



Proposed EU Regulation on F-Gases

Montreal Protocol Meeting – Side Event, 15 November 2012

The need for further EU action

- *EU 2050 climate targets is to reduce GHG emissions by 80-95% (1990-level)*
- *EU Low Carbon Economy Roadmap: non-CO2 emissions (non-agricultural) must decline by 72-73% by 2030 and by 70-79% by 2050 (1990-level)*
- *EU F-gas (HFCs, PFCs and SF6) emissions increased by 60% (1990-level)*
- *Several suitable low GWP alternatives are available for most F-gas applications!*
- *International HFC phase-down proposals under the Montreal Protocol*

Objective: EU F-gas policy must ...

- *contribute consistently and cost-effectively to the EU 2050 GHG reduction targets*
- *stimulate innovation/improve market opportunities for alternative technologies/gases with lower GWP*
- *be consistent with international agreements*
- *be efficient and proportionate*

Two strategies to reduce emissions

- *Prevent leakage and ensure proper end of life treatment of products and equipment*
- *Avoid the use of F-gases with higher GWP where alternatives result in lower life cycle GHG emissions, without compromising safety and functionality*

Existing EU F-gas and MAC legislation since 2006

F-gas Regulation:

F-gas bans

2010: 3 Mt CO₂-eq

2050: 4 Mt CO₂-eq

containment

2020: 29 Mt CO₂-eq

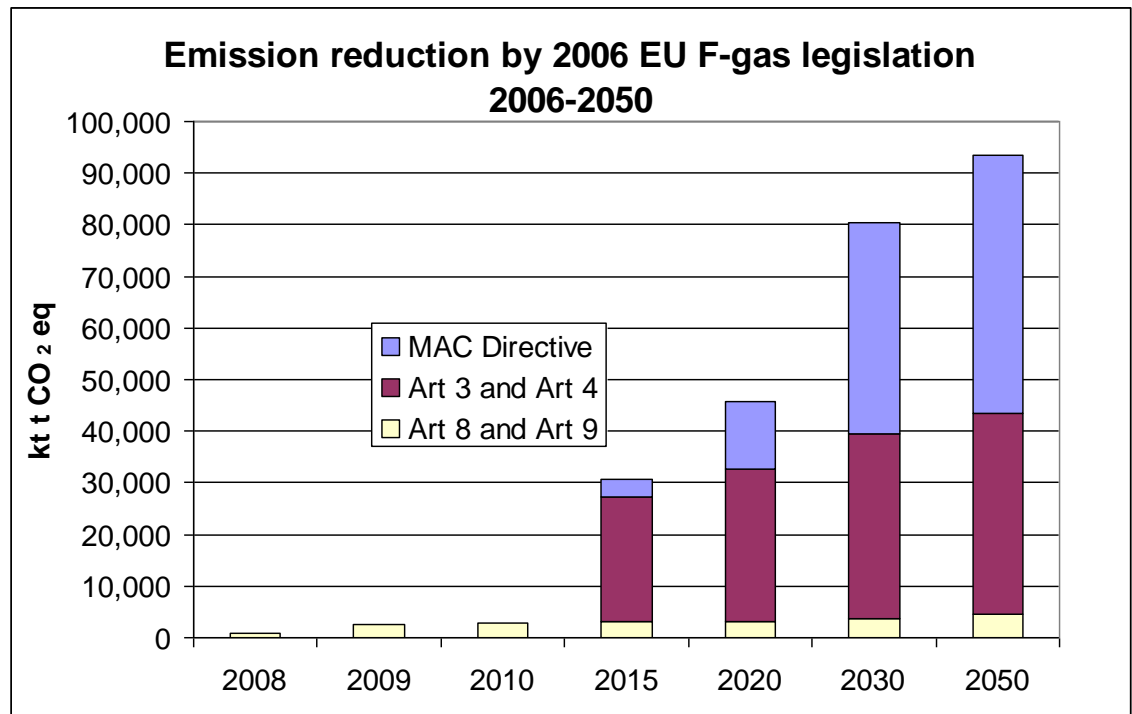
2050: 38 Mt CO₂-eq

Mobile AC Directive:

