



## R22 Phase Out

### Why is R22 being phased out?

Ozone Depleting Substances (ODS) are a group of man-made chemicals that cause damage to the earth's ozone layer. HCFC's (hydrochloroflurocarbons) such as the refrigerant R22, falls into this group of chemicals and has been used widely across the food and drink industry.

An international agreement known as the Montreal Protocol, of which the EU is a signatory, has been drawn up to halt this damage to the ozone layer and under this agreement the use of HCFC's are being phased out.

### What is happening?

Within the EU the use and emissions of ODS is regulated by EU Regulation 1005/2009. This Regulation came into force on 1 January 2010 and replaced the old Ozone Regulation EC 2037/2000. Most ODS are already completely phased out in the EU. However the HCFCs that remain in use; including R22, are due to be phased out soon.

Many uses of HCFC's have already been phased out (e.g. they are no longer used in new refrigeration systems). The main on-going market for HCFCs is for the maintenance of existing refrigeration and air-conditioning equipment and their continued use will be phased out between 2010 and 2015.

### What is the timeline for this process?

There are two key phase-out dates in this process:

- **From 1<sup>st</sup> January 2010:** it became illegal to use virgin (fresh) HCFCs to service refrigeration and air-conditioning (RAC) equipment. Servicing and maintenance work is now undertaken using recycled or reclaimed gas.
- **From 1st January 2015:** it will be illegal to use recycled or reclaimed HCFCs to service or repair any RAC equipment.

This represents a very real business threat to any company currently using refrigerants like R22 in their RAC systems. R22 remains one of the most commonly used refrigerants in the UK so many businesses will be affected by the ban.

## What are my options?

If your business is still using HCFC refrigerants like R22, then you will need to assess your situation and plan a solution. Broadly speaking this will be one of the following options:

1. **Replace:** Some old systems, including those that are in poor condition, inefficient or not meeting their current (or forecast) cooling load, should be replaced with new systems using a non-ODS refrigerant. These can include HFCs (but these must comply with the EC F gas Regulations) or a “natural” refrigerant like hydrocarbons, ammonia or carbon dioxide.

This option can have a number of important benefits, most importantly the opportunity to significantly improve energy efficiency of the plant. It may also be possible to reduce the charge of refrigerant, either by using new “critical charge” systems or by employing secondary coolants.

Replacement is however, likely to be the most expensive option in up-front cost terms.

2. **Convert:** For many types of RAC system, which are in good order, it will be possible to convert the operating refrigerant to a ‘drop in’ type HFC refrigerant that is compatible with the system’s existing mineral oil. Or a more comprehensive modification, to a standard HFC refrigerant, this requires a new type of oil at least, and may require additional compressor and/or heat exchanger capacity.
3. **‘Put it Off’:** It is possible to carry on using equipment containing R22 beyond the final phase-out date of 1<sup>st</sup> January 2015. However, any required maintenance; servicing or critical repair that involves breaking into the refrigerant system can no longer be undertaken after this deadline. **So if a HCFC system goes down the direct and indirect costs to a business will be extremely high.**

To do nothing and **‘Put it Off’ is not a realistic option** for any business where reliance of refrigeration equipment using R22 plays such an important role in day to day operation. Older systems tend to become less reliable and inefficient; most systems experience leakage from time to time to a certain degree; so any equipment that is of strategic importance to a business should not be using HCFCs by 2015.

## Is there any support for replacement of plant?

The Government may be able to help with tax relief on new energy efficient equipment purchased (Enhanced Capital Allowance) and the Carbon Trust has a fund of £51.5 million for interest free loans available for new energy efficient technologies, (considered on a case by case basis).

Further Information can be found here: <https://etl.decc.gov.uk/etl/site.html>

## Develop an HCFC Phase-Out Strategy

All current users of HCFC systems must develop a strategic plan to manage their operations during this phase out period.

1. **Assess the Risk:** Identify all systems containing HCFCs and estimate their associated business risk.
2. **Prioritise:** Identify the most business-critical systems and address these first. But do not neglect all the other systems, these must also be managed.
3. **Determine the Phase-out Solution:** on a plant-by-plant basis, identify the most appropriate phase out solution. These are likely to be: 'Convert' or 'Replace'. Each plant must be assessed against a number of decision criteria to identify the optimum solution. These include system type, age, condition, availability and energy efficiency.
4. **Planning and Budgeting:** Develop a Phase-out Plan, with phased implementation of the Phase-out Solutions. Depending on the size of your operation, it is unlikely to be possible or desirable to carry out all the actions at once. This will need to be done in association with your refrigeration contractor, in order to ensure their own commitment.
5. **Implementation:** Carry out the plan, with regular monitoring and review.

It is highly recommended that any company who is currently still operating refrigeration or air-conditioning equipment with R22 or another HCFC; should contact their refrigeration contractor for immediate advice in managing a phase out strategy.

## For Further Information:

Commercial guidance on managing greenhouse gases and Ozone Depleting Substances (ODS):

<https://www.gov.uk/managing-fluorinated-gases-and-ozone-depleting-substances>

Institute of Refrigeration: R22 Phase out - guidance for owners and users of refrigeration equipment

[http://www.ior.org.uk/ior/\\_images/pdf/GN15%20-%20R22.pdf](http://www.ior.org.uk/ior/_images/pdf/GN15%20-%20R22.pdf)

Information Sheet: Legislative Update and Strategies for HCFC Phase-out

<http://archive.defra.gov.uk/environment/quality/air/fgas/documents/fgassupport-rac8.pdf>

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