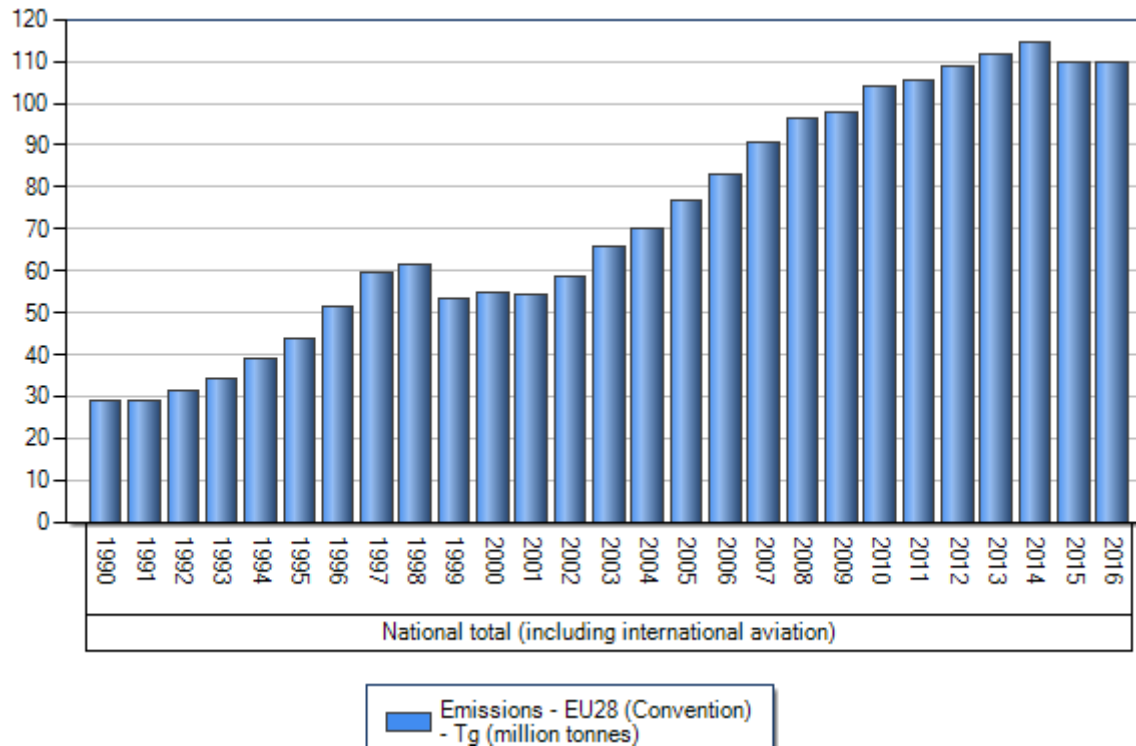




Fgas Regulation: Status Quo 2018

Arno Kaschl
DG Climate Action
June 2018

HFC Emissions (EU)



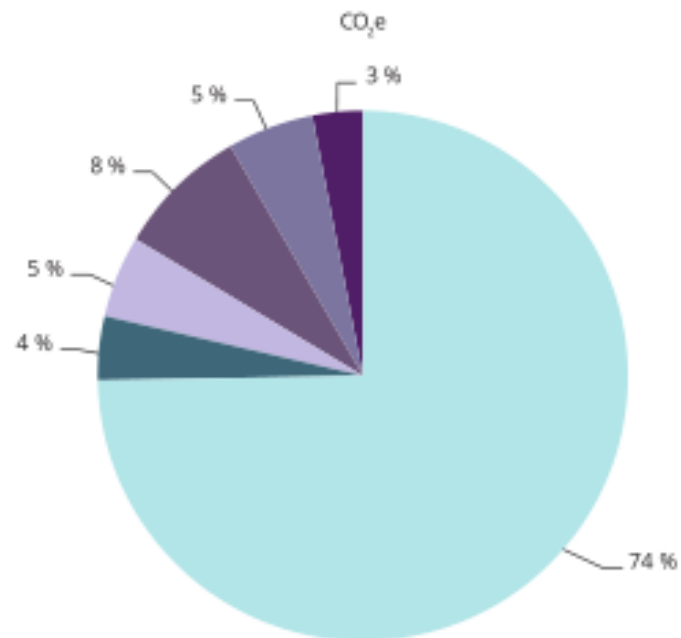
EEA greenhouse gas - data viewer:

Data sent by EU Member States to UNFCCC and the EU Greenhouse Gas Monitoring Mechanism

EU supply of



FGases



- Refrigeration, air-conditioning and heating and other heat transfer fluids
- Foams, including pre-blended polyols
- Aerosols
- Electrical equipment
- Semiconductor, photovoltaics and other electronics manufacture
- Other or unknown applications

Source: EEA, 2017b.

