

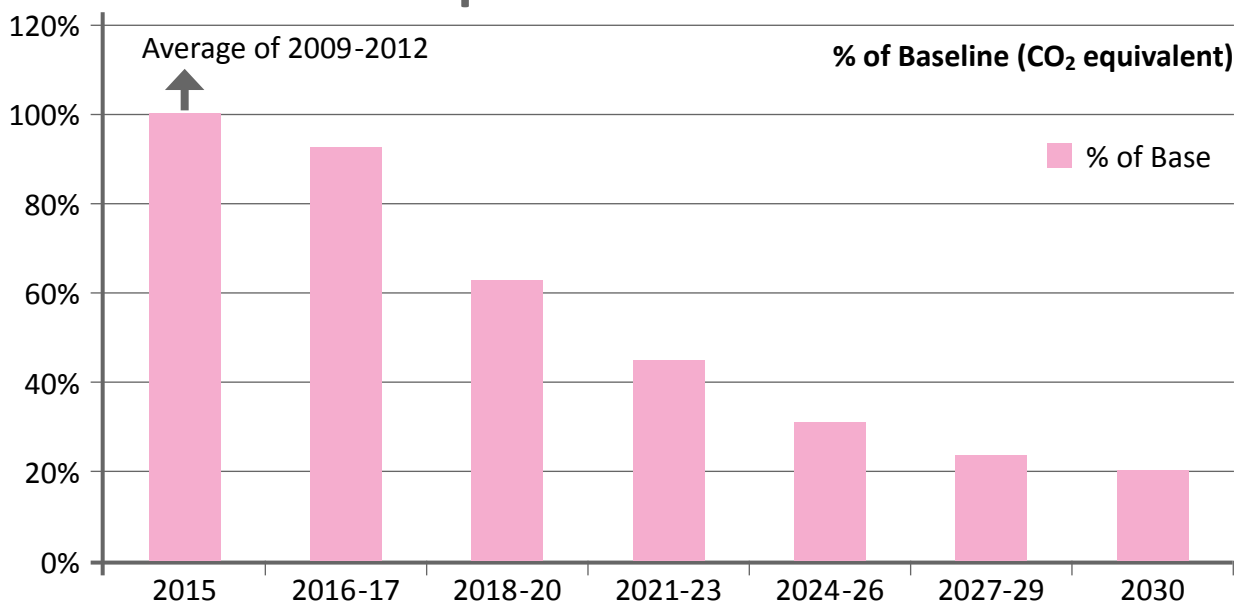
Your Guide to Low GWP Alternatives

F-Gas Regulations

F-Gas regulation places restrictions on the use of some HFC refrigerants with high GWP. The aim of the process is to reduce the contribution of refrigerant gases to global warming.

Refrigerants with a GWP greater than 2500 will be most affected within a short period (by 2020).

F-Gas: Cap and Phasedown of HFCs



Pre-charged Equipment

From 1 January 2017 onwards, all imported pre-charged equipment must use HFCs from the EU quota. It is estimated this will use 11% of the total available quota.

Leak Testing

The regular leak testing requirements are now as follows based on the CO₂ equivalent of the system charge:

Fluorinated Greenhouse Gases	Frequency of Leak Checks	
	No Leakage Detection System	Leakage Detection Systems
5 tonnes CO ₂ -equivalent	12 months	24 months
50 tonnes CO ₂ -equivalent	6 months	12 months
500 tonnes CO ₂ -equivalent	N/A	6 months

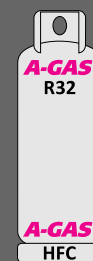
Service and Maintenance Ban

Servicing (topping up) equipment with a charge size greater than 40 tonnes of CO₂-equivalent containing a refrigerant with a GWP greater than 2500 will be banned from 2020.

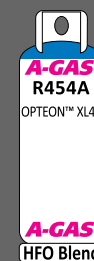
Selecting the Right Alternative

A-Gas offers a specific comparison of available alternatives, measuring over 20 relevant factors. This allows you to make an informed decision about the most appropriate gas for the equipment.

Simply supply the system specifics via our website: www.agas.co.uk/refrigerant-suggestions/



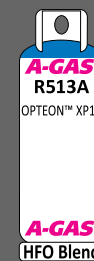
R32
GWP – 675*
Safety class – A2L
Glide – 0
Application: Air conditioning systems



R454A
GWP – 246*
Safety Class – A2L
Glide – 6
Application (R404A alternative): Low and medium temperature refrigeration systems



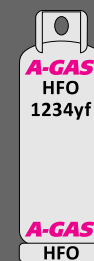
R448A
GWP – 1387*
Safety class – A1
Glide – 5
Application (R404A alternative): Low and medium temperature refrigeration systems



R513A
GWP – 631*
Safety class – A1
Glide – 0
Application (R134a alternative): Medium and high temperature refrigeration systems



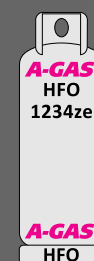
R449A
GWP – 1397*
Safety class – A1
Glide – 5
Application (R404A alternative): Low and medium temperature refrigeration systems



HFO1234yf
GWP – 4*
Safety class – A2L
Glide – 0
Application: Vehicle air conditioning systems



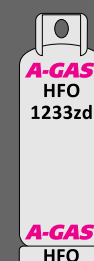
R450A
GWP – 604*
Safety class – A1
Glide – 0.4
Application (R134a alternative): Medium and high temperature refrigeration systems



HFO1234ze (E)
GWP – 7*
Safety class – A2L
Glide – 0
Application: Chillers and foam blowing applications



R453A
GWP – 1765*
Safety class – A1
Glide – 4
Application (R22 alternative): Low, medium and high temperature refrigeration plus air conditioning systems



HFO1233zd (E)
GWP – 4.5*
Safety class – A1
Glide – 0
Application: Chillers and foam blowing applications

* GWP's are based on AR4 report.