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From:	General Secretariat of the Council
To:	Permanent Representatives Committee
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Subject:	Proposal for a Regulation of the European Parliament and of the Council on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 - Analysis of the final compromise text with a view to agreement

I. INTRODUCTION

1. On 5 April 2022, the Commission adopted its proposal for a Regulation on fluorinated greenhouse gases.
2. The proposal aims to align the F-gas Regulation with the objectives of the European Green Deal and the European Climate Law and the Union's recent international obligations on hydrofluorocarbons (HFCs) under the Montreal Protocol and the Kigali Amendment as well as to strengthen the implementation and enforcement on issues related to illegal trade, training needs for fluorinated greenhouse gases alternatives and the functioning of the quota system.
3. The draft Regulation is based on Article 192(1) of the Treaty on the Functioning of the European Union (TFEU) (ordinary legislative procedure).

4. The European Economic and Social Committee delivered its opinion on 15 June 2022. The Committee of the Regions decided not to deliver an opinion.
5. At its meeting on 5 April 2023, the Council (Environment) agreed on a General Approach,¹ which constituted the mandate for negotiations with the European Parliament, under the ordinary legislative procedure. The Working Party on the Environment (WPE) examined the EP amendments at its meeting on 26 April 2023.
6. The European Parliament appointed Mr Bas Eickhout (Greens/EFA) as rapporteur for the Committee on Environment, Public Health and Food Safety (ENVI). The Parliament adopted its negotiating mandate at the plenary session on 30 March 2023 and the proposal was referred to the ENVI Committee with a mandate for trilogue negotiations.
7. Four trilogues took place on 24 April, 13 June, 19 July, and 5 October 2023. In addition, a number of technical meetings were also held. Coreper discussed the preparation of the last trilogue on 29 September 2023. The Presidency kept delegations regularly updated on progress made at political and technical level. Coreper was debriefed on 26 April, 16 June, 16 July, and 29 September 2023.
8. A provisional agreement was reached at the fourth trilogue, resulting in the text set out in the Annex to this note.

II. ANALYSIS OF THE FINAL COMPROMISE TEXT WITH A VIEW TO AGREEMENT

8. On the key political issues, the compromise provisionally agreed with the Parliament consists of the following elements:

¹ Doc. 8162/23.

a) Scope

The Council's suggestion to expand the scope of the Regulation to fluorinated greenhouse gases listed to Annex III and either as substances or as mixtures containing such substances has been agreed, as laid out in Article 2.

b) Definitions

Article 3 on definitions include the definitions added by the Council of 'refrigerated light-duty vehicle,' 'self-contained,' 'split system,' 'air-conditioning,' 'heat pump,' 'safety requirements,' 'refrigeration,' 'foam panel,' and 'laminated board,' among other modified definitions.

c) Hydrofluorocarbons (HFCs) phasedown (Annex V and Annex VII)

The final compromise agreement reflects the Council's revised mandate on the issue of HFC consumption and production reduction schedule, starting in 2025. The Council's quota reserve figures are kept. The exception for semiconductors (with a review clause) is also maintained. Provisions on unpaid quotas are in line with the Council mandate; the HFCs quota for 2050, is set as zero, as requested by the European Parliament. The full phase-out of HFCs is subject to a review clause.

d) Service bans

In Article 13, new prohibitions requested by the European Parliament are included but remain within the boundaries agreed in the revised Coreper mandate (derogation clause; stationary refrigeration ban starting in 2032 and above 750GWP). The switchgear service ban is maintained as per the Council mandate.

e) Penalties

Provisionally agreed provisions on penalties, laid out in Article 31, reflect the Council position as set out in WK 9591/2023.

f) Quota Price

The quota price, as specified in Article 17, is 3€ for each tonne of CO₂, adjustable for inflation. Revenue earmarking is limited to a maximum annual amount as per Council mandate.

g) Switchgear

The provisional agreements includes a new full bans of fluorinated greenhouse gases for the medium voltage switchgear with the cascading principle for prohibitions maintained, based on the timeframe indicated in Council mandate. A technical correction is introduced for the first derogation based on the manufacturer and not the bidder. All exemptions and derogations requested by the Council are kept and an additional safeguard is added for the prohibitions not to apply if the equipment was ordered ahead of the entry into application of the Regulation.

h) Extended producer responsibility schemes

The schemes are obligatory, but limited to the Waste Electrical and Electronic Equipment Directive as specified in Article 9.

i) Placing on the market bans (Annex IV)

Full ban of fluorinated greenhouse gases is provisionally agreed in the following areas: domestic refrigeration (point 10), small chillers (<12kW) (point 15), aerosols (point 20), foams (point 21) with the starting dates agreed in the revised Coreper mandate of 12 July (ST 11314/23);

Further, the provisional agreement includes a ban of fluorinated greenhouse gases in big chillers (above 12kW) with above 750GWP and a ban above 150GWP in stationary refrigeration without chillers (point 13) starting in 2030, also agreed in the revised Coreper mandate.

A full ban of fluorinated greenhouse gases in small (<12kW) monoblock heat pumps (HP) and air conditioning (AC) (point 17) with a cascaded approach maintaining the Council date for GWP150 and adding a late phase-out date after the general review (2032) is also part of the provisionally agreed text.

Further, the text includes a full ban of fluorinated greenhouse gases in small (<12kW) split HP and AC (point 18) with a cascaded approach maintaining the Council date for GWP150 and adding a late phase-out date after the general review (2035).

The provisional agreement does not contain any bans of fluorinated greenhouse gases in mobile refrigeration and AC and includes a review clause on the feasibility of avoiding fluorinated greenhouse gases use in mobile refrigeration and AC in the future.

Finally, the text includes a safety requirements derogation clause for all new bans.

j) Trade and export

As set out in Article 22, one year after this Regulation takes effect, the export of specific products and equipment containing or relying on greenhouse gases with a high global warming potential (GWP) of 1000 or more will be prohibited. Exceptions can be granted in exceptional cases based on requests from Member States, considering economic value and expected lifetime, and compliance with the destination country's laws. EU-based companies must ensure that exports of refrigeration and air conditioning equipment and heat pumps comply with import restrictions set by the importing country under the Montreal Protocol.

k) Review and reporting

The co-legislators provisionally agreed to include additional obligations for the Commission to review the Regulation and report on its effects and the availability of alternatives to the concerned fluorinated greenhouse gases, as specified in Article 35. More specifically, by 1 July 2027, a Commission report should assess the feasibility of replacing greenhouse gases in specific equipment, potentially leading to legislative changes. By 1 July 2028, another Commission report will evaluate the regulation's impact on the health sector and cooling equipment. By 1 January 2030, a comprehensive report will assess alternatives, international developments, export bans, quotas, and market competition, possibly leading to legislative proposals. Additionally, by 1 January 2030, the Commission will assess if viable alternatives exist to replace greenhouse gases in specific equipment, especially 'split' air conditioners and heat pumps, and may propose legislative changes. By 1 January 2040, a review will consider hydrofluorocarbon needs and quotas. The European Scientific Advisory Board on Climate Change can offer advice on the Regulation alignment with objectives and international commitments under the Paris Agreement.

III. CONCLUSION

9. Against this background, the Permanent Representatives Committee is invited to:
- (a) approve the final compromise text as set out in the Annex to this note with a view to reaching an agreement at first reading with the European Parliament;
 - (b) authorise the Chair of the Permanent Representatives Committee to send a letter to the Chair of the European Parliament's Committee on the Environment, Public Health and Food Safety (ENVI) confirming that, should the European Parliament adopt its position at first reading in the exact form as set out in the Annex to this note, subject to revision by the lawyer-linguists of both institutions, the Council will approve the European Parliament's position and the act will be adopted in the wording which corresponds to the European Parliament's position at first reading.

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REGULATION (EU) 2023/...
OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL

of ...

**on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing
Regulation (EU) No 517/2014**

(Text with EEA relevance)

THE EUROPEAN PARLIAMENT AND THE COUNCIL OF THE EUROPEAN UNION,

Having regard to the Treaty on the Functioning of the European Union, and in particular
Article 192(1) thereof,

Having regard to the proposal from the European Commission,

After transmission of the draft legislative act to the national parliaments,

Having regard to the opinion of the European Economic and Social Committee¹,

Having regard to the opinion of the Committee of the Regions²,

Acting in accordance with the ordinary legislative procedure,

¹ OJ C , , p. .

² OJ C , , p. .

Whereas:

- (1) The European Green Deal launched a new growth strategy for the Union that aims to transform the Union into a fair and prosperous society with a modern, resource-efficient and competitive economy. It reaffirms the Commission's ambition to **make Europe the first climate-neutral *and zero-pollution* continent by 2050 and aims to protect the health and well-being of citizens from environment-related risks and impacts, *while ensuring a fair and just transition, leaving no one behind.*** Furthermore, the EU is committed to ***ensure the full implementation of the Regulation (EU) 2021/1119 of the European Parliament and of the Council³ ('European Climate Law'), the 8th Environmental Action Programme, and committed to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.***

³ ***Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 ('European Climate Law') (OJ L 243, 9.7.2021, p. 1).***

- (2) Fluorinated greenhouse gases are human-made chemicals that are very strong greenhouse gases ('GHG'), often several thousand times stronger than carbon dioxide ('CO₂'). Together with CO₂, methane and nitrous oxide, they belong to the group of GHG emissions covered by the Paris Agreement adopted under the United Nations Framework Convention on Climate Change ('the Paris Agreement')⁴. Fluorinated greenhouse gas emissions amount today to 2,5 % of total GHG emissions, in the Union, but have doubled from 1990 to 2014 in contrast to other GHG emissions, which have fallen.
- (3) Regulation (EU) No 517/2014 of the European Parliament and of the Council⁵ was adopted to reverse the increase in fluorinated greenhouse gas emissions. As concluded by an evaluation prepared by the Commission, Regulation (EU) No 517/2014 has led to a year-on-year decrease of fluorinated greenhouse gas emissions. The supply of hydrofluorocarbons ('HFCs') has declined by 37 % in metric tonnes and 47 % in terms of tonnes CO₂ equivalent from 2015 until 2019. There has also been a clear shift to the use of alternatives with lower global warming potential ('GWP') including natural alternatives (for example *air*, CO₂, ammonia, hydrocarbons, water) in many types of equipment that used fluorinated greenhouse gases traditionally.

⁴ OJ L 282, 19.10.2016, p. 4.

⁵ Regulation (EU) No 517/2014 of the European Parliament and of the Council of 16 April 2014 on fluorinated greenhouse gases (OJ L 150, 20.5.2014, p. 195).

- (4) The Intergovernmental Panel on Climate Change (IPCC) Special report⁶ concluded that emission decreases for fluorinated greenhouse gases of up to 90 % by 2050 globally compared to the year 2015 would be needed. In response to the urgency for climate action, the Union increased its climate ambition through Regulation (EU) 2021/1119 of the European Parliament and of the Council (the European Climate Law)⁷. That Regulation establishes a binding net GHG reduction target of at least 55 % by 2030 compared to 1990 and climate neutrality by 2050. The Union has also enhanced its initial nationally determined contribution under the Paris Agreement from at least 40 % greenhouse gas emissions reductions by 2030, to at least 55 %. However, the evaluation of Regulation (EU) No 517/2014 shows that the emission savings envisaged by 2030 in the context of the outdated Union climate objectives will not be fully achieved.

⁶ IPCC Special Report. Global warming of 1.5 C (August 2021).

⁷ Regulation (EU) 2021/1119 of the European Parliament and of the Council of 30 June 2021 establishing the framework for achieving climate neutrality and amending Regulations (EC) No 401/2009 and (EU) 2018/1999 (OJ L 243, 9.7.2021, p. 1).

- (5) Due to rising HFC emissions globally, Parties to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer ('the Protocol') decided in 2016 under the Kigali Amendment⁸ to implement an HFC phase-down that is to reduce HFC production and consumption by more than 80 % over the next 30 years. This implies that each Party must comply with an HFC consumption and production reduction schedule as well as providing for a licencing system for imports and exports and reporting on HFCs. It is estimated that the Kigali Amendment alone will save up to 0,4 °C of additional warming by the end of the century.
- (6) It is important that this Regulation ensures that the Union complies with its international obligations under the Kigali Amendment to the Protocol in the long-term, in particular, with regards to the reduction of consumption and production of HFCs, reporting and licensing requirements, in particular by introducing a phase-down for production and adding reduction steps for the placing of HFCs on the market for the time after 2030.

⁸ Council Decision (EU) 2017/1541 of 17 July 2017 on the conclusion, on behalf of the European Union, of the Kigali Amendment to the Montreal Protocol on substances that deplete the ozone layer, (OJ L 236, 14.9.2017, p. 1).

(6a) Some fluorinated greenhouse gases subject to this Regulation are Per- and Polyfluorinated Substances (PFAS) or are proven to or suspected to degrade into PFAS. PFAS are chemicals which resist degradation and potentially have negative effects on health and the environment. In line with the precautionary principle, undertakings should consider using, where available, alternatives which are less harmful for the health, environment and the climate. In 2023 a proposal to restrict the use of PFAS, including fluorinated greenhouse gases, was submitted to the ECHA. When considering potential PFAS restrictions, the Commission and Member States should take into account the availability of those alternatives.

- (7) To ensure coherence with the *obligations* under the *Montreal* Protocol, global warming potentials of HFCs should be calculated in terms of the 100-year global warming potential of one kilogram of a gas relative to *that of* one kilogram of CO₂ based on the Fourth Assessment Report adopted by the IPCC. For other *fluorinated greenhouse gases*, the *Sixth* IPCC Assessment Report should be used. *Considering the importance of rapidly reducing greenhouse gas emissions to keep the Paris 1.5 C global warming target within reach, the 20-year global warming potential of greenhouse gases is becoming increasingly relevant. In this respect*, where available, the 20-year global warming potential should be provided to better inform about the climate impacts of the substances covered by this Regulation. *The Commission should raise awareness on the 20-year global warming potential of fluorinated greenhouse gases.*

- (8) The intentional release of fluorinated substances, where unlawful, is a serious infringement of this Regulation and should be explicitly prohibited. Operators and manufacturers of equipment should be obliged to prevent leakage of such substances to the extent possible, including through leak checking of the most relevant equipment. *Where the release is technically necessary, operators should take all technically and economically feasible measures to prevent the release into the atmosphere, including by recapturing the emitted gases.*
- (8a) *When desflurane is used as inhalation anaesthetic, this very potent greenhouse gas is released. Considering the availability of less potent alternatives, the use of desflurane should only be permitted when alternatives cannot be used for medical reasons. When the derogation applies, desflurane should, like all other gases, be captured, and the healthcare institution should keep evidence of the reasons why the derogation was necessary.*

- (8b) Sulfuryl fluoride is another very potent greenhouse gas which can be emitted when used for fumigation. Operators using sulfuryl fluoride for fumigation should document the capture of this gas, or, when capture is not technically and economically feasible, they should specify the reasons thereof.*
- (9) Given that the production process for some fluorinated compounds can result in significant emissions of other fluorinated greenhouse gases as by-products, such by-product emissions should be destroyed or recovered for subsequent use as a condition for the placing of fluorinated greenhouse gases on the market. Producers and importers should be required to document **mitigation** measures adopted to prevent emissions of trifluoromethane during the production process **and evidence for the destruction or recovery for subsequent use of those by-product emissions in line with the best available techniques. Declaration of conformity should be provided prior to the placing on the market.**

- (10) To prevent emissions of fluorinated substances, it is necessary to lay down provisions on the recovery of substances from products and equipment and the prevention of leakages of such substances. Foams containing fluorinated greenhouse gases should be treated in accordance with Directive 2012/19/EU of the European Parliament and of the Council⁹. Recovery obligations should also be extended to building owners and contractors when removing certain foams from buildings, in order to maximise emissions reductions. *Provisions on recovery of substances are also introduced with the view to the Commission communication 'A new circular economy agenda' (11 March 2020), to the Commission communications 'A new industrial strategy for Europe' (10 March 2020), to the Commission communication 'Towards zero pollution for air, water and soil', to the Commission communication 'Towards a toxic-free environment' and to 'Updating the new 2020 industrial strategy: building a stronger single market for Europe's recovery' (5 May 2021), since the recovery, recycling and reclamation of fluorinated greenhouse gases is an application of circular economy principles.*

⁹ Directive 2012/19/EU of the European Parliament and of the Council of 4 July 2012 on waste electrical and electronic equipment (OJ L 197, 24.7.2012, p.38).

(10b) Cooling and freezing appliances rely heavily on fluorinated greenhouse gases for their proper functioning, and they represent one of the most relevant categories in the waste management of electrical and electronic equipment. In line with the polluter pays principle, and to ensure the proper waste management of those harmful gases, it is important that obligations relating to the extended responsibility for producers in case of waste electric and electronic equipment cover also the management of the fluorinated greenhouse gases contained or used in waste electrical and electronic equipment (WEEE). Directive 2012/19/EC sets out financing obligations for producers of electrical and electronic equipment waste. This Regulation complements that Directive by requiring the financing of the collection, treatment, recovery, environmentally sound disposal, recycling, reclamation or destruction of fluorinated greenhouse gases listed in Annexes I and II from the products and equipment, containing those gases or whose functioning relies upon those gases, which are electrical and electronic equipment.

(10c) Air conditioning, and refrigeration equipment contained in means of transport have particularly high leak rates due to the vibrations occurring during transport. This Regulation requires operators of most means of transport to carry out leak checks or to install leak detection systems and to recover fluorinated greenhouse gases for this mobile equipment. Operators of equipment onboard ships, as operators of any other equipment covered by this Regulation, are required to take precautionary actions to prevent the leakage of fluorinated greenhouse gases and, where such a leakage is detected, to repair it without undue delay. Given the international character of shipping, it is important that Member States and the Union within their respective competences work with third countries to ensure that unnecessary emissions of fluorinated greenhouse gases are prevented in this sector, including during installation, maintenance, repair and recovery from refrigeration and air conditioning equipment on ships. When reviewing the implementation of this Regulation, the Commission should assess the feasibility of extending the scope of containment measures to ships.

(10b) Regulation (EU) 2018/1139¹⁰ of the European Parliament and of the Council and its implementing rules lay down rules on the skills and knowledge required for natural persons undertaking maintenance activities on aircraft component. In order to ensure that unnecessary emissions are prevented in this sector, including during installation, maintenance, repair and recovery from refrigeration and air conditioning equipment on aircraft, it would be appropriate to cover the required competences in the regular process of updating the certification specifications and other detailed specifications, acceptable means of compliance and guidance material for the application of that Regulation.

¹⁰ ***Regulation (EU) 2018/1139 of the European Parliament and of the Council of 4 July 2018 on common rules in the field of civil aviation and establishing a European Union Aviation Safety Agency, and amending Regulations (EC) No 2111/2005, (EC) No 1008/2008, (EU) No 996/2010, (EU) No 376/2014 and Directives 2014/30/EU and 2014/53/EU of the European Parliament and of the Council, and repealing Regulations (EC) No 552/2004 and (EC) No 216/2008 of the European Parliament and of the Council and Council Regulation (EEC) No 3922/91 (OJ L 212, 22.8.2018, p. 1).***

- (11) *In order to contribute to meeting the Union's climate objectives and to encourage the use of technologies with no impact or lower impact on the climate that may involve the use of substances that are toxic, flammable or highly pressurized, Member States should take appropriate measures targeting the need for skilled personnel in order to ensure that a high number of natural persons who carry out activities involving fluorinated greenhouse gases and technologies replacing or reducing the use of fluorinated greenhouse gases are trained and certified. This includes measures in the heat pump sector, where an increasing number of personnel with the necessary skills will be needed, also in light of the REPower EU objectives, to install and service heat pump equipment based on novel refrigerant technologies to which different safety and technical requirements apply. Member States could for example use the support provided by the private-public partnerships launched under the EU Skills Agenda to increase the number of trained persons. Trainings should include information on energy efficiency aspects, alternatives to fluorinated greenhouse gases and applicable regulations and technical standards. Certification and training programmes established under Regulation (EU) No 517/2014, which may be integrated in national vocational training systems, should be reviewed or adapted enabling technicians to handle alternative technologies safely. Existing certificates issued under Regulation (EU) No 517/2014 should remain valid.*

(11a) In May 2022, the European Commission presented the RePowerEU Plan. The Plan includes a target to roll out 10 million hydronic heat pumps by 2027 and to double the rate of heat pump deployment by 2030, resulting in a total additional deployment of 30 million or more heat pumps by 2030. Whereas the sector will shift to lower GWP refrigerants as a result of the measures of this Regulation, increasing deployment of heat pumps as foreseen in REPower EU may impact the availability of HFC gas on the EU market, and will depend in part on the market uptake of alternative technologies before entry into force of the placing on the market prohibitions of Annex IV and the amount of deployment of heat pumps equipment still requiring higher GWP gases.

The Commission should closely monitor market developments, including the development of prices of fluorinated greenhouse gases listed in Annex I, Section 1, and assess at least annually if severe shortages exist that could endanger the attainment of the RePowerEU heat pump deployment targets. This should allow for additional amounts of HFC quotas being made available for the heat pump sector, in addition to the quotas foreseen under Annex VII, if it is assessed such shortages exist.

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(13) Where suitable alternatives to the use of specific fluorinated greenhouse gases are available, bans should be introduced on the placing on the market of new equipment for refrigeration, air-conditioning and fire protection, **foams and technical aerosols** that contains fluorinated greenhouse gases or whose functioning relies upon those gases. ***Subject to some conditions, such bans should not apply to parts required for repairs and servicing of existing equipment that has already been installed in order to ensure that such equipment remains repairable and maintainable for their full lifespan.*** Where alternatives are not available or cannot be used for technical or safety reasons, or where the use of such alternatives would entail disproportionate costs, it should be possible for the Commission to authorise an exemption to allow the placing on the market of such products and equipment for a **■** period ***of maximum 4 years. That exemption should be able to be renewed if, after assessment of a new substantiated exemption request, the Commission, through the committee procedure, concludes that alternatives are still not available.***

(13b) The Commission should encourage the European standardisation organisations to develop and update relevant harmonised standards to ensure the smooth implementation of the restrictions on placing on the market laid down in this Regulation. Member States should ensure that national standards and building codes are updated to reflect the relevant international and European standards, including IEC 60335-2-89 and IEC 60335-2-40.

(13d) The manufacture of metered dose inhalers (MDIs) for the delivery of pharmaceutical ingredients uses a non-negligible proportion of all HFCs consumed in the Union today. Alternative options are available that include MDIs using lower GWP fluorinated greenhouse gases as propellants that have been newly developed by industry. This Regulation includes the MDI sector in the HFC quota system , thereby creating an incentive for the industry to pursue its path towards cleaner alternatives. To enable a smooth transition, the quota mechanism envisaged for this sector will guarantee full quotas, corresponding to the most recent market share of this sector, for the period of 2025 to 2026, and reach the full reduction rate of the other sectors covered under the quota system only in 2030.

HFCs used as propellants in metered dose inhalers (MDIs) are critical for the health of patients suffering from respiratory conditions, such as asthma and chronic obstructive pulmonary disease (COPD). MDIs are medical products subject to rigorous assessments including clinical studies to ensure patient safety. Cooperation between the Commission, Member States and their competent authorities, and the European Medicines Agency (EMA) should facilitate a smooth approval process of MDIs using low GWP fluorinated gases and alternatives to fluorinated gases, thereby ensuring the transition to cleaner solutions.

(13h) Where technically suitable alternatives are available and in consistency with the EU competition policies, prohibitions should be introduced on the putting into operation of new electrical switchgear with relevant fluorinated greenhouse gases. Where the extension of existing electrical equipment is necessary, one or more additional cells with fluorinated greenhouses gases with the same GWP as the existing cells, may be added if a technology using fluorinated greenhouses gases with a lower GWP would entail the replacement of the entire electrical equipment.