Ban GWP ≥ 150

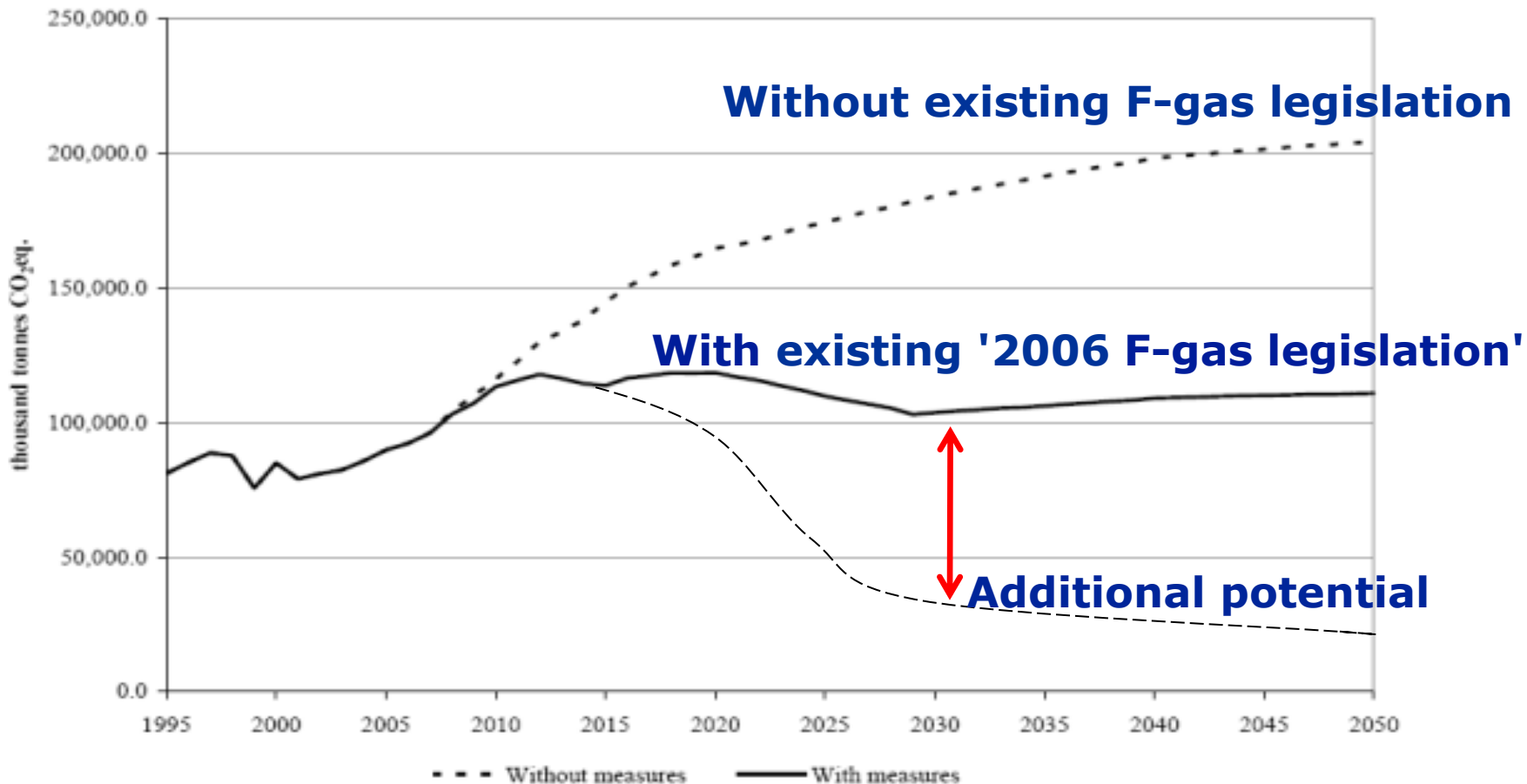
2020: 13 Mt CO₂-eq

2050: 50 Mt CO₂-eq



Source: Schwarz et al., 2011

Scenarios EU F-gas emissions



Additional reduction potential

- *Additional containment measures have low emission reduction potential*
- *Avoiding use of F-gases can bring large and cheap emission reductions. Climate friendly alternatives exist. Lifetimes of equipment are 10-50 years*

