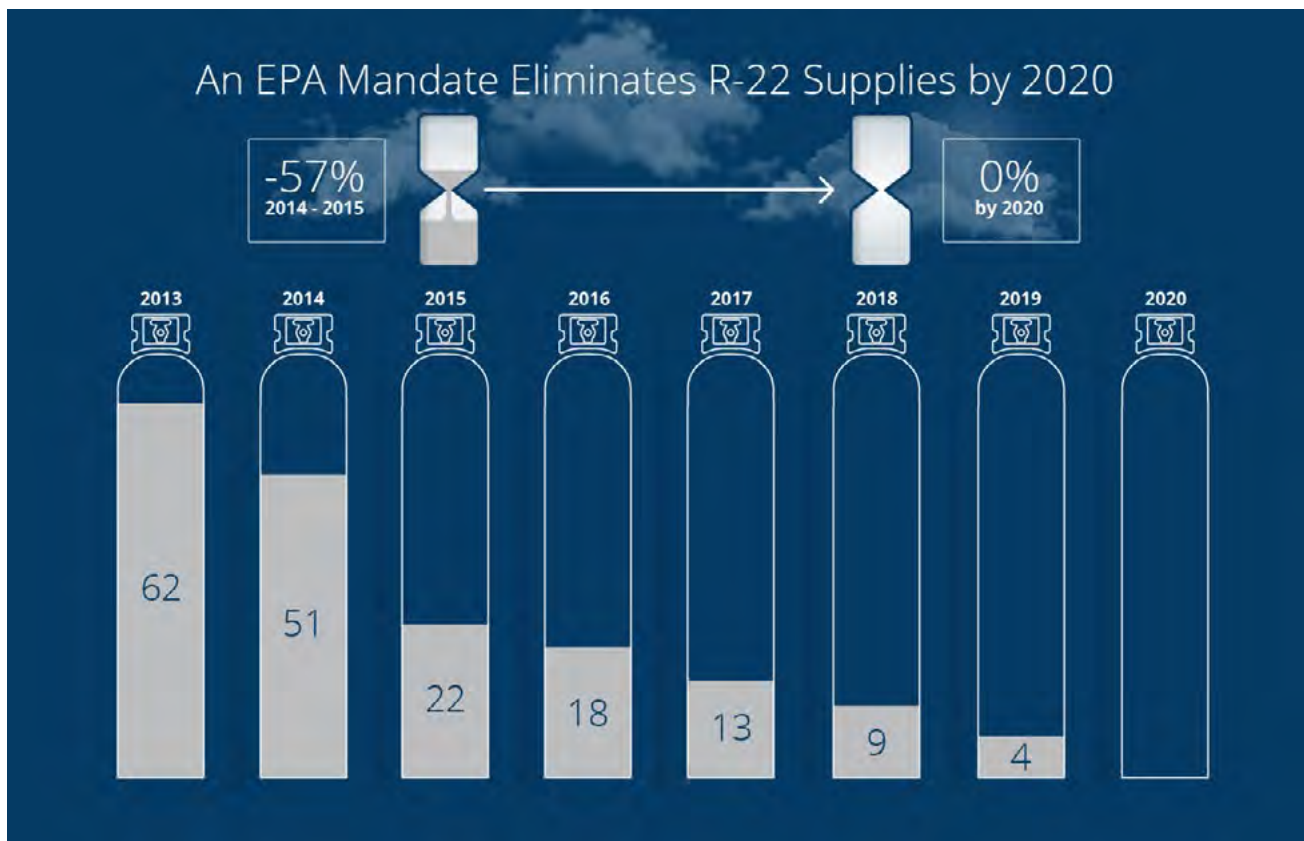
Images from NASA animation by Robert Simmon, using imagery from the Ozone Hole Watch

While newer refrigerants like R410 have been linked to the production of “super greenhouse gases,” they do not contain chlorine like these earlier products—and therefore are not associated with ozone damage.

