



OPINION

European Economic and Social Committee

Revision of the F-gas regulation

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

[COM(2022) 150 final – 2022/0099 (COD)]

NAT/847

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Referral	European Parliament, 05/05/2022 Council, 10/05/2022
Legal basis	Article 192(1) of the Treaty on the Functioning of the European Union
Section responsible	Section for Agriculture, Rural Development and the Environment
Adopted in section	31/05/2022
Adopted at plenary	15/06/2022
Plenary session No	570
Outcome of vote (for/against/abstentions)	140/1/6

1. Conclusions and recommendations

- 1.1 The revision of the F-gas Regulation (Regulation (EU) No 517/2014)¹, proposed by the Commission on 5 April 2022², is a step in the right direction. The EESC sees room for more ambition, to make sure that European businesses and households are not burdened with a climate-damaging stock of equipment for decades to come, and to maintain global EU leadership in climate action by adopting best-in-class green technological solutions.
- 1.2 Many hydrofluorocarbons (HFCs) have considerable global warming potential (GWP). Thus, improving the Commission's current proposal presents an additional opportunity to significantly reduce direct climate impacts by avoiding the uptake of high-GWP HFCs, and transition directly to low-GWP, F-gas-free alternatives.
- 1.3 For heat pumps, room air-conditioners, chillers, and refrigeration applications alternatives with low-GWP natural refrigerants are available. The EESC is in favour of a ban on all refrigerants with a GWP >5 after 2030 for these appliances. In the Committee's view, a sectoral ban sends a clear message to the market, is administratively easy to implement, and faces a low risk of circumvention.
- 1.4 The Committee strongly recommends combining REPower EU³ ambition with the F-gas phase-out, aiming for refrigerants with the lowest possible GWP, especially in the field of heat pumps. The EESC believes that fears of market bottlenecks in the sector are unfounded due to the increased production capacity of the industry, which will be mostly based on natural refrigerants. The EU has a clear opportunity to make this an exemplary case in setting global green standards.
- 1.5 A quota system was expected to discourage the use of high-GWP gases, but this has not sufficiently helped to change the market. It is evident that illegal trade in these gases has increased to fill the continued market demand. The Committee calls for a mechanism to increase income from quota sales. This income can be earmarked to boost customs controls at Member State level, to help with the adoption of low-GWP alternatives and to provide sufficient training to the installers of the equipment concerned.
- 1.6 Addressing training needs on HFC alternatives is key. Skilled technicians, as well as qualification, certification and registration schemes are essential for promoting low-GWP natural refrigerants.

1 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX:32014R0517>

2 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:150:FIN>

3 <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2022:108:FIN>

2. General comments

Introduction

- 2.1 Fluorinated gases are important greenhouse gases (GHG). HFC emissions could, in the absence of a regulation, result in an increase of 0.35-0.5°C in global mean temperature by 2100. Avoiding these emissions would have a sizeable influence on limiting global warming. Considering the near term (2050) timescale, decreasing HFC emissions would be incredibly effective in fighting the climate crisis⁴.
- 2.2 Many HFCs have high global warming potential (GWP). Trifluoromethane (HFC-23) is the most potent known HFC with 14600 GWP, i.e. a single kilogram of HFC-23 warms the planet as much as almost 15 tonnes of CO₂. Concentrations of HFC-23 in the atmosphere are increasing at an alarming pace: from 21 ppt in 2008 to an all-time high 35 ppt today⁵.
- 2.3 Another similar gas – sulphur hexafluoride (SF₆), widely used as insulation gas in switchgear – is considered the most damaging F-gas, as it has a GWP of 25200. A typical heating and cooling device sold to a household in the EU in 2022 may contain F-gases with a GWP of more than 700, meaning that the approximately 0.5 kg of refrigerant agent contained in the unit has a CO₂ footprint of 0.35 tonnes.
- 2.4 Overall, F-gases are responsible for around 2.5% of all EU GHG emissions.
- 2.5 Ozone depleting substances (ODS) are depleting the ozone layer and warming the climate. Some have been replaced with HFCs, that do not contribute to depleting the ozone layer, but do still contribute to climate warming. The EESC adopted the corresponding opinion⁶ on the ODS regulation⁷.
- 2.6 The F-gas Regulation aims to reduce F-gas emissions by, inter alia, phasing down the use of HFCs in the EU. An HFC phase-down is also being implemented globally under the Montreal Protocol. The two regulations – on ODS and on F-gases – must jointly ensure that the Union complies with its obligations under the Protocol.
- 2.7 The current F-gas Regulation aims to reduce the EU's F-gas emissions by two-thirds by 2030 compared to 2014 levels. In line with the Climate Law, the new proposal will contribute to reducing emissions by at least 55% by 2030, making Europe climate-neutral by 2050, notably through the following policy initiatives, as pointed out by the Commission:
- delivering higher ambition
 - improving enforcement and implementation
 - more comprehensive monitoring