(13i) In order to limit the necessity for the production of virgin SF₆, the capacity of reclamation for SF₆ from existing equipment should be increased. Without endangering the safe functioning of the electrical grids and power plants, the use of virgin SF₆ in electrical switchgear should be avoided, where it is technically feasible and when reclaimed or recycled SF₆ is available.

- (14) For reasons of reducing the indirect impact of the operation of equipment for refrigeration, air-conditioning **and heating** on the climate, the maximum energy consumption of such equipment set out in relevant implementing measures adopted under Directive 2009/125/EC of the European Parliament and of the Council¹¹ should continue to be considered as reason for exempting specified types of equipment from the prohibition to use fluorinated greenhouse gases.
- (15) Non-refillable containers **for fluorinated greenhouse gases**, should be banned, considering that an amount of refrigerant inevitably remains in these containers when emptied, which is then released into the atmosphere. In this respect, this Regulation should prohibit their import, placing on the market, subsequent supply or making available on the market, use unless for laboratory and analytical uses, and their export. ***To ensure that refillable containers are refilled and not discarded, undertakings should be required to produce a declaration of conformity including evidence of the arrangements for the return for the purpose of refilling when placing refillable containers on the market.***

¹¹ Directive 2009/125/EC of the European Parliament and of the Council of 21 October 2009 establishing a framework for the setting of ecodesign requirements for energy-related products (OJ L 285, 31.10.2009, p. 10).

(15a) Following the Kigali Amendment to the Montreal Protocol, the export of HFCs from countries parties to the Protocol to non-party countries is prohibited. Such ban is an important step towards the phase down of HFCs. However, several parties to the Protocol consider it insufficient to tackle the environmental concerns linked to export of HFCs. Several developing countries parties to the Protocol have raised the problem of export of inefficient refrigerant and air-conditioning appliances using obsolete refrigerants and refrigerants with high GWP from other parties to their markets, thus increasing service needs. This situation is particularly problematic in countries with limited resources and capacity for containment and recovery as well as for used equipment with short remaining expected lifetimes and new equipment during use and at end of life. In the framework of the Union's global efforts to mitigate climate change, in order to support the achievement of the objectives of the Protocol, and in line with what is already provided under Regulation (EC) No 1005/2009, it is appropriate to introduce a ban of the export of certain used and new equipment containing or whose functioning relies upon fluorinated greenhouse gases with a high GWP. The export ban only applies in cases where the equipment is subject to a ban under Annex IV and at the same time meets the requirements set out in Article 22(1a).

- (16) In order to facilitate the enforcement of the placing on the market prohibitions and the restriction to products and equipment that contain fluorinated greenhouse gases or whose functioning relies upon those gases, including when placed on the market in containers, it is important to establish the necessary labelling requirements for those goods.
- (17) To implement the Protocol, including the gradual reduction of the quantities of HFCs, the Commission should continue to allocate quotas to individual producers and importers for the placing of HFCs on the market, ensuring that the overall quantitative limit permitted *under* the Protocol is not exceeded. ***The Commission should be able, exceptionally, to authorise an exemption for up to four years on the exclusion of hydrocarbons from the quota system for use in specific applications or specific categories of products or equipment. That exemption should be able to be renewed if, after assessment of a new substantiated exemption request, the Commission, through the committee procedure, concludes that alternatives are still not available.*** To protect the integrity of the gradual reduction of the quantities of HFCs placed on the market, HFCs contained in equipment should continue to be accounted for under the quota system.

- (18) Initially, the calculation of reference values and the allocation of quotas to individual producers and importers was based on the quantities of HFCs that they reported as having been placed on the market during the reference period 2009 to 2012. However, in order not to exclude undertakings from entering the market, or expanding their activities, a smaller part of the overall maximum quantity should be reserved for importers and producers who have previously not placed HFCs on the market and for importers and producers having a reference value that wish to increase their quota allocation.
- (19) By a triannual recalculation of the reference values and quotas, the Commission should ensure that undertakings are allowed to continue their activities on the basis of the average volumes they placed on the market in recent years, also including undertakings that previously had no reference value.

(19a) The Commission, on behalf of the Union, reports yearly on the import and export of HFCs controlled under the Montreal Protocol to the Ozone Secretariat. Although Member States are responsible for the reporting of production and destruction of HFCs, the Commission should provide draft data on these activities in order to facilitate the early calculation of the consumption for the Union by the Ozone Secretariat, as well as data on HFC-23 emissions. In absence of the notifications extending the REIO clause, the Commission should continue this practice while ensuring that Member States are provided with sufficient time to review the draft reported data to avoid inconsistencies.

(20) Considering the market value of the allocated quota, it is appropriate to claim a price for its allocation. This avoids a further fragmentation of the market to the detriment of those undertakings that are in need of the HFC supply and already dependent on HFC trade in the declining market. It is assumed that undertakings that decide not to claim and pay any quota, for which they would be entitled in the year(s) prior to the calculation of reference values, have decided to leave the market and thus they do not get a new reference value. **Part of the** revenue should be used to cover administrative costs.

- (21) To maintain the flexibility of the market in bulk HFCs, it should be possible to transfer quotas from undertakings that have received a reference value to other producers or importers in the Union or to other producers or importers which are represented in the Union by an only representative.
- (22) A central so-called F-gas Portal should be set up and operated by the Commission to manage quotas for the placing of HFCs on the market, registration of concerned undertakings, and the reporting on all substances and on all equipment placed on the market, in particular where the equipment is pre-charged with HFCs that have not been placed on the market prior to the charging. To ensure that only genuine operators are registering in the F-gas Portal, specific conditions should be established. A valid registration in the F-gas Portal should constitute a license, which is an essential requirement under the Protocol for the monitoring of trade and preventing illegal activities in this respect.

- (23) In order to ensure automatic, real-time, customs controls, at shipment level as well as an electronic exchange and storing of information on all shipments of fluorinated greenhouse gases and the concerned products and equipment presented to customs it is necessary to interconnect the F-gas Portal with European Union Single Window Environment for Customs established by Regulation (EU) No .../... of the European Parliament and of the Council [the full reference to be inserted once that Regulation has been adopted]¹².
- (24) To enable the monitoring of the effectiveness of this Regulation, the scope of the reporting obligations should be extended to cover other fluorinated substances that have significant global warming potential or that are likely to replace the use of fluorinated greenhouse gases. For the same reason, the destruction of fluorinated greenhouse gases and the importation into the Union of those gases when contained in products and equipment should also be reported. De minimis thresholds should be set to avoid disproportionate administrative burden, in particular for small and medium-sized enterprises and micro-enterprises where it does not result in non-compliance with the Protocol.

¹² Regulation (EU) No .../... of the European Parliament and of the Council establishing the European Union Single Window Environment for Customs and amending Regulation (EU) No 952/2013 (OJ C , , p.) [full reference to be inserted once that Regulation has been adopted].

- (25) To ensure that reports on substantial quantities of substances are accurate and that the quantities of HFCs contained in pre-charged equipment are accounted for under the Union quota system, *independent* third party verification should be required.
- (26) The use of consistent, high-quality data to report on fluorinated greenhouse gas emissions is essential to ensuring the quality of emissions reporting under the United Nations Framework Convention on Climate Change. The establishment of reporting systems by Member States of emissions of fluorinated greenhouse gases would provide coherence with Regulation (EU) 2018/1999 of the European Parliament and of the Council¹³. Data on leakage of fluorinated greenhouse gases from equipment collected by companies under this Regulation could significantly improve those emission reporting systems. In that way, it should lead to a better estimation of emissions of fluorinated greenhouse gases in the national greenhouse gases inventories.

¹³ Regulation (EU) 2018/1999 of the European Parliament and of the Council of 11 December 2018 on the Governance of the Energy Union and Climate Action (OJ L 328, 21.12.2018, p. 1).

(27) In order to facilitate customs controls, it is important to specify the information to be submitted to customs authorities in cases of imports and exports of the gases and products covered by this Regulation, as well as the tasks for customs authorities when implementing the prohibitions and restrictions to imports and exports of those substances and the products and equipment covered by this Regulation. ***Regulation (EU) 2019/1020 of the European Parliament and of the Council, which sets out rules on market surveillance and control of products entering the Union market, applies to the substances and products and equipment covered under this Regulation in so far as there are no specific provisions to regulate in a more specific manner particular aspects of market surveillance and enforcement. Where this Regulation does include specific provisions, for example on customs controls, those prevail as being more specific, complementing the rules set out under the Regulation (EU) 2019/1020. In order to ensure protection of the environment, this Regulation should apply to all forms of supply of fluorinated greenhouse gases subject to this Regulation, including online sales as referred to in Article 6 of Regulation (EU) 2019/1020.***

- (28) Competent authorities of Member States should take all necessary measures, including confiscation and seizure, in order to prevent the unlawful entry or exit into and from the Union of gases and products covered by this Regulation. The re-export of illegally imported products covered by this Regulation should be prohibited in any event.
- (29) Member States should ensure that customs authorities carrying out controls under this Regulation have the appropriate resources and knowledge, for example via training made available to them, and are sufficiently equipped in view of addressing cases of illegal trade of the gases and products and equipment covered by this Regulation. Member States should designate those customs offices that meet those conditions and are therefore mandated to carry out customs controls on imports, exports and in cases of transit.
- (30) Cooperation and exchange of the necessary information between all competent authorities involved in the implementation of this Regulation, namely customs authorities, market surveillance authorities, environmental authorities and any other competent authorities with inspection functions, amongst Member States and with the Commission, is extremely important for tackling infringements of this Regulation, notably illegal trade. Due to the confidential nature of the exchange of customs risk-related information, the Customs Risk Management System should be used for that purpose.

- (31) In carrying out the tasks assigned to it by this Regulation, and in view of promoting cooperation and adequate exchange of information between competent authorities and the Commission in cases of compliance checks and illegal trade in fluorinated greenhouse gases, the Commission should be assisted by the European Anti-Fraud Office (OLAF). OLAF should have access to all necessary information to facilitate the performance of its tasks.
- (32) The import and export of HFCs as well as products and equipment containing HFCs or whose functioning relies upon those gases from and to a State not party to the Protocol should be prohibited as from 2028. The ***Protocol envisages that prohibition from 2033, and the purpose of its earlier application under this Regulation is*** to ensure that the global HFC reduction measures of the Kigali Amendment provide the envisaged benefit to the climate as soon as possible.
- (33) Member States should ***ensure that*** infringements of **■** this Regulation ***by undertakings are subject to*** effective, proportionate and dissuasive ***penalties***.

(34) *Member States may lay down rules for administrative as well as criminal penalties for the same infringements. In any case, the imposition of criminal and administrative penalties should not lead to a breach of the right not to be tried or punished twice in criminal proceedings for the same criminal offence (ne bis in idem), as interpreted by the Court of Justice.*

■

(36) Competent authorities of the Member States, including their environmental authorities, market surveillance and customs authorities, should carry out checks, on a risk-based approach, in order to ensure compliance with all provisions of this Regulation. Such approach is necessary in order to target the activities representing the highest risk of illegal trade or unlawful release of fluorinated greenhouse gases covered by this Regulation. In addition, competent authorities should carry out checks when in possession of evidence or other relevant information on potential cases of non-compliance. Where relevant and to the extent possible, such information should be communicated to customs authorities in order to proceed to a risk analysis prior to controls, in accordance with Article 47 of Regulation (EU) 952/2013 of the European Parliament and of the Council¹⁴. It is important to ensure that competent authorities responsible for following up the issuing of penalties are informed when cases of infringements of this Regulation have been established by other competent authorities.

¹⁴ Regulation (EU) No 952/2013 of the European Parliament and of the Council of 9 October 2013 laying down the Union Customs Code (OJ L 269, 10.10.2013, p. 1).

(37) Whistle-blowers can bring new information to the attention of competent authorities which may help the competent authorities detect infringements of this Regulation and enable them to impose penalties. It should be ensured that adequate arrangements are in place to enable whistle-blowers to alert the competent authorities to actual or potential infringements of this Regulation and to *effectively* protect the whistle-blowers from retaliation. For that purpose, it should be provided in this Regulation that Directive (EU) 2019/1937 of the European Parliament and of the Council¹⁵ is applicable to the reporting of breaches of this Regulation and to the protection of persons reporting such breaches.

(37a) According to settled case law of the Court of Justice of the European Union, it is for the courts of the Member States to ensure judicial protection of a person's rights under Union law. Furthermore, Article 19(1) of the Treaty on European Union (TEU) requires Member States to provide remedies that are sufficient to ensure effective judicial protection in the fields covered by Union law. In this respect, Member States should ensure that the public, including natural or legal persons, has access to justice in line with the obligations that Member States have agreed to as parties to the UN Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters of 25 June 1998 (the 'Aarhus Convention').

¹⁵ Directive (EU) 2019/1937 of the European Parliament and of the Council of 23 October 2019 on the protection of persons who report breaches of Union law (OJ L 305, 26.11.2019, p. 17).

- (38) To enhance legal certainty, the applicability, pursuant to this Regulation, of Directive (EU) 2019/1937 to reports of breaches of this Regulation and to the protection of persons reporting such breaches should be reflected in Directive (EU) 2019/1937. The Annex to Directive (EU) 2019/1937 should therefore be amended accordingly. It is for the Member States to ensure that that amendment is reflected in their transposition measures adopted in accordance with the Directive, although neither the amendment nor the adaptation of national transposition measures are a condition for the applicability of Directive (EU) 2019/1937 to the reporting of breaches of this Regulation and to the protection of reporting persons.
- (39) In implementing this Regulation, the Commission should establish the so-called Consultation Forum. ***The Consultation Forum should*** ensure a balanced participation of Member States' representatives and representatives of ***relevant stakeholders*** including environmental organisations, representatives of ***healthcare and patient association as well as representatives of*** manufacturers, operators and certified persons. ***The Consultation Forum should, where relevant, involve the European Medical Agency.***

(40) In order to ensure uniform conditions for the implementation of this Regulation, implementing powers should be conferred on the Commission as regards evidence to be provided on the destruction or recovery of trifluoromethane by-production during the manufacturing of other fluorinated substances; requirements for leak checks; the format of the records, their establishment and maintenance; minimum requirements for certification programmes and training attestations; the format of the notification of certification and training programmes; ***the binding arrangements that should be included in the declaration of conformity providing evidence that refillable containers can be returned for refilling***; the format of labels; ***time-limited*** exemptions for products and equipment falling under a placing on the market or ***the putting into operation of switchgear*** prohibitions; ***time-limited exemptions from maintenance and servicing prohibitions in the use of HFCs with certain GWP values in stationary refrigeration, air conditioning and heat pump equipment***; the determination of production rights for producers of HFCs; exemptions from the quota requirement for HFCs for use in specific applications, or specific categories of products or equipment; the determination of reference values for producers and importers for the placing on the market of HFCs; the modalities and detailed arrangements for the payment of the amount due; the detailed arrangements for the declaration of conformity for pre-charged equipment and their verification as well as for the accreditation of verifiers; the smooth functioning of the registry and its ***compatibility with the European Union Single Window Environments for Customs***; the authorisation of trade with entities not covered by the Protocol; the details of the verification of reporting and of the accreditation of verifiers and the format for submitting reports; ***exemptions from the export prohibitions of certain products and equipment***. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council¹⁶.

¹⁶ Regulation (EU) No 182/2011 of the European Parliament and of the Council of 16 February 2011 laying down the rules and general principles concerning mechanisms for control by Member States of the Commission's exercise of implementing powers (OJ L 55, 28.2.2011, p. 13).

(41) In order to amend certain non-essential elements of this Regulation, the power to adopt acts in accordance with Article 290 of the Treaty on the Functioning of the European Union ('TFEU') should be delegated to the Commission in respect of the establishment of a list of products and equipment for which the recovery of gases or their destruction is technically and economically feasible and the specification of the technologies to be applied; labelling requirements; the exclusion from quota requirements of HFCs in accordance with decisions of the Parties to the Protocol; concerning the amounts due for the allocation of quota and the mechanism to allocate remaining quotas; ***amending Annex VII in order to allow the placing on the market of a quantity of fluorinated greenhouse gases listed in Annex I in addition to the quotas under Annex VII following an assessment demonstrating a severe shortage of fluorinated greenhouse gases listed in Annex I, Section 1 for the deployment of heat pumps; amending or supplementing the*** measures for the monitoring of substances and of products and equipment placed under temporary storage and customs procedures; the rules applicable to the release for free circulation of products and equipment imported from and exported to any entity not covered by the Protocol; the update of global warming potentials of listed substances; ***the amendment of list of gases in Annexes I, II and III, where it has been found by the Assessment Panels established under the Montreal Protocol or by another authority of equivalent stature that these gases have a significant impact on climate and where these gases are exported, imported, produced or placed on the market in significant quantities.*** It is of particular importance that the Commission carry out appropriate consultations during its preparatory work, including at expert level and that those consultations be conducted in accordance with the principles laid down in the Inter-institutional Agreement of 13 April 2016 on Better Law-Making¹⁷. In particular, to ensure equal participation in the preparation of delegated acts, the European Parliament and the Council receive all documents at the same time as Member States' experts, and their experts systematically have access to meetings of Commission expert groups dealing with the preparation of delegated acts.

¹⁷ OJ L 123, 12.5.2016, p. 1.

- (42) The protection of individuals with regard to the processing of personal data by the Member States is governed by Regulation (EU) 2016/679 of the European Parliament and of the Council¹⁸ and *on* the protection of individuals with regard to the processing of personal data by the Commission is governed by Regulation (EU) 2018/1725 of the European Parliament and of the Council¹⁹ in particular as regards the requirements of confidentiality and security of processing, the transfer of personal data from the Commission to the Member States, the lawfulness of processing, and the rights of data subjects to information, access to and rectification of their personal data.
- (43) The European Data Protection Supervisor was consulted in accordance with Article 42(1) of Regulation (EU) 2018/1725 of the European Parliament and of the Council and delivered an opinion on ... [date of delivery of the opinion].
- (44) Since the objectives of this Regulation cannot be sufficiently achieved by the Member States but can rather, by reason of the transboundary nature of the environmental problem addressed and the effects of this Regulation on the intra-Union and external trade, be better achieved at Union level, the Union may adopt measures, in accordance with the principle of subsidiarity as set out in Article 5 of the Treaty on European Union. In accordance with the principle of proportionality, as set out in that Article, this Regulation does not go beyond what is necessary in order to achieve those objectives.

¹⁸ Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (OJ L 119, 4.5.2016, p. 1).

¹⁹ Regulation (EU) 2018/1725 of the European Parliament and of the Council of 23 October 2018 on the protection of natural persons with regard to the processing of personal data by the Union institutions, bodies, offices and agencies and on the free movement of such data, and repealing Regulation (EC) No 45/2001 and Decision No 1247/2002/EC (OJ L 295, 21.11.2018, p. 39).

- (45) A number of amendments are to be made to Regulation (EU) No 517/2014. In the interests of clarity, that Regulation should be repealed and replaced.
- (46) In view of the yearly quota allocation and reporting process set out in this Regulation, it is appropriate that this Regulation applies as from 1 January ... [OP please insert the year following the year of the date of entry into force of this Regulation],

HAVE ADOPTED THIS REGULATION:

CHAPTER I
GENERAL PROVISIONS

Article 1
Subject-matter

This Regulation:

- (a) lays down rules on containment, use, recovery and destruction of fluorinated greenhouse gases, on related ancillary measures *including on training and certification, which includes* the safe *handling of fluorinated greenhouse gases and* of alternative substances *that are not fluorinated*;
- (b) imposes conditions on the *production*, import, export, placing on the market, further supply and use of fluorinated greenhouse gases and specific products and equipment containing fluorinated greenhouse gases or whose functioning relies upon those gases;
- (c) imposes conditions on specific uses of fluorinated greenhouse gases;
- (d) establishes quantitative limits for the placing of hydrofluorocarbons on the market;
- (e) establishes rules on reporting.

Article 2

Scope

1. This Regulation applies to the fluorinated greenhouse gases listed in Annexes I, II and *III, either as substances or as mixtures containing such substances.*
2. This Regulation also applies to products and equipment, and parts thereof, containing fluorinated greenhouse gases or whose functioning relies *on* those gases.

