



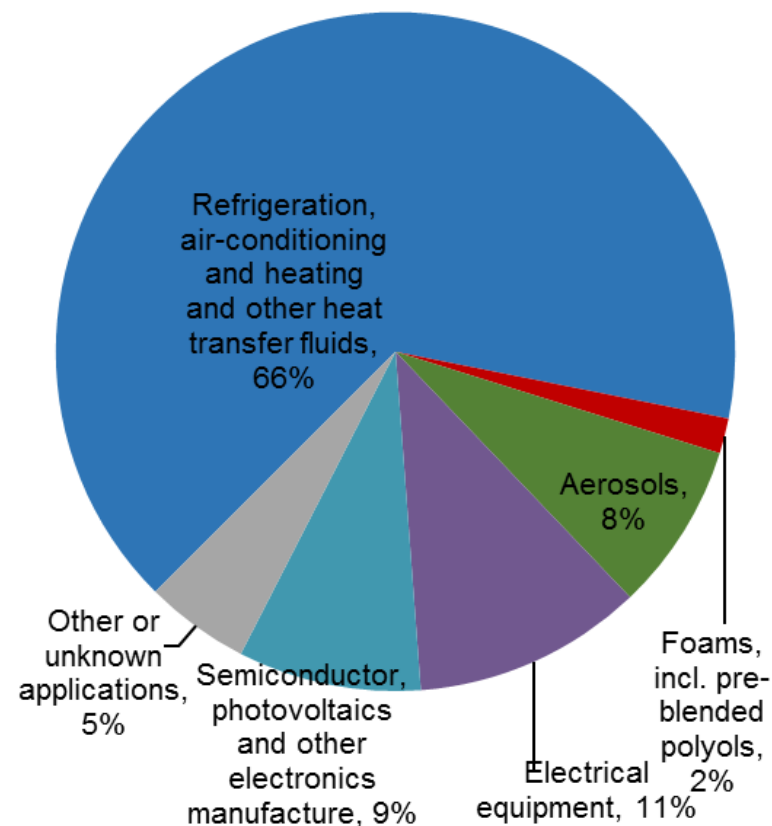
# The new proposal for strengthening F-gas polices in the EU

*44<sup>th</sup> OEWG Montreal Protocol, 13 July 2022*

*DG CLIMA, EUROPEAN COMMISSION*

# GWP and the use of F-gases in the EU

Gas	GWP (AR 4, 100 years)
CO <sub>2</sub>	1
CH <sub>4</sub>	25
N <sub>2</sub> O	298
HFC 134a	1 430
R 404A (HFC)	3 922
R 410A (HFC)	2 088
HFC 125	3 500
HFC 23	14 800
PFCs	ca. 7 000 – 12 000
SF <sub>6</sub>	22 800
NF <sub>3</sub>	17 200



Source: EEA 2021 Report on fluorinated greenhouse gases

# Two strategies to avoid emissions

## ➤ Avoid losses (“refrigerant management”)

- *Emission prevention measures and leak controls/checks for equipment*
- *Gas recuperation at end of life and destruction*
- *Training and Certification of technicians*
- *Labelling and record keeping of F-gas equipment*
- ...

