

## Our position

# F-gas Regulation



AmCham EU speaks for American companies committed to Europe on trade, investment and competitiveness issues. It aims to ensure a growth-orientated business and investment climate in Europe. AmCham EU facilitates the resolution of transatlantic issues that impact business and plays a role in creating better understanding of EU and US positions on business matters. Aggregate US investment in Europe totalled more than €3.4 trillion in 2021, directly supports more than 4.9 million jobs in Europe, and generates billions of euros annually in income, trade and research and development.

## Executive summary

The Fluorinated Gases (F-gases) Regulation is one of the EU's most successful pieces of climate legislation. Originally enacted in 2006 and revised in 2014, the current proposed revision is ambitious, and industry supports the long-term goal of reducing F-gas emissions by 98% by 2050.

The private sector has a strong record of reducing refrigerants' climate impact and stands ready to continue its efforts. However, the proposed pre-2030 emissions reduction goals are unrealistic and risk avoidable market disruption.

The draft proposal contains stringent product restrictions and poses significant technological challenges for the private sector. When applied to the complex and widespread applications of F-gases, restrictions must be narrowly and clearly defined to ensure their effectiveness.

## Introduction

The European Commission has proposed an ambitious plan to accelerate the phasedown and effective banning of high Global Warming Potential (GWP) F-gases in the EU – but is it achievable?

F-gases are essential components used for a wide range of purposes, including heat pumps and air conditioning, refrigeration, semiconductor production, medical dose inhalers, inhaled aesthetic agents, and defence and aerospace, among others.

Phasing out high GWP F-gases and using low GWP alternatives instead is not a matter of simply filling up with another gas. New technologies and alternatives must be developed, tested and authorised. Any changes to existing product authorisations and product use require considerable transition times to allow the industry and consumers to adapt, especially for value chain readiness, which makes solutions available on a commercial basis.

This proposal requires industry to implement a significant and challenging technological changeover that can be best achieved with reasonable timelines based on sound assumptions. It must reward innovation and avoid market disruptions that could damage the economy. Critically, the regulation text needs clarity on next steps if practical alternatives are not available, including the evidence assessment process that gives legal certainty to the exemption procedure.

Industry has a strong record of reducing F-gases emissions through new technologies and improved stewardship. Since F-gas regulations were first enacted in 2006, industry has quantified, managed and reduced emissions, which have fallen by 13% since 2014.<sup>1</sup> Indeed, the F-gas regulation is regularly heralded as one of the most successful pieces of EU climate change legislation.

In the revised regulation, the Commission rightly wants to build on this success and aims to reduce F-gas emissions by 90%, instead of 76%, by 2030 compared to 2015 levels. This is a full eight years in

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<sup>1</sup> Due to the fact that the F-gases are potent greenhouse gases, 'they have been regulated in the EU since 2006. Their emissions have started to decline since peaking in 2014 (13% lower in 2019 in the EU-27 and the UK than in 2014)' (EEA, December 2021).

advance of international agreements to phase down F-gas emissions, including the EU's main trading partners working under the Montreal Protocol and more recently, the Kigali Amendment.

To succeed in its ultimate goal of a 98% emissions reduction by 2050, EU decisionmakers must support a less steep and more achievable phasedown slope before 2030. They should consider the critical role F-gases play in achieving a wide range of EU objectives, including:

- Strengthening economic independence, especially increasing semiconductor production within the EU.
- Energy security, especially decreasing dependency on gas imports for heating through an accelerated rollout of heat pumps.
- Climate change action through the electrification of buildings and transport.
- European research and testing laboratories.
- Electricity transmission grids.
- Patient benefits, clinical outcomes and public healthcare.

The F-gas proposal's political, economic and public health context must be at the forefront when determining its ambitions or – in real world terms – the rapidity of technological change.

The diverse sectors impacted by the legislation face different challenges in reducing F-gas emissions. Many of these industries are represented within the American Chamber of Commerce to the EU's (AmCham EU) membership. Listed below are sector-specific comments.

## Refrigeration, Air Conditioning and Heat Pump (RACHP)

### Phasedown

The RACHP sector is the major user of F-gases and enjoys a broad market deployment of equipment across EU Member States. The transition to low GWP alternatives, including F-gases and so-called 'natural' refrigerants, is in progress and expected to continue.

The proposed phasedown assumes that alternatives to F-gases are readily available for refrigeration, heat pumps and stationary air conditioning, and that it is possible to finalise the transition to alternatives in five years or within three years of the legislation being adopted, ie by 2027. Neither of these assumptions are correct. In addition, the proposal does not account for the fact that existing RACHP equipment will need to be maintained and serviced instead of being prematurely decommissioned and replaced by new equipment.