2006 - 1st Fgas Regulation: Emphasis on Containment

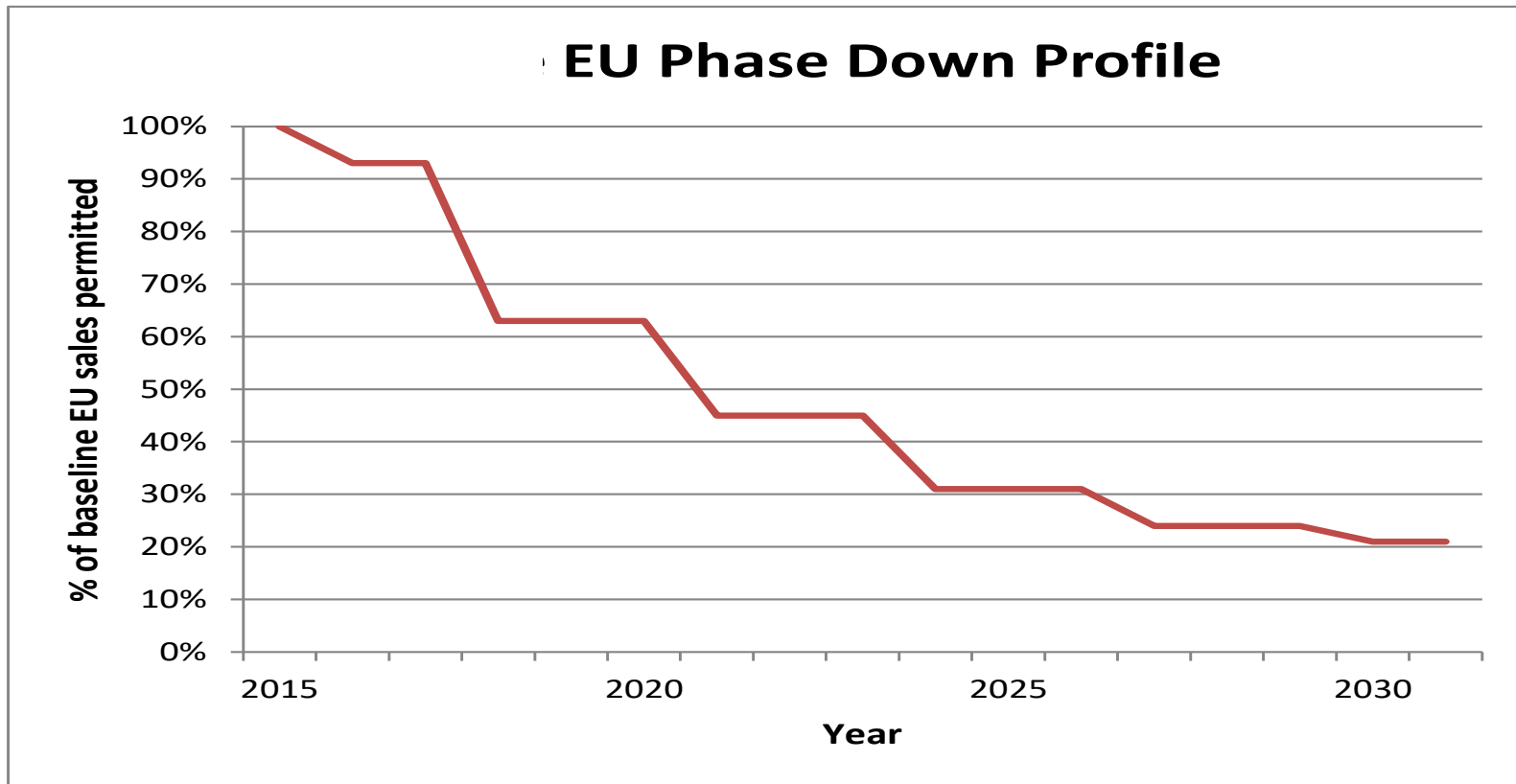
2007 - MAC Directive: Phaseout of R134a in passenger car sector

