AmCham EU
SPEAKING FOR AMERICAN BUSINESS IN EUROPE

Our position

Fluorinated gases Regulation review

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.

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Executive summary

The current revision of the European Commission's fluorinated gases (F-gases) Regulation is ambitious, and its provisions rightly support the long-term goal of reducing F-gas emissions by 98% by 2050. To succeed in this objective, the proposal's mandates – which affect complex and widespread F-gas applications, including in the refrigeration, air conditioning and heat pump (RACHP) sector, inhaled anaesthesia gases used for medical purposes, critical equipment for the European semiconductor industry and high voltage switchgear, must be narrowly and clearly defined. The legislation must also account for ongoing technological innovations and the time and resources industry requires to implement them.

Introduction

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. Originally enacted in 2006 and revised in 2014, the EU's F-gases Regulation has met many of its objectives. The European Commission has recently proposed an ambitious update to accelerate the phasedown and effective banning of high Global Warming Potential (GWP) F-gases in the EU. In the revision, the Commission rightly wants to build on its 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 advance of its main trading partners working under the Montreal Protocol and more recently, the Kigali Agreement, which are international agreements to phase down F-gas emissions.

For its part, industry has a strong record of reducing refrigerants' climate impact. Since F-gas regulations were first enacted in 2006, industry has quantified, managed and reduced emissions, which have fallen by 13% since 2014.[1] [2] It stands ready to continue its efforts. However, phasing out high GWP F-gases and replacing them with low GWP gases 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 accordingly, especially for value chain readiness to make solutions available on a commercial basis.

The proposed F-gas Regulation requires industry to implement a significant and challenging technological changeover to achieve pre-2030 emission reduction goals on an unrealistic timeline not based on sound assumptions. Furthermore, the acceleration risks avoidable market disruption. Rather, the legislation must reward innovation and avoid damaging the economy. Critically, the regulation text needs to be clearer on the relevant process if practical alternatives are not available, including the evidence assessment process that gives legal certainty to the exemption procedure.

[1] Because 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)'.

[2] 'Fluorinated greenhouse gases 2021', *European Environment Agency*. 2 December 2021, https://www.eea.europa.eu/publications/fluorinated-greenhouse-gases-2021

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 industry sectors impacted by the legislation face different challenges in reducing F-gas emissions. Many of these industries are represented within AmCham EU's membership. Listed below by sector are specific challenges as well as recommendations.

RACHP

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 is expected to continue. For instance, supermarkets are using CO_2 as well as low GWP F-gas blends as refrigerants.

The phasedown assumes that alternatives to F-gases are readily available for refrigeration, heat pumps and stationary air conditioning, and that the transition to alternatives can be finalised in five years (or within three years of being adopted), ie by 2027. However, this is not the case. 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.

Currently, the RACHP sector is offering equipment containing low GWP alternatives. These efforts should be encouraged and augmented by transitioning the industry to ultra-low GWP F-gases and natural refrigerants. This technological change and its implementation in the market cannot realistically be achieved by 2027. Industry needs until at least 2030. This timeline would still require a significant technological change but one that is more aligned with the implementation of state-of-the-art technology and the socio-economic situation.

Insisting on an overly rapid technological change in heat pumps while simultaneously calling for their rapid rollout to decarbonise heating may also risk fostering an additional reason for illegal imports.

The enforcement measures in the F-gas regulation revision proposal are welcome; 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 while ensuring the right level of know-how, harmonisation and coordination across EU Member States. Deployment of the quota fees funding to EU Member States would increase their ability to combat illegal imports. Additionally, better emission control could also address some of the concerns about possible eco-toxicological consequences of atmospheric breakdown of hydrofluorocarbon (HFC) and hydro(chloro)fluoroolefins (H(C)FOs) products.

Inhaled anaesthetic agents

The inclusion of inhaled anaesthesia gases (sevoflurane, isoflurane, desflurane and enflurane) under Annex II(2) of the F-gas proposal and the proposed prohibition on the use of desflurane by January 2026 (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. Availability and choice of different anaesthetic agents is important to maintain high-quality therapeutic outcomes.

Furthermore, data suggests 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.[3] 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. 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. Still, the proposal would have an impact on the industry.

In the proposed revision, article 13 (3) no longer contains text regarding refrigeration equipment that has a charge size of 40 tonnes of CO_2 equivalent or more in the context of using F-gases for servicing and maintenance purposes. Should this charge size threshold be excluded in the proposed F-gas regulation, it will make obsolete in the 2030 timeframe all the chillers under a charge size of 40 tonnes of CO_2 equivalent used in semiconductor manufacturing processes.

However, the quantity of F-gases used 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

[3] M. Sulbaek Andersen et al. 'Atmospheric chemistry of isoflurane, desflurane, and sevoflurane: kinetics and mechanisms of reactions with chlorine atoms and OH radicals and global warming potentials', *Journal of Physical Chemistry A*, vol. 116, no. 24, 2012, p. 5806-20.

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 thus policymakers should reconsider this proposed change.

High voltage electrical switchgear (HV switchgear)

The industry is concerned regarding the proposed placing on the market prohibition (POM) for HV switchgear as stated in Annex IV(3). As worded, the POM requires providing evidence that 'no suitable alternative is available based on technical grounds' with less than 10 GWP.

The POM proposal would be counterproductive for climate impact when considering a complete Life Cycle Assessment. Furthermore, it could significantly limit competition in Europe where only one European HV switchgear original equipment manufacturers would be able to supply SF_6-free solutions that comply with the requirements of the POM proposal. In order to avoid further delaying the implementation of SF_6-free solutions, the proposal should:

- Have more than 2000 GWP for the total insulating or breaking medium in the POM where evidence on technical grounds needs to be provided.
- Delete the ranges with less than 10 GWP and between 10 and 2000 GWP.

Conclusion

AmCham supports the F-gases proposal because it will enhance the monitoring and management of F-gases throughout their life cycle and ensure that they are used responsibly, contained and recycled to minimise their impact on the environment. To succeed in its ambitions, the proposal must include a more balanced phasedown that accounts for realistic transition times across the various sectors that use F-gases, the European Green Deal's ambitions and the REPowerEU acceleration to increase the EU's energy security.

Maintaining the current phasedown schedule until at least 2030 would ensure sufficient F-gases are available to accommodate the rollout of heat pumps, align with the Montreal Protocol phasedown to 2035 and keep the EU on track for its 2050 goal of a 98% reduction in F-gas emissions. Furthermore, to facilitate border control and stronger enforcement to fight against illegal imports, the proposal's implementation must include harmonised and coordinated measures across EU Member States.