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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**

(Text with EEA relevance)

{SEC(2022) 156 final} - {SWD(2022) 95 final} - {SWD(2022) 96 final} -
{SWD(2022) 97 final}

EXPLANATORY MEMORANDUM

1. CONTEXT OF THE PROPOSAL

• Reasons for and objectives of the proposal

The European Green Deal launched a new growth strategy for the EU that aims to transform the EU into a fair and prosperous society with a modern, resource-efficient and competitive economy. It reaffirms the Commission's ambition to increase its climate targets and make Europe the first climate-neutral continent by 2050. Furthermore, it aims to protect the health and well-being of citizens from environment-related risks and impacts. In response to the urgency for climate action, the EU increased its climate ambition through Regulation (EU) 2021/1119 (the European Climate Law)¹, which was adopted in 2021. The climate law establishes a binding net GHG reduction target of at least 55% by 2030 compared to 1990 and EU climate neutrality at the latest by 2050. The EU has also enhanced its initial Nationally Determined Contribution under the *Paris Agreement on Climate Change* from at least 40% greenhouse gas emissions reductions by 2030, to at least 55% net greenhouse gas emissions reductions. Achieving those objectives, and having a chance to keep global average temperature within 1.5°C, requires reinforcing all instruments relevant for the decarbonisation of EU's economy; the F-gas Regulation is a key instrument with respect to emissions of fluorinated greenhouse gases (F-gases).

F-gases are human-made chemicals that are very strong greenhouse gases (GHG), often several thousand times stronger than carbon dioxide (CO₂). Together with carbon dioxide, methane and nitrous oxide, they belong to the group of GHG emissions covered under the *Paris Agreement on Climate Change*. Today F-gas emissions amount to 2.5 % of EU's total GHG emissions but doubled from 1990 to 2014 in contrast to other GHG emissions, which fell. This is because F-gases in the past typically replaced ozone-depleting substances in areas where the latter became prohibited to use in the EU to protect the stratospheric ozone layer, as required under the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer ('the Protocol').

Regulation (EU) No 517/2014 on fluorinated greenhouse gases² ('the F-gas Regulation') was adopted to reverse the increase in F-gas emissions. Hydrofluorocarbons (HFCs) are the most important group of F-gases in terms of emissions relevant for the climate and the main novelty of the F-gas Regulation was the establishment of an 'EU HFC phase-down', namely a quota system to implement a gradual reduction schedule of the amount of HFCs that importers and producers may place on the market every year.

The EU F-gas policy must be seen in the context of the recent IPCC Special report³. Pathways to limit global warming at 1.5 °C require emission decreases for F-gases of up to 90% by 2050 *globally* compared to the year 2015.

With a view to reversing rising HFC emissions and their climate impact, and even though HFCs do not deplete the ozone layer, Parties to the Protocol decided in 2016 with the Kigali Amendment to implement a global HFC phase-down which will reduce HFC production and consumption by more than 80 % over the next 30 years at global level. This implies that each Party must comply with an HFC consumption and production reduction schedule as well as licensing import/export and reporting on HFCs. Scientists have estimated that the Kigali Amendment alone will save up to 0.4°C of additional warming by the end of the century.

¹ OJ L 243, 9.7.2021, p. 1.

² OJ L150, 20.5.2014, p. 195.

³ IPCC Special Report. Global warming of 1.5 C (August 2021), <https://www.ipcc.ch/sr15/>.

As concluded by the evaluation prepared by the Commission⁴, the F-gas Regulation has led to a reverse and year-on-year decrease of F-gas emissions starting in 2015. Moreover, the EU market supply of HFCs declined by 37 % in metric tonnes and 47 % in terms of tonnes CO₂ equivalent from 2015 until 2019. There has been a clear shift to the use of alternatives with lower global warming potential (hereafter ‘GWP’) including natural alternatives (e.g. CO₂, ammonia, hydrocarbons, water) in many types of equipment that used F-gases traditionally. However, the emission savings envisaged by 2030 will not be fully achieved and there is an unused potential to save more emissions. Furthermore, while the F-gas Regulation was adopted ahead of the Kigali Amendment and while it was instrumental in achieving this global agreement, the Regulation cannot fully ensure compliance with all the obligations (notably beyond 2030).

Finally, the years of experience gained in the implementation of the Regulation as well as the feedback received from stakeholders confirm the need to address a number of challenges to the quota system. These range from illegal activities including smuggling and rogue traders with purely speculative motives to the lack of skilled technicians. There are also certain monitoring gaps to be addressed, the efficiency of the reporting and verification activities to be improved and several existing rules to be further clarified, as most stakeholders from industry, NGOs and authorities have highlighted this as an important objective for the review. It was thus clear that the main elements of the Regulation should be maintained but there was a need to fine-tune and add several provisions.

The general objectives of the EU F-gas policies are to:

- (1) Prevent additional F-gas emissions, thereby contributing to EU climate objectives
- (2) Ensure compliance with the Protocol as regards obligations related to hydrofluorocarbons (‘HFCs’).

The prevention of emissions can be done in two ways: by avoiding that F-gases are used in the first place (i.e. reduce the demand for F-gases) and by ensuring that there are measures to prevent emissions or leaks when the gases are produced, used and disposed of (“containment”). Therefore, the F-gas policy has the specific objectives to:

- Discourage the use of F-gases with high Global Warming Potential and encourage the use of alternative substances or technologies when they result in lower GHG emissions without compromising safety, functionality and energy efficiency;
- Prevent leakage from equipment and proper end of life treatment of F-gases in applications;
- Enhance sustainable growth, stimulate innovation, and develop green technologies by improving market opportunities for alternative technologies and gases with low GWP.

On the basis of the conclusions of an evaluation of the Regulation the Commission has the following objectives for the review:

- (1) Achieve **additional F-gas emission reductions** to contribute to reaching the 55% of emissions reductions by 2030 and net carbon neutrality by 2050.
- (2) Fully align with the Protocol.

⁴ See Annex 5 to the Impact Assessment accompanying the proposal.

- (3) Facilitate enhanced **implementation and enforcement** on matters of illegal trade, the functioning of the quota system and the training needs on F-gas alternatives.
- (4) Improve **monitoring and reporting** to fill existing gaps and improve process and data quality for compliance.
- (5) Improve **clarity and internal coherence** to support better implementation and understanding of the rules.

The initiative contributes to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals, most prominently to “fight climate change”.

- **Consistency with existing policy provisions in the policy area**

To achieve the legally binding climate targets in the European Climate Law the Commission has proposed to strengthen Member States’ emission reduction targets for 2021 to 2030 in an amendment to the so-called Effort Sharing Regulation. The Effort Sharing Regulation covers emissions from sectors not covered by the existing EU Emissions Trading System (ETS)⁵ and F-gas emissions represent almost 5% of the emissions covered by that Regulation. Member States’ individual targets relate to this overall basket of GHGs. Consequently, the EU or the Member States do not have any binding targets specific to F-gas emissions. However, it is crucial that F-gas emissions are principally reduced through the F-gas Regulation because such action has proven to be effective as well as cost-efficient to do at European level. Such action will complement additional measures to reduce F-gases that are better taken at national level in line with the principle of subsidiarity, for example additional waste policy measures, more stringent oversight of the sectors or financial incentives for alternatives. Together, the measures taken at Union and national level relating to all types of emissions must ensure that each Member State can reach its national greenhouse gas emission targets, as defined by the Effort Sharing Regulation, in an effective manner.

The F-gas Regulation covers all sectors from which F-gas emissions are relevant, but it is complemented by Directive 2006/40/EC⁶ on mobile air-conditioning (MAC) which specifically prohibits the use of refrigerants with a GWP higher than 150 in new passenger cars since 2017. Prior to this prohibition, the refrigerant used was an HFC with a GWP of 1430.

- **Consistency with other Union policies**

The proposed Regulation (as well as the current F-gas Regulation) has many similarities with Regulation (EC) 1005/2009 on substances that deplete the ozone layer⁷ (the ODS Regulation), which is being revised in parallel. These two Regulations must jointly ensure that the Union complies with its obligations relating to HFCs and ODS under the Protocol. While the two reviews do not directly impact each other, they do affect similar stakeholders and sectors, as well as similar activities (trade, equipment use etc.) and they use similar control measures, including a trade licencing system as required by the Protocol. Both industry and authorities have therefore called for their relevant rules to be closely aligned (e.g. regarding custom controls, leakage rules, definitions etc.).

The contribution of the revised F-Gas Regulation to reaching GHG targets at Member States level under the Effort Sharing Regulation is complemented by the revision of the Industrial Emissions Directive (IED: Directive 2010/75/EU) which will cover activities responsible for around 15% of overall EU emissions of GHG emissions not covered by the ETS. The focus of

⁵ COM(2021) 555 final

⁶ OJ L 161, 14.6.2006, p. 12.

⁷ OJ L 286, 31.10.2009, p. 1.

the IED is primarily on emissions of pollutants and emissions of GHGs from industrial sources that are not covered by the EU ETS⁸. By contrast, the ODS and F-Gas Regulations mainly, but not exclusively, focus on placing on the market and use of ozone-depleting substances and fluorinated gases in order to prevent emissions of those chemicals which are very potent GHGs. The IED offers the opportunity for a systematic consideration of F-gas emissions as a key environmental parameter in the development of best available technique reference documents for industry sectors. The latter constitute the basis for the setting of emission limit values for industrial installations to limit their emissions of F-gases and ODS. Furthermore, the E-PRTR Regulation (Regulation (EC) No 166/2006) will be modernised to improve reporting, and public availability of information, on emissions of both pollutants and greenhouse gases and should in the future allow for more granularity on emissions data of F-gases and ODS from such installations.

There are also close synergies with energy policies, in particular the Directive 2009/125/EC on eco-design⁹, given the relevance of indirect emissions from energy use of F-gas equipment. The proposal follows the “energy efficiency first principle” by only taking into account alternatives that are being at least as energy efficient as equipment using a traditional F-gas. Special attention has also been paid to the fact that the decarbonisation of the energy system will require high growth rates for heat pumps that currently are marketed with F-gases in the Union. This is in particular due to the recent geopolitical developments requiring a higher growth in heat pumps to reduce dependence on oil and gas as outlined in the Communication RePowerEU¹⁰. In order to reach climate neutrality, it is important to have policies in place that increase the energy efficiency as much as possible and that limit direct emissions from F-gases. This is particularly important since any heat pump equipment with F-gases that is put into operation today will lead to direct GHG emissions for many years into the future due to leakage, necessary servicing with more F-gases and possible emissions when the equipment entered the waste stream. Where possible this should be avoided, which is why specific product bans are included. Overall, it is estimated that the proposed review of the quota system, following the preferred option of the impact assessment, has sufficient buffer to allow for such growth in heat pump deployment.

As regards the import and reporting provisions there are synergies with the REACH Legislation¹¹, as importers of fluorinated gases are affected by both. The more granular data collected, and the stringent import requirements related to the quota system in the F-gas Regulation could be used to improve overview and compliance on REACH registration obligations as pointed out by the chemical industry.

The reviewed proposal strongly reinforces the links to customs, market surveillance, environmental crime and whistleblowing by spelling out the concrete obligations of economic operators and the competent authorities to reduce illegal activities including smuggling and safeguard the environmental integrity of the Regulation.

Furthermore, there are direct links with waste policy, as the end-of-life is a crucial phase where many emissions occur if the existing obligations are not complied with. The recovery obligations in the F-gas Regulation are complemented by references in the relevant waste

⁸ Directive 2003/87/EC, OJ L 275, 25.10.2003, p.32.

⁹ 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).

¹⁰ COM(2022) 108 final.

¹¹ <https://echa.europa.eu/regulations/reach/legislation>

legislation (e.g. WEEE Directive¹² and Waste Shipment Directive¹³). Reinforced producer responsibility schemes as promoted by the F-gas Regulation could make a significant contribution to improve current practices and reduce end-of-life emissions. This is an opportunity in light of the on-going revision of the Waste Framework Directive.

Last but not least, the continuous and timely updating of safety standards as well as codes and legislation at all levels, European, national, regional and local, is crucial to keep pace with the rapid development of technologies and to ascertain that the use of climate-friendly refrigerants can be maximised without compromising safety.

2. LEGAL BASIS, SUBSIDIARITY AND PROPORTIONALITY

• Legal basis

This proposal is based on Article 192(1) of the Treaty on the Functioning of the European Union, in line with the objective to preserve, protect and improve the quality of the environment; protect human health; and to promote measures at international level to deal with climate change.