## ➤ Reduce the use

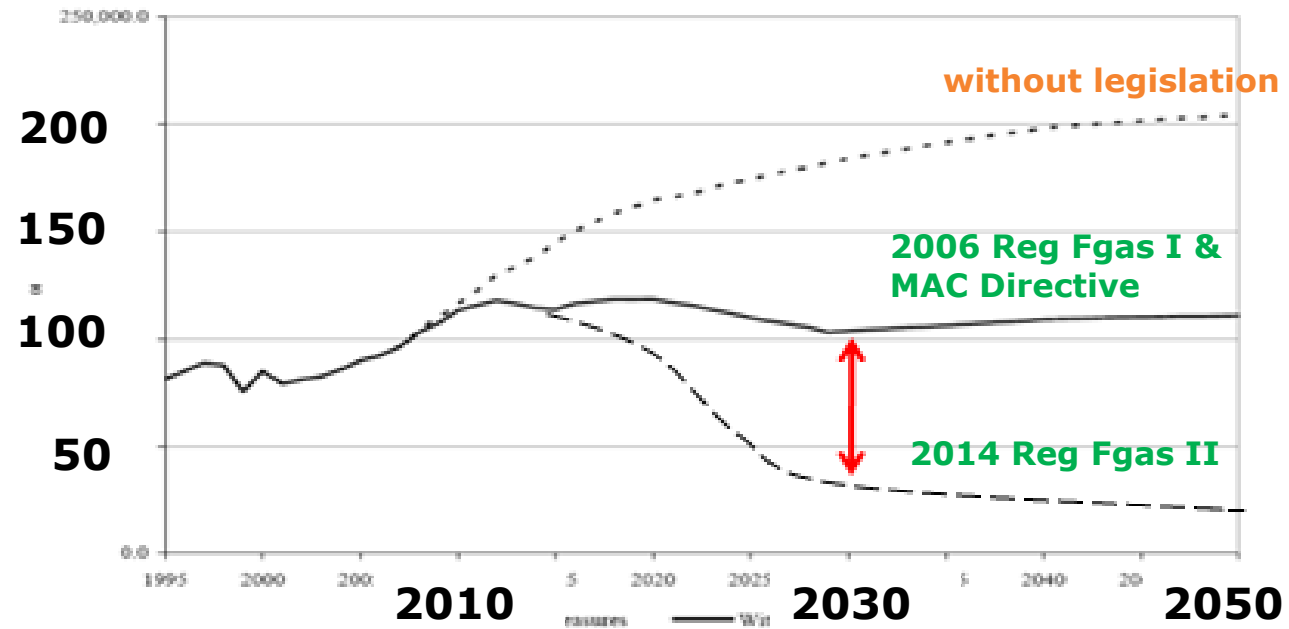
- *Phase-down of HFC supply to the market (via a **quota system**)*
- ***Prohibitions** of placing on the market and use*

# EU policies on F-gases – short history

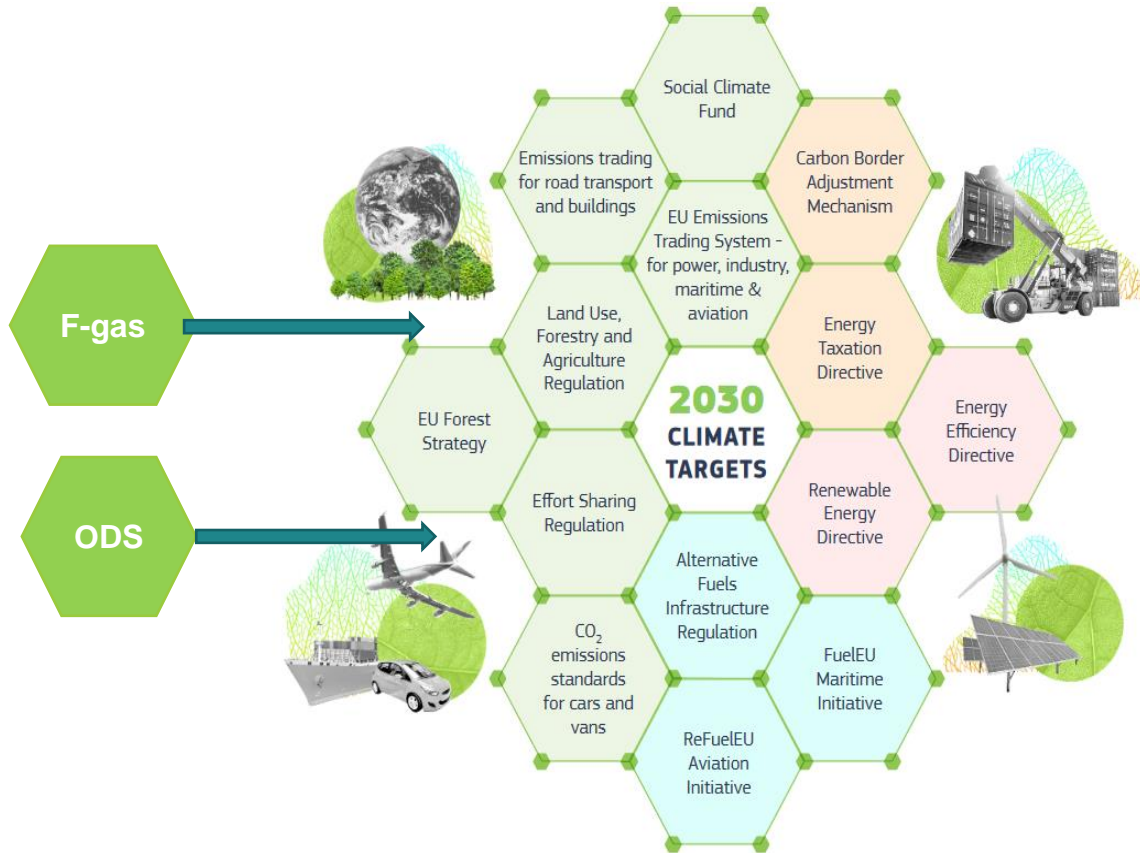
- 2006 **First F-gas Regulation**
  - Focus on **containing F-gases** (“refrigerant management”)
  - Some prohibitions (e.g. one-way cylinders, windows/short shoes/wheels, mono-component foams, some aerosol uses,..)
- 2007 **MAC Directive** (use refrigerant with GWP<150 in AC of passenger cars, from 2011+ for new types, 2017+ for all new cars)
- 2014 **Second F-gas Regulation** (HFC quota system and some accompanying prohibitions)
  - 2016 **Kigali Amendment**
- 2022 **Proposal for a Third F-gas Regulation**

