Briefing note
March 2023

# Supporting the ENVI Committee Report of the F-Gas Regulation

The EU F-Gas Regulation is a landmark piece of European Union (EU) climate legislation for reducing emissions of fluorinated gases (F-gases), such as hydrofluorocarbons (HFCs) and sulphur hexafluoride ($SF_6$). F-gases are super greenhouse gases, hundreds to thousands of times more potent than carbon dioxide ($CO_2$), causing short-term warming effects in the atmosphere. Cutting F-gas use is some of the most cost-effective climate mitigation available. To date, the EU F-gas Regulation has achieved mitigation at a cost of just €6 per tonne $CO_2e$ .[1]

In April 2022, the European Commission (EC) issued a proposal to revise the F-Gas Regulation, including measures to speed up the HFC phase-down and introduce additional new equipment bans. The EC's proposal was based on proportionate action using currently available low global warming potential (GWP) technologies below a designated cost threshold.[2]

In March 2023, the ENVI Committee agreed to amendments negotiated across all Parties to strike a compromise between the progressive voices supporting EC ambition and more conservative views from industry associations, which are dominated by multinational fluorochemical enterprises.

## Summary of key cross-party ENVI Committee compromises

- Increasing the economy-wide HFC quota availability between 2027-2029, whilst reducing available quota from 2039 in order to support longer term EU climate goals.
- Delaying monobloc and split air-conditioning and heat pump new equipment Annex IV bans to allow time for late adopters to transition to natural alternatives.
- Introducing a targeted quota exemption for HFCs to be used in heat pumps. Article 17(6a) requires the EC to consult with relevant stakeholders annually to assess the impact of the phase-down on the EU's heat pump market and empowers it to allow additional HFC quotas for heat pump usage.
- The real challenge of REPowerEU lies in supporting the heat pump installation and servicing sector. In recognition of this the ENVI Committee proposes that revenue from quota price should be used to support heat pump uptake, including reskilling of gas boiler installers.

## Why ambitious Annex IV new equipment prohibitions for heat pumps and air conditioning are crucial

- **Heat pumps are a key tool for the decarbonisation of heating in Europe. However, locking in HFC refrigerants in tens of millions of heat pumps will increase future climate impacts**. Heat pumps using ultra-low GWP (<5) natural refrigerant alternatives to HFCs not only reduce climate emissions through energy savings but also eliminate the climate impact of leaking refrigerant emissions from heat pumps. As the EU rapidly decarbonises its electricity grid, the climate impact of leaking refrigerants during use and at end of life will proportionately grow.

- **EU manufacturers are global leaders in HFC-free heat pump technologies. Weakening Annex IV bans will open the door for Chinese and US subsidised HFC equipment imports.** Viessmann, Europe's second largest heat pump manufacturer, which has committed to invest €1 billion heat pump and green climate solutions,[3] told members of the European Parliament in January that F-gases are no longer needed for residential heat pumps up to 70kW and urged support of the EC proposal.[4] Many other heat pump manufacturers already offer, or are developing, natural refrigerant-based hydronic heat pumps. These include AIT, Auer, Ecoforest, Bosch, Daikin, Hautec, Hoval, Panasonic, Samsung, LG, Mitsubishi, Vaillant, Nibe, Wolf, Midea, and Clivet, as well as many SMEs from Spain, Portugal, Italy, Czechia, and Greece. In a clear indication that EU climate-friendly heat pump manufacturing makes business sense, Vaillant has just announced plans to double its production capacity to half a million units per year, with a new Slovakian manufacturing plant.[5] It is merely a question of scaling up production, which can happen quickly. For example, lower-GWP

HFC-32 has swiftly replaced high-GWP HFC-410A in single-split air-conditioning, going from near zero to 80% market penetration in four years in a sector that is much larger.[6]

- **New equipment bans support small- and medium-sized enterprises (SMEs) equipment manufacturers and equipment users alike.** They provide clear market signals with little administrative burden and costs and are key measures for SMEs, as they offer innovation opportunities for manufactures and help end-users avoid unnecessary investment in HFC-based technologies, which will come with ever-increasing servicing costs as the HFC phase-down becomes more stringent over time.

- **Failure to act fuels HFC climate crime**. Europe has suffered from record levels of HFC smuggling, often associated with serious organised crime.[7] Countries on Eastern European borders often bear the brunt of this influx, placing excessive burdens on national enforcement agencies. Illegal HFC trade is driven by ongoing consumer demand to service HFC-based equipment. Banning new HFC-based equipment helps reduce these pressures by avoiding future servicing demand for HFCs.

## Why the phase-down should be protected

- **The EC proposal to revise the F-Gas Regulation was finalised one month after the announcement of RePowerEU, allowing sufficient time to align both strategies**. The EC has since revisited their assessment and have provided detailed modelling and analysis to parliamentary legislators to show compatibility between the two measures. Additionally, equipment manufacturers have a 70 million tonne ($CO_2$e) bank of unused quota authorisations (almost double the entire annual quota allocation for 2027).

- **Weakening the HFC phase-down will not guarantee quota for heat pumps as the quota system is economy-wide, covering all sectors**. It risks delaying the transition in other sectors and increasing HFC quota demand for servicing in later years. This is why the ENVI Committee has proposed a specific annual heat pump assessment and exemption clause.