"Preparatory study for the F-gas Review", Schwarz et al. (2011)

"Avoiding Fluorinated Greenhouse Gases" – Prospects for Phasing Out", Umweltbundesamt (2010)

"Phase-down of HFC consumption in the EU", SKM Enviros (2012)

"Further Assessment of Policy Options for the Management and

"Destruction of Banks of ODS and F-gases in the EU", SKM ENVIROS (2012)

Proposal^{*)} new EU F-gas Regulation

- *HFCs, SF6 and PFCs (HFEs and HFOs reporting)*
- *Containment measures*
- *Prohibitions on F-gas equipment/products*
- *"Phase-down" of HFCs*
- *Reporting*

**) The European Commission proposes EU legislation. The European Parliament and the Council of the European Union adopt EU legislation.*

Containment measures

- *Intentional release prohibited and operators must prevent leakage*
- *Leakage check frequency depending on charge*
- *Detection systems for larger charges*
- *Labelling of equipment*
- *Proper recovery and recycling, reclamation or destruction*
- *Training & certification of service personnel (also for alternatives)*

Apply to e.g. stationary refrigeration, AC, heat pumps, fire protection systems, refrigerated trucks and trailers

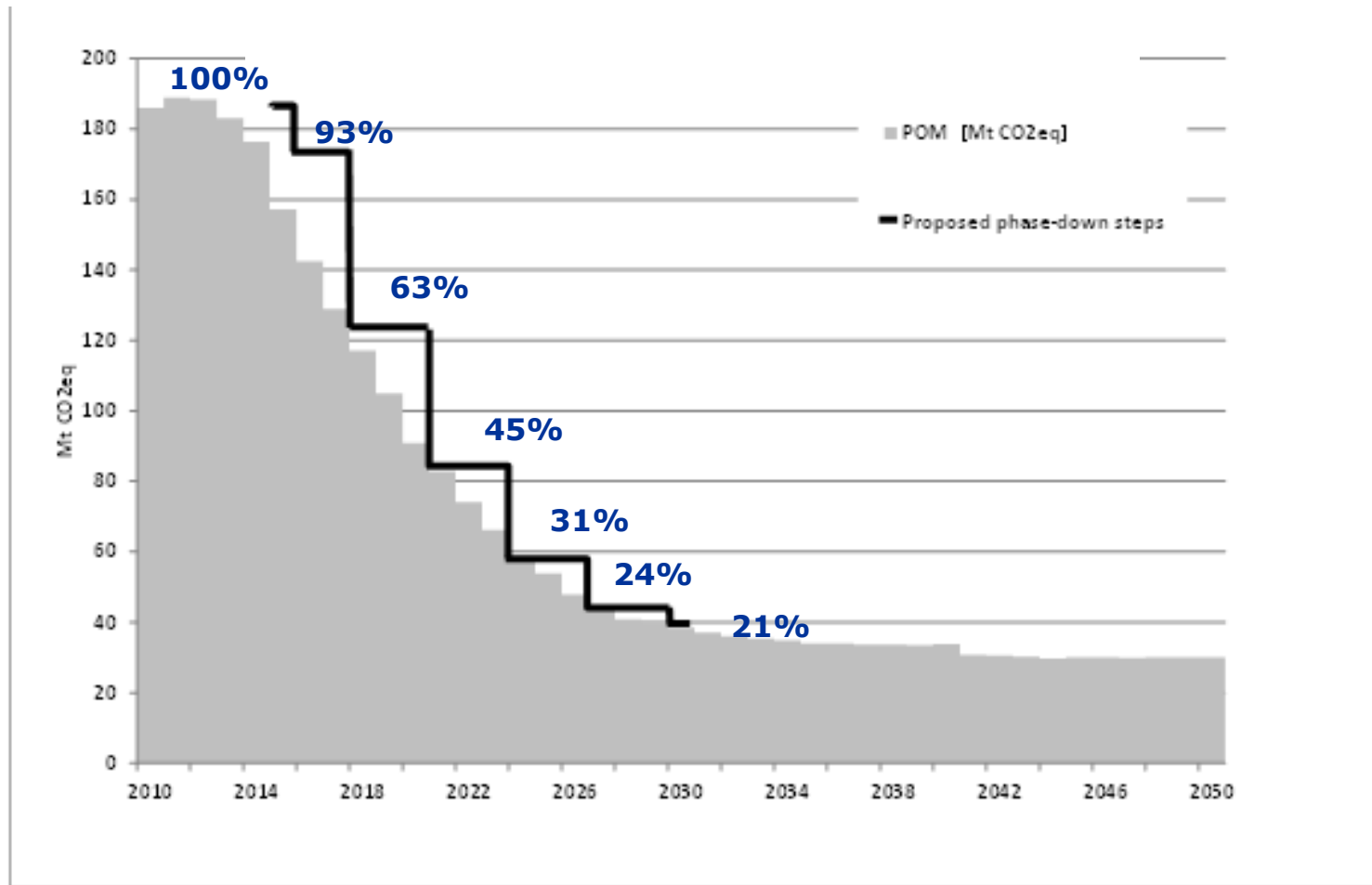
HFC phase-down of bulk supply

- *What: HFC bulk placed on the EU market*
- *Ambition: freeze 2015, first step 2016, reduction of HFC sales by 79% in 2030*
- *Baseline: reported 2008-2011*
- *How: Quota allocation based on historical sales, new entrants reserve and transfer*
- *Monitoring: Register and independently verified reports*



European
Commission

HFC Phase-down of bulk supply



Existing placing on the market bans

- Non-refillable containers for F-gases used to service, maintain or fill e.g. RAC or for use as solvents
- Non-confined direct evaporation systems with HFCs and PFCs
- Fire protection systems/extinguishers with PFCs
- Windows with F-gases

Existing placing on the market bans

continued

- Footwear with F-gases
- Tyres with F-gases
- One-component foams with F-gases with GWP \geq 150 (exemption: national safety standards)