• Subsidiarity

The proposal complements EU legislation that has existed at EU level since 2006 and it clearly complies with the subsidiarity principle for the following reasons:

Firstly, protecting the climate system is a cross-border issue and the scale of the problem demands action worldwide. Secondly, the most effective measures are prohibiting or restricting the use or placing on the market of F-gases or F-gas products and equipment. For the functioning of the EU internal market and the free movement of goods, it is highly preferably if such measures are taken at EU level. Thirdly, the Protocol considers the EU as a regional economic integration organisation (REIO) and the EU must therefore comply with the Protocol's obligations at Union level (e.g. reporting, licensing system, consumption phase-down). This requires relevant legislation at the same level; it would be very difficult if not infeasible to achieve compliance through 27 different national systems. The only exception to the REIO clause is the Protocol's HFC production phase-down schedule, which requires compliance at Member States level.¹⁴ Still some Member States have requested that production is also regulated at EU level as this would increase the flexibility for the companies concerned.

• Proportionality

The proposal complies with the proportionality principle. The proposal ensures that F-gas emissions will be further reduced and that the EU continues to comply with its international obligations under the Protocol to phase down the production and consumption of HFCs. The proposed measures are based on a thorough assessment of their cost-efficiency that shows that the marginal emission abatement costs for any sector are within the range that other sectors in the economy are expected to face to ensure the needed transition towards climate neutrality by 2050. Moreover, in the long term the mitigation measures will result in overall cost savings. Some measures will slightly increase the administrative burden on industry but some of them are essential for compliance with the Protocol and others are needed to facilitate appropriate

¹² 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).

¹³ Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste (OJ L 190, 12.7.2006, p. 1).

¹⁴ Pursuant to Article 2(8)(a) of the Protocol, an EU-level compliance under REIO on production is possible, but this is currently not the case as there was no agreement by Member States.

enforcement of the rules as well as monitoring future threats. None of the latter measures involve high costs. No detailed provisions are proposed in areas where the objectives might be better achieved by action in other policy areas, for example legislation on waste. The level of benefits achieved by these measures could not have been achieved as cost efficiently for industry and Member States by introducing 27 different additional F-gas policies in Member States.

- **Choice of the instrument**

The legal instrument chosen is a Regulation because the proposal aims to replace and improve the F-gas Regulation while maintaining its general structure on control measures. The F-gas Regulation has proven to be effective. Since the proposal includes several amendments as well as adaptations to the structure of the F-gas Regulation, the F-gas Regulation should be repealed and replaced with a new Regulation to ensure legal clarity. Any major changes (i.e. repeal, or turning it into a Directive) would unduly burden Member States and create additional uncertainty for the undertakings active in this sector.

3. RESULTS OF EX-POST EVALUATIONS, STAKEHOLDER CONSULTATIONS AND IMPACT ASSESSMENTS

- **Ex-post evaluation**

The Commission carried out an evaluation of the F-gas Regulation in line with the 'Better regulation' requirements, and responded to Article 21(2) of the F-gas Regulation, which requires the Commission to publish a comprehensive report on its effects no later than 31 December 2022.

The evaluation concludes that the F-gas Regulation has been mostly effective in meeting its original objectives of both reducing F-gas emissions and being instrumental in obtaining an international agreement to reduce HFCs. Furthermore, the individual measures were found to work well together to meet these objectives. As a direct result of the legislation, F-gas emissions have decreased year-on-year starting in 2015 after a decade of rising amounts. These emission savings were achieved at very low abatement costs linked to technological change (i.e. 6 € per tonne CO₂e on average), and without reducing energy efficiency of the equipment concerned. The F-gas Regulation has safeguarded high environmental ambition by maintaining the same obligations across the EU, while also ensuring a level-playing field in the internal market concerned industries and undertakings.

At the same time, the evaluation concludes that since the adoption of the Regulation a number of important developments (notably the European Green Deal, and a changed international policy environment with the Paris Agreement and the Kigali Amendment) have changed the relevant policy framework, implying that the EU F-gas Regulation is not fully fit-for-purpose, in terms of both exploiting the unused potential for achieving additional emission reductions and ensuring future compliance with the Protocol. Modelling indicates that the F-gas emission reductions in 2030 will be lower than expected in the 2012 impact assessment¹⁵ that had the objective to contribute to reaching the previous 2030 climate target (at least -40% compared to 1990). Also, some sectors continue to use and emit highly warming F-gases, where this could be avoided (e.g. in the light of technological progress) and there are emissions from sectors or substances not currently included under the scope of the Regulation.

The evaluation also identifies other challenges, including illegal imports of HFCs that circumvent the quota system and “rogue traders” (a multiplication of bulk importers often

¹⁵ SWD(2012) 364 final.

without connection to the sector that enter the market for speculative reasons and/or benefit disproportionately from the quota system). Moreover, the uptake of climate friendly alternatives is being hindered by a lack of personnel that have skills to install and maintain equipment with climate-friendly alternatives as well as safety standards that are not fully updated according to technological progress. Better emission control could also address some of the concerns about possible eco-toxicological consequences of atmospheric breakdown products of HFC and hydro(chloro)fluoroolefins (H(C)FOs). Furthermore, certain gaps in the substances and activities covered by monitoring and reporting measures could be avoided. In addition, a few obligations linked to the reporting and verification obligations could be made more efficient. Finally, it was perceived as a threat that there is currently no flexibility to quickly react in case of undesirable effects of the quota system such as significant lack of HFC supply.

In general, the F-gas Regulation was found to be externally consistent and coherent with other interventions that have similar objectives, although there are areas that have led to some incoherencies that should be addressed. An important area is customs law, where synergies with the EU Single Window Environment for Customs should be exploited and efficient border controls facilitated to stop illegal activities. Another important synergy is with the REACH Regulation where Member States-led efforts are underway to look into the relevance of persistent degradation products from H(C)FOs. Internal consistence of the Regulation is good, but some clarifications and alignments are needed.

On the basis of these findings the five review objectives mentioned in section 1 were identified.

- **Stakeholder consultations**

The Commission carried out a broad consultation with stakeholders. The *consultation on the review roadmap* from 29 June 2020 to 7 September 2020 and the *online public consultation* from 15 September 2021 to 29 December 2021 provided an opportunity for all stakeholders to contribute views on the F-gas Regulation, irrespective of the respondents' level of familiarity with the Regulation. These activities received 76 and 241 responses respectively. The individual responses and a summary are publicly available on the Commission "Have your say" website¹⁶. A *targeted consultation*, involving 34 semi-structured interviews tailored to competent F-gas authorities, customs authorities, NGOs, EU business associations and organisations, as well as several individual companies was carried out. An open stakeholder workshop was held on 6 May 2021 attended by 355 participants, where the preliminary results of the evaluation and the impact assessment were presented. The agenda, background briefing material and the presentation delivered at the workshop are available on DG CLIMA's website¹⁷.

These consultations gathered views on the achievements of the Regulation to date with respect to its relevance, effectiveness, efficiency, EU added value and internal and external coherence. In addition, feedback was also gathered on potential measures and their likely environmental, economic and social impacts, taking into account the European Green Deal and its more ambitious targets and the obligations on hydrofluorocarbons under the Protocol.

Stakeholders generally agreed that the F-gas Regulation was very successful but that it could and should be improved. Moreover, it was clearly noted that objectives of the Regulation could not be better achieved by action at Member State level (rather than EU-level).

¹⁶ https://ec.europa.eu/info/law/better-regulation/have-your-say/initiatives/12479-Review-of-EU-rules-on-fluorinated-greenhouse-gases/public-consultation_en

¹⁷ https://ec.europa.eu/clima/eu-action/fluorinated-greenhouse-gases/eu-legislation-control-f-gases_en#ecl-inpage-1474

Most stakeholders, and competent authorities in particular, stated that the Regulation needs to be aligned with the Protocol after 2030 to ensure future coherence and compliance. While some industry and businesses stakeholders commonly working with F-gases in the refrigeration, air-conditioning and heat-pump sector did not want to raise the ambition level of the current F-gas Regulation further, manufacturers of equipment using alternative refrigerants and NGOs strongly supported higher ambition. Across all consultation activities, industrial stakeholders showed strong support for various measures aimed at tackling illegal trade and challenges to the quota system, reflecting that they consider this a key issue for improving the Regulation (while different measures received different levels of support). These stakeholders also showed a high level of support for additional training and certification of technicians on F-gas alternatives, highlighting that this is a key barrier to the uptake of alternatives.

- **Collection and use of expertise**

The Commission has gathered extensive technical advice from a number of expert studies, including Commission reports¹⁸ on air conditioning, switchgear, availability of HFCs, commercial refrigeration, quota allocation, safety standards and training for service personnel. In addition, a comprehensive preparatory study was carried out for the review of the Regulation by external consultants, which included a detailed bottom-up stock model of the F-gas using sectors (AnaFgas model) in order to calculate demand and emission scenarios for F-gases, for the baseline and the policy options, as well as energy use of the relevant equipment, for the EU27+UK in the period of 2000 to 2050. An attached cost module allows quantification of related costs to the operators of equipment relying on F-gases or their alternatives. Macroeconomic effects were modelled using the Joint Research Centre's GEM-E3 model¹⁹. This preparatory study and its annexes (Öko-Recherche et al., 2021) with the underlying data, assumptions and detailed results are made public on DG CLIMA's website. The industry sector, Member States authorities and civil society provided extensive input and technical support for the study.

- **Impact assessment**

The Commission carried out an impact assessment analysing three policy options in terms of their effectiveness in achieving the objectives sought as well as their environmental, economic and social impacts. For each review objective, a series of measures were identified. The measures, which are complementary and not mutually exclusive, were grouped into three policy options on the basis of their expected (abatement) costs:

All three options include the improvements seeking to clarify the rules or make them more coherent. The three options are as follows:

- **Option 1: Align with the Protocol - low cost measures.** It includes all measures to ensure long-term compliance with the Protocol. This option also includes any beneficial measures on all objectives that were expected to result in very low costs and effort, if any.
- **Option 2: Proportionate emission reductions and implementation improvement.** In addition to Option 1, it includes measures that achieve emission reductions and implementation improvements at moderate costs and effort, to the point where a sub-sector would not have to pay more than marginal sectoral abatement costs expected for the economy overall to reach carbon neutrality in 2050. The HFC quota levels

¹⁸ C(2020)6637 final, C(2020) 6635 final, C(2020)8842 final, C(2017)5230 final, COM(2017) 377 final, COM/2016/0749 final, COM/2016/0748 final.

¹⁹ https://joint-research-centre.ec.europa.eu/gem-e3/gem-e3-model_en

are therefore more restrictive than in Option 1 and additional F-gas prohibitions with specific GWP limits and dates complement the phase-down. The option also includes more measures to improve enforcement and monitoring, as long as they do not imply high costs.

- **Option 3: Maximum feasibility and implementation improvements.** Option 3 is a high cost option. In addition to all previous measures in Options 1 and 2, Option 3 will include those that seek to achieve the maximum GHG emission reductions based on today's technical feasibility while taking into account energy efficiency and safety aspects, but regardless of what it would cost. This option has the steepest quota system. All measures to improve enforcement and monitoring that were considered feasible are also included in this option.

While all options would safeguard full compliance with the Protocol, the detailed impact assessment clearly shows that Option 2 will result in the most appropriate cost-benefit balance, achieving a very substantial amount of additional emissions to the current Regulation (i.e. the baseline) at a modest price tag and avoiding undue hardship for any affected sectors. In the 2030 context, the proposed Regulation is estimated to result in additional savings of cumulatively 40 MtCO_{2e}. It is important to keep in mind that these savings will come on top of the 430 MtCO_{2e} estimated to result from the current Regulation. By 2050 the additional savings of Option 2 will be ca. 310 MtCO_{2e}. This means that the residual annual F-gas emissions in 2050 are estimated to be only 14 MtCO_{2e}. Option 2 is thus considered to be compatible with reaching net climate neutrality by 2050, reducing the need for carbon-removal policies to compensate for emissions that cannot be avoided in 2050 to achieve net climate neutrality.