# EU F-gas emissions

[Mt CO<sub>2</sub>eq.]



# Delivering the “Green Deal”



## -> Proposal for a new F-gas Regulation

- Achieve **additional emission savings** to contribute to reaching 55% reductions (2030) and climate neutrality (2050)
  - **Further emission reductions** are possible (progress in innovation), at modest costs (including energy savings for operators)
  - **Long lag time** between use and emissions as well as servicing needs requires quick action
- **Montreal Protocol compliance** (savings of 0.4 degrees Celsius globally)
  - **Ensure EU compliance** in long run
  - **Promote green technologies** that will facilitate the transition also beyond the EU

# New European Commission Proposal



Strasbourg, 5.4.2022  
COM(2022) 150 final

2022/0099 (COD)

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**

- Proposal for a **new EU F-gas Regulation** on 5 April 2022
- Will be negotiated between EU Member States (“Council”) and the European Parliament
- The final law will be directly applicable in all 27 EU Member States
- **Aiming to have a new law in place by 2024**

<https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52022PC0150>

# Building on a successful 2014 F-gas Regulation

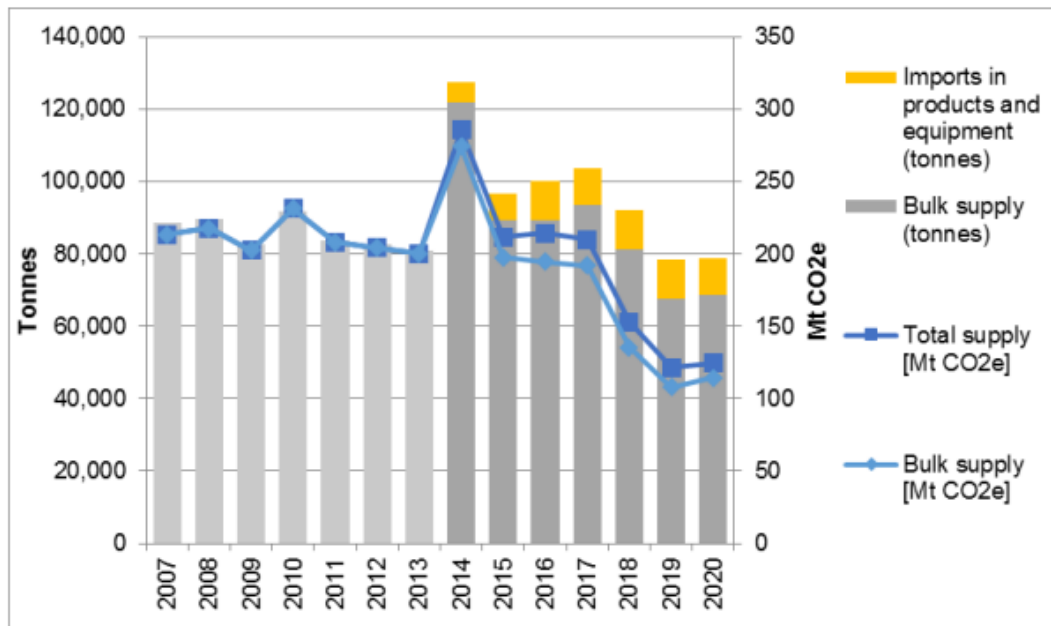
*A few examples:*

- **Demand** (CO<sub>2</sub> e) of F-gas dropped from 2015 to 2019 (-13%), for HFCs this is -47%!
- GWP of HFCs supplied to the EU market has dropped from 2000 (2015) to 1600 (2019)
- GWP in **imported equipment** has dropped by 33%
- 62% reduction of emissions in the refrigeration sector
- Tripling the amounts of **reclaimed F-gases**
- Evidence that **leakage rates** have declined further (PL, DE, SK..)

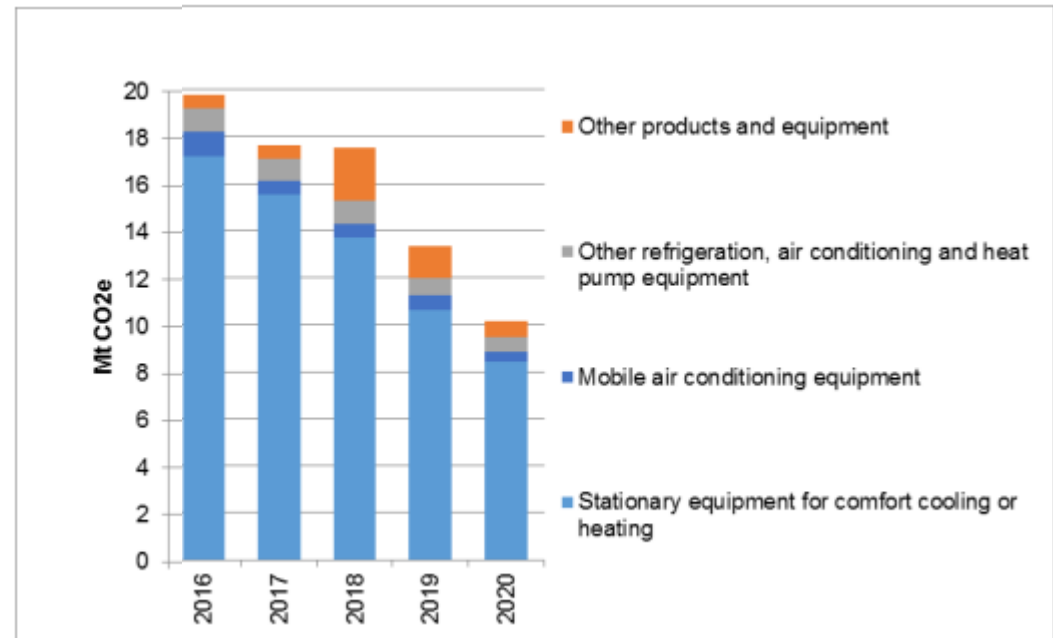


# Impacts of the current HFC quota system

HFC supply (UE):