- Aerosol generators for entertainment and decorative purposes and signal horns with HFCs with GWP \geq 150

New placing on the market bans

- Fire protection systems/extinguishers with HFC-23 from 2015
- Domestic refrigerators/freezers with HFCs - GWP ≥ 150 from 2015
- Hermetically sealed refrigerators/freezers for storage, display or distribution in retail/food service with HFCs - GWP ≥ 2500 from 2017 and HFCs - GWP ≥ 150 from 2020
- Movable room air-conditioning appliances with HFCs - GWP ≥ 150 from 2020

Other bans

- *Use of F-gases with GWP \geq 2500 to service/maintain refrigeration equipment with charge $>$ 5 t CO₂-eq from 2020*
- *Use of SF₆ in magnesium die-casting*
- *Pre-charging of (open) non-sealed equipment 3 years after the Regulation's entry into force (charging must be done at installation site only)*
- *Mandatory destruction of HFC-23 by-production*

All bans would apply in the same way to imported and EU-produced equipment!

Impacts

Environment: By 2030 reduction of 70 Mt CO₂ eq. or 60% compared to 2005. Proposal fully consistent with EU Low Carbon Economy Roadmap

Economic: GDP impacts – 0.009%. Conservative estimation based on today's costs of alternatives

Social: -16.000 to +7000 jobs. No safety/occupational/health risks. No dynamic effects included

EU proposal in international context

- *Increased EU demand for alternative technologies likely to spur innovation and economies of scale also in other markets, hence reducing costs of a global phase-down of HFCs*
- *Demonstrate availability of low GWP alternatives and spur action to reduce the gap between the level of ambition for 2020 and the mitigation efforts under the UNFCCC*

EU F-gas proposal next step: Adoption

European Parliament
754 Members
directly-elected



Council of the EU
Ministers from the 27
EU Member States



Proposal in the EU legislative procedure

To know more...

http://ec.europa.eu/clima/policies/f-gas/legislation/documentation_en.htm

Thank you for your attention!

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