The necessary technological adjustment leads to cost savings overall and in many sub-sectors, due to lower energy costs for the users. However, there are some costs for end-users who do not switch to alternatives as a result of higher prices of HFCs under a reinforced quota system. Nonetheless, in the longer turn some sectors of the economy will profit from the technology conversion, leading to higher output, innovation and employment. Option 2 is therefore the most coherent with the objectives of the European Green Deal, as well as the “Do No Significant Harm”-principle. As confirmed by stakeholders the types of measures in Option 2 have EU added value. Consequently, the level of benefits achieved could not have been achieved as cost efficiently for industry and Member States by introducing 27 different additional F-gas policies in Member States. It turns out that Option 1 does not achieve any additional cumulative emission savings compared to the current Regulation and considering the savings potential shown in Option 2 and 3, Option 1 would simply be less adequate in the light of the EU's ambitious climate targets. Option 3, on the other hand, would achieve marginally higher emission savings compared to Option 2 but those additional savings would come at the expense of very high costs for some sectors (marginal sectoral abatement costs by 2050 of up to of 2,111 €/t CO_{2e} for Option 3, compared to maximally 336 €/tCO_{2e} in Option 2; technological adjustment costs for all sectors of 113 million € per year for Option 3 compared to 12 million € per year for Option 2) and it is preferable to seek other ways to contribute to the achievement of the national greenhouse gas emission reduction targets.

Option 2 will also ensure better control at a moderate increase in administrative burden for industry and authorities (Total net costs were estimated as 7.6 million € for industry as recurrent yearly costs, in addition to one-off costs of € 3 million). These changes should allow for an effective enforcement, tackling the identified existing challenges, in particular those linked to illegal trade. Furthermore, the monitoring rules will become more streamlined and comprehensive by covering new aspects that have become relevant. The detailed results of environmental, economic and social impacts are presented in the impact assessment.

A number of simplifications are achieved in the area of monitoring. These include savings from changes to the quota declaration process (€1.2 million of costs saved yearly), aligning reporting and authorisation thresholds for equipment importers (€0.09 million yearly), relaxing the verification threshold for equipment importers (€1.7 million yearly) and digitising the verification process (€1.5 million yearly).

The Regulatory Scrutiny Board issued a positive opinion with reservations on the impact assessment on 25 February 2022. The final recommendations to better explain the links to the Effort Sharing Regulation, the need to raise ambition, a more detailed description of the methodology and spelling out the success parameters were addressed in a revised text of the impact assessment. All detailed comments of the Board and how they were addressed are given in the impact assessment. This full impact assessment and a summary version are available on DG CLIMA's website.

- **Fundamental rights**

The proposed rules of this initiative ensure the full respect of the rights and principles set out in the Charter of Fundamental Rights of the European Union.

4. BUDGETARY IMPLICATIONS

This proposal includes a fixed quota price for a large part of the HFC quota that is allocated to importers and producers each year. The maximum annual revenue is shown in the table below.

	million €/year
2025 - 2026	125
2027 - 2029	53
2030 - 2032	27
2033 - 2035	25
2036 - 2038	20

However, the further development, operation, maintenance and IT security of the HFC quota system and the F-gas and ODS licencing system required under the Montreal Protocol as well as necessary links to the EU Single Window Environment for Customs and facilitation of better enforcement will require additional resources. Therefore, it is proposed, that the quota sale revenue is being used to cover costs related those activities and that the remaining quota sale revenue will flow into the EU Budget as general revenue.

5. OTHER ELEMENTS

- **Implementation plans and monitoring, evaluation and reporting arrangements**

Future monitoring and evaluation of the Regulation can rely on the Regulation's annual company reporting data that is collected and aggregated by the European Environment Agency each year.²⁰ The agency prepares a report on F-gas related activities for Member State representatives and the Commission (DG CLIMA), which includes inter alia data on imports, exports, production, destruction, and reclamation relevant to bulk F-gases and equipment containing such gases. Furthermore, to comply with the Protocol, the Commission is using the data to report annually on HFC production, feedstock, destruction, imports and exports to the

²⁰ <https://www.eea.europa.eu/publications/fluorinated-greenhouse-gases-2020>

Protocol's Ozone Secretariat on behalf of the EU. In addition, there is a public version of the report in the form of a web-based F-gas indicator published and updated regularly by the EEA. The measures proposed on reporting and monitoring would improve this data basis further in the future.

The changes to the reporting scope (new substances; recipients of exempted quota; reclamation facilities) will complete the picture on relevant gases and uses. The emission reporting databases will improve the knowledge on emissions and thus the impact of the F-gas sector as well as better data quality reported to the United Nations Framework Convention on Climate Change (UNFCCC). The streamlining of reporting and verification rules should also help in achieving better data quality more efficiently.

Moreover, the Commission will continue to closely monitor prices, the workings of the quota system and other market developments of the sector on the basis of contracts with external experts. Member States regularly update on relevant activities carried out such as (i) the collection and use of data to determine emissions, (ii) producer responsibility schemes, (iii) enforcement and other measures taken on illegal activities including penalties to the Implementation Committee established in the Regulation.

Finally, the Commission will monitor the implementation of the proposed measures. In this context, the Commission will cooperate closely with national authorities e.g. the national experts on ozone depleting substances, customs authorities and market surveillance authorities. The committee referred to in the proposal will assist the Commission in its work and will discuss questions on the harmonised enforcement of the proposed rules where appropriate. The development of the relevant case-law of the Court of Justice of the European Union will also be monitored, as well as any decision by the Implementing Committee of the Montreal Protocol regarding compliance of the EU and its Member States.

A good performance of the Regulation would mean that:

- Emissions of F-gases should fall as predicted by the modelling carried out under the accompanying impact assessment, i.e. in 2030 annual emissions should be 37 MtCO₂e.
- There should be no compliance issues with the Montreal Protocol regarding obligations on HFCs.
- Smooth implementation of the quota system and reduction of illegal trade to avoid harm in environmental, economic or reputational terms.
- The monitoring and reporting supports policy evaluation and compliance checking in a more effective but also efficient way.

The impacts of the Regulation should be evaluated regularly; the first evaluation, based on these data, should be published by 2033. In this context, an expert study would be needed to estimate the progress made on foam banks. The evaluation should also examine the developments in administrative costs.

- **Detailed explanation of the specific provisions of the proposal.**

The measures established under the F-gas Regulation to reduce emissions of fluorinated greenhouse gases are not put into question in the current proposal. The proposal mainly ensures that the proposed Regulation will be aligned with the ambitious EU climate objectives and that long-term compliance with international obligations will be guaranteed. Existing rules are clarified and strengthened to ensure better enforcement.

Chapter I

The proposal establishes the subject-matter and scope of the Regulation and includes the necessary definitions.

Chapter II

The proposal includes rules on containment (prevention of emissions, leakage checks, leakage detection system and rules on recovery). Prevention of emissions covers F-gases listed in Annexes I and II, and is imposed on all relevant actors during the production, storage, transport, manufacturing and operation of F-gases and the equipment containing them. Leak checks and record keeping also covers gases listed in Annex II Section I. Recovery obligations of fluorinated greenhouse gases is extended to also cover foams in sandwich panels and laminated boards when removed from buildings. The proposal also establishes training and certification obligations that also include tasks in relation to equipment that contain gases used as substitutes to fluorinated greenhouse gases (alternative gases) to promote their safe use and handling. The training and certification programmes should also cover energy efficiency aspects.

Chapter III

The proposal includes restrictions and prohibitions on the placing on the market of F-gases and the concerned products and equipment. It clarifies that products and equipment placed unlawfully on the market cannot be used or further supplied. For products and equipment lawfully placed on the market, their further supply as of two years following the prohibition deadline is allowed only if evidence is provided of their (initial) lawful placing on the market. Non-refillable containers shall be prohibited from entering the customs territory and further used or supplied.

The proposal also includes labelling requirements for the placing on the market of F-gases in containers and in certain equipment. These requirements include hydrofluorocarbons that are exempted from the quota requirements to enable enforcement of those exemptions. The proposal also prohibits specific uses of certain F-gases.

Chapter IV

The proposal establishes a production reduction schedule for HFCs, following the binding rules of the Montreal Protocol. Productions that maintain production today will receive rights based on the historic baseline of 2011 to 2013, while the Commission may, at the request of a Member State and within that State's production limits set by the Protocol, allocate additional rights to new entrants. The latter does not exempt HFCs exported inside of products and equipment.

The proposal also establishes a reduction schedule for the placing on the market of HFCs by establishing individual quantitative limits (quotas) for producers and importers. Importers and producers must ensure that they have sufficient quota to cover the quantities of HFCs placed on the market, at the moment the placing on the market occurs (i.e. for importers at the time of release for free circulation). HFCs for certain uses are exempted from the quota requirements. However, the exemption from the phase-down of metered dose inhalers (MDIs) for pharmaceutical use is removed to align with the consumption phase-down schedule of the Montreal Protocol, where the latter products are not exempted. The use of HFCs as propellants for MDIs is fully emissive, i.e. the whole HFC quantity filled into these products will eventually end up in the atmosphere, and has grown by 45% between 2015 and 2019. Even though two suitable climate-friendly alternatives are available that would not require any adaptation for the MDIs use by patients and that the approval process by the medical authority (EMA) is under way, the industry expects a slow market uptake in the absence of a

policy signal. By including MDIs under the quota system, a significant amount of emissions can be saved by 2050, at very little costs to manufacturers and the patients.²¹

Quotas are allocated every year to new entrants exclusively on the basis of a declaration and to historic importers and producers (incumbents) on the basis of their reference values (and on the basis of a declaration if made). Certain conditions apply for the allocation of quotas to all importers and producers, including the payment of an allocation amount. Importers and producers that share the same beneficial owner(s) shall be considered as one undertaking for the purpose of the determination of reference values and the allocation of quotas. HFCs charged in certain equipment should also be accounted for in the quota system.

Importers and producers that have a reference value may transfer some or all of their allocated quota to another undertaking for the purpose of placing HFCs on the market in bulk and may also authorise the use of all or some of their quota to another undertaking for the purpose of placing equipment charged with HFCs on the market.

The proposal also envisages the operation of the F-gas Portal for the implementation of the quota allocation system, licensing and reporting obligations and its inter-connection with the EU Single Window for Customs. Registered importers and producers have access to their individual quota allocations, penalties, quantities placed on the market as reported, as well as transfers and authorisations to use quota recorded by these undertakings. Alleged clerical errors in the recording of information by undertakings and in their reported data must be substantiated by evidence and must be timely presented to the Commission.

Chapter V

The proposal imposes as a condition to trade, a valid license to be presented to customs authorities in cases of import and export.

The proposal also clarifies the role of customs authorities and market surveillance authorities in enforcing the controls on trade envisaged therein. The information that should be provided in cases of imports and exports is listed as well as what customs authorities should check in particular during customs controls carried out on a risk basis. Non-refillable containers should be confiscated or seized or taken out of the market. For other goods, customs and market surveillance authorities shall take all necessary measures, including confiscation or seizure where needed, to enter that prohibited goods do not re-enter the market from another EU customs office. Re-export of unlawful gases or products covered under the Regulation shall be prohibited. Only designated or approved places and customs offices shall be allowed to handle cases of imports and exports of F-gases; only these designated offices and places shall be allowed to open or close a transit procedure.

Finally, the proposal imposes a ban on the trade of HFCs with non-Parties to the Protocol, in line with the obligations set out in the Protocol as from 2028.

Chapter VI

The proposal establishes reporting obligations in particular for producers, importers of gases in bulk as well as charged in products and equipment, exporters, feedstock users, destruction and reclamation facilities and undertakings that received hydrofluorocarbons that fall under the exemptions from the quota rules. The reporting is done electronically via the F-gas Portal. Verification, subject to quantitative limits, of reported data shall also be done via the F-gas Portal.

The proposal requires Member States to collect emission data electronically where possible.

²¹ Find more information on MDIs in the accompanying impact assessment.

Chapter VII

The proposal specifies the cases where exchange of information and cooperation with competent authorities within a Member State, as well as amongst Member States and with competent authorities of third countries is required.

The proposal also establishes the obligation for competent authorities to check on the compliance of undertakings with the Regulation on a risk basis and where concrete evidence are available.

The proposal also ensures that reports by whistle-blowers in relation to infringements of the Regulation benefit from the level of protection envisaged under Directive (EU) 2019/1937.