- **Excluding Metered Dose Inhalers (MDIs) from the quota stifles innovation and goes against international obligations.** The EC found that the current MDI exemption from the HFC phase-down has resulted in slow innovation in the sector and ongoing exemptions do not align it with international obligations under the Kigali Amendment.[8] Fluorochemical producers have stoked fears that the anticipated entry to the market of low-GWP HFC-based MDIs from 2025 may not be fast enough to match the proposed HFC phase-down. However, readily available alternatives to HFC-based MDIs, such as dry powder inhalers (DPIs) and soft mist inhalers, offer opportunities to move a significant portion of the market away from HFC-based MDIs without undermining patient health. In England 93% of long-acting inhalers for Chronic Obstructive Pulmonary Disorder (COPD) are DPIs, suggesting clinicians believe most patients can use a DPI effectively.[9]

- **Some parts of the EU have already safely transitioned away from MDIs.** European proportion of MDI use varies significantly, with Scandinavia having just 10% compared to a 50% European average.[10] The significant variation suggests that factors which influence national MDI adoption rates are not linked to patient outcomes.

- **The ENVI Committee has added additional safeguards and further liaison with the medical community to ensure that the Regulation does not interfere with patient wellbeing.**

- **An ambitious phase-down avoids dependency on non-EU manufactured HFC imports**. Many HFC producers are based in Asia. Weakening the phase-down and Annex IV heat pump bans risks shifting from Russian gas dependency to Chinese manufactured HFC refrigerant import dependency.

## ENVI Committee supports public health and environment concerns over PFAS

- **Many low GWP F-gas alternatives to HFCs are PFAS**. PFAS are known as 'forever chemicals' due to their persistence in the environment. Since the EC's proposal, consumer awareness of the growing environmental and health risks posed by spiraling levels of PFAS has come to the fore. Recent findings show high levels of PFAS across Europe, with residents near 3M's PFAS manufacturing site in Flanders recently warned not to eat any homegrown vegetables due to high levels of ground water contamination.[11]

- **The ENVI Committee's amendments to ban F-gas in sectors where cost effective, energy efficient natural-refrigerant alternatives are available reflect technological innovation and protect EU citizens' public health and support efforts to address PFAS via the REACH Regulation.** In February this year, five EU Member States proposed amendments to the REACH Regulation which include banning the use of PFAS in refrigeration and air-conditioning uses, except where national standards and codes prevent the use of alternatives.[12] These measures have been facilitated by recent major changes to product standards in domestic air-conditioning and commercial refrigeration which have unlocked the safe, efficient use of non-PFAS natural refrigerants such as propane.

## The ENVI Committee supports a PFAS-free green energy switchgear transition.

- **Sulphur hexafluoride ($SF_6$), used as insulation gas in switchgear, is the most potent greenhouse gas on earth with a high GWP of 25,200.[13]** Switchgear for medium voltage levels (≤ 52 kV) and high voltage levels (> 52 kV) is available with futureproof, non-fluorinated gases already, with several manufacturers providing market-ready and reliable switchgear without the need for PFAS substitutes. Technology for high voltage level (> 145 kV) is under development and will be possible within the suggested $SF_6$ phase-out timelines based on manufacturer's portfolio plans. The ENVI committee's proposed amendments to Annex IV bans for switchgear ensures the transition to F-gas free alternatives thus avoiding the phase in of PFAS solutions that hold uncertainty in regard to future restriction, create outside-EU dependencies through patents and manufacturers, have higher climate impacts and pollute the environment.

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[1] Öko-Institut (2022). *Support Contract for an Evaluation and Impact Assessment for Amending Regulation (EU) No 517/2014 on Fluorinated Greenhouse Gases: Final Report*. CLIMA.A2/ETU/2019/0016. Page 173

[2] European Commission (2022). *Commission Staff Working Document: Impact Assessment Report*. SWD(2022) 96 Final.

[3] Kurmayer (2023) "Battle for dominance in heat pump markets reaches Europe" News item 25 May 2022 Available here https://www.euractiv.com/section/energy-environment/news/battle-for-dominance-in-heat-pump-markets-reaches-europe/

[4] Ingo Seliger Head of Public Affairs, Veissmann. European Parliament Speech January 12 2023. Documented here https://atmo.org/announcement/hydrocarbons21-com-atmo-europe-f-gases-no-longer-needed-for-residential-heat-pumps-says-viessmann/

[5] Vaillant Press Release 10 March 2023 "Vaillant Group Opens Mega Factory for Heat Pumps" available here https://www.vaillant-group.com/news-stories/vaillant-group-opens-mega-factory-for-heat-pumps.html#:~:text=The%20Remscheid%2Dbased%20heating%20technology,heat%20pumps%20from%20May%202023.

[6] European Commission (2022). *Impact Assessment*. Page 204.

[7] Environmental Investigation Agency (2021) "Europe's Most Chilling Crime-The illegal trade in HFC refrigerant gases' available here https://eia-international.org/report/europes-most-chilling-crime/

[8] European Commission (2022). *Commission Staff Working Document: Impact Assessment Report*. SWD(2022) 96 Final. Page 18. Available here.

[9] Wilkinson et al (2019) *Costs of switching to low global warming potential inhalers. An economic and carbon footprint analysis of NHS prescription data in England*. BMJ Available at https://bmjopen.bmj.com/content/9/10/e028763.citation-tools

[10] Lavorini, et al. (2011) *Retail sales of inhalation devices in European countries: so much for a global policy*. Respir Med 2011;105:1099–103.

[11] Salvidge and Hosea (2023) "Revealed: scale of 'forever chemical' pollution across UK and Europe" News article : 23 February 2023. Available at https://www.theguardian.com/environment/2023/feb/23/revealed-scale-of-forever-chemical-pollution-across-uk-and-europe

[12] REACH, (2023*). 'Pre-publication of Annex XV report prior to consultation: Restriction on the manufacture, placing on the market and use of PFASs.'* ECHA. Report and Annexes available here.

[13] IPCC, (2022). '*AR6 Working Group I Report: Chapter 7 Supplementary Material*'. Page 32. Available here.