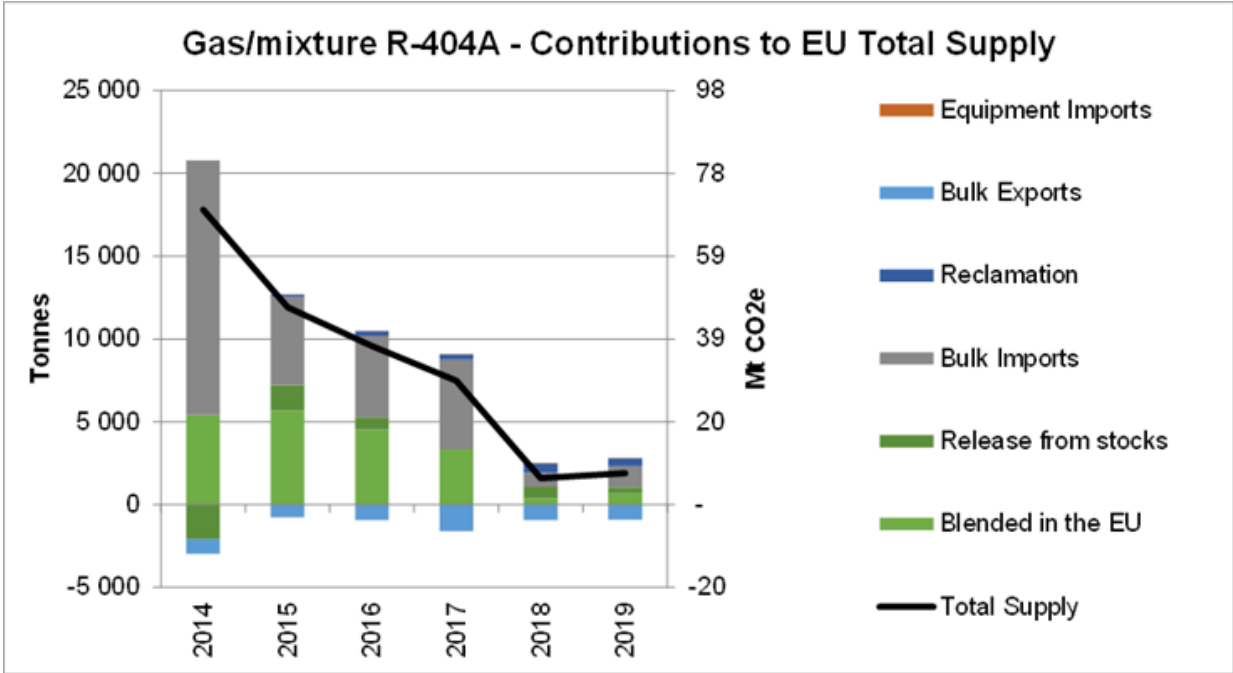
Imported HFC equipment HFC (EU):



Source: EEA 2021 Report on fluorinated greenhouse gases

# Effects of the current prohibitions

Supply of R404A (used in refrigeration) to EU (use restriction from 2020):