Chapter VIII

Finally, the proposal establishes that the level and type of administrative penalties for infringements of the Regulation must be effective, dissuasive and proportionate and shall also take into account relevant criteria (such as the nature and gravity of the infringement). In particular, it proposes an administrative fine to be imposed in cases of illegal production, use or trade of gases and of the products and equipment covered under this Regulation. The proposed provisions are aligned, and compliment the Commission Proposal for a Directive of the European Parliament and of the Council on the protection of the environment through criminal penalties adopted on 15 December 2021²².

The proposal also establishes a consultation forum represented by Member States and representatives of civil society, including environmental organisations, representatives of manufacturers, operators and certified persons who will advise and provide expertise to the Commission in the implementation of this Regulation.

²² COM(2021) 851 final.

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

(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 Committee²³,

Having regard to the opinion of the Committee of the Regions²⁴,

Acting in accordance with the ordinary legislative procedure,

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 increase its climate targets and make Europe the first climate-neutral continent by 2050 and aims to protect the health and well-being of citizens from environment-related risks and impacts. Furthermore, the EU is committed to the 2030 Agenda for Sustainable Development and its Sustainable Development Goals.
- (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').²⁵ 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 Council²⁶ 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

²³ OJ C , , p. .

²⁴ OJ C , , p. .

²⁵ OJ L 282, 19.10.2016, p. 4.

²⁶ 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).

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 CO₂, ammonia, hydrocarbons, water) in many types of equipment that used fluorinated greenhouse gases traditionally.

- (4) The Intergovernmental Panel on Climate Change (IPCC) Special report²⁷ 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).²⁸ 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.
- (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 Amendment²⁹ 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.
- (7) To ensure coherence with the reporting requirements under the 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 one kilogram of CO₂ based on the Fourth Assessment Report adopted by the IPCC. For other substances, the most recent IPCC Assessment Report should be used. 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.
- (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.

²⁷ IPCC Special Report. Global warming of 1.5 C (August 2021).

²⁸ 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).

²⁹ 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).

- (9) Given that the production process for some fluorinated compounds can result in significant emissions of other fluorinated greenhouse gases produced 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 measures adopted to prevent emissions of trifluoromethane during the production process.
- (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 Council.³⁰ Recovery obligations should also be extended to building owners and contractors when removing certain foams from buildings, in order to maximise emissions reductions.
- (11) To encourage the use of technologies with no impact or lower impact on the climate that may involve the use substances that are toxic, flammable or highly pressurized, the training of natural persons who carry out activities involving fluorinated greenhouse gases should cover technologies replacing or reducing the use of fluorinated greenhouse gases, including information on energy efficiency aspects 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.
- (12) The existing prohibitions on specific uses of sulphur hexafluoride, the most climate damaging substance known, should be retained and be complemented by additional restrictions on the use in the critical sector of power distribution.
- (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 that contains fluorinated greenhouse gases or whose functioning relies upon those gases. 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 limited period.
- (14) For reasons of reducing the indirect impact of the operation of equipment for refrigeration, air-conditioning 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 Council³¹ 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 ozone depleting substances, 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

³⁰ 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).

³¹ 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).

- 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.
- (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. 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.
 - (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. 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*].³²

- (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.
- (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, 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 Council³³. 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.
- (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.
- (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.

³² 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*]

³³ 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).

- (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 parallel prohibition envisaged under the Protocol as from 2033 has thus been advanced, 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 lay down rules on penalties applicable to infringements of the provisions of this Regulation and ensure that they are implemented. Those penalties should be effective, proportionate and dissuasive.
- (34) It is also necessary to provide for administrative penalties of such a level and type that truly deter violations of this Regulations.
- (35) Serious infringements of this Regulation should also be prosecuted under criminal law, in accordance with Directive 2008/99/EC of the European Parliament and of the Council.³⁴
- (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 Council.³⁵ 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.
- (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

³⁴ Directive 2008/99/EC of the European Parliament and of the Council of 19 November 2008 on the protection of the environment through criminal law (OJ L 328, 6.12.2008, p. 28).

³⁵ 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).

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 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 Council³⁶ is applicable to the reporting of breaches of this Regulation and to the protection of persons reporting such breaches.

- (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 a so-called Consultation Forum to ensure a balanced participation of Member States' representatives and representatives of civil society, including environmental organisations, representatives of manufacturers, operators and certified persons.
- (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; exemptions for products and equipment falling under a placing on the market prohibition; the format of labels; 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; 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. Those powers should be exercised in accordance with Regulation (EU) No 182/2011 of the European Parliament and of the Council.³⁷
- (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

³⁶ 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).

³⁷ 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).

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; additional 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. 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-Making³⁸. 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.

- (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 Council³⁹ and 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 Council⁴⁰ 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.
- (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*],

³⁸ OJ L 123, 12.5.2016, p. 1.

³⁹ 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).

⁴⁰ 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).

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 and on related ancillary measures, and facilitates the safe use of alternative substances;
- (b) imposes conditions on the 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 II, whether alone or in a mixture.
2. This Regulation also applies to products and equipment, and parts thereof, containing fluorinated greenhouse gases or whose functioning relies upon 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 and equipment 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 supplying or making available to another person within the Union, for the first time, for payment or free of charge, the customs release for free circulation in the Union, and 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;
- (10) ‘container‘ means a product 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 in order to match the equivalent performance of a virgin substance, taking into account its intended use;
- (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 removal from operation or usage of a product or equipment, containing fluorinated greenhouse gases, including the final shut-down of an installation;
- (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 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;

- (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 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;
- (19) 'virgin substances' means substance which have 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 truck or a tractor, 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 the utilisation of fluorinated greenhouse gases in the production, maintenance or servicing, including refilling, of products and equipment, or in other activities 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.

CHAPTER II

CONTAINMENT

Article 4

Prevention of emissions

1. The intentional release into the atmosphere of fluorinated greenhouse gases listed in Annexes I and II shall be prohibited where the release is not technically necessary for the intended use.
2. Operators and manufacturers of equipment and installations that contain fluorinated greenhouse gases listed in Annexes I or II, 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 installation, of fluorinated greenhouse gases listed in Annexes I and II, the undertaking shall take all necessary precautions to limit release of fluorinated greenhouse gases listed in Annexes I and II to the greatest extent possible. This paragraph also applies where fluorinated greenhouse gases listed in Annexes I and II are produced as by-products.
4. Where a leakage of fluorinated greenhouse gases listed in Annex I or II is detected, the operators, manufacturers of equipment and installations and the undertakings in possession of the equipment during its transport, or storage, shall ensure that the equipment or installation 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 within one month after the repair to verify that the repair has been effective.

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 on the production facility and the mitigation measures adopted to prevent emissions of trifluoromethane. 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 Annexes I and II.

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

Article 5

Leak checks

1. 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 that 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, shall not be checked for leaks, provided the equipment is labelled as hermetically sealed and its connected parts 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.

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;
 - (c) it contains less than 6 kilograms of fluorinated greenhouse gases listed in Annex I.
2. Paragraph 1 applies to operators of the following equipment that contains fluorinated greenhouse gases listed in Annex I or in Annex II, Section I:
 - (a) stationary refrigeration equipment;
 - (b) stationary air-conditioning equipment;

- (c) stationary heat pumps;
- (d) stationary fire protection equipment;
- (e) refrigeration units of refrigerated trucks and trailers;
- (f) organic Rankine cycles.
- (g) electrical switchgear.

As regards the equipment referred to in the first subparagraph, points (a) to (f), the checks shall be carried out by natural persons certified in accordance with the rules provided for in Article 10.

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 between 10 to 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 more than 100 kilograms 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.
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, 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 (f) and (g), 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 (d) and (f), 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 (g), that is 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;
 - (b) the quantities of gases added during installation, maintenance or servicing or due to leakage;
 - (c) whether the quantities of gases have been recycled or reclaimed, including the name and address in the Union of the recycling or reclamation facility and, where applicable, the certificate number;
 - (d) the quantity of gases recovered;
 - (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;
 - (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 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.

4. The Commission may, by means of an implementing act, determine the format of the records referred to in paragraphs 1 and 3 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 stationary equipment or of refrigeration units of refrigerated trucks and trailers that contain fluorinated greenhouse gases listed in Annex I and Annex II, Section 1, not contained in foams, shall ensure that the recovery of those gases is carried out by natural persons that hold the relevant certificates provided for in Article 10, so and that those gases are recycled, reclaimed or destroyed.

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

- (a) the cooling circuits of stationary refrigeration, stationary air-conditioning and stationary heat pump equipment;
 - (b) the cooling circuits of refrigeration units of refrigerated trucks and trailers;
 - (c) stationary equipment that contains fluorinated greenhouse gas-based solvents;
 - (d) stationary fire protection equipment;
 - (e) stationary electrical switchgear.
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 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 2024, building owners and contractors shall ensure that during renovation, refurbishing or demolition activities implying the removal of metal-faced panels that contain foams with fluorinated greenhouse gases listed in Annex I and Annex II, Section 1, the emissions are avoided to the extent possible by recovery for reuse or destruction of the foams and the gases contained therein. The recovery shall be carried out by appropriately qualified natural persons.
 5. As from 1 January 2024, 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 Annex II, Section 1, the emissions are avoided to the extent possible by recovery for reuse or destruction of the foams and the gases contained therein. 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, 6 and 7 that contain fluorinated greenhouse gases listed in Annex I and 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 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 Council⁴¹ shall be carried out by appropriately qualified natural persons.

For the recovery of fluorinated greenhouse gases listed in Annex I and Annex II, Section 1, from air-conditioning equipment in motor vehicles falling within the scope of Directive 2006/40/EC only natural persons holding at least a training attestation in accordance with Article 10(2) shall be considered appropriately qualified.

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') or by technologies not yet approved, but are environmentally equivalent and comply with Union and national legislation on waste and with additional requirements under such legislation.

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

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 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 Annex II, Section 1.

⁴¹ 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).

Article 9

Producer responsibility schemes

Without prejudice to existing Union legislation, Member States shall encourage the development of producer responsibility schemes for the recovery of fluorinated greenhouse gases listed in Annexes I and II and their recycling, reclamation or destruction.

Member States shall inform the Commission on the actions undertaken.

Article 10

Certification and training

1. Member States shall, on the basis of the minimum requirements referred to in paragraph 5, 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 following tasks involving fluorinated greenhouse gases listed in Annex I and Annex II, Section 1 and other relevant alternatives to fluorinated greenhouse gases:
 - (a) installation, servicing, maintenance, repair or decommissioning of the equipment listed in Article 5(2), points (a) to (g);
 - (b) leak checks of the equipment referred to Article 5(2), points (a) to (f), as provided for in Article 5(1);
 - (c) recovery as provided for in Article 8(1).
2. Member States shall ensure that training programmes for natural persons recovering fluorinated greenhouse gases listed in Annex I and Annex II, Section I from air-conditioning equipment in motor vehicles falling within the scope of Directive 2006/40/EC of the European Parliament and of the Council⁴² are available, pursuant to paragraph 5.
3. The certification programmes and training provided for in paragraphs 1 and 2 shall cover the following,
 - (a) applicable regulations and technical standards;
 - (b) emission prevention;
 - (c) recovery of fluorinated greenhouse gases listed in Annex I and Annex II, Section 1;
 - (d) safe handling of equipment of the type and size covered by the certificate; and
 - (e) energy efficiency aspects.
4. Certificates under the certification programmes referred to in paragraph 1 shall be subject to the condition that the applicant has successfully completed an evaluation process established in accordance with paragraphs 1, 3 and 5.
5. The Commission shall, by means of implementing acts, establish the minimum requirements for certification programmes and training attestations. Those minimum requirements shall specify, for each type of equipment referred to in paragraphs 1

⁴² 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).

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

6. Member States shall establish or adapt certification programmes on the basis of the minimum requirements referred to in paragraph 5 for undertakings carrying out installation, servicing, maintenance, repair or decommissioning of the equipment listed in Article 5(2), points (a) to (f), containing fluorinated greenhouse gases listed in Annex I and Annex II, Section I, and other relevant alternatives to fluorinated greenhouse gases for other parties.
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.
8. By 1 January [*OP, please insert the date = one year following the entry into force of this Regulation*] 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. Any undertaking which assigns a task referred to in paragraph 1 to another undertaking shall take reasonable steps to ascertain 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 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.

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. 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.

Two years 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 due to higher energy efficiency during its operation, 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 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.

