

Engineers Ireland Agricultural and Food Division AGM

20th May, 2014

Introducing the new F gas Regulation (517 of 2014)

Jean Clarke
DECLG



Comhshaol, Pobal agus Rialtas Áitiúil
Environment, Community and Local Government



Background

- Previous EU F-gas Regulation
 - In force since 2006
- Objectives
 - Containment of f-gases
 - Prevent and reduce f-gas emissions
- Wider context
 - Reducing emissions of greenhouse gases
 - Limiting climate change
- **Review** of the F-gas Regulation
 - Provided for under Article 10.



Key Elements

- Extended containment provisions
- Service and maintenance ban using high-GWP refrigerants
- Extended placing on the market bans
- Phase down of HFCs
- Examine possibility of Producer Responsibility Schemes



Containment measures

- Operators must prevent leakage
- Leakage checks, frequency based on CO₂ eq
- Detection systems for larger charges
- Labelling of products and equipment, extended to foams
- Proper recovery and recycling, reclamation or destruction
- Training & certification of service personnel, including information on alternatives

Applies to stationary refrigeration, air-conditioning, heat pumps, fire protection systems, refrigerated trucks and trailers, organic Rankine cycles and electrical switchgear with SF₆



Containment/Leak Checking

Some key differences

- Intentional release prohibited and operators must prevent leakage
- Frequency of leak checks based on GWP in CO₂ equivalents (up to 1st January 2017 equipment with less than 3 kg exempt from leak checking)
- Persons and undertakings must be certified
- Operators and undertakings (incl. contractors) must keep records for at least **5 years**
- Records must be kept for each piece of equipment requiring leak checks



Leak Checks – New Thresholds

Threshold Tonnes CO2 eq	Leak Checking Frequency	Frequency (Leak Detection System Installed)
5 - 50	12 months	24 months
50 - 500	6 months	12 months
> 500	3 months	6 months

Applies to stationary refrigeration, A/C, heat pumps, fire protection, Refrigeration units of refrigerated trucks and trailers, electrical switchgear and organic rankine cycles



Change from Kg charge to CO₂ equivalents

HFC	GWP	Charge size in kg corresponding to tonnes CO ₂ equivalent		
		5 t	50 t	500 t
R404a	3992	1.3 kg	12.7 kg	127.5 kg
R410a	2088	2.4 kg	23.9 kg	239.5 kg
R134a	1430	3.5 kg	35.0 kg	349.7 kg



Change from kg charge to CO₂ equivalents

- New thresholds of 5, 50, 500 tonnes CO₂ are to encourage use of low GWP alternatives
- Will potentially bring more equipment into the leak checking regime depending on the refrigerant
- The old “3 kg category” now ranges for 1.3 kg for R404A to 7.2 kg for R32
- There will be ready reckoner available to assist with the conversion



Ban on servicing with high GWP HFCs

1. Applies as of 2020
2. Large refrigeration equipment
 - Above 40 KW cooling capacity
 - Excluding equipment for temperatures below -50°C
3. HFCs above GWP 2500
 - Mainly R-404a
4. Recycled HFCs can be used until 2030



New Bans

Equipment	Date
Fire protection equipment that contains HFC-23	1 January 2016
Domestic refrigerators and freezers that contain HFCs with GWP of 150 or more	1 January 2015
Refrigerators and freezers for commercial use (hermetically sealed equipment) - that contain HFCs with GWP of 2500 or more	1 January 2020
that contain HFCs with GWP of 150 or more	1 January 2022
Stationary refrigeration equipment, that contains, or whose functioning relies upon, HFCs with GWP of 2500 or more except equipment intended for application designed to cool products to temperatures below -50°C	1 January 2020
Multipack centralised refrigeration systems for commercial use with a rated capacity of 40kW or more that contain, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more, except in the primary refrigerant circuit of cascade systems where fluorinated greenhouse gases with a GWP of less than 1500 may be used	1 January 2022
Movable room air-conditioning equipment (hermetically sealed equipment which is movable between rooms by the end user) that contain HFCs with GWP of 150 or more	1 January 2020
Single split AC equipment containing less than 3 kg of F gases than contain or whose functioning relies upon F gases of GWP of 750 or more	1 January 2025
Foams that contain HFCs with GWP of 150 or more except when required to meet national safety standards – extruded polystyrene (XPS) other foams	1 January 2020 1 January 2023
Technical aerosols that contain HFCs with GWP of 150 or more, except when required to meet national safety standards or when used for medical applications	1 January 2018

