



Everything you need to know about the new F-Gas Regulation

Laurent Guegan, Regulatory Affairs Manager at Climalife, gives us more details about these draft European regulations* focusing his explanations on four basic points for the refrigeration, air conditioning and heat pump markets.

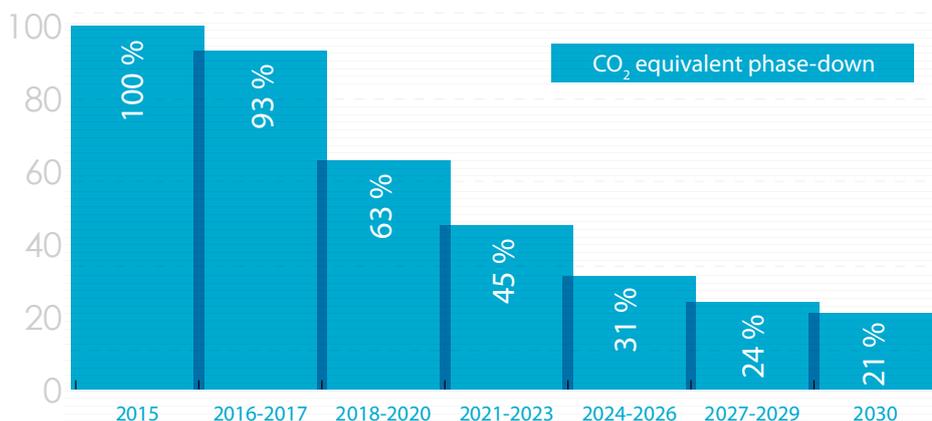
Namely what restrictions there will be on using HFCs, how to prevent greenhouse gas emissions, what the future labelling of fluorinated products will look like and when the text will be revised again by the European authorities?

Market restrictions

On 01/01/2015: Set-up of a CO₂ equivalent HFC phase-down (i.e. a reduction in the quantities marketed).

The global quantity of HFCs** placed on the market in Europe by 2015 will be the average of the quantities placed on the market between 2009 and 2012. By 2030, 21% of this volume could still be placed on the market.

By 31st October 2014 at the latest, the European Commission will allocate each producer or importer (of HFCs or equipment containing HFCs) an annual marketing quota which will gradually decrease until 2030.



Marketing bans on new equipment containing HFCs.

01/01/2015: ban on domestic refrigerators & freezers containing HFCs with GWP ≥ 150.

01/01/2020: ban on hermetically sealed commercial refrigerators & freezers containing HFCs with GWP ≥ 2500.

On 01/01/2022: ban on hermetically sealed commercial refrigerators and freezers containing HFCs with GWP ≥ 150.

On 01/01/2022: ban on refrigeration units (2 or more parallel compressors) whose power is ≥ 40 kW and containing HFCs with GWP ≥ 150. This ban will not apply to primary centralised cascade refrigeration systems where the fluid has a GWP < 1500 (medium temperature system to which one or more refrigeration systems are connected for cooling their condenser(s)).

01/01/2020: ban on fixed refrigeration systems containing HFCs with GWP ≥ 2500 except for equipment whose operating temperature is lower than -50°C.

01/01/2020: ban on mobile air conditioning units containing HFCs with GWP ≥ 150.

01/01/2025: ban on marketing split air conditioning systems whose fluid charge is < 3kg and contains HFCs with GWP ≥ 750.

Prohibition on using HFCs

For the servicing and maintenance of refrigeration equipment whose load is ≥ 40T equivalent. CO₂ (except for equipment whose temperature is < -50°C):

- The use of virgin HFCs or virgin blends containing HFCs with GWP ≥ 2500 is prohibited from 01/01/2020.

- Regenerated or recycled HFCs will be allowed until 2030 (nonetheless, recycled HFCs cannot be used and considered if it comes from the original equipment). **None of these prohibitions will apply to eco-designed equipment or to military equipment.**

Prevention of emissions

Leak inspections

Installation whose charge is ≥ 5T equivalent. CO₂: every 12 months or every 24 months if there are fixed detection devices fitted with an alarm sent to the operator.

Installation whose load is ≥ 50T equivalent. CO₂: every six months or every 12 months if there are fixed detection devices fitted with an alarm sent to the operator.

Refrigeration, air conditioning and heat pump installations, refrigerated trailers and trucks whose load is ≥ 500T equivalent. CO₂: every 6 months with mandatory fixed detection devices fitted with an alarm sent to the operator.

Rankine cycle installation whose load is ≥ 500T equivalent. CO₂: every three months or every six months if there are fixed detection devices fitted with an alarm sent to the operator (mandatory from 01/01/2017).

Hermetically sealed systems, labelled as such, with a load < 10T equivalent CO₂ will be excluded from this regime.