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.
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, 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 the training attestation required under Article 10(2), or undertakings that employ persons holding such a certificate or a training attestation shall be allowed to purchase fluorinated greenhouse gases listed in Annex I or 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 (g), and Article 10(2).

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

6. Non-hermetically sealed equipment charged with fluorinated greenhouse gases listed in Annex I and 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.

Article 12

Labelling and product and equipment information

1. The following products and equipment that contain fluorinated greenhouse gases or whose functioning relies upon those gases listed in Annexes I and II, may only be placed on the market 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) shall be labelled accordingly 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.
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 in the official languages of the Member State in which the good is to be placed on the market.

- 5. Foams and pre-blended polyols that contain fluorinated greenhouse gases listed in Annexes I and II shall not be placed on the market 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.
- 6. Reclaimed or recycled fluorinated greenhouse gases shall be labelled with an indication that the substance has been reclaimed or recycled, information on the batch number and the name and address of the reclamation or recycling facility in the Union.
- 7. Fluorinated greenhouse gases listed in Annex I and placed on the market 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 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 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 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 and placed on the market 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 hydrofluorocarbons, 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, 18(b) and (c), 19 and 20, the product shall be labelled with an indication that it may be used only where required by the safety standard to be specified. In the case referred to in Annex IV, points 20 and 22, the product shall be labelled with an indication that the product 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. From 1 January 2024, 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 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 existing 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).

4. The use of desflurane as inhalation anaesthetic is prohibited as from 1 January 2026, except when such use is strictly required and no other anaesthetic can be used on medical grounds. The user shall provide evidence, upon request, on the medical justification to the competent authority of the Member State and the Commission.

CHAPTER IV

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

Article 14

Production of hydrofluorocarbons

1. The production of hydrofluorocarbons is allowed to the extent that producers have been allocated production 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, while respecting the production limits of the Member State under the Protocol. Such implementing acts shall be adopted in accordance with Article 34(2).
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 production limits 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 production rights are available, authorise via the F-gas Portal that producer to exceed its production referred to in Article 14(2) by a specified amount, considering 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 calculated levels of production referred to in Article 14(2) 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 calculated levels of production by the two producers do not lead to an exceedance of production rights 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 shall ensure that the quantities of hydrofluorocarbons they place on the market do 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, 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; 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 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 imported or produced 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 April [*OP: Please insert the year of application 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 its 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.

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.

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, where necessary to prevent major disruptions of the market of hydrofluorocarbons, or where the mechanism is not fulfilling its purpose and is having undesirable or unintended effects.
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. 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. 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 Council⁴³.

2. Only importers and producers that have experience in trading activities of chemicals 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 equipment with hydrofluorocarbons

1. Refrigeration, air conditioning and heat pump equipment charged with hydrofluorocarbons shall not be placed on the market unless hydrofluorocarbons charged into the equipment are accounted for within the quota system referred to in this Chapter.
2. When placing pre-charged equipment as referred to in paragraph 1 on the market, manufacturers and importers of equipment 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 shall assume responsibility for compliance with this paragraph and paragraph 1.

Manufacturers and importers of equipment 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 and shall make it available, on request, to the competent authorities of Member States and the Commission.

3. Where hydrofluorocarbons contained in the equipment referred to in paragraph 1 have not been placed on the market prior to the charging of the equipment, importers of that equipment 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

⁴³ 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).

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 Council⁴⁴; or,
 - (b) accredited to verify financial statements in accordance with the legislation of the Member State concerned.
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 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 100 tonnes of CO₂ equivalent of hydrofluorocarbons, per year, contained in the equipment 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 import or export of fluorinated greenhouse gases and products and equipment containing fluorinated greenhouse gases or whose functioning relies upon those gases except in cases of temporary storage and for the following activities:
 - (a) submitting a declaration pursuant to Article 17(3);

⁴⁴ 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).

- (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) for carrying out the activities that require reporting under Article 26;
- (e) for 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) for 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, ensure the smooth functioning of the F-gas Portal. 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.

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).

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

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.

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 Annex II, Section 1, in refillable containers 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 and products 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 and the products 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 prohibited by this Regulation for disposal in accordance with Articles 197 and 198 of Regulation (EU) 952/2013. 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 Council⁴⁵.

For other substances and products and equipment covered by this Regulation, alternative measures may be taken to prevent unlawful import, further supply, or export, in particular in cases of hydrofluorocarbons 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.

The re-export of gases and products and equipment that do not comply with this Regulation 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. Those customs offices or places shall be sufficiently equipped to carry out the relevant physical controls based on risk analysis, and shall be knowledgeable on matters related to the prevention of illegal activities by this Regulation.

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

The Commission is empowered to adopt delegated acts in accordance with Article 32 to supplement this Regulation by establishing additional measures to those set out in this Regulation for the monitoring of fluorinated greenhouse gases and of products and equipment containing those gases or whose functioning relies upon those gases placed under temporary

⁴⁵ 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).

storage, or a customs procedure including customs warehousing or free zone procedure or in transit through the customs territory of the Union, on the basis of an evaluation of the potential risks of illegal trade linked to such movements, including tracing methodologies for gases placed on the market, taking into account the environmental benefits and socio-economic impacts of such measures.

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 replies 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 of application 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 application 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 of application 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 100 tonnes of CO₂ equivalent or more of hydrofluorocarbons, or 500 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 of application 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 of application 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 of application 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.

CHAPTER VII

ENFORCEMENT

Article 28

Cooperation and exchange of information

1. 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 in order to ensure compliance with this Regulation.

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 Regulation (EC) No 515/97 of the European Parliament and of the Council⁴⁶ and shall request assistance from the other Member States and the Commission where relevant.

⁴⁶ Regulation (EC) No 515/97 of the European Parliament and of the Council 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, concerning potential non-compliance with this Regulation.

The competent authorities of the Member States shall also carry out the checks that the Commission considers necessary to ensure compliance with this Regulation.

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.

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. Member States shall lay down the rules on penalties applicable to infringements of this Regulation and shall take all measures necessary to ensure that they are implemented. The penalties provided for shall be effective, proportionate and dissuasive. Member States shall, by 1 January [*OP please insert the year = 1 year 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. Without prejudice to the obligations of Member States under Directive 2008/99/EC, Member States shall, in accordance with national law, provide for competent authorities to have the power to impose appropriate administrative penalties and take other administrative measures in relation to those infringements.
3. Member States shall ensure that level and type of penalties are appropriate and proportionate and are applied considering at least to the following criteria:
 - (a) the nature and gravity of the infringement;
 - (b) the intentional or negligent character of the infringement;
 - (c) any previous infringements of this Regulation by the undertaking held responsible;
 - (d) the financial situation of the undertaking held responsible;
 - (e) the economic benefits derived or expected to be derived from the infringement.
4. The Member States shall ensure that their competent authorities are able to at least impose the following penalties in case of infringements of this Regulation:
 - (a) fines;
 - (b) confiscation or seizure of illegally obtained goods or of revenues gained by the undertaking from the infringement;
 - (c) suspension or revocation of the authorisation to carry out activities where those fall under the scope of this Regulation.
5. 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, Member States shall envisage maximum administrative fines of 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 Member States shall envisage maximum administrative fines of at least eight times the value of the gases or products and equipment concerned.

In cases of infringements of Article 4(1), the potential impact on the climate shall be reflected by taking into account the carbon price in the determination of an administrative fine.

6. 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.

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(3), 17(6), Article 24, Article 25(2) and Article 35 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(3), Article 17(6), Article 24, Article 25(2) and Article 35 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(3), Article 17(6), Article 24, Article 25(2) and Article 35 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.

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

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.

By 1 January 2033, the Commission shall publish a report on the implementation of this Regulation.

Article 36

Repeal

Regulation (EU) No 517/2014 is repealed.

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*.

It shall apply from 1 January [OP: Please insert the year following the year of entry into force of this Regulation].

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

- (a) [[1 March 2023] date = the application date specified in Regulation of the European Parliament and of the Council establishing the European Union Single Window Environment for Customs and amending Regulation (EU) No 952/2013 in the Annex for the part concerning fluorinated greenhouse gases] for release for free circulation referred to in Article 201 of Regulation (EU) 952/2013;
- (b) [[1 March 2025] date = the application date specified in Regulation of the European Parliament and of the Council establishing the European Union Single Window Environment for Customs and amending Regulation (EU) No 952/2013 in the Annex for the part concerning fluorinated greenhouse gases] for import procedures other than the one referred to in point (a), and 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

LEGISLATIVE FINANCIAL STATEMENT

Contents

1.	FRAMEWORK OF THE PROPOSAL/INITIATIVE.....	44
1.1.	Title of the proposal/initiative.....	44
1.2.	Policy area(s) concerned	44
1.3.	The proposal/initiative relates to:.....	44
1.4.	Objective(s).....	44
1.4.1.	General objective(s).....	44
1.4.2.	Specific (review) objective(s).....	44
1.4.3.	Expected result(s) and impact	45
1.4.4.	Indicators of performance	45
1.5.	Grounds for the proposal/initiative	46
1.5.1.	Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative	46
1.5.2.	Added value of Union involvement (it may result from different factors, e.g. coordination gains, legal certainty, greater effectiveness or complementarities). For the purposes of this point 'added value of Union involvement' is the value resulting from Union intervention, which is additional to the value that would have been otherwise created by Member States alone.....	48
1.5.3.	Lessons learned from similar experiences in the past.....	48
1.5.4.	Compatibility with the Multiannual Financial Framework and possible synergies with other appropriate instruments.....	49
1.5.5.	Assessment of the different available financing options, including scope for redeployment.....	49
1.6.	Duration and financial impact of the proposal/initiative	50
1.7.	Management mode(s) planned	50
2.	MANAGEMENT MEASURES.....	50
2.1.	Monitoring and reporting rules	50
2.2.	Management and control system(s)	51
2.2.1.	Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed	51
2.2.2.	Information concerning the risks identified and the internal control system(s) set up to mitigate them.....	51
2.2.3.	Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)	51
2.3.	Measures to prevent fraud and irregularities.....	51
3.	ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE.....	52

3.1.	Heading(s) of the multiannual financial framework and expenditure budget line(s) affected.....	52
3.2.	Estimated financial impact of the proposal on appropriations.....	53
3.2.1.	Summary of estimated impact on operational appropriations.....	53
3.2.2.	Estimated output funded with operational appropriations	55
3.2.3.	Summary of estimated impact on administrative appropriations.....	56
3.2.4.	Compatibility with the current multiannual financial framework.....	58
3.2.5.	Third-party contributions	58
3.3.	Estimated impact on revenue	59
TOC		

1. FRAMEWORK OF THE PROPOSAL/INITIATIVE

1.1. Title of the proposal/initiative

Proposal for a Regulation of the European Parliament and of the Council on fluorinated greenhouse gases repealing Regulation (EU) No 517/2014

1.2. Policy area(s) concerned

Climate Action
 Heading 3 Natural Resources and Environment
 Title 9 – Environment and Climate Action

1.3. The proposal/initiative relates to:

- a new action
- a new action following a pilot project/preparatory action⁴⁷
- the extension of an existing action
- a merger or redirection of one or more actions towards another/a new action

1.4. Objective(s)

1.4.1. General objective(s)

The proposed EU F-gas Regulation is having the general objective to:

- Prevent F-gas emissions, thereby contributing to EU climate objectives;
- Ensure compliance regarding obligations related to hydrofluorocarbons (HFCs) under the *Montreal Protocol on substances that deplete the ozone layer*.

1.4.2. Specific (review) objective(s)

The specific objectives for the review of Regulation (EU) No 517/2014 on fluorinated greenhouse gases (the F-gas Regulation):

- Achieve additional F-gas emission reductions to contribute more to reaching the at least minus 55% target by 2030 and carbon neutrality by 2050.

⁴⁷ As referred to in Article 58(2)(a) or (b) of the Financial Regulation.

- Fully align EU rules on F-gases with the Montreal Protocol to prevent non-compliance.
- Facilitate enhanced implementation and enforcement, the functioning of the quota system and promote training on F-gas alternatives.
- Improve monitoring and reporting to fill existing gaps and improve process and data quality for compliance.
- Improve clarity and internal coherence to support better implementation and understanding of the rules.

1.4.3. *Expected result(s) and impact*

Specify the effects which the proposal/initiative should have on the beneficiaries/groups targeted.