Article 3

Definitions

For the purposes of this Regulation the following definitions apply:

- (1) ‘global warming potential’ or ‘GWP’ means the climatic warming potential of a greenhouse gas relative to that of carbon dioxide (‘CO₂’), calculated in terms of the 100-year warming potential, unless specified otherwise, of one kilogram of a greenhouse gas relative to one kilogram of CO₂, as set out in Annexes I, II, III and VI or in the case of mixtures, calculated in accordance with Annex VI;
- (2) ‘mixture’ means a fluid composed of two or more substances, at least one of which is a substance listed in Annexes I, II or III;

- (3) 'tonne(s) of CO₂ equivalent' means a quantity of greenhouse gases expressed as the product of the weight of the greenhouse gases in metric tonnes and of their global warming potential;
- (4) 'hydrofluorocarbons' or 'HFCs' means the substances listed in Annex I, Section 1, or mixtures containing any of those substances;
- (5) 'operator' means the undertaking exercising actual power over the technical functioning of products, **equipment or facilities** covered by this Regulation or the owner where designated by a Member State as being responsible for the operator's obligations in specific cases;
- (6) 'placing on the market' means the **customs release for free circulation in the Union or the** supplying or making available to another person within the Union, for the first time, for payment or free of charge **or** the use of substances produced or the use of products or equipment manufactured for own use;
- (7) 'import' means the entry of substances, products and equipment covered by this Regulation into the customs territory of the Union as far as the territory is covered by a ratification of the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer and includes temporary storage and the customs procedures referred to in Articles 201 and 210 of Regulation (EU) 952/2013;

- (8) 'export' means the exit from the customs territory of the Union, in so far as the territory is covered by a ratification of the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer, of substances, products and equipment;
- (9) 'hermetically sealed equipment' means equipment in which all fluorinated greenhouse gas containing parts are made tight during its manufacturing process at the premises of the manufacturer by welding, brazing or a similar permanent connection, which may include capped valves or capped service ports that allow proper repair or disposal, *and the joints in the sealed system have a tested leakage rate of less than 3 grams per year under a pressure of at least a quarter of the maximum allowable pressure*;
- (10) 'container' means a *receptacle* which is designed primarily for transporting or storing fluorinated greenhouse gases;
- (11) 'recovery' means the collection and storage of fluorinated greenhouse gases from products, including containers, and equipment during maintenance or servicing or prior to the disposal of the products or equipment;
- (12) 'recycling' means the reuse of a recovered fluorinated greenhouse gas following a basic cleaning process, including filtering and drying;

- (13) ‘reclamation’ means the reprocessing of a recovered fluorinated greenhouse gas to the equivalent performance of a virgin substance, taking into account its intended use, *in authorized reclamation facilities that have the appropriate equipment and procedures in place that enable the reclamation of such gases and can assess and attest to the level of the required quality*;
- (14) ‘destruction’ means the process of permanently transforming or decomposing completely, to the extent possible, a fluorinated greenhouse gas into one or more stable substances that are not fluorinated greenhouse gases;
- (15) ‘decommissioning’ means the *permanent* removal from operation or usage of a product or equipment, containing fluorinated greenhouse gases, including the final shut-down of *a facility*;
- (16) ‘repair’ means the restoration of damaged or leaking products or equipment that contain fluorinated greenhouse gases or whose functioning relies upon those gases, involving a part containing or designed to contain such gases;

- (17) ‘installation’ means ***the process of*** joining two or more pieces of equipment or circuits containing or designed to contain fluorinated greenhouse gases, with a view to assembling a system in the location where it will be operated, that entails joining together gas carrying conductors of a system to complete a circuit ***irrespective of the need to charge the system after assembly***;
- (18) ‘maintenance or servicing’ means all activities, excluding recovery in accordance with Article 8 and leak checks in accordance with Article 4 and Article 10(1), point (b), of this Regulation, that entails opening the circuits ***[or other subparts]*** containing or designed to contain fluorinated greenhouse gases, supplying the system with fluorinated greenhouse gases, removing one or more pieces of circuit or equipment, reassembling two or more pieces of circuit or equipment, as well as repairing leaks ***including adding fluorinated greenhouse gas***;
- (19) ‘virgin ***substance***’ means ***a*** substance which ***has*** not previously been used;
- (20) ‘stationary’ means not normally in transit during operation and includes moveable room air-conditioning appliances;
- (21) ‘mobile’ means normally in transit during operation;

- (22) ‘one-component foam’ means a foam composition contained in a single aerosol dispenser in unreacted or partly reacted liquid state and that expands and hardens when it leaves the dispenser;
- (23) ‘refrigerated truck’ means a motor vehicle with a mass of more than 3,5 tonnes that is designed and constructed primarily to carry goods and that is equipped with a refrigeration unit;
- (24) ‘refrigerated trailer’ means a vehicle that is designed and constructed to be towed by a **road vehicle** or a tractor, primarily to carry goods and that is equipped with a refrigeration unit;
- (24a) ‘refrigerated light-duty vehicle’ means a motor vehicle with a mass of 3,5 tonnes or less that is designed and constructed primarily to carry goods and that is equipped with a refrigeration unit;**
- (25) ‘leakage detection system’ means a calibrated mechanical, electrical or electronic device for detecting leakage of fluorinated greenhouse gases which, on detection, alerts the operator;
- (26) ‘undertaking’ means any natural or legal person which carries out an activity referred to in this Regulation;

- (27) ‘feedstock’ means any fluorinated greenhouse gas listed in Annexes I and II, that undergoes chemical transformation in a process in which it is entirely converted from its original composition and emissions are insignificant;
- (28) ‘commercial use’ means use for the storage, display or dispensing of products, for sale to end users, in retail and food services;
- (29) ‘fire protection equipment’ means the equipment and systems utilised in fire prevention or suppression applications and includes fire extinguishers;
- (30) ‘organic Rankine cycle’ means a cycle containing condensable substances converting heat from a heat source into power for the generation of electric or mechanical energy;
- (31) ‘military equipment’ mean arms, munitions and material intended specifically for military purposes which are necessary for the protection of the essential interests of the security of Member States;
- (32) ‘electrical switchgear’ means switching devices and their combination with associated control, measuring, protective and regulating equipment, and assemblies of such devices and equipment with associated interconnections, accessories, enclosures and supporting structures, intended for usage in connection with the generation, transmission, distribution and conversion of electric energy;

- (33) ‘multipack centralised refrigeration systems’ means systems with two or more compressors operated in parallel, which are connected to one or more common condensers and to a number of cooling devices such as display cases, cabinets and freezers, or to chilled store rooms;
- (34) ‘primary refrigerant circuit of cascade systems’ means the primary circuit in indirect medium temperature systems where a combination of two or more separate refrigeration circuits are connected in series such that the primary circuit absorbs the condenser heat from a secondary circuit for the medium temperature;
- (35) ‘use’ means, *in relation to* fluorinated greenhouse gases, *their utilisation* in the production, maintenance or servicing, including refilling, of products and equipment, or in other activities *and processes* referred to in this Regulation;

(36) ‘establishment within the Union’ means for a natural person to have his or her habitual residence in the Union and for a legal person to have in the Union a permanent business establishment as referred to in Article 5(32) of Regulation (EU) No 952/2013 in the Union.

(36a) *‘self-contained’ means complete factory-made system in a suitable frame or encasing that is fabricated and transported complete or in two or more sections and in which no gas-containing parts are connected on site, but which may contain isolation valves;*

(36b) *‘split system’ means a system consisting of a number of refrigerant piped units that form a separate but interconnected unit, requiring the installation and connection of refrigerant circuit components at the point of use;*

(36c) *‘air-conditioning’ means the process of treating air to meet the requirements of a conditioned space by controlling its temperature, humidity, cleanliness or distribution;*

(36d) *'heat pump' means an equipment capable of using ambient heat and/or waste heat from air, water or ground sources to provide heat or cooling and is based on the interconnection of one or more components forming a closed cooling circuit in which a refrigerant circulates to extract and release heat;*

(36e) *'safety requirements' means requirements on the safety of using fluorinated greenhouse gases and natural refrigerants or products and equipment containing or relying on them, prohibiting the use of a certain fluorinated greenhouse gases or their alternatives, including when contained in product or equipment at a specific place of intended utilisation due to site and application specificities that are either:*

(i) set out in Union or national law; or

(ii) set out in a non-legally binding act containing technical documentation or standards that have to be applied to ensure safety at the specific location, provided that they are in line with relevant Union or national law.

- (36f) *'refrigeration' means the process of maintaining or lowering the temperature of a product, substance, system or other items;*
- (36g) *'chiller' means a single system whose primary function is to cool a heat transfer fluid (such as water, glycol, brine or CO2) for refrigeration, process, preservation or comfort purposes;*
- (36h) *'foam panel' means a structure made of layers containing a foam and a rigid material, such wood or metal, bound to one or both sides;*
- (36i) *'laminated board' means a foam board that is covered by a thin skin layer of a non-rigid material, such as plastic.*

CHAPTER II

CONTAINMENT

Article 4

Prevention of emissions

1. The intentional release into the atmosphere of fluorinated greenhouse gases **■** shall be prohibited where the release is not technically necessary for the intended use.

1a. Where the release is technically necessary in accordance with the first subparagraph, operators of equipment that contains fluorinated greenhouse gases or facilities where fluorinated greenhouse gases are used shall take all measures that are technically and economically feasible to prevent, to the extent possible, their release into the atmosphere, including by recapturing the gases emitted.

In case of fumigation with sulfuryl fluoride, operators shall document the use of capturing and collection measures or specify the reasons for which capturing and collection measures were not technically or economically feasible. They shall keep the supporting evidence for five years and make it available, on request, to the competent authorities of a Member State or the Commission.

2. Operators and manufacturers of equipment ■ that *contains* fluorinated greenhouse gases *or facilities where fluorinated greenhouse gases are used*, as well as undertakings in possession of such equipment during its transport or storage, shall take all necessary precautions to prevent the unintentional release of any such gases. They shall take all measures that are technically and economically feasible to minimise leakage of the gases.
3. During the production, storage, transport, and transfer from one container or system to another or to an equipment or *a facility*, of fluorinated greenhouse gases ■, the undertaking shall take all necessary precautions to limit release of fluorinated greenhouse gases ■ to the greatest extent possible. This paragraph also applies where fluorinated greenhouse gases ■ are produced as by-products.
4. Where a leakage of fluorinated greenhouse gases ■ is detected, the operators, manufacturers of equipment and *facilities where fluorinated greenhouse gases are used* and the undertakings in possession of the equipment during its transport, or storage, shall ensure that the equipment or *facility where fluorinated greenhouse gases are used* is repaired without undue delay.

Where the equipment is subject to leak checks under Article 5(1), and a leak in the equipment has been repaired, the operators shall ensure that the equipment is checked by a natural person certified in accordance with Article 10 *at the earliest after an operating time of 24 hours but not later than* one month after the repair to verify that the repair has been effective. *For mobile equipment listed in Article 5(2a) points (a) to (c), leakage check may be carried out directly after a repair.*

5. Without prejudice to Article 11(1), first subparagraph, the placing on the market of fluorinated greenhouse gases shall be prohibited, unless producers or importers provide evidence to the competent authority at the time of such placing, that any trifluoromethane, produced as a by-product during the manufacturing process, including during the manufacturing of feedstock for their production, has been destroyed or recovered for subsequent use, using best available techniques.

For the purpose of providing that evidence, importers and producers shall draw up a declaration of conformity and join supporting documentation:

- (a) *establishing the origin of the fluorinated gases to be placed on the market;*
- (b) *identifying the production facility of origin of the fluorinated gases to be placed on the market, including an identification of those facilities of origin of any precursor substances that involve the generation of chlorodifluoromethane (R22) as part of the manufacturing process to produce the fluorinated gases to be placed on the market;*

- (c) *proving the availability and operation of the abatement technology at the facilities of origin equivalent to UNFCCC approved baseline methodology AM0001 for incineration of trifluoromethane waste streams or proving the capture and destruction methodology that ensured that emissions of trifluoromethane are destroyed in line with requirements under the Montreal Protocol;*
- (d) *Any additional information facilitating the tracking of the fluorinated greenhouse gas prior to import.*

Producers and importers shall keep the declaration of conformity and supporting documentation for a period of at least five years after the placing on the market and make them available, upon request, to national competent authorities and to the Commission.

The Commission may, by means of implementing acts, determine the detailed arrangements relating to the declaration of conformity and supporting documentation referred to in the second subparagraph. Those implementing acts shall be adopted in accordance with Article 34(2).

6. Natural persons carrying out the *tasks* referred to in Article 10(1), points (a) to (c), shall be certified in accordance with Article 10 and shall take precautionary measures to prevent leakage of fluorinated greenhouse gases listed in *Annex I, Annex II and, when used in electrical switchgear, in Annex III.*

Undertakings carrying out the installation, **■** maintenance *or servicing*, repair or decommissioning of the equipment listed in Article 5(2), points (a) to *(e) and Article 5(2a), points (a) and (b)*, shall be certified in accordance with Article 10 and shall take precautionary measures to prevent leakage of fluorinated greenhouse gases listed in *Annex I and Annex II, Section 1.*

Natural persons carrying out the maintenance or servicing and repair of air-conditioning equipment with fluorinated greenhouse gases in motor vehicles falling within the scope of Directive 2006/40/EC and mobile equipment listed in Article 5(2a), point (c) shall hold at least a training attestation in accordance with Article 10(2).

Article 5
Leak checks

1. **Manufacturers and** operators of equipment that contains 5 tonnes of CO₂ equivalent or more of fluorinated greenhouse gases listed in Annex I or 1 kilogram or more of fluorinated greenhouse gases listed in Annex II, Section I, not contained in foams, shall ensure that the equipment is checked for leaks.

Hermetically sealed equipment ***shall not be checked for leaks where that equipment*** contains less than 10 tonnes of CO₂ equivalent of fluorinated greenhouse gases listed in Annex I or 2 kilograms of fluorinated greenhouse gases listed in Annex II, Section I, provided ***it*** is labelled as hermetically sealed ***it***.

By way of derogation from the second subparagraph, in cases where hermetically sealed equipment is installed in residential buildings, it shall not be checked for leaks where that equipment contains less than 3 kilograms of fluorinated greenhouse gases provided it is labelled as hermetically sealed.

Electrical switchgear shall not be checked for leaks provided it complies with one of the following conditions:

- (a) it has a tested leakage rate of less than 0,1 % per year as set out in the technical specification of the manufacturer and is labelled accordingly;
- (b) it is equipped with a pressure or density monitoring device *with an automatic alert system while in operation*;
- (c) it contains less than 6 kilograms of fluorinated greenhouse gases listed in Annex I.

2. Paragraph 1 applies to operators of the following *stationary* equipment that contains fluorinated greenhouse gases listed in Annex I or in Annex II, Section *I*:

- (a) ■ refrigeration equipment;
- (b) ■ air-conditioning equipment;
- (c) ■ heat pumps;
- (d) ■ fire protection equipment;
-
- (e) organic Rankine cycles;
- (f) electrical switchgear.

2a. Paragraph 1 applies to operators of the following mobile equipment that contains fluorinated greenhouse gases listed in Annex I or in Annex II, Section 1:

- (a) refrigeration units of refrigerated trucks and trailers;**
- (b) refrigeration units of refrigerated light-duty vehicles, intermodal containers including reefers and train wagons;**
- (c) air-conditioning equipment and heat pumps in heavy duty vehicles, vans, non road mobile machinery used in agriculture, mining and construction operations, trains, metros, trams and aircraft.**

As regards the equipment referred to in *paragraph 2*, points (a) to (e) and *paragraph 2a*, points (a) and (b), the checks shall be carried out by natural persons certified in accordance with the rules provided for in Article 10.

2b. As regards the mobile equipment referred to in the first subparagraph, point (c), the checks shall be carried out by natural persons holding at least a training attestation in accordance with the rules provided for in Article 10(2).

2c. Paragraphs 1, 3 and 4 shall not apply to operators of mobile equipment under points (b) and (c) of paragraph 2a until ... [OP, please insert the date = three years following the entry into force of this Regulation].

3. The leak checks referred to in paragraph 1 shall be carried out with the following frequency:
- (a) for equipment that contains less than 50 tonnes of CO₂ equivalent of fluorinated greenhouse gases listed in Annex I or less than 10 kilograms of fluorinated greenhouse gases listed in Annex II, Section *I*: at least every 12 months; or where a leakage detection system is installed, at least every 24 months;
 - (b) for equipment that contains 50 tonnes of CO₂ equivalent or more, but less than 500 tonnes of CO₂ equivalent of fluorinated greenhouse gases listed in Annex I or **■** 10 *kilograms or more, but less than* 100 kilograms of fluorinated greenhouse gases listed in Annex II, Section *I*: at least every six months or, where a leakage detection system is installed, at least every 12 months;
 - (c) for equipment that contains 500 tonnes of CO₂ equivalent or more of fluorinated greenhouse gases listed in Annex I or **■** 100 kilograms *or more* of fluorinated greenhouse gases listed in Annex II, Section *I*: at least every three months or, where a leakage detection system is installed, at least every six months.

4. The obligations set out in paragraph 1 for fire protection equipment as referred to in paragraph 2, point (d), shall be considered to be fulfilled provided the following two conditions are met:

- (a) the existing inspection regime meets ISO 14520 or EN 15004 standards; and
- (b) the fire protection equipment is inspected as often as is required under paragraph 3.

(ba) The obligations set out in paragraph 1 for mobile air-conditioning equipment or heat pumps, as referred to in paragraph 2a point (c), shall be considered to be fulfilled provided the mobile air-conditioning equipment or the heat pumps are subject to a regular inspection regime that includes leak checks.

5. The Commission may, by means of implementing acts, specify requirements for the leak checks to be carried out in accordance with paragraph 1 for each type of equipment referred to in paragraph 2 and identify those parts of the equipment most likely to leak. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

Article 6

Leakage detection systems

1. Operators of the equipment listed in Article 5(2), points (a) to (d), and containing fluorinated greenhouse gases listed in Annex I in quantities of 500 tonnes of CO₂ equivalent or more *or 100 kilograms or more of gases listed in Annex II, Section 1*, shall ensure that the equipment is provided with a leakage detection system which alerts the operator or a service company of any leakage.
2. Operators of the equipment listed in Article 5(2), points *(e) and (f)*, and containing fluorinated greenhouse gases listed in Annex I in quantities of 500 tonnes of CO₂ equivalent or more and installed from 1 January 2017, shall ensure that equipment is provided with a leakage detection system which alerts the operator or a service company of any leakage.
3. Operators of the equipment listed in Article 5(2), points (a) to *(e)*, that is subject to paragraphs 1 or 2 shall ensure that leakage detection systems are checked at least once every twelve months to ensure their proper functioning.
4. Operators of the equipment listed in Article 5(2), point *(f)*, that *are* subject to paragraph 2 shall ensure that leakage detection systems are checked at least once every six years to ensure their proper functioning.

Article 7
Record keeping

1. Operators of equipment which is required to be checked for leaks pursuant to Article 5(1), shall establish and maintain records for each piece of such equipment specifying the following information:
 - (a) the quantity and type of gases installed, *indicating separately, if applicable, quantity added during installation;*
 - (b) the quantities of gases added during **■** maintenance or servicing or due to leakage, *including the date of such addition;*
 - (ba) *the quantity of gases recovered;*
 - (c) whether the *added* gases have been recycled or reclaimed, *and in which quantity*, including the name and address in the Union of the recycling or reclamation facility and, where applicable, the certificate number;
■
 - (e) the identity of the undertaking which installed, serviced, maintained and where applicable repaired or decommissioned the equipment, including, where applicable, the number of its certificate. *In case the undertaking responsible for carrying out these operations is a legal person, both its identifying details and those of the natural person performing the operations;*

- (f) the dates and results of the checks carried out under Article 5(1), (2) and (3), as well as the dates and results of any leak repairs;
- (g) if the equipment was decommissioned, the measures taken to recover and dispose of the gases.

2. Unless the records referred to in paragraph 1 are stored in a database set up by the competent authorities of the Member States the following rules apply:

- (a) the operators referred to in paragraph 1 shall keep the records referred to in that paragraph for at least five years;
- (b) undertakings carrying out the activities referred to in paragraph 1, point (e), for operators shall keep copies of the records referred to in paragraph 1 for at least five years.

The records referred to in paragraph 1 shall be made available, on request, to the competent authority of the Member State concerned and to the Commission.

3. For the purpose of Article 11(5), undertakings supplying fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, shall establish records of relevant information on the purchasers of these fluorinated greenhouse gases including the following details:
- (a) the numbers of certificates of the purchasers;
 - (b) the respective quantities of those gases purchased.

The undertakings supplying those gases shall maintain those records for at least five years.

The undertakings supplying these gases shall make such records available, on request, to the competent authority of the Member State concerned and to the Commission.

For the purpose of Article 11(6) the undertakings which sell non-hermetically sealed equipment charged with fluorinated greenhouse gases listed in Annex I and in Annex II, Section 1 shall keep records of equipment sold and of the certified undertakings that will carry out the installation. The record shall be retained by the undertaking selling the equipment referred to in Article 11(6) for a period of at least five years and shall be made available, on request, to the competent authorities of Member States.

Undertakings that produce, including as by-product, place on the market, supply or receive substances listed in Annex I, Section 1, intended for exempted uses referred to in Art. 16(2), shall keep records containing at least the following information, as applicable:

- (a) name of the substance or mixture;*
- (b) quantity produced, imported, exported, reclaimed or destroyed during the given calendar year;*
- (c) quantity supplied and received during the given calendar year, per individual supplier or receiver;*

- (d) names and contact details of the suppliers or receivers;*
- (e) quantity used (specifying the actual use) during the given calendar year;*
- (f) quantity stored on 1 January and 31 December of the given calendar year.*

3a. *The undertakings shall keep these records for at least 5 years after production, placing on the market, supply or receipt and shall make them available to the Commission or competent authorities of the Member States upon request. The Commission and the competent authorities of the Member States concerned shall ensure confidentiality of information contained in the records.*

4. The Commission may, by means of an implementing act, determine the format of the records referred to in paragraphs 1, 3, **3a** and **3b** and specify how they should be established and maintained. That implementing act shall be adopted in accordance with the examination procedure referred to in Article 34(2).

Article 8

Recovery and destruction

1. Operators of ■ equipment ■ that contain fluorinated greenhouse gases ■ , not contained in foams, shall ensure that *these substances are recovered and after the decommissioning of the equipment that these substances are recycled, reclaimed or destroyed.*

The recovery of *these substances shall be* carried out by natural persons that hold the relevant certificates provided for in Article 10 ■ .

This obligation applies to operators of any of the following *stationary* equipment:

- (a) the cooling circuits of ■ refrigeration, ■ air-conditioning *equipment* and ■ *heat pumps*;

■

- (c) ■ equipment that contains fluorinated greenhouse gas-based solvents;
- (d) ■ fire protection equipment;
- (e) ■ electrical switchgear.

- 1a. This obligation also applies to operators of any of the following mobile equipment:**
- (a) the cooling circuits of refrigeration units of refrigerated trucks and trailers;**
 - (b) the cooling circuits of refrigeration units of refrigerated light-duty vehicles, intermodal containers including reefers and train wagons;**
 - (c) the cooling circuits of air-conditioning and heat pumps in heavy duty vehicles, vans, non road mobile machinery used in agriculture, mining and construction operations, trains, metros, trams and aircraft.**
- 1b. For the recovery of fluorinated greenhouse gases from air-conditioning equipment in motor vehicles falling within the scope of Directive 2006/40/EC and mobile equipment listed in Article 8(1), third subparagraph, point (b) and (c), only natural persons holding at least a training attestation in accordance with Article 10(2) shall be considered appropriately qualified.**
- 1c. The obligation under paragraph 1 shall not apply to operators of the mobile equipment under Article 8(1), third subparagraph, points (b) and (c) until ... [OP, please insert the date = three years following the entry into force of this Regulation].**

2. Any recovered fluorinated greenhouse gases listed in Annex I and Annex II, Section 1, shall not be used for filling or refilling equipment unless the gas has been recycled or reclaimed.
3. The undertaking that uses a container with fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, shall immediately prior to its disposal arrange for the recovery of any residual gases to make sure they are recycled, reclaimed or destroyed.
4. As from 1 January **2025**, building owners and contractors shall ensure that during renovation, refurbishing or demolition activities implying the removal of *foam* panels that contain foams with fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, the emissions are avoided to the extent possible by *handling the foams or the gases contained therein in a way that ensures the* destruction of the *gases contained therein. In the case of recovery of* the gases contained *in the foams*, the recovery shall be carried out by appropriately qualified natural persons.

5. As from 1 January **2025**, building owners and contractors shall ensure that during renovation, refurbishing or demolition activities implying the removal of foams in laminated boards installed in cavities or built-up structures that contain fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, the emissions are avoided to the extent possible by ***handling the foams in the boards or the gases contained therein in a way that ensures the*** destruction of the **█** gases contained therein. ***In the case of recovery of the gases contained in the foams, the*** recovery shall be carried out by appropriately qualified natural persons.

Where recovery of the foams referred to in the first subparagraph is not technically feasible, the building owner or contractor shall draw up documentation providing evidence for the infeasibility of the recovery in the specific case. Such documentation shall be retained for five years and shall be made available, on request, to the competent authorities of a Member State and to the Commission.

6. Operators of products and equipment not listed in paragraphs 1, **4** and **5** that contain fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, shall arrange for the recovery of the gases, unless it can be established that it is not technically feasible or entails disproportionate costs. The operators shall ensure that the recovery is carried out by appropriately qualified natural persons, so that the gases are recycled, reclaimed or destroyed or shall arrange for their destruction without prior recovery.

The recovery of fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, from air-conditioning equipment in road vehicles outside the scope of Directive 2006/40/EC of the European Parliament and of the Council²⁰ shall be carried out by ■ natural persons *holding a training attestation in accordance with Article 10(1)*.

■

7. Fluorinated greenhouse gases listed in Annex I, Section 1, and products containing such gases shall only be destroyed by technologies approved by the Parties to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer ('the Protocol') ■ .

Other fluorinated greenhouse gases for which destruction technologies have not been approved, shall only be destroyed by ■ destruction technology ■ that comply with Union and national legislation on waste and that additional requirements under such legislation are met.

²⁰ Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air conditioning systems in motor vehicles and amending Council Directive 70/156/EEC (OJ L 161, 14.6.2006, p. 12).

8. The Commission is empowered to adopt delegated acts in accordance with Article 32 to supplement this Regulation by establishing a list of products and equipment for which the recovery of fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, or destruction of products and equipment containing such gases without prior recovery of these gases shall be considered technically and economically feasible, specifying, if appropriate, the technologies to be applied.
9. Member States shall promote the recovery, recycling, reclamation and destruction of fluorinated greenhouse gases listed in Annex I and *in* Annex II **█** .