4 <https://acp.copernicus.org/articles/13/6083/2013/acp-13-6083-2013.pdf>

5 Here, 'ppt' means 'parts-per-trillion'. Data from Advanced Global Atmospheric Gases Experiment.

6 Ongoing EESC opinion (NAT/848) on the [Revision of the ozone depleting substances regulation](#)

7 [Regulation \(EC\) No 1005/2009 on substances that deplete the ozone layer \(ODS Regulation\)](#)

- ensuring compliance with the Montreal Protocol.

F-gases in the context of the Green Deal

- 2.8 The F-gas proposal lays down an ambitious HFC phase-down and includes a number of new bans on market products and equipment. This means that equipment and products with high-GWP F-gases will gradually disappear from the market. However, the Committee believes, it is extremely important to promote shifting directly to the lowest-GWP F-gas-free solution, avoiding intermediate solutions. EU markets demonstrate that this is feasible, and the EU should lead by example.
- 2.9 It is imperative that the bar be raised in order to make sure that European businesses and households are not burdened with a climate-damaging stock of equipment for decades to come. It is also important to maintain global EU leadership in climate action by adopting best-in-class green technological solutions in all fields where F-gases are used.
- 2.10 Phasing-out HFCs is a highly cost-effective way to contribute to meeting climate targets. According to the Evaluation Final Report of March 2022⁸, "emission reduction costs [...] were on average about EUR 6 per tonne of CO₂ equivalent".
- 2.11 Heat pumps, room air-conditioners, chillers, and refrigeration applications are appliances and systems where alternatives with low-GWP refrigerants and natural refrigerants are available. The EESC is in favour of a ban on F-gas refrigerants for these appliances by imposing a limit of 5 GWP after 2030. In the Committee's view, sectoral bans send a clear message to the market, are administratively easy to implement, and face a low risk of circumvention. *Ad hoc* exemptions could be granted where HFCs are deemed technically needed on the basis of the provisions in Article 16(4).
- 2.12 For some uses, HFC substitutes are already on the market, including propane (GWP 0.02) and ammonia (GWP 0). The Committee urges boosting research spending to make use of these zero GWP solutions.
- 2.13 The only sustainable policy for the EU would be the 'green cooling' approach that combines natural ultra-low GWP (GWP <5) refrigerants, and energy-efficient appliances. Any kinds of F-gas blends, even low-GWP, bear challenges in operation, in particular for recycling and reclamation, and make maintenance and servicing much more complex. It should therefore be avoided.
- 2.14 Existing heating and cooling systems need to be serviced and maintained, using current HFCs. The REPower EU Action Plan, which has set a target to roll out 30 million heat pumps in Europe by 2030, raised legitimate fears among stakeholders⁹. According to industry representatives, the proposed new provisions under the F-gas Regulation could potentially slow down the much-needed adoption of heat pumps in Europe.

⁸ Available here: https://ec.europa.eu/clima/system/files/2022-04/f-gas_evaluation_report_en.pdf

⁹ <https://www.coolingpost.com/world-news/f-gas-quota-cuts-will-hit-heat-pump-ambitions/>