To ensure consistency amongst the different measures and policy ambitions, the 2030 phasedown schedule laid out in the current Regulation (EU) No 517/2014 should be maintained in the revised legislation and follow the Montreal Protocol's Kigali reduction steps. This would ensure continuous compliance with the Kigali Amendment, allow the quantities of F-gases needed in applications critical to increasing EU energy efficiency and drive EU industry competitiveness in exports to other regions.

An accelerated phasedown schedule risks having unintended consequence for the climate goals laid out in the EU's Green Deal.

#### Annex IV

The prohibitions laid out in Annex IV on placing F-gases on the market are already very ambitious. Any stricter prohibitions would further hinder the transition to ultra-low GWP alternatives and prevent the industry from accessing technological options, either containing F-gases or not.

#### Enforcement

The enforcement measures in the F-gas regulation revision proposal are welcome, but their successful implementation requires time and resources. The call for dedicated customs offices for clearance of F-gases is also welcome but needs further clarity on how it will be implemented. This implementation must ensure the right level of expertise, harmonisation and coordination across EU Member States.

Minimum penalties should be set at no less than 2.5 times the downstream value chain market value of the concerned gases or products and equipment concerned. This would ensure harmonised implementation and enforcement of the measures to control illegal trade across Member States.

#### Quota fees

Any quota fee charges must be fair and proportionate. The necessary enforcement measures proposed and required resources need to be in place before any fees can be implemented. The charge of €3/Co2T is prohibitive and risks disrupting market supply.

At least 50% of the quota fee should be assigned to enforcement (including activities, equipment, training programmes and resources) in Member States. The revenue generated from the quota fee should not only fund the effective implementation of this Regulation at the EU level but also effective enforcement in controlling the illegal trade in F-gases in the Member States

#### New Entrants (NE)

The proposed allocation mechanism results in a very high quota fragmentation with a large number of hydrofluorocarbon (HFC) importers, which can bring instability in market supply. The supply of F gases to the downstream users risks being disrupted and might even harm the Commission's ambitious climate and energy efficiency initiatives such as Repower EU. Additionally, the very high number of NEs and the inability of the Member States authorities to correctly monitor the activity of all participants risks a serious increase in illegal HFC trade. The Commission notes in the Impact Assessment accompanying the proposal that: 'preventing illegal imports is more challenging due to the high number of quota holders with small quota amounts'. For this reason, the Commission should keep a similar NE mechanism as is in the current regulation.

## Inhaled anaesthetic agents

The current inclusion of inhaled anaesthesia gases (sevoflurane, isoflurane, desflurane and enflurane) under Annex II, Section 2 of the F-gas proposal and the proposed prohibition on the use of desflurane

by January 2026 in Article 13 are disproportionate considering the negative impact these measures could have on patient care and clinical outcomes.

There are several clinical and therapeutic benefits to using inhaled agents over other agents depending on patients' and procedural needs, including faster and more predictable recovery for obese and elderly patients and improved patient through-put. Furthermore, data suggest that of the estimated 200 million anaesthetic procedures carried out globally every year, inhaled anaesthetics released into the environment have a climate impact of about **0.01%** of the carbon dioxide released globally just from the burning of fossil fuels.<sup>2</sup>

In addition, the availability of new technologies for the effective capture, destruction or reuse of anaesthetic gases can improve the sustainability of inhaled anaesthesia and reduce emissions while still allowing clinicians to choose the most suitable anaesthetic agent for their patients.

Availability and choice of different anaesthetic agents is important to maintain high-quality therapeutic outcomes. The proposal should account for the availability of these new technologies and mandate their use instead of banning a therapeutic option for anaesthesia that has clear medical benefits.

## Semiconductors

The semiconductor industry is exempt from provisions in Article 16 (2) concerning HFCs used for the etching of semiconductor material or the cleaning of chemical vapour deposition chambers.

In the proposed revision of the F-gas regulation, Article 13 (3) no longer contains text regarding refrigeration equipment that has a charge size of 40 tonnes of CO<sub>2</sub> equivalent or more in the context of using F-gases for servicing and maintenance purposes. Should this charge size threshold be excluded in proposal, it will make obsolete in the 2030 timeframe all the chillers under a charge size of 40 tonnes of CO<sub>2</sub> equivalent utilised in semiconductor manufacturing processes.

However, the quantity of F-gases utilised in each chiller is no more than several kilograms over its entire service life. Additionally, any potential loss of F-gas is very low, so the proposed change would result in little to no environmental benefit. Furthermore, because the European semiconductor industry utilises thousands of chillers, the industry would have to invest millions of euros to replace the obsolete chillers. This specific proposal is inconsistent with the Commission's circular economy principles, and policymakers should reconsider this proposed change.