2014 - 2nd Fgas Regulation: Quota system for HFCs ("EU phase-down")



***Upstream Market Measure:** Reduce EU HFC sales (measured in CO₂eq.!) in 3 year steps by 80% (2030)*

- Companies importing or producing HFCs (bulk!) get **HFC quota** every year (in CO₂eq) → more metric tonnes for climate-friendlier substances can be sold
- A company can only place quantities of HFCs on the EU market up to their quota limit
- All HFCs in pre-charged RAC equipment need to be accounted for in the quota system



→ Prohibitions are an absolute endpoint, but action is often possible much earlier and makes economic sense under the scenario of a phase-down

Quota system

→ scarcity of HFC supply

→ higher prices

→ incentive to use climate-friendly technologies, reclamation, leakage reduction measures, etc.

→ innovation will happen quickest where most feasible (e.g. R404A in refrigeration), and thus most cost-effective

All sectors "play on one team"

(1) *GWP-metric*

→ *prices for high GWP gases rise*

→ **Users should switch to low GWP**

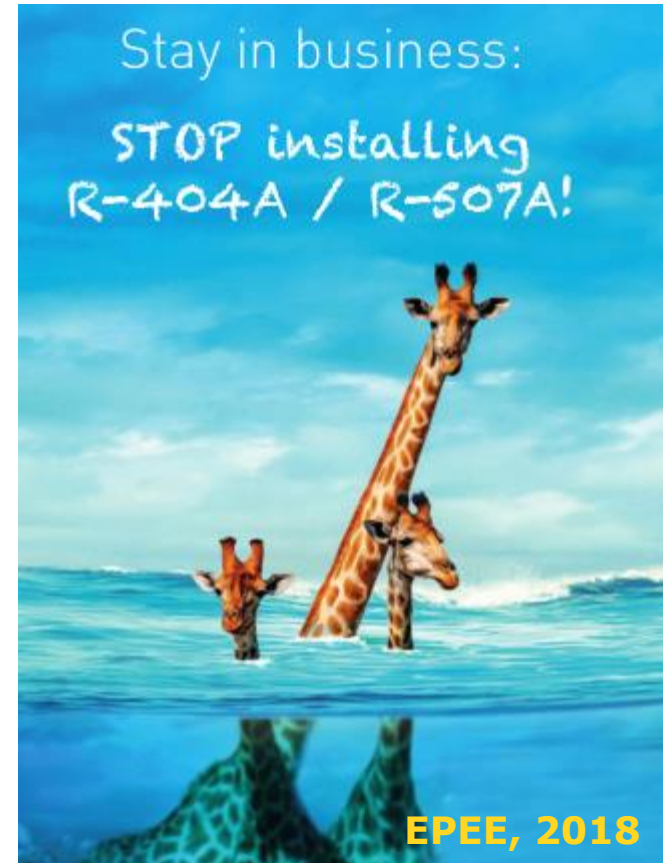
*There is lots of potential to reduce
the use of high GWP > 2500*