Until 31st December 2016, hermetically sealed, labelled equipment whose charge is lower than 6 kg of fluid and non-hermetically sealed equipment containing less than 3 kg of fluid are not subject to periodic controls.

* The text is not definitive at this stage and still has to be put to the vote at the European Parliament to become definitive.

** HFCs concerned are those listed in the Annex 1 of the draft text of the F-Gas Regulation.

Fluids	R-507	R-404A	R-422A	R-422D	R-417A	R-427A	R-407A	R-410A	R-407F	R-407C	R-134a
GWP	3985	3922	3144	2730	2347	2138	2107	2088	1825	1774	1430



▲ Laurent Guegan,
Regulatory Affairs Manager

“The operator must take action as soon as possible in the event of leaks. Leakage checks must be carried out within one month of repair”.

Recovery

Operators of equipment, including mobile equipment, should have fluids recovered by certified individuals.

The fluids recovered should be recycled, regenerated or destroyed. This provision will apply to the operators of the following equipment:

- Refrigeration, air conditioning and HP, including refrigerated trailers and trucks.
- Equipment containing solvents.
- Fire protection systems and extinguishers.
- Electric switching systems.

Packaging that has contained greenhouses gases should be processed to recover any waste gases for recycling, regeneration or destruction.

Training

The training certificates and programmes issued in accordance with regulation 842/2006 EC will remain valid, in accordance with the conditions in which they were initially issued.

The member states will report their training and certification programmes by 1st January 2017 at the latest, which must include the following points:

- Regulations and standards in force.
- Prevention of emissions.
- Recovery of greenhouse gases.
- Handling.
- Alternative techniques allowing the replacement of greenhouse gases.

Product labelling and information

The label should be clearly legible and indelible and should be placed beside the service valves for charging or recovering the fluorinated

greenhouse gases, or the part of the product or equipment that contains them.

This would affect refrigeration, air conditioning and heat pump installations, fire protection systems, electrical transformers, aerosols and any packaging containing these F-Gases.

The label should contain:

- a statement indicating that the product contains fluorinated greenhouse gases
- the type of F-Gas according to its nomenclature or, if not, its chemical name
- the quantity in kg
- from 1st January 2017, the CO₂ equivalent charge and the GWP.

This information should also be included in user manuals as well as in the descriptions used for advertising purposes, in so far as they relate to equipment whose GWP is ≥ 150 .

Furthermore,

- regenerated or recycled fluorinated greenhouse gases should have an indication that the substance has been regenerated or recycled, information about the batch number and the name and address of the regeneration or recycling installation.

- the containers of fluorinated greenhouse gases placed on the market for destruction should state that they can only be destroyed.

- the containers of fluorinated greenhouse gases placed on the market for direct export should state that they can only be directly exported.

- the containers of fluorinated greenhouse gases placed on the market for use in military equipment should state that they may only be used for this purpose.

Revision of all or part of the text

- No later than 1st July 2017, the Commission will publish a report assessing the prohibition of centralised or cascade refrigeration systems ≥ 40 kW. It will assess the availability of cost-effective, technically feasible, energy efficient, and reliable alternatives for this provision.

- No later than 1st July 2017, the Commission will publish a report assessing the method for allocation of quotas, including the impact of the cost-free allocation of these quotas, the costs of implementing these regulations in the Member States and a possible international agreement on HFCs, if necessary.

- No later than 1st January 2017, the Commission will publish a report examining EU legislation concerning the training of individuals in the handling of alternative refrigerants to replace or reduce the use of fluorinated greenhouse gases and will submit, if applicable, a legislative proposal to the European Parliament and the Council in order to amend the European Union legislation.

- No later than 1st July 2020, the Commission will publish a report assessing whether cost-effective, technically feasible, energy efficient and reliable alternatives exist, which make the replacement of fluorinated greenhouse gases possible in small split air conditioning systems.

- No later than 31 December 2020, the Commission will publish a report about the availability of HFCs in the European Union market.

- No later than 31 December 2022, the Commission will publish a full report on the effects of these regulations.

Through its controlled refrigerant purchasing policy, its partnerships and its dynamic Research & Development Department, Climalife already has solutions to respond to these changes in the F-Gas regulation.

Quantity of CO₂ equivalent per fluid load

Fluid load in Kg	R-507	R-404A	R-422A	R-422D	R-417A	R-427A	R-407A	R-410A	R-407F	R-407C	R-134a
GWP	3985	3922	3144	2730	2347	2138	2107	2088	1825	1774	1430
5 t éq CO ₂	1.25	1.27	1.59	1.82	2.13	2.33	2.37	2.39	2.74	2.41	3.49
50 t éq CO ₂	12.5	12.7	15.9	18.3	21.3	23.3	23.7	23.9	27.4	24.1	34.9
500 t éq CO ₂	125	127	159	183	213	233	237	239	274	241	349

New equipment bans



Maintenance ban and other important dates