Training and Certification

- Essentially the training regime remains the same and existing certification remains valid
- Certification is required for installation, servicing, repairing and decommissioning of specified equipment
- Persons who carry out recovery and leak checking must also be certified
- Certification of undertaking (companies) still required
- The existing implementing regulations (303- 307 of 2008) remain valid unless revised regulations are introduced



Training and Certification

Member States must ensure that all persons holding or becoming certified have access to:

- **Technologies related to applicable regulations and standards, emission prevention, recovery of F gases, safe handling of equipment of the type and size covered by the equipment and information on relevant technologies to replace or to reduce the use of F gases and their safe handling.**
- **Existing regulatory requirements for working with equipment containing F gas alternatives**
- **Training has to be available to update knowledge**
- **The Commission has to be notified of the training and certification programmes by 1st January, 2017**



Record Keeping

For each piece of equipment requiring leak checking:-

- Quantity and type of F gas installed
- Quantities added during installation, maintenance, or servicing or due to leakage
- Whether the quantities of installed F gases have been recycled or reclaimed, including name and address of the recycling or reclamation facility and where possible the certificate number
- Quantity of F gases recovered
- Identity of the undertaking which installed, serviced, maintained and where applicable repaired or decommissioned the equipment including where applicable the certificate number
- Dates and results of checks carried out
- If the equipment was decommissioned the measures taken to recover and dispose of the F gases



Record Keeping

- **Suppliers of F gases must keep the following:-**
 - **Numbers of certificates of the purchasers**
 - **Quantities of F gases purchased**
- **All records must be kept for 5 years and made available to competent authority if requested**



Labelling

- All of the following product and equipment containing or whose functioning relies on F gases must be labelled:-
- Refrigeration, A/C and Heat pumps, fire protection equipment, electrical switchgear, aerosol containers, all F gas containers, f gas based solvent and organic rankine cycles
- Products or equipment exempted under Article 11.3 must be labelled accordingly and only used for that use



Labelling

The following shall also be labelled:-

- Foams and pre-blended polyols
- Reclaimed and recycled F gases
- F gases placed on the market for destruction
- F gases placed on the market for direct export
- F gases placed on the market for military use
- F gases placed on the market for the etching of semiconductor materials or the cleaning chemicals vapour deposition chambers within the semiconductor industry
- F gases placed on the market for feedstock
- F gases placed on the market for MDIs



Labelling

The label must state the following:-

- A reference that the product or equipment contains F gases or that its functioning relies on F gases
- Accepted industry designation or the chemical name
- From 1st January 2017 the quantity expressed in weight and in CO2 equivalent of F gas or the quantity of F gases for which the equipment is designed and the GWP of those gases



Reporting

- Applies to importers, exporters and producers of 1 tonne or 100 tonnes CO₂ equivalent or more of F gases
- Destruction of 1 tonne or 1,000 CO₂ equivalent or more of F gases
- Undertaking 1000 tonnes CO₂ equivalent or more as feedstock
- POM of 500 tonnes CO₂ equivalent or more of F gases listed in Annex II
- F gases in pre-charged equipment where the gases have not been placed on the market before (verification document to Commission)
- POM 10,000 tonnes CO₂ equivalent or more will require verification by independent accredited auditor