Specific review objective A:

Cumulative emission savings of ca. 40 Million tonnes of CO₂ equivalent by 2030 and ca. 310 Million tonnes of CO₂ equivalent by 2050, in addition to those savings already anticipated by the current F-gas Regulation. The proposed changes will lead to cost savings overall and in many sub-sectors of the economy and they will promote innovation and green technologies and some sectors will profit from higher output, research and employment in the long run.

Specific review objective B:

Full compliance with the Montreal Protocol as regards obligations related to hydrofluorocarbons.

Specific review objective C:

Illegal activities will be reduced, notably due to more precise rules in relation to imports of hydrofluorocarbons as well as a shift from quota allocation for free to requiring a price for the quota allocated (€ 3/ per tonnes of CO₂ equivalent). Some of the new measures will moderately increase the administrative burden for industry and authorities in Member States. Furthermore, the implementation of quota price will reduce the benefit obtained by quota holders from a price difference between the EU and the world market for hydrofluorocarbons. The implementation of the quota price will significantly increase the burden on the Commission on top of the already extensive efforts to host, develop, maintain and operate the quota system and implement the Montreal Protocol licencing requirements for both F-gases and Ozone depleting substances.

Specific review objective D:

The monitoring will be more comprehensive, making it possible to assess progress as well as identifying future threats. It will also be more efficient by aligning thresholds and dates on reporting and verification obligations, as well as digitising the process.

Specific review objective No E:

Better compliance with the Regulation and synergies with other policies.

1.4.4. *Indicators of performance*

Specify the indicators for monitoring progress and achievements.

Objective A: Comparing the emission level modelled by 2030 with the actual emissions as reported under Regulation (EU) No 525/2013;

Objective B: Avoidance of any decision by the Implementing Committee of the Montreal Protocol regarding compliance of the EU and its Member States with Montreal Protocol's rules regarding hydrofluorocarbons;

Objective C: Data collected on the workings of the quota system as well as industry and Member States' feedback, including their perceived level of illegal activities;

Objective D: Stakeholder and Member States' feedback on the reporting process and experience with compliance checking;

Objective E: Stakeholder and Member States' feedback on the perceived clarity and coherence with other policies.

1.5. Grounds for the proposal/initiative

1.5.1. Requirement(s) to be met in the short or long term including a detailed timeline for roll-out of the implementation of the initiative

In 2021, the EU increased its climate ambition through Regulation (EU) 2021/1119 (the *European Climate Law*). This law establishes a binding overall net greenhouse gas (GHG) reduction target of at least 55% by 2030 compared to 1990 and climate neutrality by 2050. The law is based on the 2030 Climate Target Plan⁴⁸ that underlines that climate action is required in all sectors and that **all policy instruments relevant for the decarbonisation of our economy must work in coherence**. To this end, the Commission has proposed to increase the binding annual GHG emission targets for Member States from 2021 to 2030 for sectors not covered by the existing EU Emissions Trading System (ETS) in its proposal to amend Regulation (EU) 2018/842 (the *Effort Sharing Regulation*).⁴⁹

F-gas emissions are highly warming greenhouse gases that count under the national GHG emission targets for Member States. Today F-gas emissions represent almost 5% of all GHG emissions covered by their targets. The proposed F-gas Regulation **will further support Member States in their efforts to reach their national greenhouse gas emission targets** in the most cost-effective way. The proposed Regulation is following the same approaches as the current Regulation because it is generally considered to be quite effective. Still it would be a missed opportunity to not exploit an unused potential to further reduce F-gas emissions at moderate costs. It is also necessary to ensure full compliance with the Kigali Amendment to the Montreal Protocol, which was agreed internationally after the adoption of the current F-gas Regulation. Finally, there is a need to ensure that the Regulation can be enforced more effectively and efficiently.

The Regulation is **directly applicable in all Member States** and will require them to update training and certification programmes in line with the revised implementing acts within 1 years after the date of application of the Regulation. Member States will also have to adjust their penalties for infringements of the F-gas Regulation within 1 year after the date of application of the Regulation. The obligations for competent authorities, including customs and surveillance authorities, are clarified in the reviewed Regulation to improve controls and enforcement.

⁴⁸ Communication from the Commission to the European Parliament, the Council, The European Economic and Social Committee and the Committee of the Regions Stepping up Europe's 2030 Climate ambition Investing in a climate-neutral future for the benefit of our future, COM(2020) 562 final.

⁴⁹ Proposal for a Regulation of the European Parliament and of the Council amending Regulation (EU) 2018/842 on binding annual greenhouse gas emission reductions by Member States from 2021 to 2030 contributing to climate action to meet commitments under the Paris Agreement, COM(2021) 555 final

The **European Environmental Agency (EEA)** must slightly adapt their reporting tool for undertakings reporting on F-gases, due to changes in the reporting requirements.

The **Commission** must continue to ensure full implementation of the quota and trade licencing system for hydrofluorocarbons, which currently covers around 5000 undertakings. Assuming that the proposed Regulation will become applicable from 2024 the Commission must ensure the following:

2023 - 2024:

- Continuous hosting, operation, maintenance of the F-gas Portal and HFC Licensing System and developments related to data exchanges between the F-gas Portal and HFC Licensing System and Member States' customs IT systems via DG TAXUD's EU Customs Single Window Exchange System which is a central component of the European Union Single Window Environment for Customs as well as appropriate data security measures.
- Ascertaining the interlinks with the reporting module hosted at EEA and further development as needed due to the review, in particular the electroning verification module.
- Preparing IT developments of the F-gas Portal and HFC Licensing System to complement the current IT system with new functionalities to implement the changes envisaged if the proposed Regulation and secondary legislation, notably the quota payment process and improving links with the ODS Regulation.
- Operational and administrative efforts related to preparing changes in quota allocation and registration requirements, including the collection of revenues.
- Adoption of the relevant implementing measures.

– **2025:**

- Further development of the F-gas Portal and HFC Licensing System and entry into operation of the new functionalities.
- Putting into operation and start of new verification module.
- Continuation of tasks related to the data exchanges with the European Union Single Window Environment for Customs and EEA reporting module.
- Preparation of and implementation of the new proposed quota allocation and the process for collecting the revenue.

– **2026 – and later:**

- Full implementation of the revised HFC quota system and F-gas Portal and HFC Licensing System.
- IT maintenance of the F-gas Portal and HFC Licensing System.
- A sufficient and stable level of resources is needed to ensure the proper implementation and functioning of the systems that are required to ensure full compliance with the Montreal Protocol.

Considering that quota holders are benefiting from the quota allocated to them, it appears appropriate that the revenue resulting from the quota price, once available, is used to cover the costs of implementing the system. Moreover, due to the

requirements of the Montreal Protocol for both hydrofluorocarbons and ozone depleting substances (ODS), necessary links to the European Union Single Window Environment for Customs and facilitation of better enforcement, it is proposed that the revenue from quota sale is being used to cover costs related to these required activities. The remaining revenue is proposed to be returned to the EU Budget as non-assigned revenue. Until a quota allocation revenue has been generated, implementation costs will have to be carried by the Commission.

- 1.5.2. *Added value of Union involvement (it may result from different factors, e.g. coordination gains, legal certainty, greater effectiveness or complementarities). For the purposes of this point 'added value of Union involvement' is the value resulting from Union intervention, which is additional to the value that would have been otherwise created by Member States alone.*

The measures in the Regulation relate to products and equipment which are traded in the EU single market. The measures also relate to the need to comply with Montreal Protocol obligations at EU level. It is not only most effective to take these measures at EU level but it would practically be unfeasible to safeguard Montreal Protocol compliance through 27 different national rules and trade licensing systems. This is fully confirmed by the evaluation (Annex 5 of the impact assessment).

- 1.5.3. *Lessons learned from similar experiences in the past*

The current F-gas Regulation was adopted in 2014 and is building on the first F-gas Regulation from 2006. The evaluation of the current F-gas Regulation shows that it has been mostly effective.

However, there are some challenges that need to be addressed (*see specific review objectives above*). This proposal is targeting these issues with various measures based on lessons learned.

As regards the implementation of the quota and licencing system, enforcement challenges and an unsatisfactory level of illegal imports have been posing risks to the environmental integrity, the competitiveness of genuine traders and to the reputation of the EU. Moreover, the administration efforts needed by the Commission to implement the current Regulation were severely underestimated because:

- There was an unforeseen steep increase in quota holders (from 100 to around 2000 importers of hydrofluorocarbons).
- Importers of equipment containing hydrofluorocarbons were included during the co-decision procedure (additional 3000 undertakings).
- Illegal imports required many actions, including extensive work to prepare for links to the European Union Single Window Environment for Customs.
- Continuous need to step up IT security.

The Commission has so far redeployed resources and relied on procurement of services from the market. However, this is not a sustainable long-term solution considering that new measures in this proposal are demanding even more resources for the implementation by the Commission at EU level.

1.5.4. Compatibility with the Multiannual Financial Framework and possible synergies with other appropriate instruments

The proposal will not demand additional resources from the EU budget. On the contrary, once the quota price is being collected the quota system will start generating an annual revenue from the sale of quota that will largely exceed the amounts needed to cover all the expenses for the operation, maintenance and development of the quota system for hydrofluorocarbons and the trade licencing required by the Montreal Protocol as well as the necessary links to the European Union Single Window Environment for Customs.

The substantial residual revenue after having covered these IT and administrative costs will be entered into the Union budget as non-assigned revenue.

The **maximum** revenue from the sale of quota (€ 3 per tonnes of CO₂ equivalent) is gradually being reduced from € 125 million in 2024 to € 20 million in 2036, see table in section 3.3.

1.5.5. Assessment of the different available financing options, including scope for redeployment

It is proposed that until a revenue from the quota sale will materialise, the Commission will continue ensuring the implementation of the HFC quota system and the trade licencing systems for HFCs and ODS required under the Montreal Protocol through redeployment of resources. Once the revenue is available, part of the tasks relevant for the implementation will be financed by the sale of quota to the undertakings that are using and benefitting from the system.

1.6. Duration and financial impact of the proposal/initiative

limited duration

- in effect from [DD/MM]YYYY to [DD/MM]YYYY
- Financial impact from YYYY to YYYY for commitment appropriations and from YYYY to YYYY for payment appropriations.

unlimited duration

- ✓ Implementation with a start-up period from 2023 to 2025,
- ✓ followed by full-scale operation.

1.7. Management mode(s) planned⁵⁰

Direct management by the Commission

- ✓ by its departments, including by its staff in the Union delegations;
- by the executive agencies

Shared management with the Member States

Indirect management by entrusting budget implementation tasks to:

- third countries or the bodies they have designated;
- international organisations and their agencies (to be specified);
- the EIB and the European Investment Fund;
- bodies referred to in Articles 70 and 71 of the Financial Regulation;
- public law bodies;
- bodies governed by private law with a public service mission to the extent that they provide adequate financial guarantees;
- bodies governed by the private law of a Member State that are entrusted with the implementation of a public-private partnership and that provide adequate financial guarantees;
- persons entrusted with the implementation of specific actions in the CFSP pursuant to Title V of the TEU, and identified in the relevant basic act.
- *If more than one management mode is indicated, please provide details in the 'Comments' section.*

Comments

For the reporting required in Article 26 of the proposal the EEA is tasked with the implementation.

2. MANAGEMENT MEASURES

2.1. Monitoring and reporting rules

Specify frequency and conditions.

The rules on monitoring and evaluation are described in Articles 26 and 34 of the proposed F-gas Regulation.

⁵⁰ Details of management modes and references to the Financial Regulation may be found on the BudgWeb site:

<https://myintracomm.ec.europa.eu/budgweb/EN/man/budgmanag/Pages/budgmanag.aspx>

The Commission will also continue to monitor and evaluate progress on the application of the F-gas Regulation, which requires undertakings subject to the reporting obligations to submit to the Commission an annual report of their activities under certain thresholds.

EEA will continue to run the Business Data Repository (BDR) through which both the companies' reports to the Commission are submitted and the Montreal reporting at EU level is carried out.

Finally, the Commission regularly carries out studies on various pertinent aspects of EU climate policy.

2.2. Management and control system(s)

2.2.1. Justification of the management mode(s), the funding implementation mechanism(s), the payment modalities and the control strategy proposed

The implementation of this proposal will require the redeployment of human resources within the Commission (for the preparatory phase 2023-2025) whereas following the implementation of the new proposed quota allocation, revenue collection process and collection of revenue, as well as potentially other related tasks, resources needed to cover the management costs should be funded by the revenues.