Article 9

Extended producer responsibility schemes

Without prejudice to existing *extended producer responsibility schemes*, Member States shall ***ensure that by 31 December 2027, the financing obligations for electrical and electronic equipment waste referred to in Articles 12 and 13 of Directive 2012/19/EU include the financing of the recovery, recycling, reclamation or destruction of fluorinated greenhouse gases listed in Annexes I and II of this Regulation from the products and equipment, containing those gases or whose functioning relies upon those gases, which are electrical and electronic equipment pursuant to Directive 2012/19/EU and that have been placed on the market after [date of entry into force].***

Member States shall inform the Commission on the actions undertaken.

Article 10
Certification and training

1. *Natural persons shall be certified for carrying out the following activities involving fluorinated greenhouse gases in accordance with Articles 4(6), 5(1) and 8(1) and relevant alternatives to fluorinated greenhouse gases including natural refrigerants:*
 - (a) installation, servicing, maintenance, repair or decommissioning of the equipment listed in Article 5(2), points (a) to (f) and in Article 5(2a), points (a) and (b);
 - (b) leak checks of the equipment referred to Article 5(2), points (a) to (e) and in Article 5(2a), points (a) and (b);
 - (c) recovery from equipment listed in Article 8(1), second subparagraph and in third subparagraph, point (a).

Natural persons shall have a training attestation for carrying out the following activities involving fluorinated greenhouse gases in accordance with Articles 4(6), 5(1) and 8(1) and relevant alternatives to fluorinated greenhouse gases including natural refrigerants:

- (a) maintenance, servicing, repair of air-conditioning equipment in motor vehicles falling within the scope of Directive 2006/40/EC of the European Parliament and of the Council²¹ and recovering of fluorinated greenhouse gases from such equipment;*
- (b) recovering fluorinated greenhouse gases from equipment listed in Article 8(1), third subparagraph, points (b) and (c);*
- (c) maintenance or servicing, repair and leak checks of equipment listed in Article 5(2a), point (c).*

2. *Undertakings shall be certified in accordance with Article 4(6) for carrying out the installation, servicing, maintenance, repair or decommissioning of the equipment listed in Article 5(2), points (a) to (e) and in Article 5(2a), points (a) and (b) involving fluorinated greenhouse gases and relevant alternatives to fluorinated greenhouse gases including natural refrigerants.*

²¹ *Directive 2006/40/EC of the European Parliament and of the Council of 17 May 2006 relating to emissions from air conditioning systems in motor vehicles and amending Council Directive 70/156/EEC (OJ L 161, 14.6.2006, p. 12).*

3. *By ... [OP, please insert the date = 1 year following the entry into force of the implementing act under paragraph 5] Member States shall, establish or adapt certification programmes, including evaluation processes and ensure that training on practical skills and theoretical knowledge is available for natural persons carrying out the tasks referred to in paragraph 1. Member States shall also ensure that training programmes for obtaining training attestations in accordance with paragraph 1 subparagraph 2 are available.*
- 3a. *By ... [OP, please insert the date = 1 year following the entry into force of the implementing act under paragraph 5], Member States shall establish or adapt certification programmes for undertakings referred to in paragraph 2.*

4. The certification programmes and training *on practical skills and theoretical knowledge* provided for in *paragraph 3* shall cover the following:
- (a) applicable regulations and technical standards;
 - (b) emission prevention;
 - (c) recovery of fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1;
 - (d) safe handling of equipment of the type and size covered by the certificate; ■
 - (da) safe handling of equipment with flammable or toxic gases or operating under high-pressure;*
 - (e) the measures of improving or maintaining the energy efficiency of equipment during installation or maintenance.*

4. **█** The certification programmes *and training on practical skills and theoretical knowledge provided for* in paragraph 3 concerning aircraft shall be *reflected in the process of updating the certification specifications and other detailed specifications, acceptable means of compliance and guidance material by the European Aviation Safety Agency pursuant to Article 76(3) and Article 115 of Regulation (EU) 2018/1139 of the European Parliament and of the Council.*
5. *Certificates under the* certification programmes referred to in *paragraph 3 shall be subject to the condition that the applicant has successfully completed an evaluation process established* in accordance with *paragraphs 1, 3, 4 and 5.*

6. *By ... [OP, please insert the date = 2 years following the entry into force of this Regulation], the Commission shall, by means of implementing acts, establish the minimum requirements for certification programmes and training attestations referred to in paragraphs 3 and 3a for the activities referred to in paragraph 1. Those minimum requirements shall specify, for each type of equipment referred to in paragraph 1, the required practical skills and theoretical knowledge, where appropriate, differentiating between different activities to be covered, the modalities of the certification or attestation as well as the conditions for mutual recognition of certificates and training attestations. The Commission shall, by means of implementing acts, adapt, where necessary, the minimum requirements mentioned above. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).*

7. Existing certificates and training attestations issued in accordance with Regulation (EU) No 517/2014 shall remain valid, in accordance with the conditions under which they were originally issued. ***By ... [OP, please insert the date = three years following the entry into force of this Regulation] Member States shall ensure that certified natural persons are required to participate to refreshment training courses or complete an evaluation process referred to in paragraph 3, at least every seven years. Member States shall ensure that natural persons who already hold a certificate or training attestation under Regulation (EU) No 517/2014 shall participate to such refreshment course or complete such evaluation process for the first time no later than [OP, please insert the date = five years following the entry into force of this Regulation].***
8. By 1 January ... [OP, please insert the date = 1 year following the entry into force of ***the implementing act under paragraph 5***] Member States shall notify the Commission of certification and training programmes.

Member States shall recognise certificates and training attestations issued in another Member State in accordance with this Article. They shall not restrict the freedom to provide services or the freedom of establishment because a certificate was issued in another Member State.

9. The Commission may, by means of implementing acts, determine the format of the notification referred to in paragraph 8. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).
10. *An* undertaking **shall only assign** a task referred to in paragraph 1 to another undertaking **after verification** that the latter holds the necessary certificates for the required tasks referred to in paragraph 1.
11. Where the obligations under this Article relating to the provision of certification and training would impose disproportionate burdens on a Member State because of the small size of its population and the consequent lack of demand for such training and certification, compliance may be achieved through the recognition of certificates issued in other Member States.

Member States applying this paragraph shall inform the Commission who shall inform other Member States.

12. This Article shall not prevent Member States from setting up further certification and training programmes in respect of equipment **and activities** other than that referred to in paragraph 1.

CHAPTER III

RESTRICTIONS AND CONTROL OF USE

Article 11

Restrictions on placing on the market and sale

1. The placing on the market of products and equipment, including parts thereof, listed in Annex IV, with an exemption for military equipment, shall be prohibited from the date specified in that Annex, differentiating, where applicable, according to the type or global warming potential of the gas contained. ***By way of derogation from the first subparagraph, the placing on the market of parts of products and equipment required for repair and servicing of existing equipment listed in Annex IV is allowed provided that the repair or servicing does not result in an increase of the capacity of the product or equipment, an increase of the amount of fluorinated greenhouse gas contained in the product or equipment, and there is no change of the type of fluorinated greenhouse gas used that leads to an increase of the global warming potential of the fluorinated greenhouse gas used.***

Products and equipment unlawfully placed on the market after the date referred to in the first subparagraph, shall not be subsequently used or supplied, or made available to other persons within the Union for payment or free of charge or exported. ***Re-export of such products and equipment is allowed in such cases when the non-compliance with the rules set out in this Regulation has been established prior to the release of goods for the purpose of import, in accordance with the measures referred to in Article 23(12).*** Such products and equipment may only be stored or transported for subsequent disposal and for the recovery of the gas prior to the disposal pursuant to Article 8 ***or for their re-export.***

The re-export of products and equipment for which the non-compliance with the rules set out in this Regulation has been established prior to their release for free circulation is allowed. In such cases, Article 22 (1a) does not apply.

One year following the individual dates listed in Annex IV, the subsequent supply or making available to another party in the Union for payment or free of charge of products or equipment lawfully placed on the market prior to the date referred to in the first subparagraph shall be allowed only if evidence is provided that the product or equipment was placed lawfully on the market prior to the date.

2. The prohibition set out in paragraph 1, first subparagraph, shall not apply to equipment for which it has been established in ecodesign requirements adopted under Directive 2009/125/EC that ■ its lifecycle CO₂ equivalent emissions would be lower than those of equivalent equipment which meets relevant ecodesign requirements.
3. In addition to the placing on the market prohibition set out in Annex IV, point 1, the import, placing on the market, any subsequent supply, or making available to other persons within the Union for payment or free of charge, use or export of non-refillable containers for fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, empty or fully or partially filled shall be prohibited. Such containers may only be stored or transported for subsequent disposal. This prohibition does not apply to containers for laboratory or analytical uses *of fluorinated greenhouse gases*.

The paragraph applies to:

- (a) containers which cannot be refilled without being adapted for that purpose (non-refillable); and
- (b) containers that could be refilled but are imported or placed on the market without provision having been made for their return for refilling;

(ba) Undertakings which place on the market refillable containers for fluorinated greenhouse gases shall produce a declaration of conformity that includes evidence confirming there are binding arrangements in place for the return of that container for the purpose of refilling, in particular identifying the relevant actors, their obligatory commitments and the relevant logistical arrangements. Those arrangements shall be made binding on the distributors of the containers to the end-user.

The undertakings referred to in the first subparagraph shall keep the declaration of conformity for a period of at least five years after the placing on the market of refillable containers and shall make it available, on request, to the competent authorities of Member States and the Commission. Suppliers of the containers to end-users shall keep evidence of the compliance with these arrangements for a period of at least five years after supply to the end-user and shall make it available, on request, to the competent authorities of Member States and the Commission.

The Commission may, by means of implementing acts, determine the requirements for including the elements that are essential for the binding arrangements in the declaration of conformity. Such implementing acts shall be adopted in accordance with Article 34(2).

4. Following a substantiated request by a competent authority of a Member State and taking into account the objectives of this Regulation, the Commission may, exceptionally, by means of implementing acts, authorise an exemption for up to four years to allow the placing on the market of products and equipment listed in Annex IV, *or, in derogation to Article 13(5), putting into operation new or extended electrical switchgear*, including parts thereof, containing fluorinated greenhouse gases or whose functioning relies upon those gases, where it is demonstrated that:
- (a) for a specific product or a piece of equipment, or for a specific category of products or equipment, alternatives are not available, or cannot be used for technical or safety reasons; or
 - (b) the use of technically feasible and safe alternatives would entail disproportionate costs.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

5. Only undertakings that hold a certificate required under Article 10(1), point (a) **■**, or undertakings that employ persons holding such a certificate *required under Article 10(1), point (a)* or a training attestation *required under Article 10(2)* shall be allowed to purchase fluorinated greenhouse gases listed in Annex I or *in* Annex II, Section 1, for the purpose of carrying out the installation, servicing, maintenance or repair of the equipment containing those gases, or whose functioning relies upon those gases, referred to in Article 5(2), points (a) to **(i)**, and Article 10(2). ***Sellers shall sell or offer for sale, directly or indirectly, such gases exclusively to the undertakings referred to in this paragraph.***

This paragraph shall not prevent non-certified undertakings, who do not carry out ***the activities referred to in the first subparagraph***, from collecting, transporting or delivering fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1.

6. Non-hermetically sealed equipment charged with fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1 may only be sold to an end user where evidence is provided that the installation is to be carried out by an undertaking certified in accordance with Article 10.

6a. *Only undertakings that are established in the Union, or that have mandated an only representative established in the Union, who assumes full responsibility of complying with this Regulation, shall be allowed to place on the market and further supply bulk fluorinated greenhouse gases. The only representative may be the representative mandated pursuant to Article 8 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council.*

Article 12

Labelling and product and equipment information

1. The following products and equipment that contain fluorinated greenhouse gases or whose functioning relies upon *fluorinated greenhouse gases*, may only be placed on the market, *subsequently supplied or made available to another person* if they are labelled:
 - (a) refrigeration equipment;
 - (b) air-conditioning equipment;
 - (c) heat pumps;
 - (d) fire protection equipment;
 - (e) electrical switchgear;
 - (f) aerosol dispenser that contain fluorinated greenhouse gases, including metered dose inhalers;
 - (g) all fluorinated greenhouse gas containers;
 - (h) fluorinated greenhouse gas-based solvents;
 - (i) organic Rankine cycles.

2. Products or equipment subject to an exemption as referred to in Article 11(4) *as well as application, products or equipment containing fluorinated greenhouse gases listed in Annex 1, section 1 subject to an exemption as referred to in Article 16(4)* shall be labelled accordingly, *specifying the end date of the exemption*, and shall include a reference that those products or equipment may only be used for the purpose for which an exemption under that Article was granted.
3. The label required pursuant to paragraph 1 shall indicate the following information:
 - (a) an indication that the product or equipment contains fluorinated greenhouse gases or that its functioning relies upon those gases;
 - (b) the accepted industry designation for the fluorinated greenhouse gases concerned or, if no such designation is available, the chemical name;
 - (c) from 1 January 2017, the quantity expressed in weight and in CO₂ equivalent of fluorinated greenhouse gases contained in the product or equipment, or the quantity of fluorinated greenhouse gases for which the equipment is designed, and the global warming potential of those gases.

The label shall indicate the following information, where applicable:

- (a) a reference that the fluorinated greenhouse gases are contained in hermetically sealed equipment;
- (b) a reference that the electrical switchgear has a tested leakage rate of less than 0,1 % per year as set out in the technical specification of the manufacturer;
- (ba) retrofitted products or equipment where the fluorinated greenhouse gases have been changed, shall be relabelled with updated information as referred to in this paragraph.**

4. The label required pursuant to paragraph 1 shall be clearly legible and indelible and shall be placed either:

- (a) adjacent to the service ports for charging or recovering the fluorinated greenhouse gas; or
- (b) on that part of the product or equipment that contains the fluorinated greenhouse gas.

The label shall be **written** in the official languages of the Member State in which the good is to be placed on the market, **made available or supplied**.

5. Foams and pre-blended polyols that contain fluorinated greenhouse gases listed in Annexes I and II shall not be placed on the market, ***made available or supplied*** unless the fluorinated greenhouse gases are identified with a label using the accepted industry designation or, if no such designation is available, the chemical name. The label shall clearly indicate that the foam or pre-blended polyol contains fluorinated greenhouse gases. In the case of foam boards, that information shall be clearly and indelibly stated on the boards.
 - 5a. ***Where relevant, refilled containers of fluorinated greenhouse gases shall be relabelled with updated information as referred to in the first subparagraph of paragraph 3.***
6. Reclaimed or recycled fluorinated greenhouse gases ***listed in Annexes I and II*** shall be labelled with an indication that the substance has been reclaimed or recycled. ***In the case of reclamation***, information on the batch number and the name and address of the reclamation facility in the Union ***shall be included***.
7. Fluorinated greenhouse gases listed in Annex I and placed on the market, ***made available or supplied*** for destruction shall be labelled with an indication that the contents of the container may only be destroyed.

8. Fluorinated greenhouse gases listed in Annex I and intended for direct export shall be labelled with an indication that the contents of the container may only be directly exported.
9. Fluorinated greenhouse gases listed in Annex I and placed on the market, ***made available or supplied*** for use in military equipment shall be labelled with an indication that the contents of the container may only be used for that purpose.
10. Fluorinated greenhouse gases listed in Annexes I and II placed on the market, ***made available or supplied*** for etching of semiconductor material or cleaning of chemicals vapour deposition chambers within the semiconductor manufacturing sector shall be labelled with an indication that the contents of the container may only be used for that purpose.
11. Fluorinated greenhouse gases listed in Annex I and placed on the market, ***made available or supplied*** for feedstock use shall be labelled with an indication that the contents of the container may only be used as feedstock.
12. Fluorinated greenhouse gases listed in Annex I, ***Section 1*** and placed on the market, ***made available or supplied*** for producing metered dose inhalers for the delivery of pharmaceutical ingredients shall be labelled with an indication that the contents of the container may only be used for that purpose.

13. In case of *fluorinated greenhouse gases listed in Annex I, Section 1*, the label referred to in paragraphs 7 to 11 shall include the indication “exempted from quota under Regulation (EU) No .../... [OP: Please add reference to this Regulation]”.

In the absence of the labelling requirements referred to in the first subparagraph and in paragraphs 7 to 11, the hydrofluorocarbons shall be subject to the quota requirements pursuant to Article 16(1).

14. In the cases referred to in Annex IV, points [3, 8, **12, 16**, 18(b) and (c), 19 and 20], the product *or equipment* shall be labelled with an indication that it may be used only where required by the safety standard to be specified. In the *cases* referred to in Annex IV, points 20 and 22, the product *or equipment* shall be labelled with an indication that the product *or equipment* may only be used where required by the medical application to be specified.

15. The information referred to in paragraphs 3 and 5 shall be included in instruction manuals for the products and equipment concerned.

In the case of products and equipment that contain fluorinated greenhouse gases in Annexes I and II with a global warming potential of 150 or more that information shall also be included in descriptions used for advertising.

16. The Commission may, by means of implementing acts, determine the format of the labels referred to in paragraph 1 and paragraphs 4 to 14. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).
17. The Commission is empowered to adopt delegated acts in accordance with Article 32 amending the labelling requirements set out in paragraphs 4 to 14 where appropriate in view of commercial or technological development.

Article 13

Control of use

1. The use of sulphur hexafluoride in magnesium die-casting and in the recycling of magnesium die-casting alloys is prohibited.
2. The use of sulphur hexafluoride to fill vehicle tyres is prohibited.

3. ***The use of fluorinated greenhouse gases, with a global warming potential of 2 500 or more, to service or maintain refrigeration equipment with a charge size of 40 tonnes of CO₂ equivalent or more, is prohibited.*** From 1 January 2025, the use of fluorinated greenhouse gases ■ , with a global warming potential of 2 500 or more, for the servicing or maintenance of ***all*** refrigeration equipment is prohibited.

This paragraph shall not apply to military equipment or equipment intended for applications designed to cool products to temperatures below - 50 °C.

The prohibition referred to in the first subparagraph shall not apply to the following categories of fluorinated greenhouse gases until 1 January 2030:

- (a) reclaimed fluorinated greenhouse gases listed in Annex I with a global warming potential of 2 500 or more used for the maintenance or servicing of ■ refrigeration equipment, provided that they have been labelled in accordance with Article 12(6);

- (b) recycled fluorinated greenhouse gases listed in Annex I with a global warming potential of 2 500 or more used for the maintenance or servicing of existing refrigeration equipment provided they have been recovered from such equipment. Such recycled gases may only be used by the undertaking which carried out their recovery as part of maintenance or servicing or the undertaking for which the recovery was carried out as part of maintenance or servicing.

The prohibition referred to in the first subparagraph shall not apply to refrigeration equipment for which an exemption has been authorised in accordance with Article 11(4).

- 3a. *From 1 January 2026, the use of fluorinated greenhouse gases listed in Annex I, with a global warming potential of 2 500 or more, for the servicing or maintenance of air conditioning and heat pump equipment is prohibited.***

The prohibition referred to in the first subparagraph shall not apply to the following categories of fluorinated greenhouse gases until 1 January 2032:

- (a) reclaimed fluorinated greenhouse gases listed in Annex I with a global warming potential of 2 500 or more used for the maintenance or servicing of existing air conditioning and heat pump equipment, provided that they have been labelled in accordance with Article 12(6);*
- (b) recycled fluorinated greenhouse gases listed in Annex I with a global warming potential of 2 500 or more used for the maintenance or servicing of existing air conditioning and heat pump equipment provided they have been recovered from such equipment. Such recycled gases may only be used by the undertaking which carried out their recovery as part of maintenance or servicing or the undertaking for which the recovery was carried out as part of maintenance or servicing.*

3b. *From 1 January 2032, the use of fluorinated greenhouse gases listed in Annex I, with a global warming potential of 750 or more, for the servicing or maintenance of stationary refrigeration equipment, with the exclusion of chillers, is prohibited.*

This paragraph shall not apply to military equipment or equipment intended for applications designed to cool products to temperatures below - 50 °C or equipment intended for applications designed to cool nuclear power stations.

The prohibition referred to in the first subparagraph shall not apply to the following categories of fluorinated greenhouse gases:

(a) reclaimed fluorinated greenhouse gases listed in Annex I with a global warming potential of 750 or more used for the maintenance or servicing of existing stationary refrigeration equipment, with the exclusion of chillers, provided that they have been labelled in accordance with Article 12(6);

(b) recycled fluorinated greenhouse gases listed in Annex I with a global warming potential of 750 or more used for the maintenance or servicing of existing stationary refrigeration equipment, with the exclusion of chillers, provided they have been recovered from such equipment. Such recycled gases may only be used by the undertaking which carried out their recovery as part of maintenance or servicing or the undertaking for which the recovery was carried out as part of maintenance or servicing.

3c. Following a substantiated request by a competent authority of a Member State and taking into account the objectives of this Regulation, the Commission shall assess the availability of reclaimed and recycled fluorinated greenhouse gases falling under the scope of paragraphs 3a and 3b. Where the assessment points to a verified shortage of a reclaimed and recycled fluorinated greenhouse gas, the Commission may, exceptionally, by means of implementing acts, authorise an exemption from the bans set out in paragraphs 3a or 3b, for up to four years, to the extent needed to address the identified shortage.

- 3d. From 1 January 2035, the use of fluorinated greenhouse gases listed in Annex I, Section 3 for the servicing or maintenance of electrical switchgear equipment shall be prohibited unless it is reclaimed or recycled, except if it is proved that reclaimed or recycled fluorinated greenhouse gases listed in Annex I, Section 3:**
- (a) cannot be used on the basis of technical grounds; or**
 - (b) are not available in case of an emergency repair situation.**
- 3a. In such cases, the user shall provide evidence, upon request, on the justification for use to the competent authority of the Member State and the Commission.**
- 3b. This paragraph shall not apply to military equipment.**
4. The use of desflurane as inhalation anaesthetic is prohibited as from 1 January 2026, **and shall only be permitted** when such use is strictly required and no other anaesthetic can be used on medical grounds. **The healthcare institution shall keep evidence** on the medical justification, **and provide it, upon request,** to the competent authority of the Member State and the Commission.

5. *Putting into operation of the following electrical switchgear using or whose functioning relies upon fluorinated greenhouse gases in insulating or breaking medium is prohibited as follows:*

- (a) as of 1 January 2026, medium voltage switchgear for primary and secondary distribution up to and including 24 kV;*
- (b) as of 1 January 2030, medium voltage switchgear for primary and secondary distribution from more than 24 kV up to and including 52 kV;*
- (c) as of 1 January 2028, high voltage switchgear from 52 kV up to and including 145 kV and up to and including 50 kA short circuit current, , with GWP of 1 or more;*
- (d) as of 1 January 2032, high voltage switchgear of more than 145 kV or more than 50 kA short circuit current, , with GWP of 1 or more.*

- 5a. *The taking out of operation of an electrical switchgear which is operating within the Union and its subsequent putting into operation at a different site in the Union shall not be considered as putting into operation for the scope of this Article.***
- 5b. *By way of derogation to paragraph 5, the putting into operation of switchgear using or whose functioning relies upon insulating or breaking medium with GWP lower than 1000 is permitted if following a procurement procedure that considers the technical specificities of the equipment required for the specific use concerned:***
- (i) during the first two years after the respective dates under paragraph 5, points (a) and (b), no bids or only bids offering equipment from one manufacturer of switchgear with insulating or breaking medium not using fluorinated gases were received; or***
 - (ii) during the first two years after the respective dates under paragraph 5, points (c) and (d), no bids or only bids offering equipment from one manufacturer of switchgear with insulating or breaking medium with a GWP of less than 1 were received; or***

(iii) after the two-year period mentioned under (i) above, no bids were received offering equipment from one manufacturer of switchgear with insulating or breaking medium not using fluorinated gases; or

(iv) after the two-year period mentioned under (ii) above, no bids were received offering equipment from one manufacturer of switchgear with insulating or breaking medium with a GWP of less than 1.