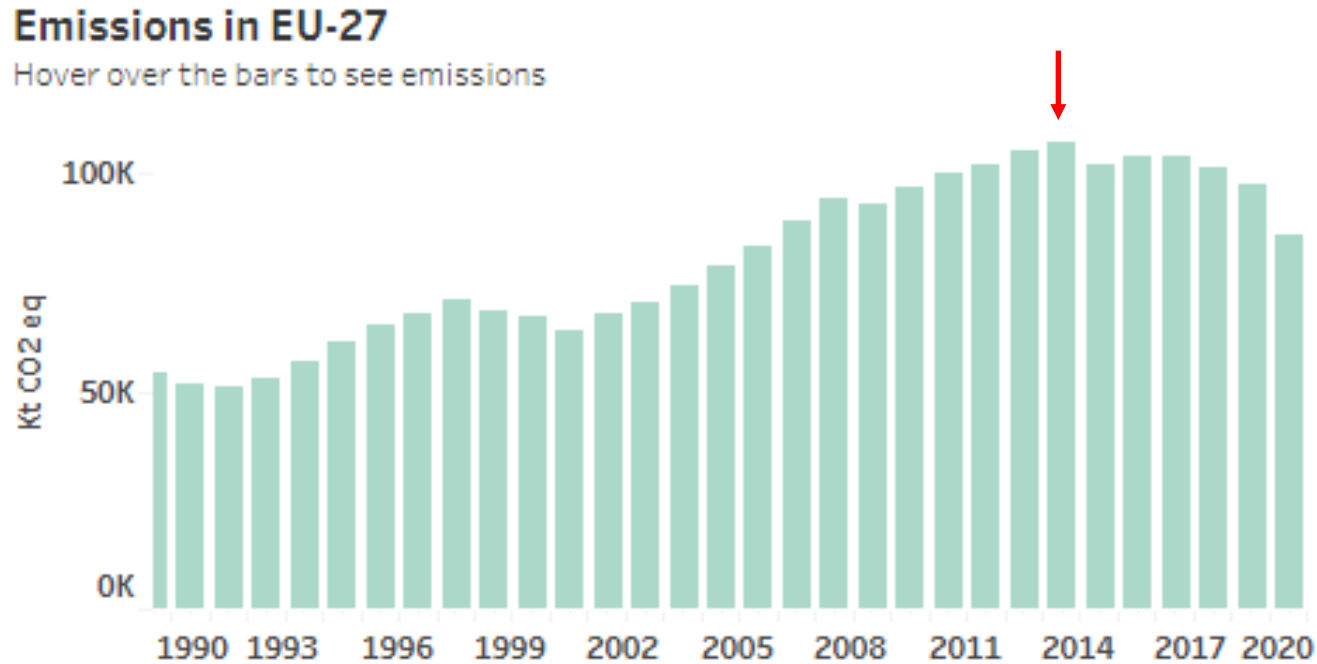
# Effects on innovation

- Technology **adjustment costs** only €6/tCO<sub>2</sub>eq
- Strong trigger for **green growth**:
  - *Companies using natural alternatives have risen by >60% from 2013 to 2016*
  - *>80% of firms in the refrigeration sector have increased R&D from 2011 to 2016*
  - *40,000 CO<sub>2</sub> transcritical systems (for supermarkets) installed in Europe*
  - *2,200 small charge ammonia systems*
  - *700,000 hydrocarbon systems in supermarkets*

Survey by Shecco, 2021

# Building on a successful 2014 F-gas Regulation

After many years of rising F-gas emissions, they have started to decline after 2014!



Source: EEA GHG data viewer

# ...but also some specific remaining challenges

- **Continuing emissions** from some sub-sectors and some fluorinated substances where this could be avoided due to technological progress
- **Safety codes, but important new developments with IEC 60335-2-89** (commercial refrigeration) and IEC 60335-2-40 (air conditioning)  
(HEAT ECA presentation 28 March 2022: Savings of 16 billion tonnes CO<sub>2</sub>eq possible!)
- Still low number of **service personnel** qualified to install equipment with climate-friendly alternatives
- Evidence of some **illegal activities**, e.g. HFC imports
- **Monitoring** gaps and efficiency issues