2.2.2. Information concerning the risks identified and the internal control system(s) set up to mitigate them

Difficulties with timely upgrading of the IT systems.

From the experience gained during the development and operations of the current F-gas Portal and HFC Licencing System, it can be anticipated that a crucial factor for a successful adjustment will be the timely further development of the system, including the set-up of the revenue collection system.

To the degree possible, an outsourcing of the revenue collection and related tasks should be envisaged to minimise risks.

The Commission will continue to ensure that procedures are in place to monitor the development of the F-gas Portal and HFC Licencing System in light of objectives relating to planning and costs and to monitor the functioning of the F-gas Portal and HFC Licencing System, including its integration in the European Union Single Window Environment for Customs, in light of objectives relating to the technical output, cost-effectiveness, security and quality of service.

2.2.3. Estimation and justification of the cost-effectiveness of the controls (ratio of "control costs ÷ value of the related funds managed"), and assessment of the expected levels of risk of error (at payment & at closure)

This proposal does not bring about new significant controls/risks that would not be covered by an existing internal control framework. No specific measures beyond the application of the Financial Regulation have been envisaged.

2.3. Measures to prevent fraud and irregularities

Specify existing or envisaged prevention and protection measures, e.g. from the Anti-Fraud Strategy.

DG CLIMA's fraud prevention and detection strategy will apply.

3. ESTIMATED FINANCIAL IMPACT OF THE PROPOSAL/INITIATIVE

3.1. Heading(s) of the multiannual financial framework and expenditure budget line(s) affected

- Existing budget lines

In order of multiannual financial framework headings and budget lines.

Heading of multiannual financial framework	Budget line	Type of	Contribution			
	Number	Diff./Non-diff.[1]	from EFTA countries[2]	from candidate countries[3]	from third countries	within the meaning of Article 21(2)(b) of the Financial Regulation
3	09 01 01 01	Non-diff.	YES	NO	NO	NO
3	09 02 03	Diff.	YES	NO	NO	NO
7	20 02 06 01	Non-diff.	NO	NO	NO	NO
7	20 02 06 02	Non-diff.	NO	NO	NO	NO

- New budget lines requested : n/a

3.2. Estimated financial impact of the proposal on appropriations

3.2.1. Summary of estimated impact on operational appropriations

- The proposal/initiative does not require the use of operational appropriations
- The proposal/initiative requires the use of operational appropriations, as explained below:

DG: CLIMA			2023	2024	2025	2026	2027	TOTAL
Operational appropriations								
09 02 03	Commitments	(1)	0,541	0,410	0,280	0,200	0,200	1,631
	Payments	(2)	0,541	0,410	0,280	0,200	0,200	1,631
Appropriations of an administrative nature financed from the envelope of specific programmes								
09 01 01 01		(3)	0,560	0,840	0,840	0,840	0,560	3,640
TOTAL appropriations DG CLIMA	Commitments	= 1 + 3	1,101	1,250	1,120	1,040	0,760	5,271
	Payments	= 2 + 3	1,101	1,250	1,120	1,040	0,760	5,271

TOTAL operational appropriations	Commitments	(4)	0,541	0,410	0,280	0,200	0,200	1,631
	Payments	(5)	0,541	0,410	0,280	0,200	0,200	1,631
TOTAL appropriations of an administrative nature financed from the envelope for specific programmes		(6)	0,560	0,840	0,840	0,840	0,560	3,640
TOTAL appropriations under HEADING 3 of the multiannual financial framework	Commitments	= 4 + 6	1,101	1,250	1,120	1,04	0,76	5,271
	Payments	= 5 + 6	1,101	1,250	1,120	1,04	0,76	5,271

TOTAL appropriations under HEADINGS 1 to 6 of the multiannual financial framework (Reference amount)	Commitments	= 4+ 6	1,101	1,250	1,120	1,040	0,760	5,271
	Payments	= 5+ 6	1,101	1,250	1,120	1,040	0,760	5,271

Heading of multiannual financial framework	7	‘Administrative expenditure’
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This section should be filled in using the 'budget data of an administrative nature' to be firstly introduced in the [Annex to the Legislative Financial Statement](#) (Annex V to the internal rules), which is uploaded to DECIDE for interservice consultation purposes.

EUR million (to three decimal places)

Heading of multiannual financial framework	7	‘Administrative expenditure’
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		2023	2024	2025	2026	2027	TOTAL
DG: CLIMA							
Human resources (voted budget)		0,785	1,452	1,452	0,942	0,942	5,573
Human resources (external staff paid from assigned revenues)		-	-	-	0,510	0,510	1,020
Other administrative expenditure		0,008	0,008	0,004	-	-	0,020
TOTAL DG CLIMA	Appropriations	0,793	1,460	1,456	1,452	1,452	6,613

TOTAL appropriations under HEADING 7 of the multiannual financial framework	(Total commitments = Total payments)	0,793	1,460	1,456	1,452	1,452	6,613
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EUR million (to three decimal places)

		2023	2024	2025	2026	2027	TOTAL
TOTAL appropriations under HEADINGS 1 to 7 of the multiannual financial framework	Commitments	1,894	2,710	2,576	2,492	2,212	11,884
	Payments	1,894	2,710	2,576	2,492	2,212	11,884

3.2.2. Estimated output funded with operational appropriations

Commitment appropriations in EUR million (to three decimal places)

Indicate objectives and outputs	OUTPUTS	Average cost	2023		2024		2025		2026		2027		total	
			Type[1]	No	Cost	No	Cost	No	Cost	No	Cost	No	Cost	No
Design and further development of the IT system of the F-gas Portal and Licensing System	QTM or service contracts	0,140	2	0,280	2	0,280		0,000		0,000		-		0,560
Development of the F-gas Portal and HFC Licensing System and entry into operation of the new functionalities, including the implementation of the quota allocation and sale process	QTM or service contracts	0,140	2	0,280	4	0,560	6	0,840	6	0,840	4	0,560		3,080
EU CSW-CERTEX/EU Single Window Environment for Customs ⁵¹	MoU TAXUD			0,541		0,410		0,280		0,200		0,200		1,631
TOTALS			4	1,101	6	1,250	6	1,120	6	1,040	4	0,760	0	5,271

⁵¹ From 2026 onwards an annual maintenance costs of 0,200 EUR million is envisaged to maintain the interconnection with the EU CSW-CERTEX/EU Single Window Environment for Customs

3.2.3. Summary of estimated impact on administrative appropriations

- The proposal/initiative does not require the use of appropriations of an administrative nature
- The proposal/initiative requires the use of appropriations of an administrative nature, as explained below:

EUR million (to three decimal places)

	2023	2024	2025	2026	2027	TOTAL
HEADING 7 of the multiannual financial framework						
Human resources (voted budget)	0,785	1,452	1,452	0,942	0,942	5,573
Human resources (external staff paid from assigned revenues)	-	-	-	0,510	0,510	1,020
Other administrative expenditure	0,008	0,008	0,004	-	-	0,020
Subtotal HEADING 7 of the multiannual financial framework	0,793	1,460	1,456	1,452	1,452	6,613

Outside HEADING 7⁵² of the multiannual financial framework						
Human resources	-	-	-	-	-	-
Other expenditure of an administrative nature	0,560	0,840	0,840	0,840	0,560	3,640
Subtotal outside HEADING 7 of the multiannual financial framework	0,560	0,840	0,840	0,840	0,560	3,640

TOTAL	1,353	2,300	2,296	2,292	2,012	10,253
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The appropriations required for human resources and other expenditure of an administrative nature will be met by appropriations from the DG that are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

⁵² Technical and/or administrative assistance and expenditure in support of the implementation of EU programmes and/or actions (former 'BA' lines), indirect research, direct research.

3.2.3.1. Estimated requirements of human resources

- The proposal/initiative does not require the use of human resources.
- The proposal/initiative requires the use of human resources, as explained below:

Estimate to be expressed in full time equivalent units

	2023	2024	2025	2026	2027
• Establishment plan posts (officials and temporary staff)					
20 01 02 01 (Headquarters and Commission's Representation Offices)	5	6	6	6	6
20 01 02 03 (Delegations)					
01 01 01 01 (Indirect research)					
01 01 01 11 (Direct research)					
Other budget lines (specify)					
• External staff (in Full Time Equivalent unit: FTE)⁵³					
20 02 01 (AC, END, INT from the 'global envelope')	0	6	6		
20 02 01 (AC, END, INT from 'assigned revenues')				6	6
20 02 03 (AC, AL, END, INT and JPD in the delegations)					
XX 01 xx yy zz ⁵⁴	- at Headquarters				
	- in Delegations				
01 01 01 02 (AC, END, INT - Indirect research)					
01 01 01 12 (AC, END, INT - Direct research)					
Other budget lines (specify)					
TOTAL	5	12	12	12	12

The human resources required will be met by staff from the DG who are already assigned to management of the action and/or have been redeployed within the DG, together if necessary with any additional allocation which may be granted to the managing DG under the annual allocation procedure and in the light of budgetary constraints.

Description of tasks to be carried out:

Officials and temporary staff	Implementation of a tighter phase-down, including on production, alignment with international obligations and a more comprehensive and complex legislation on prohibitions
External staff	Assisting on the operational management of the quota and licensing system including pricing

⁵³ AC= Contract Staff; AL = Local Staff; END= Seconded National Expert; INT = agency staff; JPD= Junior Professionals in Delegations.

⁵⁴ Sub-ceiling for external staff covered by operational appropriations (former 'BA' lines).

3.2.4. *Compatibility with the current multiannual financial framework*

The proposal/initiative:

- ✓ can be fully financed through redeployment within the relevant heading of the Multiannual Financial Framework (MFF).

The necessary financial resources will be found in the envelope of the LIFE programme and/or revenue generated by the quota allocation price.

- requires use of the unallocated margin under the relevant heading of the MFF and/or use of the special instruments as defined in the MFF Regulation.

..

- requires a revision of the MFF.

..

3.2.5. *Third-party contributions*

The proposal/initiative:

- ✓ does not provide for co-financing by third parties
- provides for the co-financing by third parties estimated below:

3.3. Estimated impact on revenue

- The proposal/initiative has no financial impact on revenue.
- The proposal/initiative has the following financial impact:
 - on own resources
 - on other revenue
 - please indicate, if the revenue is assigned to expenditure lines x

EUR million (to three decimal places)

Budget revenue line:	Appropriations available for the current financial year	Impact of the proposal/initiative ⁵⁵				
		2023	2024	2025	2026	2027
Article 6 2 1 1 Programme for the Environment and Climate Action - Assigned revenue	-	-	125,000	125,000	125,000	53,000

For assigned revenue, specify the budget expenditure line(s) affected.

20 02 01 - (AC, END, INT from the ‘global envelope’)
 09 01 01 01 - Support expenditure for the Programme for the Environment and Climate Action (LIFE)
 09 02 03 – Climate action mitigation and adaptation

Other remarks (e.g. method/formula used for calculating the impact on revenue or any other information).

The budget shall include the revenue generated by the quota allocation price. It is proposed that the further development, operation, maintenance and IT security of the HFC quota system – including a new quota sale module – and the F-gas and ODS licencing system required under the Montreal Protocol as well as necessary links to the European Union Single Window Environment for Customs and facilitation of better enforcement will be financed by the revenue collected.

The residual revenue after having covered these IT and administrative costs will be entered into the Union budget as non-assigned revenue.

The **maximum** revenue from the sale of quota at a price of € 3 per tonne of CO₂ equivalent is given in the table below. The **actual revenue will be somewhat lower** because a (minor) part of overall quota will still be allocated for free. The split between paid quota and free quota will not be known in advance, but still it is expected that a very high share of the maximum quota amount will be allocated against payment. It is proposed that the Commission may change the fixed quota price if needed due to very specific circumstances.

Maximum estimated annual revenue in million €:

2025 - 2026	125
2027 - 2029	53

⁵⁵ As regards traditional own resources (customs duties, sugar levies), the amounts indicated must be net amounts, i.e. gross amounts after deduction of 20 % for collection costs.