5c. By derogation to paragraph 5b, switchgear with insulating or breaking medium with a GWP of 1000 or more is allowed if, following a procurement procedure that considers the technical specificities of the equipment required for the specific use concerned, no bid was received for switchgear with insulating or breaking medium with a GWP of less than 1000.

5d. Paragraph 5 shall not apply to equipment for which it has been established in ecodesign requirements adopted under Directive 2009/125/EC that, its life cycle CO₂ equivalent emissions would be lower than those of equivalent equipment which meets the relevant ecodesign requirements.

- 5e.** *Paragraph 5 shall not apply in case the operator can provide evidence that the order for the switchgear has been placed before the Regulation becomes applicable.*
- 5f.** *Paragraph 5 shall not apply when devices to extend existing electrical switchgear that use fluorinated greenhouse gases with a lower GWP than the fluorinated greenhouses used in the existing electrical switchgear are not compatible with the existing electrical switchgear, and the use of these devices would require the replacement of the existing entire electrical switchgear.*
- 5g.** *The documentation establishing the evidence for the derogations listed in paragraphs 5a, 5b, 5c, 5e and 5f shall be kept by the operator for at least five years after the respective dates specified under paragraph 5 and shall be made available to the competent authority of the Member State and to the Commission, upon request.*
- 5h.** *The operator shall notify the competent authority of the Member State where the electric switchgear is put into operation when applying the derogation in paragraphs 5b, 5c, 5e and 5f.*

6. *Parts of equipment may be installed for repair or servicing of existing electrical switchgear provided there is no change of the type of fluorinated greenhouse gas used that leads to an increase of the global warming potential of the fluorinated greenhouse gas used or an increase in the amount of fluorinated gases contained in the equipment.*
- 4d *Putting into operation any equipment listed in Annex IV points [3(c), 12, 16(b), 16(c), 18(b), 18(ba), 18(c) and 18(d)] after the respective prohibition date specified in these points is prohibited unless evidence is provided that:*
- (a) *the relevant safety requirements at the particular location do not permit the installation of equipment using fluorinated greenhouse gases below the GWP value specified in the respective prohibitions; or*
 - (b) *the equipment was placed on the market before the relevant prohibition date listed in Annex IV.*
- 4e. *The documentation of this evidence shall be kept by the operator for at least five years and shall be made available to the competent authority of the Member State and to the Commission, upon request.*

CHAPTER IV

PRODUCTION SCHEDULE AND REDUCTION OF THE QUANTITY OF HYDROFLUOROCARBONS PLACED ON THE MARKET

Article 14

Production of hydrofluorocarbons

- 1. For the purpose of this Article, Article 15 and Annex V, the production of hydrofluorocarbons is the amount of hydrofluorocarbons produced minus the amount destroyed by technologies approved by the Parties to the Protocol, and minus the amount entirely used as feedstock in the manufacture of other chemicals, but including hydrofluorocarbons generated as a by-product, unless not captured or unless that by-product is destroyed as part of or after the manufacturing process by the producer or handed over to another undertaking for destruction. No amount reclaimed shall be considered in the calculation of the production of hydrofluorocarbons.***
1. The production of hydrofluorocarbons is allowed to the extent that producers have been allocated productions rights by the Commission as set out in this Article.

2. The Commission shall, by means of implementing acts, allocate production rights on the basis of Annex V for producers that produced hydrofluorocarbons in 2022, based on data reported under Article 19 of Regulation (EU) No 517/2014. Such implementing acts shall be adopted in accordance with Article 34(2).
3. The Commission may, by means of implementing acts, at the request of the competent authority of a Member State, amend the implementing acts referred to in paragraph 2 in order to allocate additional production rights to the producers referred to in paragraph 2 or any other undertakings established in the Union, *unless* the production limits of the Member State under the Protocol *are exceeded*. Such implementing acts shall be adopted in accordance with Article 34(2).
- 3a. *In absence of an implementing act being effective by the date specified in Article 38, second subparagraph, producers may continue to produce without production rights being allocated. The hydrofluorocarbons produced during such period will count towards the allocation of production rights once issued.*

4. Three years following the adoption of the implementing acts referred to in paragraph 2, and every three years thereafter, the Commission shall review and amend if needed these implementing acts, taking into account the changes to the production rights pursuant to Article 15 during the preceding three years period. Such implementing acts shall be adopted in accordance with Article 34(2).

Article 15

Transfer and authorisation of production rights for industrial rationalisation

1. For the purpose of industrial rationalisation within a Member State, producers may transfer totally or partially their production rights to any other undertaking in that Member State, as long as the *calculated levels of production* of Parties under the Protocol are respected. Transfers shall be approved by the Commission and the relevant competent authorities and carried out via the F-gas Portal.

2. For the purpose of industrial rationalisation between Member States, the Commission may, in agreement with both the competent authority of the Member State in which a producer's relevant production is situated, and the competent authority of the Member State in which excess *calculated levels of* production *under the Montreal Protocol* are available, authorise via the F-gas Portal that producer to exceed its production *rights* referred to in Article 14(2) by a specified amount, considering *the* conditions set out in the Protocol.
3. The Commission may, in agreement with both the competent authority of the Member State in which a producer's relevant production is situated and the competent authority of the third country Party concerned, authorise a producer to combine the ■ production *rights* referred to in Article 14 with the calculated levels of production allowed to a producer in a third country Party under the Protocol and that producer's national legislation for the purpose of industrial rationalisation with a third country Party, provided that the combined ■ production by the two producers do not lead to an exceedance of *calculated levels of* production *of the two Parties* under the Montreal Protocol and any relevant national legislation is respected.

Article 16

Reduction of the quantity of hydrofluorocarbons placed on the market

1. The placing on the market of hydrofluorocarbons is only allowed to the extent that producers and importers have been allocated quotas by the Commission as set out in Article 17.

Producers and importers *placing* hydrofluorocarbons **■** on the market *shall* not exceed their respective quota available to them at the moment of placing on the market.

2. Paragraph 1 shall not apply to hydrofluorocarbons that are:
 - (a) imported into the Union for destruction;
 - (b) used by a producer in feedstock applications or supplied directly by a producer or an importer to undertakings for use in feedstock applications;

- (c) supplied directly by a producer or an importer to undertakings, for export out of the Union, not contained in products or equipment, where those hydrofluorocarbons are not subsequently made available to any other party within the Union, prior to export;
 - (d) supplied directly by a producer or an importer for use in military equipment;
 - (e) supplied directly by a producer or an importer to an undertaking using it for the etching of semiconductor material or the cleaning of chemicals vapour deposition chambers within the semiconductor manufacturing sector.
3. The Commission is empowered to adopt delegated acts in accordance with Article 32 to amend paragraph 2 and exclude from the quota requirement laid down in paragraph 1 hydrofluorocarbons in accordance with decisions of the Parties to the Protocol.

4. Following a substantiated request by a competent authority of a Member State and taking into account the objectives of this Regulation, ***and in light of any data provided by European Medicines Agency***, the Commission may, exceptionally by means of implementing acts, authorise an exemption for up to four years to exclude from the quota requirement laid down in paragraph 1 hydrofluorocarbons for use in specific applications, or specific categories of products or equipment, where it is demonstrated in the request that:
- (a) for those particular applications, products or equipment, alternatives are not available, or cannot be used for technical or safety reasons ***or risks to public health***; and
 - (b) a sufficient supply of hydrofluorocarbons cannot be ensured without entailing disproportionate costs.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

5. The emission of hydrofluorocarbons during production shall be considered as being placed on the market the year in which they occur.
6. This Article and Articles 17, 20 to 29 and 31 shall also apply to hydrofluorocarbons contained in pre-blended polyols.

Article 17

Determination of reference values and allocation of quotas for placing hydrofluorocarbons on the market

1. By 31 October ... [OP: Please insert the year of application of this Regulation] and **at least** every three years thereafter, the Commission shall determine reference values for producers and importers in accordance with Annex VII for the placing on the market of hydrofluorocarbons.

The Commission shall determine those reference values for all importers and producers that **placed on the market** hydrofluorocarbons during the previous three years, by means of an implementing act determining reference values for all importers and producers. Those implementing acts shall be adopted in accordance with the examination procedure referred to in 34(2).

2. An importer or producer may notify the Commission of a permanent succession or acquisition of the part of its business relevant to this Article, resulting in a change of the attribution of its and the legal successor's reference values.

The Commission may request relevant documentation to this effect. The adjusted reference values shall be made accessible in the F-gas Portal.

3. By 1 **June** ... [OP: Please insert the year of **entry into force** of this Regulation] and **by 1 April ... [OP: Please insert the date = three years following the year of entry into force of this Regulation]** and every three years thereafter, producers and importers may make a declaration for receiving quotas from the reserve referred in Annex VIII via the F-gas Portal.
4. By 31 December ... [PO: Please insert the year of application of this Regulation], and every year thereafter, the Commission shall allocate quotas for each importer and producer for placing hydrofluorocarbons on the market, pursuant to Annex VIII. Quotas shall be notified via the F-gas Portal to importers and producers.
5. The allocation of quotas is subject to the payment of the amount due which equals to three euro for each tonne of CO₂ equivalent of quota to be allocated. Importers and producers shall be notified via the F-gas Portal of the total amount due for **their** calculated maximum quota allocation for the following calendar year and of the deadline for completing the payment. The Commission may, by means of implementing acts, determine the modalities and the detailed arrangements for the payment of the amount due. Those implementing acts shall be adopted in accordance with the examination procedure referred to in 34(2).

Importers and producers may pay only for a part of the calculated maximum quota allocation offered to them. In such a case, these importers and producers shall be allocated the quota corresponding to the payment made by the set deadline.

Until [OP please insert the year = 3 years following the date of entry into force of this Regulation], the Commission shall redistribute the quota for which a payment has not been made by the set deadline, free of charge, to only those importers and producers that have paid the total amount due for their calculated maximum quota allocation referred to in the first subparagraph and that have made a declaration referred to in paragraph 3. This distribution shall be made on the basis of each importer's or producer's share of the sum of all the maximum calculated quota offered to and paid for in full by those importers and producers. From [OP please insert the year = 4 years following the date of entry into force of this Regulation], the quota for which a payment has not been made by the set deadline shall be cancelled.

The Commission shall be authorised not to fully allocate the maximum quantity referred to in Annex VII or allocate additional quotas, as contingency for implementation issues during the allocation period.

6. The Commission is empowered to adopt delegated acts in accordance with Article 32 to amend paragraph 5 as regards the amounts due for the allocation of quota and the mechanism to allocate remaining quotas, *in order to compensate for the inflation.*
- 6b. *Every year, or more often following a substantiated request by a competent authority of a Member State, the Commission shall assess after consultation of relevant stakeholders, the impact of the quota phase-down system laid out in Annex VII on the Union's heat pump market considering relevant factors in particular, the development of prices of fluorinated greenhouse gases listed in Annex I, Section 1, the growth rate of heat pumps equipment still requiring such gases, the market uptake of alternative technologies and the state of the heat pumps deployment rate target provided under the Commission Communication of 18 May 2022 entitled "REPowerEU Plan"²². The Commission shall include the conclusions from the assessments in the relevant European Commission's Annual Activity Report on Climate Action.***

²² *Communication from the Commission to the European Parliament, the European Council, the Council, the European Economic and Social Committee and the Committee of the Regions REPowerEU Plan (COM/2022/230 final).*

Where the assessment demonstrates a severe shortage of fluorinated greenhouse gases listed in Annex I, Section 1 for the deployment of heat pumps which could endanger the attainment of the RePowerEU heat pump deployment targets, the Commission shall adopt delegated acts in accordance with Article 32 to amend Annex VII in order to allow the placing on the market of a quantity of fluorinated greenhouse gases listed in Annex I in addition to the quotas under Annex VII respectively up to 4 410 247 tons for the period 2025-2026 or up to 1 425 536 tons for the period 2027-2029.

Where the Commission adopts a delegated act as referred to in the second subparagraph, the additional quotas shall be distributed to producers and importers that have reported under Article 26, in the previous year, on heatpump use as one of the main categories of application in which the substance is used, following their request submitted via the F-gas Portal.

7. The revenue generated from the quota allocation amount shall constitute external assigned revenue in accordance with Article 21(5) of Regulation (EU, Euratom) No 2018/1046. That revenue shall be assigned to the LIFE programme and to Heading 7 of the multiannual financial framework (European Public Administration), to cover the costs of external staff working on the management of the quota allocation, IT services, and licensing systems for the purpose of implementation of this Regulation and for ensuring compliance with the Protocol. ***The revenue used to cover these costs shall not exceed the maximum annual amount of 3 million euros.*** Any revenue remaining after covering these costs shall be entered into the general budget of the Union.

Article 18

Conditions for registration and receiving quota allocations

1. Quotas shall only be allocated to producers or importers that have an establishment within the Union, or which have mandated an only representative with an establishment within the Union that assumes the full responsibility of complying with this Regulation ***and with the requirements of Title II of Regulation (EC) No 1907/2006 of the European Parliament and of the Council.*** The only representative may be the same as the one mandated pursuant to Article 8 of Regulation (EC) No 1907/2006 of the European Parliament and of the Council²³.

²³ Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC (OJ L 396, 30.12.2006, p. 1).

2. Only importers and producers that have experience in trading activities of chemicals *or in servicing refrigeration, air conditioning, heat pumps or fire protection equipment* for three consecutive years prior to the quota allocation period, shall be allowed to submit a declaration referred to in Article 17(3) or receive a quota allocation on that basis pursuant to Article 17(4). The importers and producers shall submit evidence to this effect, on request, to the Commission.
3. For the purpose of registration in the F-gas Portal, importers and producers shall provide a physical address where the company is located and from where it conducts its business. Only one undertaking shall be registered under the same physical address.

For the purpose of submitting a quota declaration pursuant to Article 17(3) and receiving a quota allocation pursuant to Article 17(4) as well as for the purpose of determining reference values pursuant to Article 17(1), all undertakings that share the same beneficial owner, shall be considered as one single undertaking. Only that single undertaking, which is the one registered first in the registry unless indicated otherwise by the beneficial owner, shall be entitled to a reference value pursuant to Article 17(1) and a quota allocation pursuant to Article 17(4).

Article 19

Pre-charging of *products and* equipment with hydrofluorocarbons

1. Refrigeration *and* air conditioning equipment, *heat pumps and, from 1 January 2025, metered dose inhalers* charged with *substances listed in Annex I, Section 1* shall not be placed on the market unless *those substances* charged into the equipment *or products* are accounted for within the quota system referred to in this Chapter.
2. When placing pre-charged equipment *or products* as referred to in paragraph 1 on the market, manufacturers and importers of equipment *or products* shall ensure that compliance with paragraph 1 is fully documented and shall draw up a declaration of conformity in this respect.

By drawing up the declaration of conformity, manufacturers and importers of equipment *or products* shall assume responsibility for compliance with this paragraph and paragraph 1.

Manufacturers and importers of equipment *or products* shall keep this documentation and the declaration of conformity for a period of at least five years after the placing on the market of that equipment *or products* and shall make it available, on request, to the competent authorities of Member States and the Commission.

3. Where hydrofluorocarbons contained in the equipment *or products* referred to in paragraph 1 have not been placed on the market prior to the charging of the equipment *or products*, importers of that equipment *or products* shall ensure that, by 30 April ... [OP: Please insert the year of application of this Regulation] and every year thereafter, the accuracy of the documentation, the declaration of conformity and the veracity of their report pursuant to Article 26 is confirmed, for the preceding calendar year, at a reasonable level of assurance by an independent auditor registered in the F-gas Portal.

The independent auditor shall be either:

- (a) accredited pursuant to Directive 2003/87/EC of the European Parliament and of the Council²⁴; or
- (b) accredited to verify financial statements in accordance with the legislation of the Member State concerned.

²⁴ Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC (OJ L 275, 25.10.2003, p.32).

4. The Commission shall, by means of implementing acts, determine the detailed arrangements relating to the declaration of conformity referred to in paragraph 2, the verification by the independent auditor and of the accreditation of verifiers. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).
5. Importers of equipment *or products* referred to in paragraph 1, which has no establishment in the Union, shall mandate an only representative with an establishment within the Union that assumes the full responsibility of complying with this Regulation. The only representative may be the same as the one mandated pursuant to Article 8 of Regulation (EC) No 1907/2006.
6. This Article shall not apply to undertakings that placed on the market less than **10** tonnes of CO₂ equivalent of hydrofluorocarbons, per year, contained in the equipment *or products* referred to in paragraph 1.

Article 20
The F-gas Portal

1. The Commission shall set up and ensure the operation of an electronic system for the management of the quota system, licensing of imports and exports and reporting ('the F-gas Portal').
2. The Commission shall ensure the interconnection of the F-gas Portal with the European Union Single Window Environment for Customs through the European Union Customs Single Window - Certificate Exchange System established by Regulation (EU) No .../... [the full reference to be inserted once that Regulation has been adopted].
3. Member States shall ensure the interconnection of their national single window environments for customs with the European Union Customs Single Window - Certificate Exchange System for the purpose of exchanging information with the F-gas Portal.

4. Undertakings shall have a valid registration in the F-gas Portal prior to ■ the following activities:

(-a) the import or export of fluorinated greenhouse gases and products and equipment containing fluorinated greenhouse gases except in cases of temporary storage, as defined in pursuant to Article 5(17) of the Regulation (EU) No 952/2013;

- (a) submitting a declaration pursuant to Article 17(3);
- (b) receiving a quota allocation for the placing on the market of hydrofluorocarbons in accordance with Article 17(4) or making or receiving a quota transfer in accordance with Article 21(1) or making or receiving an authorisation to use quota in accordance with Article 21(2) or delegating that authorisation to use quota in accordance with Article 21(3);
- (c) supplying, or receiving hydrofluorocarbons for the purposes listed in points (a) to (e) of Article 16(2);

- (d) ■ carrying out *all other* activities that require reporting under Article 26;
- (e) ■ receiving production rights pursuant to Article 14 and for making or receiving a transfer and an authorisation of production rights referred to in Article 15;
- (f) ■ verifying reports referred to in Articles 19(3) and 26(8).

Registration shall be valid only once the Commission validates it and for as long as it is not suspended or revoked by the Commission or withdrawn by the undertaking.

5. A valid registration in the F-Gas Portal at the moment of import or export constitutes a licence required under Article 22.
6. The Commission shall, to the extent necessary, by means of implementing acts, *clarify the rules of registration to ensure the smooth functioning of the F-gas Portal and compatibility with the European Union Single Window Environments for Customs*. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

7. The competent authorities, including customs authorities, of the Member States shall have access to the F-gas Portal to enable the implementation of the relevant requirements and controls. Access to the F-gas Portal by customs authorities shall be ensured via the European Union Single Window Environments for Customs.

The Commission and competent authorities of the Member States shall ensure the confidentiality of the data included in the F-gas Portal.

The Commission shall make publicly available no later than three months after the allocation is completed for a given year:

- (a) a list of quota holders, no later than three months after the allocation is completed for a given year;*
- (b) a list of the undertakings subject to the reporting requirements laid out in Article 26.*

8. Any requests by importers and producers for corrections of the information recorded in the F-gas Portal, by themselves, concerning transfers of quota referred to in Article 21(1), authorisations to use quota referred to in Article 21(2) or delegations of authorisations referred to in Article 21(3), shall be communicated, with the consent of all undertakings involved in the transaction, to the Commission without undue delay and at the latest until 31 March of the year following the year of the recording of the transfer of quota or the authorisation to use quota and shall be substantiated with evidence establishing that it concerns a clerical error.

Notwithstanding the conditions set out in the first subparagraph, requests for corrections of data that negatively affect the entitlements of other importers and producers not involved in the underlying transaction shall be refused.

Article 21

Transfer of quotas and authorisation to use quotas for the placing on the market of hydrofluorocarbons in imported equipment

1. Any producer or importer for whom a reference value has been determined pursuant to Article 17(1) may transfer in the F-gas Portal its quota allocation on the basis of Article 17(4), for all or any quantities, to another producer or importer in the Union or to another producer or importer which is represented in the Union by an only representative referred to in Article 18(1).

Transferred quota as referred to in the first subparagraph shall not be transferred a second time.

2. Any producer or importer for whom a reference value has been determined pursuant to Article 17(1), may authorize in the F-gas Portal an undertaking in the Union or represented in the Union by an only representative referred to in Article 19(5), to use all or part of its quota for the purpose of importing pre-charged equipment referred to in Article 19.

The respective quantities of hydrofluorocarbons shall be deemed to be placed on the market by the authorising producer or importer at the moment of the authorisation.

3. Any undertaking receiving authorisations may delegate that authorisation to use quota received in accordance with paragraph 2 in the F-gas Portal to an undertaking for the purpose of importing pre-charged equipment referred to in Article 19. A delegated authorisation shall not be delegated a second time.
4. Transfers of quota, authorisations to use quota and delegations of authorisations carried out via the F-gas Portal shall only be valid if the receiving undertaking accepts it via the F-gas Portal.

CHAPTER V

TRADE

Article 22

Imports and exports

The import and export of fluorinated greenhouse gases and products and equipment containing those gases or whose functioning relies upon those gases except in cases of temporary storage, is subject to the presentation of a valid licence to customs authorities pursuant to Article 20(4) *and* 20(5).

Fluorinated greenhouse gases imported into the Union shall be considered as virgin gases.

This paragraph does not apply to products and equipment that are personal effects.

1a. From [one year after the entry into force of this Regulation] the export of foams, technical aerosols, stationary refrigeration and stationary air conditioning equipment and heat pumps as referred to in Annex IV that contain or whose functioning relies upon fluorinated greenhouse gases with a GWP of 1000 or more shall be prohibited.

This shall not apply to military equipment and to products and equipment that can be placed on the market in the Union in accordance with Annex IV.

By way of derogation from paragraph 1a, the Commission may by means of implementing acts, following a substantiated request by a competent authority of a Member State for cases of an exceptional nature, and taking into account the objectives of this Regulation, authorise the export of the products and equipment referred to paragraph 1a, where it is demonstrated that in view of the economic value and the expected lifetime of the specific good, the prohibition of export would impose a disproportionate burden on the exporter. Such exports shall only be allowed if they are in line with the national legislation in the destination country.

Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

Undertakings established in the Union shall take all necessary measures to ensure the export of refrigeration and air conditioning equipment, and heat pumps, does not violate import restrictions the importing country has notified under the Montreal Protocol.

Article 23
Controls of trade

1. Customs authorities and market surveillance authorities shall enforce the prohibitions and other restrictions set out in this Regulation with regards to imports and exports.
2. For the purpose of release for free circulation, the undertaking holding quota or authorisations to use quota as required under this Regulation and registered in the F-gas Portal pursuant to Article 20 shall be the importer indicated in the customs declaration.

For the purpose of imports, other than release for free circulation, the undertaking registered in the F-gas Portal pursuant to Article 20 shall be the declarant indicated in the customs declaration ***that is the holder of the authorisation for a special procedure other than transit, unless there is a transfer of rights and obligations according to Article 218 of Regulation (EU) 952/2013 allowing another person to be the declarant, and in the case of transit procedure, the holder of the procedure.***

For the purpose of exports, the undertaking registered in the F-gas Portal pursuant to Article 20 shall be the exporter indicated in the customs declaration.