- 2.15 In Committee's view, an early prohibition of HFCs in new heat pump equipment will ensure that the heat pump roll-out is not threatened by HFC supply shortage to service existing equipment. It will help avoid locking-in large amounts of HFC banks. HFC banks require management and destruction measures; if not properly addressed, HFC leaks from equipment at the end of their service will have a devastating effect on climate.
- 2.16 The market stock of high-GWP HFCs is critically dangerous: high-GWP refrigerants are widely used for maintaining existing equipment to regularly compensate for the continuous emissions (leakage rate may reach 15-20% per year) which could be avoided thanks to technological progress.
- 2.17 Therefore, the Committee strongly urges to combining REPower EU ambition with the F-gas phase-out, aiming for refrigerants with the lowest possible GWP. To put the number of heat pumps into perspective (30 million deployed gradually over seven years), global figures from the International Energy Agency's (IEA) assessment could be used: almost 180 million heat pumps were used for heating in 2020, while the global stock increased nearly 10% per year over the past five years. In the IEA's Net Zero Emissions by 2050 Scenario, the stock of installed heat pumps would reach 600 million by 2030. The EU's stake in this is fully in line with the proportion of households in the global context.
- 2.18 The EESC believes that fears of market bottlenecks in the sector are unfounded, as the proposed heat pump uptake trajectory in Europe is mostly inline with the industry's production capacity expansion, which will build on the ultra low-GWP refrigerants (particularly the natural ones). The EU has a clear opportunity to make this an exemplary case in setting global green standards.
- 2.19 In view of the factors described above, the EESC recommends the following to strengthen the proposal for a revision of the F-gas Regulation:
- further strengthening the HFC phase-down to be in line with 1.5°C scenario of the Paris Agreement;
 - banning the use of HFC-404A (with GWP of 4728) and other high-GWP HFCs;
 - reducing 150 GWP sectorial limits to the lowest possible GWP for any given technology;
 - promoting incentive schemes and public procurement for F-gas-free alternatives;
 - supporting Member States in their efforts to incentivise greener solutions with very low GWP (and F-gas-free where possible).

Environmental concerns

- 2.20 In the transition to ultra-low GWP natural refrigerants or low GWP HFCs, conversions to substances like hydrofluoroolefins should be avoided due to their break down products, such as harmful trifluoroacetic acid (TFA). TFA and other poly- and perfluorinated alkyl substances (PFAS) are nicknamed 'forever chemicals' because they cannot be removed from the

environment¹⁰. Based on the precautionary principle, a clear link should be made to the Commission's proposed measures in its 'zero pollution action plan'¹¹.

- 2.21 By phasing-down HFCs, a proper care should be taken about the substances replacing HFCs. The EESC calls for not tolerating new F-gas substitutes that simply replace the high-GWP problem with environmental issues. Instead, the Committee calls to take on responsibility to steer the transition towards truly climate and environmentally friendly F-gas-free natural alternatives. To refer to the European REACH process is not sufficient, because that process is lagging behind and will not prohibit dangerous F-gas substitutes on time.

Illegal trade

- 2.22 Illegal trade in HFCs is a major issue in the EU. Although difficult to quantify, it is clear that illegal HFC trade has been occurring at significant levels. Various analyses indicate that illegal imports accounted for up to a third of the legal EU market¹².
- 2.23 A quota system was expected to discourage use of high-GWP gases, but this has not sufficiently helped to change the market. It is evident that illegal trade in these gases has increased to cover the continued market demand. These dynamics reinforce the EESC's argument for an outright ban of high-GWP gases.
- 2.24 Unfortunately, illegal HFC trade has not been adequately taken into consideration in the proposal. The EESC calls for transparency and full HFC traceability throughout the supply chain. Solutions with QR-code-based markings have been proposed, and the Committee sees this as a cost-effective way to address the issue.
- 2.25 The EESC believes that controls on the supply of HFCs should also be further upgraded in the field of e-commerce. The Committee calls for either a ban on the sale of F-gases in on-line marketplaces, or the introduction of mandatory certifications for undertakings selling bulk F-gases online.
- 2.26 The strict control of all HFC imports and exports should be maintained, including gases for purposes that are exempt from the phase-down (e.g. for feedstocks, destruction, re-export or other exempted uses). Undertakings should have a valid registration in the F-gas Portal to avoid exempted cases being used to facilitate illegal trade. The Committee warns that list of exceptions in Article 20(4) creates a loophole in the licensing system that will certainly be targeted by illegal traders.
- 2.27 To increase the efficiency of national customs authority action, the Committee asks that guidance be mandated for disposal of confiscated products, containers and equipment illegally

¹⁰ See <https://www.umweltbundesamt.de/publikationen/persistent-degradation-products-of-halogenated>