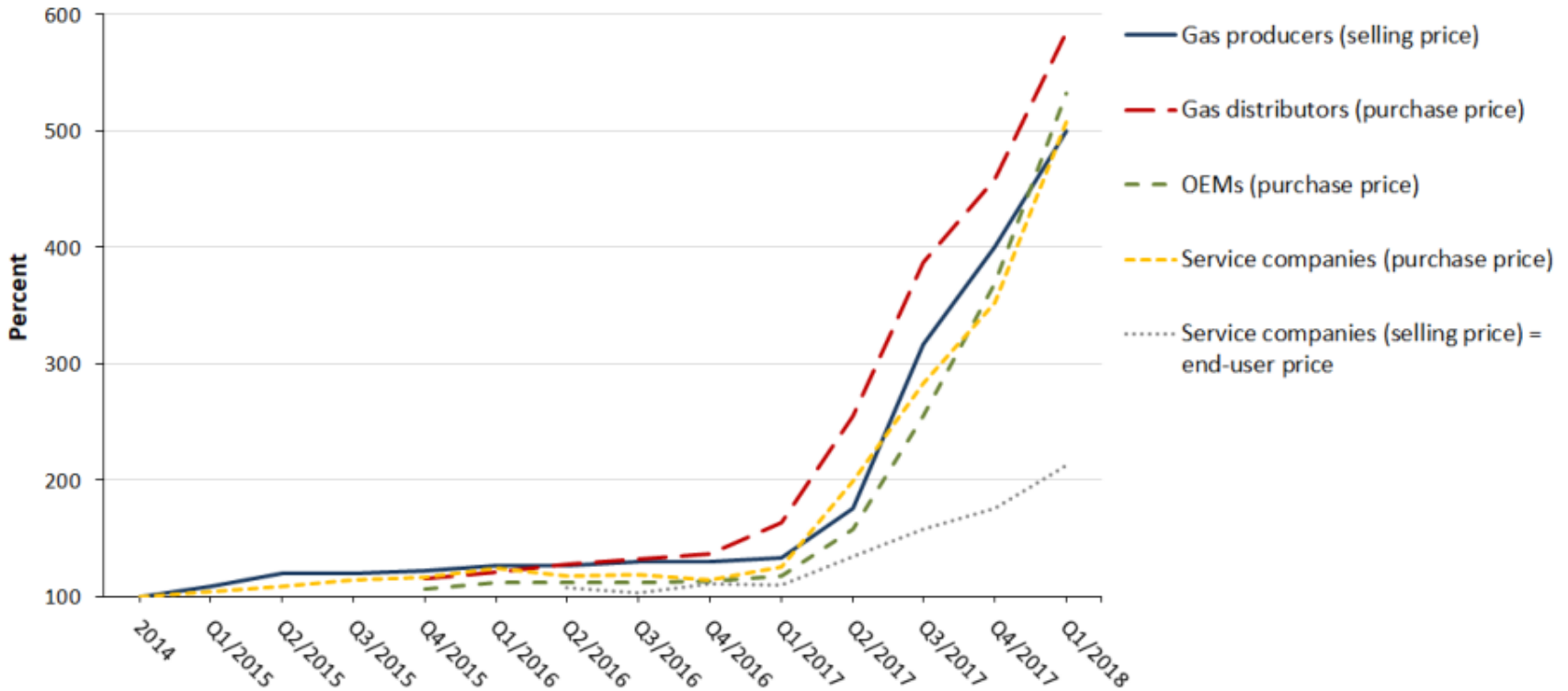
(2) *Ambition*

2015: $GWP_{\text{average}} = 2000$

→ 2030: GWP 400 (21%)

*A GWP 700 solution is in principle not sufficient to comply with the
phase-down in the long run...*