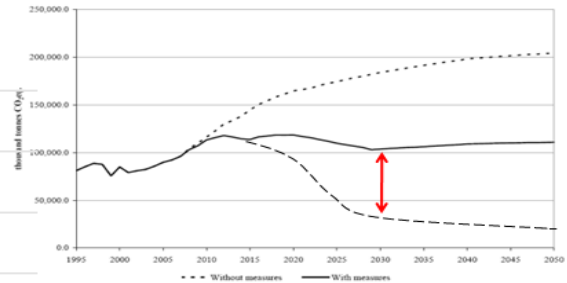
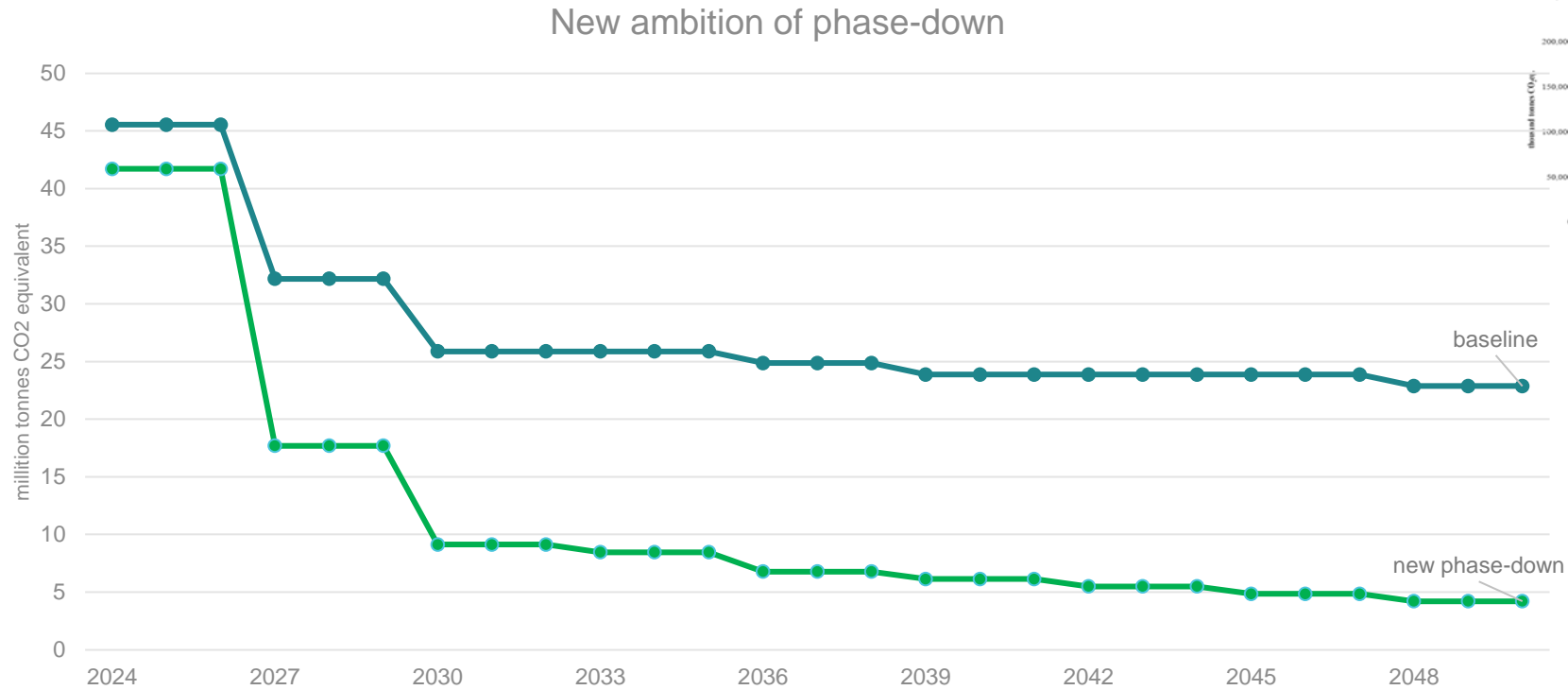
# Main changes to the F-gas Regulation

## → Align to the Green Deal climate ambition

- Steeper HFC quota system including MDIs
- Additional Placing on the market and use prohibitions including on the **Air Conditioning** sector, SF6 and other F-gases
- Extending emission prevention measures to more activities and gases (**H(C)FOs**, NF3, SO2F2, inhalation anaesthetics)
  - Intentional release prohibited
  - Operators and manufacturers shall take all feasible measures to minimise leakage
  - Undertakings shall take all necessary precautions to limit releases to the greatest extent possible during production, storage, transport and transfer
- Recovery/destruction obligation for some **insulation foams in old buildings** (also proposed for ODS)

# The proposed new HFC phase-down / quota system

**Potential climate impact of new HFCs supplied to the EU market (including in equipment) to be reduced by 98% from 2015 to 2050**



# Prohibitions/Restrictions

*A prohibition is sensible when there are safe, energy efficient alternatives available*

→ *Today this is the case in many sectors already:*

- *Use of R404A (GWP 3922) in refrigeration (prohibited since 2020) and R410A (GWP 2088) is not necessary anymore*
- *In many sectors one can avoid completely the HFCs, with alternatives such as propane, ammonia, CO2 etc..*

[https://ec.europa.eu/clima/policies/f-gas/alternatives\\_en](https://ec.europa.eu/clima/policies/f-gas/alternatives_en)

Please click on the sector of your interest for further information.