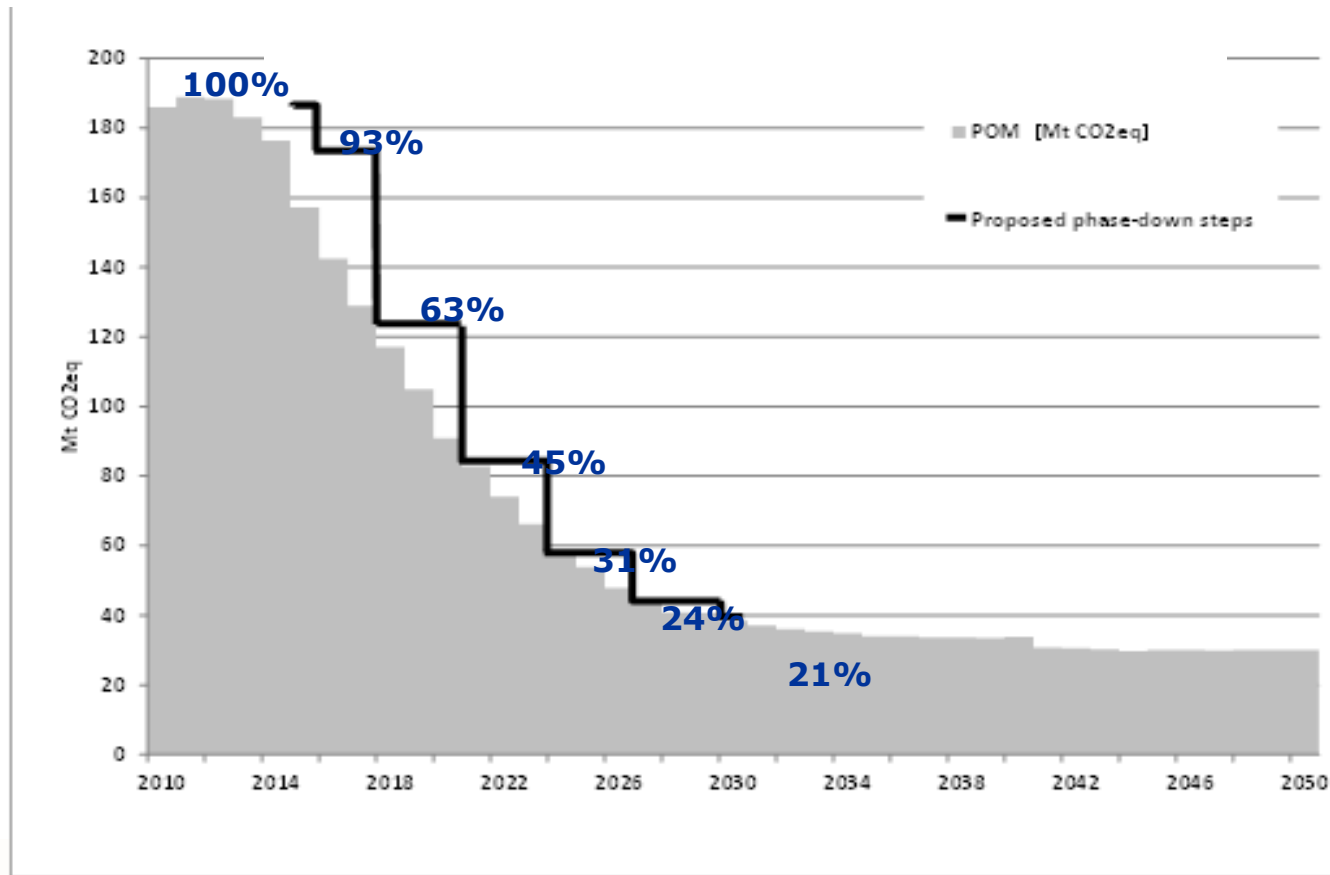


HFC phase-down – key new element

- HFC bulk placed on the EU market
- Schedule: freeze 2015, first step 2016, reduction of HFC supply by 79% in 2030 (in CO₂ equivalent)
- Baseline: reported 2009-2012
- Quota allocation based on historical sales and new entrants reserve
- Monitoring: Independently verified reports



Phase-down of HFC bulk supply



HFCs in pre-charged equipment

- Of the EU HFC demand, **11%** is imported in pre-filled equipment, rising to **18%** in 2030
- If not addressed, risk of circumvention of the phase-down!

Solution: Obligation to ensure that all HFCs quantities filled in equipment are "accounted for" under the EU phase-down

- *Filling in the EU, or*
- *outside the EU, with HFCs bought in the EU, or*
- *from a non-EU HFC producer with own EU quota, or*
- *authorisation to use quota from a quota holder*

Verification through declarations of conformity and audited reports



Quota Allocations

Commission Priority

Who will get a quota?

- *Reporter Companies (Incumbents / Established Players)*
 - *Reference Value + "Top-up"*
- ** New Entrants* □ *Quota from Reserve, on basis of Declaration and Pro-Rata (11% initially for new entrants)*



Programme 2014

Enabling a Smooth Start of the Phasedown in 2015!

- Reference values, Quota Allocations
- Registry

- Reporting Format

- Some Guidance Documents (e.g. quota allocation process, company reporting, FAQs..)
- Prep work on Training & Certification
- Labelling



Further information

Environmental Protection Agency

- Caitríona Collins
- Celine Horner
- www.fgases.ie
- www.epa.ie
- Lo Call 1890 33 55 99

Department of Environment, Community and Local Government

- Jean Clarke
- Gary McGuinn
- www.environ.ie
- Tel 01 888 2000