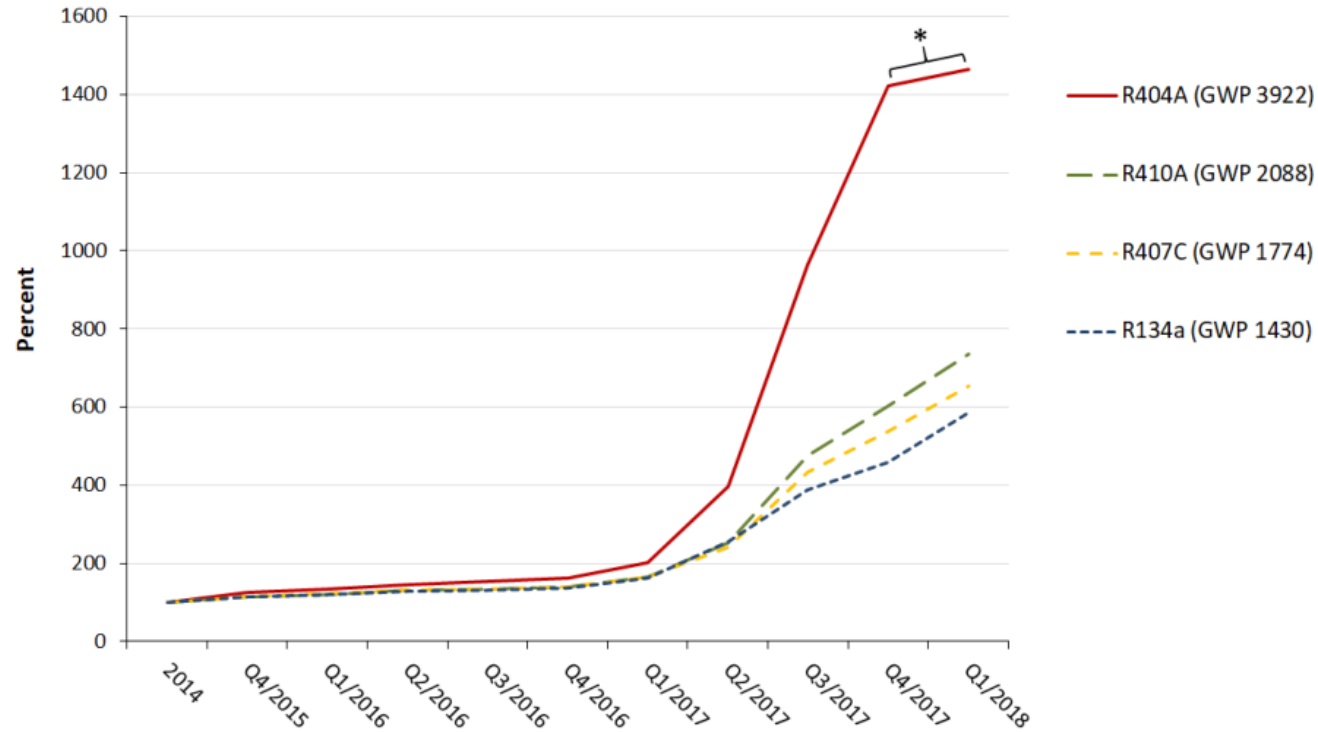
Öko-Recherche, 2018

→ A strong price signal exists!

Purchase prices



by distributors



Öko-Recherche, 2018

→ Price increases are related to GWP!



- *Planning stage of Fgas Regulation (2012):*
 - *Climate objectives: 80-95% until 2050*
 - *"Roadmap": a price of 50€ / tonne CO₂ is "fair share" of each sector*
- *Price increases at the beginning of 2018 (Q1) as compared to 2014:*
 - 7 – 23 €/t CO₂eq, depending upon gas and position of company in value chain*
- *For comparison: EU-Emission Trading System (ETS) - 15€/t CO₂eq is current price level*