3. In cases of imports of fluorinated greenhouse gases and of products and equipment containing those gases or whose functioning relies upon those gases the importer, or where not available the declarant, indicated in the customs declaration or in the temporary storage declaration, and in cases of exports the exporter indicated in the customs declaration, shall provide to customs authorities in the declaration the following, where relevant:
- (a) the F-gas Portal registration identification number;
 - (b) the Economic Operators Registration and Identification (EORI) number;
 - (c) the net mass of bulk gases and of gases charged in products and equipment;
 - (d) the commodity code under which the goods are classified;
 - (e) the tonnes of CO₂ equivalent of bulk gases and of gases contained in products or equipment, and parts thereof.

4. Customs authorities shall verify, in particular, that in cases of release for free circulation, the importer indicated in the customs declaration has quota or authorisations to use quota as required by this Regulation before releasing the goods for free circulation. Customs authorities shall also ensure that in cases of imports the importer indicated in the customs declaration, or where not available the declarant, and in cases of exports the exporter, indicated in the customs declaration is registered in the F-gas Portal pursuant to Article 20.
5. Where relevant, customs authorities shall communicate information regarding the customs clearance of goods to the F-gas Portal via the European Union Single Window Environment for Customs.
6. Importers of fluorinated greenhouse gases listed in Annex I and *in* Annex II, Section 1, in refillable containers *as referred to in Article 11 (3) (b)* shall make available to customs authorities, at the time the customs declaration related to the release for free circulation is submitted, a declaration of conformity including evidence confirming the arrangements in place for the return of the container for the purpose of refilling.

7. Importers of fluorinated greenhouse gases shall make available to customs authorities, at the time the customs declaration related to the release for free circulation in the Union is submitted, the evidence referred to in Article 4(5).
8. The declaration of conformity and the documentation referred to in Article 19(2) shall be made available to customs authorities at the time the customs declaration related to the release for free circulation in the Union is submitted.
9. Customs authorities shall verify compliance with the rules on imports and exports set out in this Regulation when carrying out the controls based on risk analysis in the context of Customs Risk Management Framework and in accordance with Article 46 of Regulation (EU) No 952/2013. The risk analysis shall take into account, in particular, any available information on the likelihood of illegal trade of fluorinated greenhouse gases, and the compliance history of the undertaking concerned.

10. Based on risk analysis, when carrying out physical customs controls of the gases, products *and equipment* covered under this Regulation, the customs authority shall, in particular, verify the following on imports and exports:
- (a) that the goods presented correspond to those described in the licence and in the customs declaration;
 - (b) that the product or equipment presented does not fall under the restrictions referred to in Article 11(1) and (3);
 - (c) that the goods are appropriately labelled in accordance with Article 12 before releasing the goods for free circulation.

The importer, or where not available the declarant, or exporter shall make their licence available to customs authorities during controls in accordance with Article 15 of Regulation (EU) No 952/2013.

11. Customs authorities or market surveillance authorities shall take all necessary measures to prevent attempts to import or export the substances, products *and equipment* covered under this Regulation that were already not allowed to enter or exit the territory.

12. Customs authorities shall confiscate or seize non-refillable containers *as referred to in Article 11(3) (a)* prohibited by this Regulation for disposal in accordance with Articles 197 and 198 of Regulation (EU) 952/2013 *or shall inform the competent authorities for ensuring the confiscation and seizure of such containers for disposal by destruction*. Market surveillance authorities shall also withdraw or recall from the market such containers in accordance with Article 16 of Regulation (EU) No 2019/1020 of the European Parliament and the Council²⁵.

In other cases, not referred to in the first subparagraph, of unlawful import, further supply, or export carried out in breach of this Regulation, in particular in cases of fluorinated greenhouse gases listed in Annex 1 Section 1 placed on the market in bulk or charged in products and equipment in violation of the quota and authorisation requirements set out in this Regulation, customs authorities or market surveillance authorities may take alternatives measures. Such measures may include auctioning provided that the subsequent placing on the market is in line with this Regulation.

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²⁵ Regulation (EU) 2019/1020 of the European Parliament and of the Council of 20 June 2019 on market surveillance and compliance of products and amending Directive 2004/42/EC and Regulations (EC) No 765/2008 and (EU) No 305/2011 (OJ L 169, 25.6.2019, p. 1).

The *export* of *fluorinated greenhouse* gases *listed in Annex I, Section 1, for which the non-compliance has been established after their release for free circulation*, is prohibited.

13. Member States customs authorities shall designate or approve customs offices or other places and shall specify the route to those offices and places, in accordance with Articles 135 and 267 of Regulation (EU) No 952/2013, for the presentation to customs of the fluorinated greenhouse gases listed in Annex I and of the products and equipment referred to in Article 19 at their entry into or at their exit from the customs territory of the Union. ***Controls*** shall be ***carried out by personnel of the custom office or by other authorised persons in line with national rules***, knowledgeable on matters related to the prevention of illegal activities by this Regulation ***and having access to suitable equipment for carrying out of the relevant physical controls based on risk analysis***.

Only the designated or approved places and customs offices referred to in the first subparagraph shall be authorised to open or end a transit procedure of the gases and products or equipment covered by this Regulation.

Article 24

Measures to monitor illegal trade

1. ***On the basis of regular monitoring of trade in fluorinated greenhouse gases and assessment of the potential risks of illegal trade linked to the movements of fluorinated greenhouse gases, products and equipment containing those gases or whose functioning relies upon those gases, the Commission is empowered to adopt delegated acts in accordance with Article 32 to:***
 - (i) ***supplement Article 29 by specifying the criteria to be taken into account by the competent authorities of Member States when carrying out checks to establish whether undertakings comply with their obligations under the Regulation;***
 - (ii) ***supplement Articles 23 by specifying the requirements to be checked when monitoring fluorinated greenhouse gases, products and equipment containing those gases or whose functioning relies upon those gases, placed under temporary storage or under a customs procedure, including customs warehousing or free zone procedure or in transit through the customs territory of the Union;***
 - (iii) ***to amend Article 22 by adding tracing methodologies for fluorinated greenhouse gases placed on the market for the monitoring of import and export of fluorinated greenhouse gases, products and equipment containing those gases or whose functioning relies upon those gases, placed under temporary storage or under a customs procedure.***

- 1a. The Commission, when adopting a delegated act under paragraph 1, shall take into account the environmental benefits and socio-economic impacts of the methodology to be established under points (i), (ii) and (iii) of paragraph 1.*

Article 25

Trade with states or regional economic integration organisations and territories not covered by the Protocol

1. Import and export of hydrofluorocarbons and of products and equipment containing hydrofluorocarbons or whose functioning relies upon those gases from and to any state or regional economic integration organisation that has not agreed to be bound by the provisions of the Protocol applicable to those gases shall be prohibited as from 1 January from 2028.

2. The Commission is empowered to adopt delegated acts in accordance with Article 32 to supplement this Regulation by establishing the rules applicable to the release for free circulation in the Union and export of products and equipment imported from and exported to any State or regional economic integration organisation subject to paragraph 1, which were produced using hydrofluorocarbons but do not contain gases which can be positively identified as hydrofluorocarbons, as well as rules on the identification of such products and equipment. When adopting those delegating acts the Commission shall take into account the relevant decisions taken by the Parties to the Protocol and, as regards the rules on the identification of such products and equipment, periodical technical advice given to the Parties to the Protocol.
3. By way of derogation from paragraph 1, trade with any state or regional economic integration organisation subject to paragraph 1 in hydrofluorocarbons and equipment containing hydrofluorocarbons or whose functioning relies upon those gases or which are produced by means of one or more such gases may be authorised by the Commission, by means of implementing acts, to the extent that the state or regional economic integration organisation is determined by a meeting of the Parties to the Protocol pursuant to Article 4(8) of the Protocol to be in full compliance with the Protocol and has submitted data to that effect as specified in Article 7 of the Protocol. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

4. Subject to any decision taken under paragraph 2, paragraph 1 shall apply to any territory not covered by the Protocol in the same way as such decisions apply to any state or regional economic integration organisation subject to paragraph 1.
5. Where the authorities of a territory not covered by the Protocol are in full compliance with the Protocol and have submitted data to that effect as specified in Article 7 of the Protocol, the Commission may decide, by means of implementing acts, that some or all of the provisions of paragraph 1 of this Article shall not apply in respect of that territory. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

CHAPTER VI

REPORTING AND COLLECTION OF EMISSION DATA

Article 26

Reporting by undertakings

1. By 31 March ... [OP: Please insert the year *following the year of the entry into force* of this Regulation], and every year thereafter, each producer, importer and exporter that produced, imported or exported hydrofluorocarbons or quantities exceeding one metric tonne or 100 tonnes of CO₂ equivalent of other fluorinated greenhouse gases during the preceding calendar year shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year. This paragraph shall also apply to all undertakings receiving quotas pursuant to Article 21(1).

By 31 March ... [OP: Please insert the year of *entry into force* of this Regulation], and every year thereafter, each importer or producer that has been allocated quota pursuant to Article 17(4), or has received quotas pursuant to Article 21(1) but has not placed any quantities of hydrofluorocarbons on the market during the preceding calendar year, shall report to the Commission by submitting a 'nil-report'.

2. By 31 March ... [OP: Please insert the year of application of this Regulation], and every year thereafter, each undertaking that destroyed hydrofluorocarbons or quantities exceeding one metric tonne or 100 tonnes of CO₂ equivalent of other fluorinated greenhouse gases during the preceding calendar year shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year.
3. By 31 March ... [[OP: Please insert the year *following the year of entry into force* of this Regulation], each undertaking that used 1 000 tonnes of CO₂ equivalent or more of fluorinated greenhouse gases listed in Annex I as feedstock during the preceding calendar year shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year.
4. By 31 March ... [OP: Please insert the year of application of this Regulation], each undertaking that placed **10** tonnes of CO₂ equivalent or more of hydrofluorocarbons, or **100** tonnes of CO₂ equivalent or more of other fluorinated greenhouse gases, contained in products or equipment on the market during the preceding calendar year shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year.

5. By 31 March ... [OP: Please insert the year *following the year of the entry into force* of this Regulation], and every year thereafter, each undertaking that received any quantities of hydrofluorocarbons referred to in Article 16(2) shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year.

By 31 March ... [OP: Please insert the year *following the year of the entry into force* of this Regulation], and every year thereafter, each producer or importer that placed on the market hydrofluorocarbons for the purpose of producing metered dose inhalers for the delivery of pharmaceutical ingredients shall report to the Commission the data specified in Annex IX. The manufactures of such metered dose inhalers shall report to the Commission the data specified in Annex IX on the hydrofluorocarbons received.

6. By 31 March ... [OP: Please insert the year of application of this Regulation], and every year thereafter, each undertaking that reclaimed quantities exceeding 1 metric tonne or 100 tonnes of CO₂ equivalent of fluorinated greenhouse gases shall report to the Commission the data specified in Annex IX on each of those substances for that calendar year.

7. By 30 April ... [OP: Please insert the year *following the year of the entry into force* of this Regulation], each importer of equipment that placed on the market pre-charged equipment as referred to in Article 19 containing at least 1 000 tonnes of CO₂ equivalent hydrofluorocarbons, and where those hydrofluorocarbons have not been placed on the market prior to the charging of the equipment, shall submit to the Commission a verification report issued pursuant to Article 19(3).

8. By 30 April ... [OP: Please insert the year of application of this Regulation], and every year thereafter, each undertaking which under paragraph 1 reports on the placing on the market of 1 000 tonnes of CO₂ equivalent or more of hydrofluorocarbons during the preceding calendar year shall, in addition, ensure that the veracity of its report is confirmed, at a reasonable level of assurance, by an independent auditor. The auditor shall be registered in the F-gas Portal and shall be either:
 - (a) accredited pursuant to Directive 2003/87/EC; or
 - (b) accredited to verify financial statements in accordance with the legislation of the Member State concerned.

Transactions referred to in Article 16(2), point (c), of shall be verified regardless of the quantities involved.

The Commission may request an undertaking to ensure that the veracity of its report is confirmed at a reasonable level of assurance, by an independent auditor, regardless of the quantities involved, where needed to confirm its compliance with the rules under this Regulation.

The Commission may, by means of implementing acts, specify the details of the verification of reports and of the accreditation of verifiers. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

9. All reporting and verification referred to in this Article shall be carried out via the F-gas Portal.

The Commission may, by means of implementing acts, determine the format of submitting the reports referred to in this Article. Those implementing acts shall be adopted in accordance with the examination procedure referred to in Article 34(2).

Article 27

Collection of emissions data

Member States shall establish reporting systems for the relevant sectors referred to in this Regulation, with the objective of acquiring emissions data.

Member States shall, where appropriate, enable the recording of the information collected in accordance with Article 7 via a centralised electronic system.

The Commission may provide guidance for the design of the centralised electronic system by Member States.

CHAPTER VII

ENFORCEMENT

Article 28

Cooperation and exchange of information

1. ***When required to ensure compliance with this Regulation, the*** competent authorities of Member States, including customs authorities, market surveillance authorities, environmental authorities and other authorities with inspection functions, shall cooperate with each other, with the competent authorities of other Member States, with the Commission, and if necessary, with administrative authorities of third countries **■** .

When cooperation with customs authorities is needed to ensure a proper implementation of the customs risk management framework, competent authorities shall provide all necessary information to customs in accordance with Article 47(2) of Regulation (EU) 952/2013.

2. When customs authorities, market surveillance authorities or any other competent authority of a Member State have detected an infringement of this Regulation, that competent authority shall notify the environmental authority or if not relevant any other authority responsible for the enforcement of penalties in accordance with Article 31.
3. Member States shall ensure that their competent authorities are able to efficiently have access to and exchange between them any information necessary for the enforcement of this Regulation. Such information shall include customs related data, information on ownership and financial status, any environmental violations, as well as data recorded in the F-gas Portal.

That information shall also be made available to competent authorities of other Member States and to the Commission when needed to ensure the enforcement of this Regulation. Competent authorities shall immediately inform the Commission of infringements of Article 16(1).

4. Competent authorities shall alert competent authorities of other Member States when they detect infringement of this Regulation that may affect more than one Member State. Competent authorities shall, in particular, inform competent authorities of other Member States when they detect a relevant product on the market that is not compliant with this Regulation, to enable that it is seized, confiscated, withdrawn or recalled from the market for disposal.

The Customs Risk Management System shall be used for the exchange of customs risk-related information.

Customs authorities shall also exchange any relevant information related to infringement of the provisions of this Regulation in accordance with *Council* Regulation (EC) No 515/97 ²⁶ and shall request assistance from the other Member States and the Commission where relevant.

²⁶ *Council* Regulation (EC) No 515/97 of 13 March 1997 on mutual assistance between the administrative authorities of the Member States and cooperation between the latter and the Commission to ensure the correct application of the law on customs and agricultural matters (OJ L 82, 22.3.1997, p. 1).

Article 29

Obligation to carry out checks

1. The competent authorities of Member States shall carry out checks to establish whether undertakings comply with their obligations under this Regulation.
2. The checks shall be carried out following a risk-based approach, which takes into consideration in particular, the history of compliance of undertakings, the risk of non-compliance of a specific product with this Regulation, and any other relevant information received from the Commission, national customs authorities, market surveillance authorities and environmental authorities or from competent authorities of third countries.

Competent authorities shall also conduct checks when they are in possession of evidence or other relevant information, including based on substantiated concerns provided by third parties, *or the Commission*, concerning potential non-compliance with this Regulation.

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3. Checks referred to in paragraphs 1 and 2, shall include on-site visits of establishments with the appropriate frequency and verification of relevant documentation and equipment.
- 3a. *Checks referred to in paragraphs 1 and 2, shall also include checks of online platforms pursuant to this paragraph. Without prejudice to Regulation (EU) 2022/2065, in case an online platform, falling within the scope of Section 4 of Chapter 3 of that Regulation, that allows consumers to conclude distance contracts with undertakings offering fluorinated gases or products and equipment that contain such gases, competent authorities shall verify whether the undertaking, the fluorinated gases, the products or the equipment offered comply with the requirements laid down in this Regulation. Competent authorities shall inform and cooperate with the Commission and with the relevant competent authorities referred to in Article 49 of Regulation (EU) 2022/2065 for the purpose of ensuring compliance with that Regulation.***

Checks shall be carried out without prior warning of the undertaking, except where prior notification is necessary in order to ensure the effectiveness of the checks. Member States shall ensure that undertakings afford the competent authorities all necessary assistance to enable those authorities to carry out the checks provided for by this Article.

4. The competent authorities shall keep records of the checks indicating in particular their nature and results, as well as on the measures taken in case of non-compliance. Records of all checks shall be kept for at least five years.
5. At the request of another Member State, a Member State may conduct checks on undertakings suspected of being engaged in the illegal movement of the gases and products and equipment covered by this Regulation and which are operating on the territory of that Member State. The requesting Member State shall be informed about the result of the check.
6. In carrying out the tasks assigned to it by this Regulation, the Commission may request all necessary information from the competent authorities of the Member States and from undertakings. When requesting information from an undertaking the Commission shall at the same time forward a copy of the request to the competent authority of the Member State within the territory of which the undertaking's seat is situated.
7. The Commission shall take appropriate steps to promote an adequate exchange of information and cooperation between competent authorities of the Member States and between competent authorities of the Member States and the Commission. The Commission shall take appropriate steps to protect the confidentiality of information obtained under this Article.

Article 30

Reporting of breaches and protection of reporting persons

Directive (EU) 2019/1937 shall apply to the reporting of breaches of this Regulation and the protection of persons reporting such breaches.

CHAPTER VIII

PENALTIES, CONSULTATION FORUM, COMMITTEE PROCEDURE, AND EXERCISE OF DELEGATION

Article 31

Penalties

1. ***Without prejudice to the obligations of Member States under Directive 2008/99/EC of the European Parliament and of the Council,*** Member States shall lay down **■** rules on penalties applicable to infringements of this Regulation and shall take all measures necessary to ensure that they are implemented. **■** Member States shall, by 1 January ... [OP please insert the year = **2 years** following the date of entry into force of this Regulation] notify the Commission of those rules and of those measures and shall notify it, without delay, of any subsequent amendment affecting them.

2. *The penalties provided for in paragraph 1 shall be effective, proportionate and dissuasive, and shall give due regard to the following, as applicable:*
 - (a) *the nature and gravity of the infringement;*
 - (b) *the human population or the environment affected by the infringement, taking into account the need to ensure a high level of protection of human health and the environment;*
 - (c) *any previous infringements of this Regulation by the undertaking held responsible;*
 - (d) *the financial situation of the undertaking held responsible.*

3. *The penalties shall include:*
 - (a) *administrative financial penalties proportionate to the environmental damage, where applicable, and that effectively deprive those responsible of the economic benefits derived from their infringements, and gradually increasing the level of such fines for repeated infringements.*

In cases of unlawful production, import, export, placing on the market, or use of fluorinated greenhouse gases or of products and equipment containing those gases or whose functioning relies on those gases, the maximum amount of administrative financial penalty shall be at least five times the market value of the concerned gases or products and equipment concerned. In case of a repeated infringement within a five-year period the maximum amount of fines shall be at least eight times the value of the gases or products and equipment concerned.

Member States may also, or alternatively, use criminal penalties provided that they are equivalently effective, proportionate and dissuasive to the administrative financial penalties referred to in this subparagraph;

- (b) *confiscation or seizure, or withdrawal or removal from the market, or taking possession by the competent authorities of illegally obtained goods;*
 - (c) *temporary prohibition from using, producing, importing, exporting, placing on the market, of the fluorinated greenhouse gases concerned or of products and equipment concerned containing fluorinated greenhouse gases or whose functioning relies on them, in the event of a serious infringement or of repeated infringements* █
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4. *In addition to the penalties referred to in paragraph 1, undertakings that have exceeded their quota for placing hydrofluorocarbons on the market, allocated in accordance with Article 17(4) or transferred to them in accordance with Article 21(1), may only be allocated a reduced quota allocation for the allocation period after the excess has been detected.*

The amount of reduction shall be calculated as 200 % of the amount by which the quota was exceeded. If the amount of the reduction is higher than the amount to be allocated in accordance with Article 17(4) as a quota for the allocation period after the excess has been detected, no quota shall be allocated for that allocation period and the quota for the following allocation periods shall be reduced likewise until the full amount has been deducted. The reduction(s) shall be recorded in the F-gas Portal.

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Article 32

Exercise of the delegation

1. The power to adopt delegated acts is conferred on the Commission subject to the conditions laid down in this Article.
2. The power to adopt delegated acts referred to in Article 8(8), Article 12(17), Article **16(2a)(3)**, **Article** 17(6), Article **24(1)**, Article 25(2), **Article 35(1)** and Article **35(3)** shall be conferred on the Commission for an indeterminate period of time [from the date of application of the Regulation].
3. The delegation of power referred to in Article 8(8), Article 12(17), Article **16(2a)(3)**, Article 17(6), Article **24(1)**, Article 25(2), **Article 35(1)** and Article **35(3)** may be revoked at any time by the European Parliament or by the Council. A decision to revoke shall put an end to the delegation of the power specified in that decision. It shall take effect the day following the publication of the decision in the *Official Journal of the European Union* or at a later date specified therein. It shall not affect the validity of any delegated acts already in force.

4. Before adopting a delegated act, the Commission shall consult experts designated by each Member State in accordance with the principles laid down in the Inter-institutional Agreement of 13 April 2016 on Better Law-Making.
5. As soon as it adopts a delegated act, the Commission shall notify it simultaneously to the European Parliament and to the Council.
6. A delegated act adopted pursuant to in Article 8(8), Article 12(17), Article **16(2a)(3)**, Article 17(6), Article **24(1)**, Article 25(2), **Article 35(1)** and Article **35(3)** shall enter into force only if no objection has been expressed either by the European Parliament or the Council within a period of two months of notification of that act to the European Parliament and the Council or if, before the expiry of that period, the European Parliament and the Council have both informed the Commission that they will not object. That period shall be extended by two months at the initiative of the European Parliament or of the Council.

Article 33
Consultation Forum

The Commission shall establish a Consultation Forum for providing advice and expertise in relation to the implementation of this Regulation. The rules of procedure of the Consultation Forum shall be established by the Commission and shall be published. *The consultation forum shall, where relevant, involve the European Medical Agency.*

Article 34
Committee procedure

1. The Commission shall be assisted by a committee on fluorinated greenhouse gases. That committee shall be a committee within the meaning of Regulation (EU) No 182/2011.
2. Where reference is made to this paragraph, Article 5 of Regulation (EU) No 182/2011 shall apply.

CHAPTER IX

TRANSITIONAL AND FINAL PROVISIONS

Article 35

Review

1. The Commission is empowered to adopt delegated acts in accordance with Article 32 to amend Annexes I, II, III and VI as regards the global warming potential of the listed gases, where it is necessary in the light of new Assessment Reports adopted by the Intergovernmental Panel on Climate Change or new reports of the Scientific Assessment Panel (SAP) of the Montreal Protocol.
2. *The Commission is empowered to adopt delegated acts in accordance with Article 32 to amend the lists of gases in Annexes I, II and III, where it has been found by the Assessment Panels established under the Montreal Protocol or by another authority of equivalent stature that these gases have a significant impact on climate and where these gases are exported, imported, produced or placed on the market in significant quantities.*

3. *No later than 1 July 2027, the Commission shall 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 mobile refrigeration, mobile air conditioning equipment and where appropriate, put forward a legislative proposal to the European Parliament and to the Council to amend the list set out in Annex IV.*
- 3a. *No later than 1 July 2028, the Commission shall publish a report assessing the impact of this Regulation on the health sector, particularly the availability of MDIs for the delivery of pharmaceutical ingredients, as well as the impact on the market of cooling equipment used in conjunction with batteries.*

4. *No later than 1 January 2030* the Commission shall publish a report on the *effects* of this Regulation.