Commercial refrigeration

Industrial refrigeration

Stationary air conditioning

Domestic refrigeration

Mobile air conditioning

Transport refrigeration

Foam blowing



# Some newly proposed, additional prohibitions

- Refrigeration sector largely covered by existing Regulation
- NEW: **AC/heatpumps**:
  - Self-contained with GWP>150 (2025)
  - Splits up to 12kW capacity with GWP>150 (2027)
  - Splits above 12kW capacity with GWP>750 (2027)
- Extension of placing on the market ban of **non-refillable containers** to prohibit import, subsequent supply, use or export (empty, partially filled, or filled)
- Different types of **switchgear** with GWP>10, as feasible (2026-2031)
- Personal care products (2024), skin-cooling equipment (2024), desflurane (anaesthetic, 2026), fire protection (2024)

# Main changes to the F-gas Regulation (2)

## → Streamline with the MP Kigali Amendment

- Remove MDI exemption from phase-down
- Remove minimum thresholds for HFCs
- Separate HFC production phase-down
- Trade prohibition with non-parties to the Kigali Amendment (2028)

# Other relevant changes to the F-gas Regulation (3)

- Quota allocation: Quota holders need to..
  - fulfill certain conditions, e.g. experience in trade in chemicals
  - pay for their quota
- Customs
  - Digitisation and automation of custom controls: Every relevant shipment counter-checked with EU-central database
  - Reinforced custom rules, controls of trade
- Control
  - Inspections, penalties and cooperation between authorities
- Monitoring
  - Burden reduction (e.g. electronic verification) but also closing of gaps, Member States encouraged to use electronic reporting systems to collect emissions data

# Certification

**Existing obligations remain in place – They are well worth it!**

Certification required for..

- Natural persons
  - Installation, servicing/maintenance, repair, decommissioning (stationary RACHP; stationary fire protection; refrigerated trucks and trailers; ORCs; switchgear)
  - Leak checks (same as above except switchgear); and
  - Recovery (same as above except ORCs, but also equipment with solvents)
- Undertakings
  - Installation, servicing/maintenance, repair, decommissioning (stationary RACHP; stationary fire protection; refrigerated trucks and trailers; ORCs)

# Proposed changes on Certification

- Extend scope of **training** to
  - HFC Alternatives (HFOs and other relevant (i.e. natural) alternatives)
  - Energy efficiency aspects
- Extend **to HFOs**
  - Certification required for
    - installation/servicing/maintenance/repair/decommissioning of HFO equipment
    - leak checking of HFO equipment
    - recovery of HFO equipment
  - Mandatory leak checking and recovery of HFO equipment
  - Record keeping by operators and gas suppliers (for installation, service/maintenance, repair)

[Exemptions for leak checking and record keeping for equipment with 1kg HFOs, or 2kg HFOs for hermetically sealed equipment]

# What do we expect out of this?

- **Emission reductions:** By 2050, avoid (cumulatively) 310 MtCO<sub>2</sub>eq (ca. total annual emissions of Belgium, Luxemburg and Netherlands together), on top of 430 MtCO<sub>2</sub>eq to be saved by the existing Regulation
- **Climate neutrality:** Remaining EU F-gas emissions in 2050 will be only ca 14 MtCO<sub>2</sub>eq (2018: 86 MtCO<sub>2</sub>eq)
- **Modest Costs:** In *most cases costs* will be low compared to those asked of non-Fgas sectors on the road to climate neutrality, and will in *all cases* be proportionate
- **Energy savings** for endusers of refrigeration and air conditioning equipment
- **Stimulating effects** (output, innovation, employment), particularly on the equipment sector and its supply industry
- **Significantly improved control** over the policy, allowing effective enforcement in the Member States, at a moderate increase in administrative burden to companies and authorities
- And, **better trained personnel** to handle climate-friendly technologies

# Thank you

[https://ec.europa.eu/clima/eu-action/fluorinated-greenhouse-gases\\_en](https://ec.europa.eu/clima/eu-action/fluorinated-greenhouse-gases_en)



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