→ Prices are within expected range



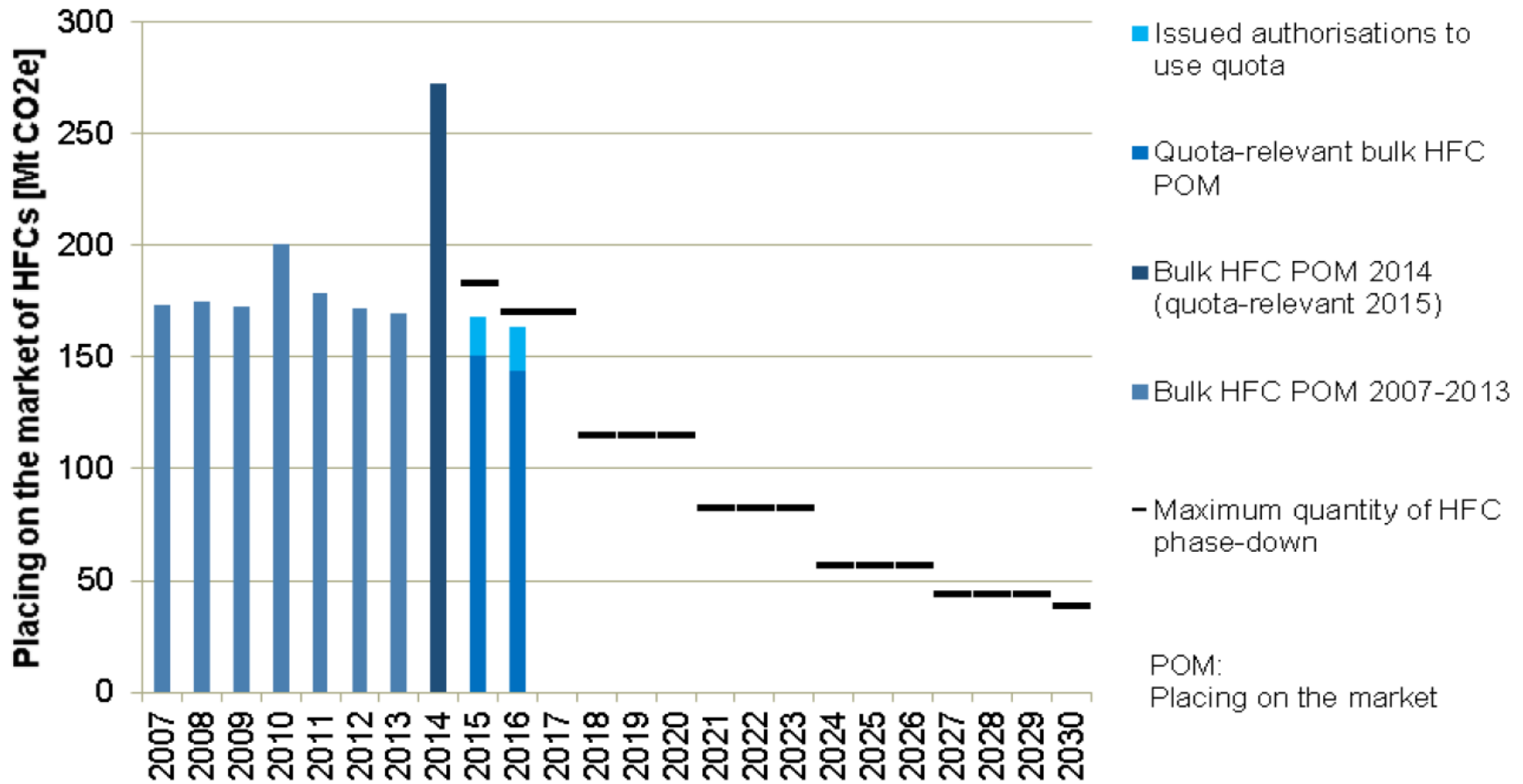
- *Strong Price signal → Stakeholders to react where possible, in the way possible and as quickly as possible*
- *A number of different actions can be taken*
 - **Installing new alternative equipment**
 - **Retrofitting existing equipment**
 - **Reclaiming gases**
 - **Avoiding leakage**
- *A number of alternatives on the market, growing by the day*
- *Annex III (prohibitions) support transition (aerosols, MAC, refrigeration/AC/foams in 2020...); MDI & other exemptions*

But: Reaction of all market players together determines the softness of the landing