The report shall include an evaluation of the following:

- a) *whether cost-effective, technically feasible, energy-efficient, sufficiently available and reliable alternatives exist, which make the replacement of fluorinated greenhouse gases possible in the equipment of Annex IV covered by prohibitions that have not yet become applicable at the time of the evaluation, especially equipment subject to full fluorinated greenhouse gas prohibitions including ‘split’ air conditioners and heat pumps;*
- b) *international developments relevant for the shipping sector and the potential expansion of the scope of containment requirements to fluorinated gases contained in refrigeration and air conditioning equipment of ships;*
- c) *the potential expansion of the scope of the export ban referred to in Article 22(5), taking into account, inter alia, the potential increased global availability of products and equipment containing low GWP fluorinated greenhouse gases or natural alternatives and developments under the Montreal Protocol;*

- d) *the potential inclusion in the quota requirement laid down in Article 16(1), of the hydrofluorocarbons for purposes listed in Article 16(2), particularly hydrofluorocarbons supplied directly by a producer or an importer to an undertaking using it for etching of semiconductor material or the cleaning of chemicals vapour deposition chambers within the semiconductor manufacturing sector;*
- e) *the risk of excessive reduction of competition in the market due to the prohibitions and related exceptions in Article 13(5) and of the provisions of Article 13(5) relating to high voltage switchgear of more than 145 kV or more than 50 kA short circuit current.*

The Commission shall submit, if appropriate, a legislative proposal, which may include amending Annex IV, to the European Parliament and Council.

- 5. *By 1 January 2040, the Commission shall review the needs for hydrofluorocarbons in the sectors where they are still used and the phase-out of HFC quotas set out in Annex VII for the year 2050, in particular, taking into account technological developments, the availability of alternatives to hydrofluorocarbons for the relevant applications and the Union's climate targets. Where appropriate, the review shall be accompanied by a legislative proposal to the European Parliament and Council.*
- 6. *The European Scientific Advisory Board on Climate Change established under Article 10a of Regulation (EC) No 401/2009 may, on its own initiative, provide scientific advice and issue reports on the coherence of this Regulation with the objectives of Regulation (EC) No 2021/1119 and the Union's international commitments under the Paris Agreement.*

Article 36

Repeal *and transitional provisions*

1. Regulation (EU) No 517/2014 is repealed.
2. *Article 12 of Regulation (EU) 517/2014 as applicable on [OP: please insert the date = the day before the date of entry into force of this Regulation] shall continue to apply until [OP: please insert the date = the last day of the year of entry into force of this Regulation].*
3. *Article 19 of Regulation (EU) 5017/2014 as applicable on [OP: please insert the date = the day before the date of entry into force of this Regulation] shall continue to apply with regard to the reporting period from [OP: please insert the date = the first day of the year prior to the year of entry into force of this Regulation] to [OP: please insert the date = the last day of the year prior to the year of entry into force of this Regulation].*
4. *Quota allocated in accordance with Article 16(5) of Regulation (EU) 5017/2014 remain valid for the purpose of complying with this Regulation.*
5. References to Regulation (EU) No 517/2014 shall be construed as references to this Regulation and shall be read in accordance with the correlation table in Annex X.

Article 37

Amendment to Directive (EU) No 2019/1937

In Part I, Section E, point 2, of the Annex to Directive (EU) No 2019/1937, the following point is added:

‘Regulation (EU) No ... [OP: please insert the number of this Regulation] of the European Parliament and of the Council on fluorinated greenhouse gases, amending Directive (EU) 2019/1937 and repealing Regulation (EU) No 517/2014 [OP: please insert the OJ reference to this Regulation]’.

Article 38

Entry into force and application

This Regulation shall enter into force on the twentieth day following that of its publication in the *Official Journal of the European Union*.

Articles 12 and 17(5) shall apply from 1 January ... [OP: Please insert ***the date*** = the year following the year of entry into force of this Regulation].

Articles 20(2), 20(3) and 23(5) shall apply from:

- (a) **3 March 2025** for release for free circulation referred to in Article 201 of Regulation (EU) 952/2013 ***and all other import procedures and for export;***

Article 17(5) shall apply from ... [OP: Please insert the year following the year of the application of this Regulation].

This Regulation shall be binding in its entirety and directly applicable in all Member States.

Done at Strasbourg,

For the European Parliament

The President

For the Council

The President

ANNEX I

Fluorinated greenhouse gases referred to in Article 2(1)¹ – *hydrofluorocarbons, perfluorocarbons and other fluorinated compounds*

Substance			GWP ⁽²⁾	20 years-GWP ⁽³⁾ for information purposes only
Industrial designation	Chemical name (Common name)	Chemical formula		
<i>Section 1: Hydrofluorocarbons (HFCs)</i>				
HFC-23	trifluoromethane (fluoroform)	CHF ₃	14 800	12 400
HFC-32	difluoromethane	CH ₂ F ₂	675	2 690
HFC-41	Fluoromethane (methyl fluoride)	CH ₃ F	92	485
HFC-125	pentafluoroethane	CHF ₂ CF ₃	3 500	6 740
HFC-134	1,1,2,2-tetrafluoroethane	CHF ₂ CHF ₂	1 100	3 900
HFC-134a	1,1,1,2-tetrafluoroethane	CH ₂ FCF ₃	1 430	4 140
HFC-143	1,1,2-trifluoroethane	CH ₂ FCHF ₂	353	1 300
HFC-143a	1,1,1 –trifluoroethane	CH ₃ CF ₃	4 470	7 840
HFC-152	1,2-difluoroethane	CH ₂ FCH ₂ F	53	77,6
HFC-152a	1,1 –difluoroethane	CH ₃ CHF ₂	124	591
HFC-161	Fluoroethane (ethyl fluoride)	CH ₃ CH ₂ F	12	17,4

¹ *Mixtures containing the substances listed in this Annex are considered as fluorinated greenhouse gases covered by the rules of this Regulation (Article 2(1)).*

² Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

³ Based on the Sixth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

HFC-227ea	1,1,1,2,3,3,3-heptafluoropropane	CF ₃ CHF ₂ CF ₃	3 220	5 850
HFC-236cb	1,1,1,2,2,3-hexafluoropropane	CH ₂ FCF ₂ CF ₃	1 340	3 750
HFC-236ea	1,1,1,2,3,3-hexafluoropropane	CHF ₂ CHF ₂ CF ₃	1 370	4 420
HFC-236fa	1,1,1,3,3,3-hexafluoropropane	CF ₃ CH ₂ CF ₃	9 810	7 450
HFC-245ca	1,1,2,2,3-pentafluoropropane	CH ₂ FCF ₂ CHF ₂	693	2 680
HFC-245fa	1,1,1,3,3-pentafluoropropane	CHF ₂ CH ₂ CF ₃	1 030	3 170
HFC-365mfc	1,1,1,3,3-pentafluorobutane	CF ₃ CH ₂ CF ₂ CH ₃	794	2 920
HFC-43-10mee	1,1,1,2,2,3,4,5,5,5 decafluoropentane	CF ₃ CHF ₂ CHF ₂ CF ₂ CF ₃	1 640	3 960

Substance			GWP 100 (Error! Bookmark not defined.)	GWP 20 (Error! Bookmark not defined.)
Industrial designation	Chemical name (Common name)	Chemical formula		
<i>Section 2: Perfluorocarbons (PFCs)</i>				
PFC-14	tetrafluoromethane (perfluoromethane, carbon tetrafluoride)	CF ₄	7 380	5 300
PFC-116	Hexafluoroethane (perfluoroethane)	C ₂ F ₆	12 400	8 940
PFC-218	octafluoropropane (perfluoropropane)	C ₃ F ₈	9 290	6 770
PFC-3-1-10 (R-31-10)	decafluorobutane (perfluorobutane)	C ₄ F ₁₀	10 000	7 300
PFC-4-1-12 (R-41-12)	dodecafluoropentane (perfluoropentane)	C ₅ F ₁₂	9 220	6 680
PFC-5-1-14 (R-51-14)	tetradecafluorohexane (perfluorohexane)	CF ₃ CF ₂ CF ₂ CF ₂ CF ₂ CF ₃	8 620	6 260

PFC-c-318	octafluorocyclobutane (perfluoro cyclobutane)	C-C ₄ F ₈	10 200	7 400
PFC-9-1-18 (R-91-18)	Perfluorodecalin	C ₁₀ F ₁₈	7 480	5 480
PFC-4-1-14 (R-41-14)	perfluoro-2-methylpentane	CF ₃ CF ₂ CF ₃ CF ₂ CF ₂ CF ₃ (I-C ₆ F ₁₄)	7 370 ⁽⁴⁾	(*)
<i>Section 3: Other (per)fluorinated compounds and fluorinated nitriles</i>				
	sulphur hexafluoride	SF ₆	25 300	18 300
	<i>Heptafluoroisobutyronitrile (2,3,3,3-tetrafluoro-2- (trifluoromethyl)- propanenitrile)</i>	<i>Iso-C₃F₇CN</i>	2 750	4 580

⁴ Droste et al. (2019). Trends and Emissions of Six Perfluorocarbons in the Northern and Southern Hemisphere. Atmospheric Chemistry and Physics.
<https://acp.copernicus.org/preprints/acp-2019-873/acp-2019-873.pdf>

* Global warming potential not yet available.

ANNEX II

Other fluorinated greenhouse gases referred to in Article 2(1)⁽⁵⁾ – *unsaturated hydro(chloro)fluorocarbons, fluorinated substances used as inhalation anaesthetics and other fluorinated substances*

Substance		GWP ⁽⁶⁾	20 years-GWP ^(Error! Bookmark not defined.) for information
Common name/industrial designation	Chemical formula		
<i>Section 1: Unsaturated hydro(chloro)fluorocarbons</i>			
<i>HCFC-1224yd</i>	CF ₃ CF=CHCl	0,06 ⁽⁷⁾	(*)
Cis/Trans-1,2-difluoroethylene (HFC-1132)	CHF=CF ₂	0,005	0,017
1,1-difluoroethylene (HFC-1132a)	CH ₂ =CF ₂	0,052	0,189
1,1,1,2,3,4,5,5,5(or1,1,1,3,4,4,5,5,5)-nonafluoro-4(or2)-(trifluoromethyl)pent-2-ene	CF ₃ CF=CFCFCF ₃ CF ₃ or CF ₃ CF ₃ C=CFCF ₂ CF ₃	1 ^{Fn (8)}	(Error! Bookmark not defined.)
HFC-1234yf	CF ₃ CF = CH ₂	0,501	1,81
HFC-1234ze	trans — CHF = CHCF ₃	1,37	4,94
HFC-1336mzz(<i>E</i>)	(<i>E</i>)-CF ₃ CH = CHCF ₃	17,9	64,3
<i>HFC-1336mzz(Z)</i>	(<i>Z</i>)-CF₃CH = CHCF₃	2,08	7,48

⁵ ***Mixtures containing the substances listed in this Annex are considered as fluorinated greenhouse gases covered by the rules of this Regulation (Article 2(1)).***

⁶ Based on the Sixth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

⁷ Tokuhashi, K., T. Uchimaru, K. Takizawa, & S. Kondo (2018): Rate Constants for the Reactions of OH Radical with the (E)/(Z) Isomers of CF₃CF=CHCl and CHF₂CF=CHCl. The Journal of Physical Chemistry A 122:3120–3127.

* Global warming potential not yet available.

⁸ Default value, global warming potential not yet available.

HCFC-1233zd	$\text{CF}_3\text{CH} = \text{CHCl}$	3,88	14
HCFC-1233xf	$\text{CF}_3\text{CCl} = \text{CH}_2$	1 Fn (Error! Bookmark not defined)	(Error! Bookmark not defined)
<i>Section 2: fluorinated substances used as inhalation anaesthetics</i>			
HFE-347mmz1 (sevoflurane) and isomers	$(\text{CF}_3)_2\text{CHOCH}_2\text{F}$	195	702
HCFE-235ca2 (enflurane) and isomers	$\text{CHF}_2\text{OCF}_2\text{CHFCl}$	654	2 320
HCFE-235da2 (isoflurane) and isomers	$\text{CHF}_2\text{OCHClCF}_3$	539	1 930
HFE-236ea2 (desflurane) and isomers	$\text{CHF}_2\text{OCHFCF}_3$	2 590	7 020
<i>Section 3: other fluorinated substances</i>			
nitrogen trifluoride	NF_3	17 400	13 400
sulfuryl fluoride	SO_2F_2	4 630	7 510

ANNEX III

Fluorinated greenhouse gases referred to in Article 2(1)⁹ – *fluorinated ethers, ketones and alcohols and other fluorinated compounds*

Substance		GWP ⁽¹⁰⁾	20 years–GWP ⁽²⁾ for information purposes only
Common name/industrial designation	Chemical formula		
<i>Section 1: Fluorinated ethers, ketones and alcohols</i>			
HFE-125	CHF ₂ OCF ₃	14 300	13 500
HFE-134 (HG-00)	CHF ₂ OCHF ₂	6 630	12 700
HFE-143a	CH ₃ OCF ₃	2 170	616
HFE-245cb2	CH ₃ OCF ₂ CF ₃	747	2 630
HFE-245fa2	CHF ₂ OCH ₂ CF ₃	3 060	878
HFE-254cb2	CH ₃ OCF ₂ CHF ₂	328	1 180
HFE-347 mcc3 (HFE-7000)	CH ₃ OCF ₂ CF ₂ CF ₃	576	2 020
HFE-347pcf2	CHF ₂ CF ₂ OCH ₂ CF ₃	980	3 370
HFE-356pcc3	CH ₃ OCF ₂ CF ₂ CHF ₂	277	995
HFE-449s1 (HFE-7100)	C ₄ F ₉ OCH ₃	460	1 620
HFE-569sf2 (HFE-7200)	C ₄ F ₉ OC ₂ H ₅	60,7	219
HFE-7300	(CF ₃) ₂ CFCFOC ₂ H ₅ CF ₂ CF ₂ CF ₃	405	1 420

⁹ *Mixtures containing the substances listed in this Annex are considered as fluorinated greenhouse gases covered by the rules of this Regulation (Article 2(1)).*

¹⁰ Based on the Sixth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

n-HFE-7100	$\text{CF}_3\text{CF}_2\text{CF}_2\text{CF}_2\text{OCH}_3$	544	1 920
i-HFE-7100	$(\text{CF}_3)_2\text{CFCH}_2\text{OCH}_3$	437	1 540
i-HFE-7200	$(\text{CF}_3)_2\text{CFCH}_2\text{OCH}_2\text{CH}_3$	34,3	124
HFE-43-10pcccl24 (H-Galden 1040x) HG-11	$\text{CHF}_2\text{OCF}_2\text{OC}_2\text{F}_4\text{OCHF}_2$	3 220	8 720
HFE-236cal2 (HG-10)	$\text{CHF}_2\text{OCF}_2\text{OCHF}_2$	6 060	11 700
HFE-338pcccl3 (HG-01)	$\text{CHF}_2\text{OCF}_2\text{CF}_2\text{OCHF}_2$	3 320	9 180
HFE-347mmyl	$(\text{CF}_3)_2\text{CFOCH}_3$	392	1 400
2,2,3,3,3-pentafluoropropan-1-ol	$\text{CF}_3\text{CF}_2\text{CH}_2\text{OH}$	34,3	123
1,1,1,3,3,3-Hexafluoropropan-2-ol	$(\text{CF}_3)_2\text{CHOH}$	206	742
HFE-227ea	$\text{CF}_3\text{CHFOCF}_3$	7 520	9 800
HFE-236fa	$\text{CF}_3\text{CH}_2\text{OCF}_3$	1 100	3 670
HFE-245fal	$\text{CHF}_2\text{CH}_2\text{OCF}_3$	934	3 170
HFE 263fb2	$\text{CF}_3\text{CH}_2\text{OCH}_3$	2,06	7,43
HFE-329 mcc2	$\text{CHF}_2\text{CF}_2\text{OCF}_2\text{CF}_3$	3 770	7 550
HFE-338 mcf2	$\text{CF}_3\text{CH}_2\text{OCF}_2\text{CF}_3$	1 040	3 460
HFE-338mmzl	$(\text{CF}_3)_2\text{CHOCHF}_2$	3 040	6 500
HFE-347 mcf2	$\text{CHF}_2\text{CH}_2\text{OCF}_2\text{CF}_3$	963	3 270
HFE-356 mec3	$\text{CH}_3\text{OCF}_2\text{CHFCF}_3$	264	949
HFE-356mm1	$(\text{CF}_3)_2\text{CHOCH}_3$	8,13	29,3
HFE-356pcf2	$\text{CHF}_2\text{CH}_2\text{OCF}_2\text{CHF}_2$	831	2 870

HFE-356pcf3	CHF ₂ OCH ₂ CF ₂ CHF ₂	484	1 730
HFE 365 mcf3	CF ₃ CF ₂ CH ₂ OCH ₃	1,6	5,77
HFE-374pc2	CHF ₂ CF ₂ OCH ₂ CH ₃	12,5	45
2,2,3,3,4,4,5,5- octafluorocyclopentan-1-ol	(CF ₂) ₄ CH (OH)-	13,6	49,1
1,1,1,3,4,4,4-Heptafluoro-3-(trifluoromethyl)butan-2-one	CF ₃ C(O)CF(CF ₃) ₂	0,29 ⁽¹¹⁾	(*)
perfluoropolymethylisopropyl-ether (PFPMIE)	CF₃OCF(CF₃)CF₂OCF₂OCF₃	10 300	7 750
Perfluoro(2-methyl-3-pentanone)	CF₃CF₂C(O)CF(CF₃)₂*	0.114	0.441
<i>Section 2: Other fluorinated compounds</i>			
trifluoromethylsulphurpentafluoride	SF ₅ CF ₃	18 500	13 900
Perfluorocyclopropane	c-C ₃ F ₆	9 200 ⁽¹²⁾	6 850(Error! Bookmark not defined.)
Heptafluoroisobutyronitrile (2,3,3,3-tetrafluoro-2-(trifluoromethyl)-propanenitrile)	Iso-C ₃ F ₇ CN	2 750	4 580
perfluorotributylamine (PFTBA, FC43)	C ₁₂ F ₂₇ N	8 490	6 340

¹¹ Ren et al. (2019). Atmospheric Fate and Impact of Perfluorinated Butanone and Pentanone. *Environ. Sci. Technol.* 2019, 53, 15, 8862–8871

¹² WMO et al. (2018). Scientific Assessment of Ozone Depletion.

perfluoro-N-methylmorpholine	C ₅ F ₁₁ NO	8 380 ^{*(13)}	(*)
Perfluorotripropylamine	C ₉ F ₂₁ N	9 030	6 750

¹³ REACH registration dossier. <https://echa.europa.eu/registration-dossier/-/registered-dossier/10075/5/1>

* Not yet available.

ANNEX IV

Placing on the market prohibitions referred to in Article 11(1)

<i>Products and equipment</i>		Date of prohibition
(1) Non-refillable containers for fluorinated greenhouse gases listed in Annex I, empty, partially or fully filled, used to service, maintain or fill refrigeration, air-conditioning or heat-pump equipment, fire protection systems or switchgear, or for use as solvents.		4 July 2007
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STATIONARY REFRIGERATION		
(2) Domestic refrigerators and freezers:	- that contain HFCs with GWP of 150 or more	1 January 2015
	- <i>that contain fluorinated greenhouse gases, except when required to meet safety requirements</i>	<i>1 January 2026</i>
(3) Refrigerators and freezers for commercial use (self-contained equipment):	- that contain HFCs with GWP of 2 500 or more;	1 January 2020
	- that contain HFCs with GWP of 150 or more;	1 January 2022
	- that contain other fluorinated greenhouse gases with <i>a</i> GWP of 150 or more.	1 January <i>2025</i>
(4) Any self-contained refrigeration equipment, <i>except chillers</i> , that contains fluorinated greenhouse gases with <i>a</i> GWP of 150 or more, <i>except when required to meet safety requirements.</i>		1 January 2025
(5) <i>Refrigeration</i> equipment, <i>except chillers and equipment covered in 12 and 14</i> , that contains, or whose functioning relies upon:	- HFCs with GWP of 2 500 or more except equipment intended for application designed to cool products to temperatures below – 50 °C;	1 January 2020
	- <i>fluorinated greenhouse gases with a GWP of 2500 or more, except equipment intended for application designed to cool products to temperatures below – 50 °C;</i>	<i>1 January 2025</i>
	- <i>fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements.</i>	<i>1 January 2030</i>
(6) Multipack centralized refrigeration systems for commercial use with a rated capacity of 40 kW or more that contain, or whose functioning relies upon, fluorinated greenhouse gases listed in Annex I 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 1 500 may be used.		1 January 2022

CHILLERS

<p>(7) <i>Chillers that contain, or whose functioning relies upon:</i></p>	<p><i>- fluorinated greenhouse gases with a GWP of 150 GWP or more for chillers up to and including a rated capacity of 12kW, except when required to meet safety requirements;</i></p>	<p><i>1 January 2027</i></p>
	<p><i>- fluorinated greenhouse gases for chillers up to and including a rated capacity of 12kW, except when required to meet safety requirements;</i></p>	<p><i>1 January 2032</i></p>
	<p><i>- fluorinated greenhouse gases with a GWP of 750 for chillers above 12kW, except when required to meet safety requirements.</i></p>	<p><i>1 January 2027</i></p>

STATIONARY AIR CONDITIONING AND HEATPUMPS

<p>(8) <i>Self-contained air conditioning and heat pump equipment, except chillers, that:</i></p>	<ul style="list-style-type: none"> - Plug-in room air-conditioning equipment which is movable between rooms by the end user that contain HFCs with GWP of 150 or more; 	<p>1 January 2020</p>
	<ul style="list-style-type: none"> - Plug-in room, <i>monoblock</i> air-conditioning and <i>other self-contained</i> heat pump equipment, , <i>with a maximum rated capacity of up to including 12 kW</i> that contain fluorinated greenhouse gases with a GWP of 150 or more, <i>except when required to meet safety requirements. When safety requirements at the site of installation would not allow using alternatives to fluorinated greenhouse gases with GWP of</i> - <i>150 or less, the GWP limit is 750;</i> 	<p>1 January 2027</p>
	<ul style="list-style-type: none"> - <i>Plug-in room, monoblock air-conditioning and other self-contained heat pump equipment, , with a maximum rated capacity of up to including 12 kW that contain fluorinated greenhouse gases, except when required to meet safety requirements. When safety requirements at the site of installation would not allow using alternatives to fluorinated greenhouse gases, the GWP limit is 750</i> 	<p>1 January 2032</p>

	<p>- <i>Monoblock and other self-contained air-conditioning and heat pump equipment, with a maximum rated capacity of larger than 12kW but not exceeding 50 kW that contain fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements. When safety requirements at the site of installation would not allow using alternatives to fluorinated greenhouse gases with GWP of 150 or less, the GWP limit is 750;</i></p>	<p><i>1 January 2027</i></p>
	<p>- <i>Other self-contained air-conditioning and heat pump equipment that contain fluorinated greenhouse gases with GWP of 150 or more, except when required to meet safety requirements. When safety requirements would not allow using fluorinated greenhouse gases with GWP of 150 or less, the GWP limit is 750.</i></p>	<p><i>1 January 2030</i></p>