## High and medium voltage electrical switchgear

The industry is concerned regarding the proposed Placing on the Market (POM) for High voltage switchgear as stated in Annex IV, Section 23. As worded, the POM requires providing evidence that 'no suitable alternative is available based on technical grounds' with GWP < 10.

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<sup>2</sup> Mads P Sulbaek Andersen, *Atmospheric chemistry of isoflurane, desflurane, and sevoflurane: kinetics and mechanisms of reactions with chlorine atoms and OH radicals and global warming potentials*, 2012.

The POM proposal would be counterproductive in limiting climate impact when considering a complete Life Cycle Assessment. Furthermore, it could significantly limit competition in Europe where only one European high voltage switchgear manufacturer would be able to supply SF<sub>6</sub>-free solutions that comply with the requirements of the POM proposal. To avoid further delaying the implementation of SF<sub>6</sub>-free solutions, the proposal should:

- Have only Global Warming Potential (GWP) < 2000 for the total insulating or breaking medium in the POM where evidence on technical grounds needs to be provided; and
- Delete the ranges with GWP <10 and GWP between 10 and 2000.

The proposed amendments to the F-gases Regulation by the rapporteur in the European Parliament Committee on the Environment, Public Health and Food Safety rapporteur seek to move up the prohibition deadlines for all the high and medium voltage levels. They also delete the thresholds for SF<sub>6</sub> in high and medium voltage equipment using fluorinated gases with GWP of 10 or more or GWP 2000 or more. The primary concern is that these phase-out provisions will affect current high and medium voltage systems and operations and limit competition in the EU.

The Commission's Impact Assessment explains that several low-GWP solutions are available for high and medium voltage and this is why one of the possible phase-out possibilities would be to limit the GWP to > 1000 for high voltage. The Commission's proposal is incoherent with this assessment as it launches a new POM restriction at > 10 GWP.

The proposed Czech Presidency text moves the Commission POM to the main text of the Regulation, while raising the GWP limit for high voltage alternatives to 2500 and maintains a de facto POM restriction for these alternatives.

Banning low-carbon and low-GWP alternatives would be counterproductive to Europe's climate objectives since the number of switchgear follows the increasing deployment of green energy. When creating technology monopoly for Medium Voltage and company and technology monopoly for High Voltage, it delays the phaseout of the most potent greenhouse gas (GHG), SF<sub>6</sub>.

Therefore, except for the range from 12 to 24 KV prohibition deadlines should be kept as in the original European Commission regulation. This will allow high and medium voltage switchgear manufacturers to satisfactorily test their products and meet delivery capacities. Alternative technologies are not completely vetted by other switchgear suppliers, and this timeline would allow for adequate competition in the market with suitable SF<sub>6</sub>-free technologies. The proposal should also:

- Allow gases with GWP <1000 for all the voltage levels. This threshold would make use of technologies already in the market that significantly reduce GHG emissions compared to SF<sub>6</sub>. In the case of high voltage, it would actually reduce the CO<sub>2</sub> footprint and for medium voltage, reduce the GWP to below 1. The original text from the Commission proposal should be kept for medium voltage and for high voltage to increase the GWP from 10 to 1000.
- Remove the text banning F-gases. As explained above, F-gases provide essential solutions to replace SF<sub>6</sub>. The Commission's earlier proposal is acceptable, with the recommendation to

revise the GWP from 10 to 1000, which would make the market more accessible to additional vendors.

- Allow for operation, maintenance and repair of existing SF<sub>6</sub>-based equipment. The huge installed database of SF<sub>6</sub> switchgear will require maintenance and support to continue to operate safely and ensure continuity of power supply. Hence, the SF<sub>6</sub> gas and other parts should be available until end of equipment lifetime for all equipment.

## Conclusion

The F-gases proposal will enhance the monitoring and management of equipment that uses F-gases throughout their life cycle and ensure that these gases are used responsibly, contained and recycled to minimise their impact on the environment.

A more balanced phasedown is required, taking into account the realistic transition times across the various sectors employing F-gases, the European Green Deal's ambitions and the REPowerEU acceleration aimed at increasing the EU's energy security. Maintaining the current phasedown to at least 2030 would ensure sufficient F-gases are available to accommodate the rollout of heat pumps, align with the Montreal Protocol phasedown of 2035 and keep the EU on track for its 2050 goal of a 98% reduction in F-gas emissions. Furthermore, the implementation of harmonised and coordinated measures across EU Member States would facilitate border control and stronger enforcement to fight against illegal imports.