Phase-down



Compliance



Source: EEA Report – Fluorinated GHG 2017

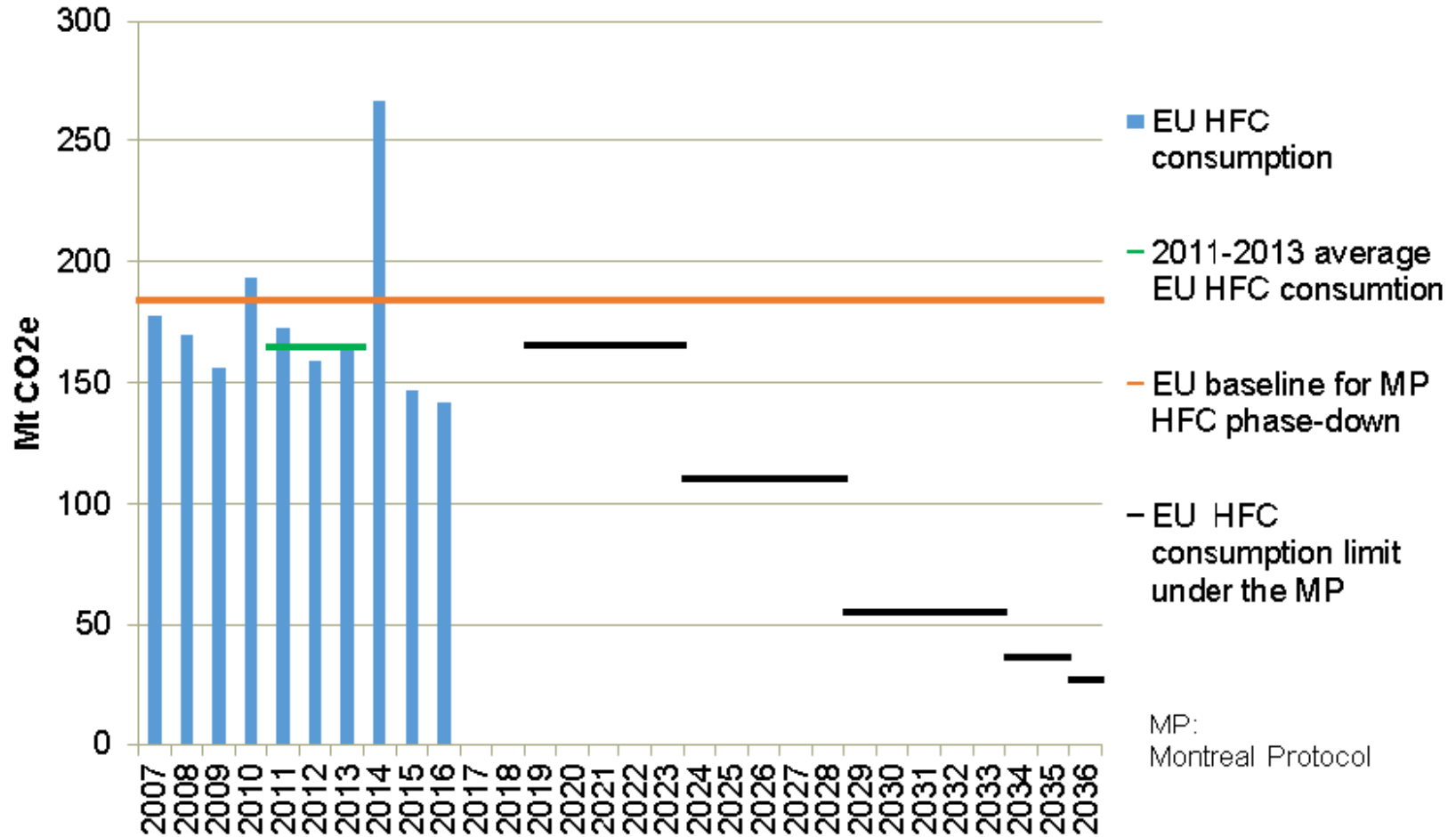


- *Fgas Portal: company registration, HFC quotas, authorisations for precharged RAC equipment*
- *Ex post company reporting by 31 March*
- *Checking compliance and border controls
→ "Single Window" Customs Initiative*

197 countries agreed to gradually limit their production and use of highly-warming HFCs

- The Montreal Protocol (Protecting the ozone layer) was extended to include HFCs (**Kigali Amendment**)
Quorum for ratification reached November 2017, set to enter into force on 1 January 2019
- Potential savings at global scale have been estimated to be up to 0.5 degrees less warming in the future

The EU F-gas legislation facilitated the global agreement



Source: EEA Report – Fluorinated GHG 2017

- *Published July 2017*
 - *Point 13 of Annex III: "multipacks"*

 - *Dynamic situation in sector*
 - *Multiple technological alternatives available today*
 - *EU South has more potential for future growth*
 - *Energy efficiency improving, prices are coming down*
- ***No need to amend Fgas Regulation***
- *Annexes: Typ of systems allowed, clarifying some definitions*

Good news: Fgas Policies are working

- *Emissions are falling*
- *Consumption is falling*
- *Companies respect their quotas*
- *Impacts:*
 - *Price signal*
 - *Developments in some sectors*
 - *Reclamation*

*Implementing the phase-down smoothly
is our priority!*



- *Monitoring the phase-down*
- *"Single window"*
- *BREXIT*
- *Standards, Mandate, "FRONT"*
- *Training, "REAL ALTERNATIVES"*
- *LIFE programme, Fgas priority, 12 September 2018*
- *Upcoming EC Reports*
 - *until mid 2020: SF6, split ACs*
 - *until end 2020: Availability of HFCs*
 - *until end 2022: General Review of Regulation*