Given these onerous conclusions, one might ask, who wouldn't want R22 and R12 gradually phased out? To many outside the HVAC industry and unfamiliar with how air conditioning systems work, switching systems to other, less harmful refrigerants seems like a simple and easy transition.

And yet... for the small to mid-sized business owner concerned about keeping costs down in already difficult economic conditions, the rapid move away from R22 and R12 presents unique challenges that can be formidable without appropriate education and the necessary prep work for the changes ahead.

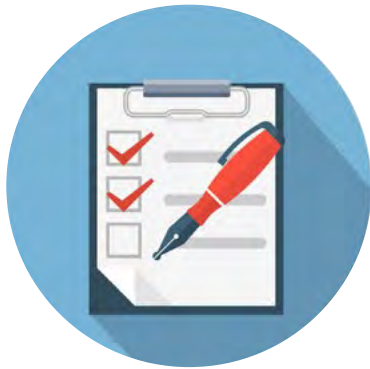
The strict limits on R22, along with its rapid, relative scarcity and subsequent price spikes for the HVAC industry, happened more or less by accident in January 2012. Due to an internal snafu, the E.P.A. inadvertently failed to set a specific quota for its production that year. Without a government-mandated amount in place, suddenly its manufacture became illegal. Overnight, prices soared, and while a subsequent and hurried “No Action Assurance” letter was generated, the message was now clear. Once instituted, strict R22 limits (and high prices) were here to stay.



For those pre-2009 HVAC units that require the gas to function properly, the news is grim. Cost of Freon® per pound has tripled since 2011, and continues to rise. What today might be a minor repair to your air conditioning system soon could prove catastrophically expensive and a significant drain on your operating budget.

Fortunately, thanks to our infrastructure, Air-Tro has access to Freon® and is able to offer it at a lower price than our competitors. Nevertheless, over time, we recommend business owners plan and budget for replacement of these now costly systems. To do so, we suggest that you first compile an inventory of existing refrigeration and comfort cooling systems, along with records of repairs involving the purchase of R22 or R12 refrigerant, and their equally problematic relative R500.

The good news? Current EPA regulations require that you have much of this paperwork in place anyway. Indeed, if your business is within the South Coast Air Quality Management District (SCAQMD), you are now subject to added rules on logging refrigerant use. A quality air conditioning (or HVAC) service provider should already be keeping these records for you.



Once this information is in hand, it's time to sit down with an E.P.A certified HVAC provider like Air-Tro to discuss possible replacements for your outdated system. Luckily, thanks to emerging HVAC technologies, Freon®-using air conditioners are now among the least cost effective models out there, even aside from their problematic refrigerants. Newer systems now cool far more cheaply than their older counterparts, while also adhering to today's stringent environmental restrictions.

There are other advantages to planning ahead for a transition away from your Freon®-based system. With an appropriate timeline in place, your company can seek and evaluate competitive bids among HVAC providers, well before purchase and installation of a newer product. Without prior planning, many businesses will be forced to purchase a replacement system quickly and at random, when the older HVAC unit inevitably breaks down and the price becomes prohibitive to fix it.

Proper planning can also allow your HVAC provider to address other system inefficiencies at the same time. Perhaps the air distribution is poor, with some offices receiving too much cooling while others are barely serviced. With appropriate communication and pre-planning, these issues can be addressed and resolved by your provider at the same time a new air conditioning system is installed.

Many companies don't give much thought to HVAC most of the time. That is... until your unit fails and the price of its repair is assessed. Don't get caught by today's Freon® Factor. We urge you to plan ahead. Understanding the impact of today's environmental regulations on your operating costs is now mission critical for your business to stay cool and continue to prosper.



Robert Helbing, PE
President, **Air-Tro, Inc.**
1630 S. Myrtle Ave., Monrovia, CA 91016
626.357.3535 | airtro.com
service@airtro.com

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