<p>(9) <i>Split</i> air-conditioning and heat pump equipment:¹⁴</p>	<ul style="list-style-type: none"> - Single split systems, containing less than 3 kg of fluorinated greenhouse gases listed in Annex I, that contain, or whose functioning relies upon, fluorinated greenhouse gases listed in Annex I with GWP of 750 or more; 	<p>1 January 2025</p>
	<ul style="list-style-type: none"> - Split <i>air-to-water</i> systems of a rated capacity up to and including 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements; 	<p>1 January 2027</p>
	<ul style="list-style-type: none"> - Split <i>air-to-air</i> systems of a rated capacity up to and including 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements; 	<p>1 January 2029</p>

	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity up to and including 12 kW, containing, or whose functioning relies upon, fluorinated greenhouse gases, except when required to meet safety requirements;</i> 	<p><i>1 January 2035</i></p>
	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity of more than 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 750 or more, except when required to meet safety requirements;</i> 	<p><i>1 January 2029</i></p>
	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity of more than 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more, except when required to meet safety requirements.</i> 	<p><i>1 January 2033</i></p>

OTHER PRODUCTS AND EQUIPMENT

(10) Non-confined direct evaporation systems that contain HFCs and PFCs as refrigerants.		4 July 2007
	that contain PFCs;	4 July 2007
(11) Fire protection equipment:	that contain HFC-23;	1 January 2016
	that contain or rely on other fluorinated greenhouse gases listed in Annex I, except when required to meet safety requirements.	1 January 2024
(12) Windows for domestic use that contain fluorinated greenhouse gases listed in Annex I.		4 July 2007
(13) Other windows that contain fluorinated greenhouse gases listed in Annex I.		4 July 2008
(14) Footwear that contains fluorinated greenhouse gases listed in Annex I.		4 July 2006
(15) Tyres that contain fluorinated greenhouse gases listed in Annex I.		4 July 2007

<p>(16) One-component foams, except when required to meet national safety standards, that contain fluorinated greenhouse gases listed in Annex I with GWP of 150 or more.</p>	<p>4 July 2008</p>	
<p>(17) Foams;</p>	<p>- Extruded polystyrene (XPS) <i>that contain HFCs with GWP of 150 or more, except when required to meet national safety standards;</i></p>	<p>1 January 2020</p>
	<p>- <i>Foams other than extruded polystyrene (XPS) that contain HFCs with GWP of 150 or more, except when required to meet national safety standards;</i></p>	<p>1 January 2023</p>
	<p>- <i>that contain fluorinated greenhouse gases, except when required to meet safety requirements.</i></p>	<p>1 January 2033</p>
<p>(18) Aerosol generators marketed and intended for sale to the general public for entertainment and decorative purposes, as listed in point 40 of Annex XVII to Regulation (EC) No 1907/2006, and signal horns, that contain HFCs with GWP of 150 or more.</p>	<p>4 July 2009</p>	
<p>(19) Technical aerosols:</p>	<p>- that contain HFCs with GWP of 150 or more, except when required to meet national safety standards or when used for medical applications;</p>	<p>1 January 2018</p>
	<p>- <i>that contain fluorinated greenhouse gases, except when required to meet safety requirements or when used for medical applications.</i></p>	<p>1 January 2030</p>
<p>(20) Personal care products (e.g. mousse, creams, foams, <i>liquids, sprays</i>) containing fluorinated greenhouse gases.</p>	<p>1 January 2024</p>	
<p>(21) Equipment used for cooling the skin that contain, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more except when used for medical applications.</p>	<p>1 January 2024</p>	

(9) <i>Split</i> air-conditioning and heat pump equipment: ¹⁴	<ul style="list-style-type: none"> - Single split systems, containing less than 3 kg of fluorinated greenhouse gases listed in Annex I, that contain, or whose functioning relies upon, fluorinated greenhouse gases listed in Annex I with GWP of 750 or more; 	1 January 2025
	<ul style="list-style-type: none"> - Split <i>air-to-water</i> systems of a rated capacity up to and including 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements; 	1 January 2027
	<ul style="list-style-type: none"> - Split <i>air-to-air</i> systems of a rated capacity up to and including 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with a GWP of 150 or more, except when required to meet safety requirements; 	1 January 2029

	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity up to and including 12 kW, containing, or whose functioning relies upon, fluorinated greenhouse gases, except when required to meet safety requirements;</i> 	<p><i>1 January 2035</i></p>
	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity of more than 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 750 or more, except when required to meet safety requirements;</i> 	<p><i>1 January 2029</i></p>
	<ul style="list-style-type: none"> - <i>Split systems of a rated capacity of more than 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more, except when required to meet safety requirements.</i> 	<p><i>1 January 2033</i></p>

OTHER PRODUCTS AND EQUIPMENT

(10) Non-confined direct evaporation systems that contain HFCs and PFCs as refrigerants.		4 July 2007
	that contain PFCs;	4 July 2007
(11) Fire protection equipment:	that contain HFC-23;	1 January 2016
	that contain or rely on other fluorinated greenhouse gases listed in Annex I, except when required to meet safety requirements.	1 January 2024
(12) Windows for domestic use that contain fluorinated greenhouse gases listed in Annex I.		4 July 2007
(13) Other windows that contain fluorinated greenhouse gases listed in Annex I.		4 July 2008
(14) Footwear that contains fluorinated greenhouse gases listed in Annex I.		4 July 2006
(15) Tyres that contain fluorinated greenhouse gases listed in Annex I.		4 July 2007

<p>(16) One-component foams, except when required to meet national safety standards, that contain fluorinated greenhouse gases listed in Annex I with GWP of 150 or more.</p>	<p>4 July 2008</p>	
<p>(17) Foams;</p>	<p>- Extruded polystyrene (XPS) <i>that contain HFCs with GWP of 150 or more, except when required to meet national safety standards;</i></p>	<p>1 January 2020</p>
	<p>- <i>Foams other than extruded polystyrene (XPS) that contain HFCs with GWP of 150 or more, except when required to meet national safety standards;</i></p>	<p>1 January 2023</p>
	<p>- <i>that contain fluorinated greenhouse gases, except when required to meet safety requirements.</i></p>	<p>1 January 2033</p>
<p>(18) Aerosol generators marketed and intended for sale to the general public for entertainment and decorative purposes, as listed in point 40 of Annex XVII to Regulation (EC) No 1907/2006, and signal horns, that contain HFCs with GWP of 150 or more.</p>	<p>4 July 2009</p>	
<p>(19) Technical aerosols:</p>	<p>- that contain HFCs with GWP of 150 or more, except when required to meet national safety standards or when used for medical applications;</p>	<p>1 January 2018</p>
	<p>- <i>that contain fluorinated greenhouse gases, except when required to meet safety requirements or when used for medical applications.</i></p>	<p>1 January 2030</p>
<p>(20) Personal care products (e.g. mousse, creams, foams, <i>liquids, sprays</i>) containing fluorinated greenhouse gases.</p>	<p>1 January 2024</p>	
<p>(21) Equipment used for cooling the skin that contain, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more except when used for medical applications.</p>	<p>1 January 2024</p>	

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Point 1 applies to:

- (a) containers which cannot be refilled without being adapted for that purpose (non-refillable);
- (b) containers that could be refilled but are imported or placed on the market without provision having been made for their return for refilling.

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ANNEX V

Production rights for placing hydrofluorocarbons on the market

The *production rights for* hydrofluorocarbons, expressed in tonnes of CO₂ equivalents, referred to in Article 14(2) for each producer *are calculated as*:

- (a) for the period 1 January **2025** to 31 December 2028, 60 % of the annual average of its production in 2011-2013;
- (b) from the period 1 January 2029 to 31 December 2033, 30% of the annual average of its production in 2011-2013;
- (c) for the period 1 January 2034 to 31 December 2035, 20% of the annual average of its production in 2011-2013;
- (d) for the period 1 January 2036 and thereafter, 15% of the annual average of its production in 2011-2013.

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ANNEX VI

Method of calculating the total GWP of a mixture referred to in Article 3, *point 1*

The GWP of a mixture is calculated as a weighted average, derived from the sum of the weight fractions of the individual substances multiplied by their GWP, unless otherwise specified, including substances that are not fluorinated greenhouse gases.

Σ (Substance X % x GWP) + (Substance Y % x GWP) + ... (Substance N % x GWP), where % is the contribution by weight with a weight tolerance of +/-1 %.

For example: applying the formula to a blend of gases consisting of 60 % dimethyl ether, 10 % HFC-152a and 30 % isobutane:

Σ (60 % x 1) + (10 % x 124) + (30 % x 0)

Total GWP = 13,0

The GWP of the following non-fluorinated substances are used to calculate the GWP of mixtures. For other substances not listed in this annex a default value of 0 applies. ***Only emissible components that fulfil broadly the same function are relevant for the calculation of the GWP.***

Substance			GWP 100 ⁽¹⁵⁾
Common name	Industrial designation	Chemical Formula	
methane		CH ₄	27,9
nitrous oxide		N ₂ O	273
dimethyl ether		CH ₃ OCH ₃	1 ⁽¹⁶⁾
methylene chloride		CH ₂ Cl ₂	11,2
methyl chloride		CH ₃ Cl	5,54
chloroform		CHCl ₃	20,6
ethane	R-170	CH ₃ CH ₃	0,437
propane	R-290	CH ₃ CH ₂ CH ₃	0,02
butane	R-600	CH ₃ CH ₂ CH ₂ CH ₃	0,006
isobutane	R-600a	CH(CH ₃) ₂ CH ₃	0 ⁽¹⁷⁾
pentane	R-601	CH ₃ CH ₂ CH ₂ CH ₂ CH ₃	0 ⁽¹⁶⁾
isopentane	R-601a	(CH ₃) ₂ CHCH ₂ CH ₃	0 ⁽¹⁶⁾
ethoxyethane (diethyl)	R-610	CH ₃ CH ₂ OCH ₂ CH ₃	4 ⁽¹⁵⁾
methyl formate	R-611	HCOOCH ₃	11 ⁽¹⁸⁾
hydrogen	R-702	H ₂	6 ⁽¹⁵⁾
ammonia	R-717	NH ₃	0
ethylene	R-1150	C ₂ H ₄	4 ⁽¹⁵⁾
propene	R-1270	C ₃ H ₆	0 ⁽¹⁶⁾
cyclopentane		C ₅ H ₁₀	0 ⁽¹⁶⁾

¹⁵ Based on the Sixth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

¹⁶ Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change.

¹⁷ WMO et al. (2018). Scientific Assessment of Ozone Depletion, where value is given as <<1.

¹⁸ WMO et al. (2018). Scientific Assessment of Ozone Depletion.

ANNEX VII

MAXIMUM QUANTITIES AND CALCULATION OF REFERENCE VALUES AND QUOTAS FOR PLACING HYDROFLUOROCARBONS ON THE MARKET REFERRED TO IN ARTICLE 17

- (1) The maximum amount of HFCs allowed to be placed on the Union market in a given year is set to be the following:

Years	Maximum Quantity in tonnes CO₂ equivalent
<i>2025 – 2026</i>	<i>42 874 410</i>
2027 – 2029	<i>21 665 691</i>
2030 – 2032	9 132 097
2033 – 2035	8 445 713
2036 – 2038	6 782 265
2039 – 2041	6 136 732
2042 – 2044	5 491 199
2045 – 2047	4 845 666
2048 – 2049	4 200 133
<i>2050 onwards</i>	<i>0</i>

- (2) The 2015 base-value for the maximum quantity is set to be: 176 700 479 tonnes CO₂ equivalent.

- (3) Reference values and quotas for placing hydrofluorocarbons on the market referred to in Articles 16 and 17 shall be calculated as the aggregated quantities of all hydrofluorocarbons, expressed in tonne(s) of CO₂ equivalent rounded to the nearest tonne.
- (4) Each importer and producer shall receive reference values referred to in Article 17(1), calculated as follows:

- i) a reference value for placing hydrofluorocarbons on the market based on the annual average of the quantities of hydrofluorocarbons lawfully placed on the market from 1 January 2015 as reported under Article 19 of Regulation (EU) No 517/2014 and under Article 26 of this Regulation for the years available, not including quantities of hydrofluorocarbons for the usages referred to in Article 26(5) during the same period, on the basis of available data;
- ii) in addition, for importers and producers that have reported the placing on the market of hydrofluorocarbons for the usage referred to in Article 26(5), second subparagraph, a reference value based on the annual average of the quantities of those hydrofluorocarbons for such usage lawfully placed on the market from 1 January 2020 as reported under Article 19 of Regulation (EU) No 517/2014 and of Article 26 of this Regulation for the years available, on the basis of available data.

ANNEX VIII

Allocation mechanism referred to in Article 17

- (1) Determination of the quantity to be allocated to undertakings for which reference values have been established under Article 17(1).

Each undertaking for which reference values have been established receives quota, which is calculated as follows:

- a quota corresponding to 89 % of the reference value referred to in Annex VII, point 4(i), multiplied by the maximum quantity for the year for which the quota is allocated divided by the base value of 176 700 479 tonnes CO₂ equivalent¹⁹;
- in addition, where relevant, a quota corresponding to the reference value referred to in Annex VII, point 4(ii). ***From 2027, such a quota is obtained by multiplying the reference value with a factor of 0.85. From 2030, such a quota corresponds to the reference value multiplied by the maximum quantity for the year for which the quota is allocated divided by the maximum quantity for the year 2025.***

In case where after allocating the full amount of quotas as referred to in the second subparagraph, the maximum quantity is exceeded, all quotas will be reduced proportionally.

- (2) Determination of the quota to be allocated to undertakings that have submitted a declaration pursuant to Article 17(3).

The total sum of the quotas allocated under point 1 is subtracted from the maximum quantity for the given year set out in Annex VII to determine the reserve amount to be allocated to undertakings, which have submitted a declaration under Article 17(3).

Each undertaking receives an allocation corresponding to a pro-rata share of the reserve.

¹⁹ This number is the maximum quantity established for 2015 at the beginning of the phase-down, taking into account BREXIT.

The pro-rata share is calculated by dividing 100 by the number of undertakings that have submitted a declaration.

- (3) Penalties established in accordance with Article 31 are taken into account in the calculations referred to above.

ANNEX IX

DATA TO BE REPORTED PURSUANT TO ARTICLE 26

- (1) Each producer referred to in Article 26(1), first subparagraph, shall report on:
- (a) the total quantity of each substance listed in Annexes I, II and III it has produced in the Union, including by-production, differentiating between amounts captured and not captured, and identifying quantities destroyed, from such production or by-production, of amounts not captured, or if captured, quantities destroyed prior to their placing on the market, either in the facilities of the producer or handed over to other undertakings for destruction, as well as the undertaking that carried out the destruction;
 - (b) the main categories of application in which the substance is used;
 - (c) the quantities of each substance listed in Annex I, II and III it has placed on the market in the Union, specifying separately:
 - quantities placed on the market for feedstock uses, including, for HFC-23 only, if after prior capture or without prior capture;
 - direct exports;
 - producing metered dose inhalers for the delivery of pharmaceutical ingredients;
 - use in military equipment;
 - use in the etching of semiconductor material or the cleaning of chemical vapour deposition chambers within the semiconductor manufacturing sector;
 - amounts of hydrofluorocarbons produced for uses within the Union exempted under the Montreal Protocol;
 - (d) any stocks held at the beginning and the end of the reporting period, specifying if placed on the market or not.

- (2) Each importer referred to in Article 26(1), first subparagraph, shall report on:
- (a) the total quantity of each substance listed in Annex I, II and III it has imported into the Union, identifying the main categories of application in which the substance is used, specifying separately:
- amounts imported, not released for free circulation, and re-exported contained in products or equipment by the reporting undertaking;
 - quantities for destruction, identifying the undertaking carrying out the destruction;
 - feedstock uses, specifying separately amounts of hydrofluorocarbons imported for feedstock uses, and identifying the feedstock using undertaking;
 - direct exports, identifying the exporting undertaking;
 - producing metered dose inhalers for the delivery of pharmaceutical ingredients identifying the producer;
 - use in military equipment; identifying the undertaking receiving the quantities for this use;
 - use in the etching of semiconductor material or the cleaning of chemical vapour deposition chambers within the semiconductor manufacturing sector, identifying the receiving semiconductor manufacturer;
 - amounts of hydrofluorocarbons contained in pre-blended polyols;
 - amounts of *recovered*, recycled or reclaimed hydrofluorocarbons;
 - amount of hydrofluorocarbons imported for uses exempted under the Montreal Protocol;
 - Quantities of hydrofluorocarbons shall be reported separately for each country of origin.

- (b) any stocks held at the beginning and the end of the reporting period, specifying if already placed on the market or not.
- (3) Each exporter referred to in Article 26(1), first subparagraph, shall report on the quantities of each substance listed in Annexes I, II and III that it has exported from the Union, specifying if from own production or import or if purchased from other undertakings within the Union, ***including the amounts of hydrofluorocarbons contained in pre-blended polyols.***
- (4) Each undertaking referred to in Article 26(2) shall report on:
- (a) the quantities of each substance listed in Annexes I, II and III destroyed, including, separately, the quantities of those substances contained in products or equipment;
- (b) any stocks ***held at the beginning and the end of the reporting period*** of each substance listed in Annexes I, II and III waiting to be destroyed, including, ***separately,*** the quantities of those substances contained in products or equipment;
- (c) the technology used for the destruction of the substances listed in Annexes I, II and III.
- (5) Each undertaking referred to in Article 26(3) shall report on the quantities of each substance listed in Annex I used as feedstock.

- (6) Each undertaking referred to in Article 26(4) shall report on:
- (a) the categories of the products or equipment containing substances listed in Annexes I, II and III;
 - (b) the number of units *with regard to products and equipment or mass with regard to non-countable products like foams*;
 - (c) any quantities of each substance listed in Annexes I, II and III contained in the products or equipment;
 - (d) the amount of hydrofluorocarbons charged into the imported equipment, released for free circulation, for which the hydrofluorocarbons had previously been exported from the Union and which had been subject to quota limitations for placing on the Union market. In such case, the report shall also specify the exporting undertaking and the year of export as well as the undertaking having placed the hydrofluorocarbons on the Union market for the first time and the year of that placing on the market.
- (7) Each undertaking referred to in Article 26(5) shall report on the quantities of each substance received from importers and producers for destruction, feedstock uses, direct exports, metered dose inhalers for the delivery of pharmaceutical ingredients use in military equipment and use in the etching of semiconductor material or the cleaning of chemical vapour deposition chambers within the semiconductor manufacturing sector;
- The manufacturer of metered dose inhalers for the delivery of pharmaceutical ingredients shall report on the type of hydrofluorocarbons and the quantities used.
- (8) Each undertaking referred to in Article 26(6) shall report on:
- (a) the quantities of each substance listed in Annexes I, II and III that it has reclaimed;
 - (b) any stocks *held at the beginning and the end of the reporting period* of each substance listed in Annexes I, II and III waiting to be reclaimed.

ANNEX X
Correlation Table*

**To be reviewed*

Regulation (EU) No 517/2014	This Regulation
Article 1	Article 1
Article 2(1)	Article 2(1)
Article 2(2)	Article 3(4)
Article 2(3)-(4)	-
Article 2(5)	Article 3(2)
Article 2(6)	Article 3(1)
Article 2(7)	Article 3(3)
Article 2(8)	Article 3(5)
Article 2(9)	Article 3(356)
Article 2(10)	Article 3(6)
Article 2(11)	Article 3(9)
Article 2(12)	Article 3(10)
Article 2(13)	Article 11(3) and Annex IV, point 1
Article 2(14)	Article 3(11)
Article 2(15)	Article 3(12)
Article 2(16)	Article 3(13)
Article 2(17)	Article 3(14)
Article 2(18)	Article 3(15)
Article 2(19)	Article 3(16)
Article 2(20)	Article 3(17)
Article 2(21)	Article 3(18)
Article 2(22)	Article 3(19)

Article 2(23)	Article 3(20)
Article 2(24)	Article 3(21)
Article 2(25)	Article 3(22)
Article 2(26)	Article 3(23)
Article 2(27)	Article 3(24)
Article 2(28)	-
Article 2(29)	Article 3(25)
Article 2(30)	Article 3(26)
Article 2(31)	Article 3(27)
Article 2(32)	Article 3(28)
Article 2(33)	Article 3(29)
Article 2(34)	Article 3(30)
Article 2(35)	Article 3(31)
Article 2(36)	Article 3(32)
Article 2(37)	Article 3(33)
Article 2(38)	Article 3(34)
Article 2(39)	-
Article 3(1)-(2)	Article 4(1)-(2)
Article 3(3)	Article 4(4)
Article 3(4)	Article 4(6)
Article 4	Article 5
Article 5	Article 6
Article 6	Article 7
Article 7(1)	Article 4(3)
Article 7(2)	Article 4(5)
Article 8(1)	Article 8(1)

Article 8(2)	Article 8(3)
Article 8(3)	Article 8(4)
Article 9	Article 9
Article 10(1)-(4)	Article 10(1)-(4)
Article 10(5)	-
Article 10(6)	Article 10(6)
Article 10(7)	Article 10(7)
Article 10(8)	-
Article 10(9)	-
Article 10(10)	Article 10(8)
Article 10(11)	Article 10(10)
Article 10(12)	Article 10(5)
Article 10(13)	Article 10(9)
Article 10(14)	Article 10(11)
Article 10(15)	Article 10(12)
Article 11(1)	Article 11(1), first subparagraph
Article 11(2)	Article 11(2)
Article 11(3)	Article 11(4)
Article 11(4)	Article 11(5)
Article 11(5)	Article 11(6)
Article 11(6)	-
Article 12(1)-(12)	Article 12(1)-(12)
Article 12(13)	Article 12(15)
Article 12(14)	Article 12(16)
Article 12(15)	Article 12(17)
Article 13(1) first subparagraph	Article 13(1)

Article 13(1) second subparagraph	-
Article 13(2)	Article 13(2)
Article 13(3)	-
Article 14(1)	Article 19(1)
Article 14(2) , first subparagraph	Article 19(2), first subparagraph
Article 14(2), second subparagraph	Article 19(3)
Article 14(2) , third subparagraph	Article 19(2), third subparagraph
Article 14(3)	Article 19(2), second subparagraph
Article 14(4)	Article 19(4)
Article 15(1), first subparagraph	-
Article 15(1), second subparagraph	Article 16(1), first subparagraph
Article 15(2)	Article 16(2)
Article 15(3)	Article 16(6)
Article 15(4)	Article 16(4)
Article 16(1)	-
Article 16(2)	Article 17(3)
Article 16(3)	Article 17(1)
Article 16(4)	Article 17(3)
Article 16(5)	Article 17(4)
Article 17(1), first subparagraph	Article 20(1)
Article 17(1), second subparagraph	Article 20(4)
Article 17(1), third subparagraph	-
Article 17(2)	Article 20(6)
Article 17(3)	-
Article 17(4)	Article 20(7)
Article 18(1)	Article 21(1), first subparagraph

Article 18(2), first subparagraph	Article 21(2)
Article 18(2), second subparagraph	-
Article 18(2), third subparagraph	Article 21(3)
Article 19(1), first subparagraph	Article 26(1), first subparagraph
Article 19(2)	Article 26(2)
Article 19(3)	Article 26(3)
Article 19(4)	Article 26(4)
Article 19(5)	Article 26(7)
Article 19(6)	Article 26(8)
Article 19(7)	Article 26(9), second subparagraph
Article 19(8)	Article 20(7), second subparagraph
Article 20	Article 27
Article 21(1)	Article 35, first subparagraph
Article 21(2)-(6)	-
Article 22	Article 32
Article 23	Article 33
Article 24	Article 34
Article 25	Article 31
Article 26	Article 36
Article 27	Article 38
Annex I	Annex I
Annex II	Annex III
Annex III	Annex IV
Annex IV	Annex VI
Annex V	Annex VII
Annex VI	Annex VIII