2030 - 2032	27
2033 - 2035	25
2036 - 2038	20



Strasbourg, 5.4.2022
COM(2022) 150 final

ANNEXES 1 to 10

ANNEXES

to the

**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**

{SEC(2022) 156 final} - {SWD(2022) 95 final} - {SWD(2022) 96 final} -
{SWD(2022) 97 final}

ANNEX I

Fluorinated greenhouse gases referred to in Article 2(1)¹

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
HFC-227ea	1,1,1,2,3,3,3-heptafluoropropane	CF ₃ CHFCF ₃	3 220	5 850
HFC-236cb	1,1,1,2,2,3-hexafluoropropane	CH ₂ FCF ₂ CF ₃	1 340	3 750

¹ This Annex contains the gases listed therein, whether alone or in a mixture.

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-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 CHFCH ₂ CF ₂ CF ₃	1 640	3 960

Substance			GWP 100 ⁽³⁾	GWP 20 ⁽³⁾
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 perfluorinated compounds</i>				
	sulphur hexafluoride	SF ₆	25 200	18 300

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 substances referred to in Article 2(1)⁽⁵⁾

Substance		GWP ⁽⁶⁾	20 years-GWP ⁽²⁾ for information purposes only
Common name/industrial designation	Chemical formula		
<i>Section 1: Unsaturated hydro(chloro)fluorocarbons</i>			
HCFC-1224yd(Z)	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)	(*)
HFC-1234yf	CF ₃ CF = CH ₂	0,501	1,81
HFC-1234ze	trans — CHF = CHCF ₃	1,37	4,94
HFC-1336mzz	CF ₃ CH = CHCF ₃	17,9	64,3
HCFC-1233zd	CF ₃ CH = CHCl	3,88	14
HCFC-1233xf	CF ₃ CCl = CH ₂	1 ^{Fn} (4)	(*)
<i>Section 2: fluorinated substances used as inhalation anaesthetics</i>			
HFE-347mmz1 (sevoflurane) and isomers	(CF ₃) ₂ CHOCH ₂ F	195	702
HCFE-235ca2 (enflurane) and isomers	CHF ₂ OCF ₂ CHFCl	654	2 320

⁵ This Annex contains the gases listed therein, whether alone or in a mixture.

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.

HCFE-235da2 (isoflurane) and isomers	$\text{CHF}_2\text{OCHClCF}_3$	539	1 930
HFE-236ea2 (desflurane) and isomers	$\text{CHF}_2\text{OCHF}_3$	2 590	7 020
<i>Section 3: other fluorinated substances</i>			
nitrogen trifluoride	NF_3	17 400	13 400
sulfurylfluoride	SO_2F_2	4 630	7 510

ANNEX III

Other fluorinated greenhouse gases referred to in Article 2(1)⁹

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
n-HFE-7100	CF ₃ CF ₂ CF ₂ CF ₂ OCH ₃	544	1 920
i-HFE-7100	(CF ₃) ₂ CFCF ₂ OCH ₃	437	1 540
i-HFE-7200	(CF ₃) ₂ CFCF ₂ OCH ₂ CH ₃	34,3	124

⁹ This Annex contains the gases listed therein, whether alone or in a mixture.

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

HFE-43-10pcccl24 (H-Galden 1040x) HG-11	<chem>CHF2OCF2OC2F4OCHF2</chem>	3 220	8 720
HFE-236cal2 (HG-10)	<chem>CHF2OCF2OCHF2</chem>	6 060	11 700
HFE-338pccl3 (HG-01)	<chem>CHF2OCF2CF2OCHF2</chem>	3 320	9 180
HFE-347mmyl	<chem>(CF3)2CFOCH3</chem>	392	1 400
2,2,3,3,3-pentafluoropropan-1-ol	<chem>CF3CF2CH2OH</chem>	34,3	123
1,1,1,3,3,3-Hexafluoropropan-2-ol	<chem>(CF3)2CHOH</chem>	206	742
HFE-227ea	<chem>CF3CHFOCF3</chem>	7 520	9 800
HFE-236fa	<chem>CF3CH2OCF3</chem>	1 100	3 670
HFE-245fal	<chem>CHF2CH2OCF3</chem>	934	3 170
HFE 263fb2	<chem>CF3CH2OCH3</chem>	2,06	7,43
HFE-329 mcc2	<chem>CHF2CF2OCF2CF3</chem>	3 770	7 550
HFE-338 mcf2	<chem>CF3CH2OCF2CF3</chem>	1 040	3 460
HFE-338mmzl	<chem>(CF3)2CHOCHF2</chem>	3 040	6 500
HFE-347 mcf2	<chem>CHF2CH2OCF2CF3</chem>	963	3 270
HFE-356 mec3	<chem>CH3OCF2CHFCF3</chem>	264	949
HFE-356mm1	<chem>(CF3)2CHOCH3</chem>	8,13	29,3
HFE-356pcf2	<chem>CHF2CH2OCF2CHF2</chem>	831	2 870
HFE-356pcf3	<chem>CHF2OCH2CF2CHF2</chem>	484	1 730
HFE 365 mcf3	<chem>CF3CF2CH2OCH3</chem>	1,6	5,77
HFE-374pc2	<chem>CHF2CF2OCH2CH3</chem>	12,5	45
2,2,3,3,4,4,5,5- octafluorocyclopentan- 1-ol	<chem>(CF2)4CH(OH)-</chem>	13,6	49,1

1,1,1,3,4,4,4-Heptafluoro-3-(trifluoromethyl)butan-2-one	$\text{CF}_3\text{C}(\text{O})\text{CF}(\text{CF}_3)_2$	0,29 ⁽¹¹⁾	(*)
<i>Section 2: Other fluorinated compounds</i>			
perfluoropolymethylisopropyl-ether (PFPME)	$\text{CF}_3\text{OCF}(\text{CF}_3)\text{CF}_2\text{OCF}_2\text{OCF}_3$	10 300	7 750
trifluoromethylsulphurpentafluoride	SF_5CF_3	18 500	13 900
Perfluorocyclopropane	c-C ₃ F ₆	9 200 ⁽¹²⁾	6 850 ⁽³⁾
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
perfluoro-N-methylmorpholine	C ₅ F ₁₁ NO	8 800 ⁽¹³⁾	(*)
Perfluorotripropylamine	C ₉ F ₂₁ N	9 030	6 750

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.

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)

Products and equipment		Date of prohibition
Where relevant, the GWP of mixtures containing fluorinated greenhouse gases shall be calculated in accordance with Annex VI, as provided for in Article 3, point (1)		
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
(2)	Non-confined direct evaporation systems that contain HFCs and PFCs as refrigerants.	4 July 2007
(3)	Fire protection equipment that contain PFCs	4 July 2007
	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 standards	1 January 2024
(4)	Windows for domestic use that contain fluorinated greenhouse gases listed in Annex I.	4 July 2007
(5)	Other windows that contain fluorinated greenhouse gases listed in Annex I.	4 July 2008
(6)	Footwear that contains fluorinated greenhouse gases listed in Annex I.	4 July 2006
(7)	Tyres that contain fluorinated greenhouse gases listed in Annex I.	4 July 2007
(8)	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.	4 July 2008
(9)	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.	4 July 2009
(10)	Domestic refrigerators and freezers that contain HFCs with GWP of 150 or more.	1 January 2015

(11)	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 GWP of 150 or more.	1 January 2024
(12)	Any self-contained refrigeration equipment that contains fluorinated greenhouse gases with GWP of 150 or more.		1 January 2025
(13)	Stationary refrigeration equipment 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
(14)	Stationary refrigeration equipment, that contains, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 2 500 or more except equipment intended for application designed to cool products to temperatures below – 50 °C.		1 January 2024
(15)	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
(16)	Plug-in room air-conditioning equipment (self-contained equipment) which is movable between rooms by the end user that contain HFCs with GWP of 150 or more.		1 January 2020
(17)	Plug-in room and other self-contained air-conditioning and heat pump equipment that contain fluorinated greenhouse gases with GWP of 150 or more.		1 January 2025
(18)	Stationary split air-conditioning and split heat pump equipment :		
	(a)	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
	(b)	Split systems of a rated capacity of up to and including 12 kW containing, or whose functioning relies upon, fluorinated greenhouse gases with GWP of 150 or more, except when required to meet safety standards;	1 January 2027
	(c)	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 standards.		
(19)	Foams that contain HFCs with GWP of 150 or more, except when required to meet national safety standards.	-Extruded polystyrene (XPS)	1 January 2020
		-Other foams	1 January 2023
(20)	Technical aerosols that contain HFCs with GWP of 150 or more, except when required to meet national safety standards or when used for medical applications.		1 January 2018
(21)	Personal care products (i.e. mousse, creams, foams) containing fluorinated greenhouse gases.		1 January 2024
(22)	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.		1 January 2024
(23)	Installation and replacement of the following electrical switchgear:	(a) medium voltage switchgear for primary and secondary distribution up to 24 kV, with insulating or breaking medium using, or whose functioning relies upon, gases with GWP of 10 or more, or with GWP of 2000 or more, unless evidence is provided that no suitable alternative is available based on technical grounds within the lower GWP ranges referred to above;	1 January 2026
		(b) medium voltage switchgear for primary and secondary distribution from more than 24 kV and up to 52 kV, with insulating or breaking medium using, or whose functioning relies upon gases with GWP of 10 or more, or with GWP of more than 2000, unless evidence is provided that no suitable alternative is available based on technical grounds within the lower GWP ranges referred to above;	1 January 2030
		(c) high voltage switchgear from 52 and up to 145 kV and up to 50 kA short circuit current with insulating or breaking medium using, or whose functioning relies upon gases with GWP of 10 or more, or with GWP of more than 2000, unless evidence is provided that no suitable alternative is available based on	1 January 2028

	technical grounds within the lower GWP ranges referred to above;	
	(d) high voltage switchgear of more than 145 kV or more than 50 kA short circuit current with insulating or breaking medium using, or whose functioning relies upon gases with GWP of 10 or more, or with GWP of more than 2000 unless evidence is provided that no suitable alternative is available based on technical grounds within the lower GWP ranges referred to above.	1 January 2031

1. 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.

2. The evidence referred to in point 23, shall include documentation establishing that following an open call for tender no suitable alternative on technical grounds, given the demonstrated specificities of the application, was available that could meet the conditions set out in point 23. The documentation 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.

ANNEX V

Production rights for placing hydrofluorocarbons on the market

The calculated levels of production of hydrofluorocarbons, expressed in tonnes of CO₂ equivalents, referred to in Article 14 for each producer is:

- (a) for the period 1 January 2024 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.

For the purpose of this Annex, production means 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 as production.

ANNEX VI

Method of calculating the total GWP of a mixture referred to in Article 3(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:

$$\Sigma (60 \%_x 1) + (10 \%_x 124) + (30 \%_x 3)$$

$$\text{Total GWP} = 13,9$$

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.

Substance			GWP 100 ⁽¹⁴⁾
Common name	Industrial designation	Chemical Formula	
methane		CH ₄	27,9
nitrous oxide		N ₂ O	273
dimethyl ether		CH ₃ OCH ₃	1 ⁽¹⁵⁾
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 ⁽¹⁶⁾
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 ether)	R-610	CH ₃ CH ₂ OCH ₂ CH ₃	4 ⁽¹⁵⁾
methyl formate	R-611	HCOOCH ₃	11 ⁽¹⁷⁾
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⁾

¹⁴ Based on the Sixth Assessment Report adopted by the Intergovernmental Panel on Climate Change, unless otherwise indicated.

¹⁵ Based on the Fourth Assessment Report adopted by the Intergovernmental Panel on Climate Change

¹⁶ WMO et al. (2018). Scientific Assessment of Ozone Depletion, where value is given as <<1

¹⁷ 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
2024 – 2026	41 701 077
2027 – 2029	17 688 360
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 onwards	4 200 133

- (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 equivalent¹⁸.
- in addition, where relevant, a quota corresponding to the reference value referred to in Annex VII, point 4(ii), multiplied by the maximum quantity for the year for which the quota is allocated divided by the maximum quantity for the year 2024.

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.

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.

¹⁸ This number is the maximum quantity established for 2015 at the beginning of the phase-down, taking into account BREXIT.

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 used, 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.
- (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 the quantities of those substances contained in products or equipment;
 - (b) any stocks of each substance listed in Annexes I, II and III waiting to be destroyed, including 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;
 - (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 of each substance listed in Annexes I, II and III waiting to be reclaimed.

ANNEX X

Correlation Table

Regulation (EU) No 517/2014	This Regulation
Article 1	Article 1
Article 2(1)	Article 2(1), point (a)
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(36)
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
Annex VII	Annex IX