¹¹ COM(2021) 400 final, "Pathway to a Healthy Planet for All - EU Action Plan: 'Towards Zero Pollution for Air, Water and Soil'"

¹² See EIA (2022) report 'Europe's most chilling crime – the illegal trade in HFC refrigerant gases'. Available at <https://eia-international.org/report/europes-most-chilling-crime/>. An F-gas industry estimate available at https://www.fluorocarbons.org/wp-content/uploads/2020/09/EFCTC_Press-Release_EN-2.pdf

imported into the EU, and for funding to be allocated to the Member States for its destruction, should destruction be the Member States' chosen option.

- 2.28 The fight against the illegal trading and disposal of F-gases should be aligned with the proposals in the Directive on the protection of the environment through criminal law¹³, which aims to protect the environment more effectively by obliging Member States to take criminal law measures, and by fostering cross-border cooperation¹⁴.

Quotas and resource allocation

- 2.29 Thousands of new entrants have been awarded HFC quotas to import into the EU market. Many of these do not have access to infrastructure in the EU to meet the Regulation requirements to recover, recycle and reclaim the HFCs that they import.
- 2.30 While the EESC welcomes new conditions for registering and receiving quota allocations, the Committee sees the potential to increase the allocation fee to better reflect real carbon prices.
- 2.31 Clearly, the quota charge of EUR 3 per tonne of CO₂ equivalent is too low to generate adequate income and discourage the use of HFCs in order to adopt natural refrigerants at a faster rate.
- 2.32 The EESC also calls for reassessing the use of the financial resources collected from sales of quotas.
- 2.33 The Committee is confident that these revenues should be earmarked for direct use for these purposes:
- to boost research in low-GWP alternatives, especially natural refrigerants;
 - to support Member State authorities in market surveillance;
 - to build skills and raise awareness, including awareness raising campaigns for final consumers;
 - to support both emergency and mid-term training for existing and future workforces.

Training

- 2.34 Addressing training needs on HFC alternatives is key. Skilled technicians, as well as qualification, certification and registration schemes are essential for promoting of low-GWP natural refrigerants. Certification is necessary for alternatives to F-gases, and not just for F-gases alone. The EESC calls for a mandatory competence on natural refrigerants component in certification programmes.
- 2.35 Training and certification is a matter of subsidiarity and needs to fit the existing national schemes. In the proposal, Member States are given one year to update their programmes to

¹³ https://ec.europa.eu/info/files/proposal-directive-european-parliament-and-council-protection-environment-through-criminal-law-and-replacing-directive-2008-99-ec_en

¹⁴ EESC's opinion on the proposal can be found here: <https://www.eesc.europa.eu/en/our-work/opinions-information-reports/opinions/improving-environmental-protection-through-criminal-law>

include the alternatives, which some market actors fear is a rather short deadline. While timing is important, so too is the need for clear targets. The EESC recommends setting national plan obligations with clear KPIs, e.g. 50% installers trained by 2025.

Global reach

- 2.36 The alignment with the Montreal Protocol should take into consideration the fact that the Kigali amendment will need to be strengthened in the relatively near future in order to meet global net-zero targets.
- 2.37 In this context, the EU is setting important impulses globally in the context of the Montreal Protocol. The proposal for the new European F-gas Regulation is being closely watched by all global players. The adoption of the Kigali amendment was a good first step in the right direction, however earlier and more ambitious HFC phase-down actions are needed. The EU could use its global impact through the so called "Brussels effect" more efficiently.
- 2.38 Therefore, the EESC sees an imminent need to initiate discussions under the Montreal Protocol to accelerate the progress of the Kigali amendment trajectory, with ambitious F-gas Regulation revision proposals at EU level serving as a lead in line with 1.5°C scenario of the Paris Agreement.

Transparency and inclusion

- 2.39 Despite the fact that the debates on F-gases are of crucial importance for several key value chains, the discussion around policy remains confined to experts' circles. An effort should be made to expand this discussion to all stakeholders, with a wide civil society representation. The new Regulation on F-gases should mandate a consultation forum to be organised at least twice a year to be held at the EU level and in every Member State.

Brussels, 15 June 2022

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The president of the European Economic and Social Committee
