

# **Review of the F-gas Regulation (EC) No. 842/2006**

**Background information and  
outcome of a project on behalf of  
the European Commission**

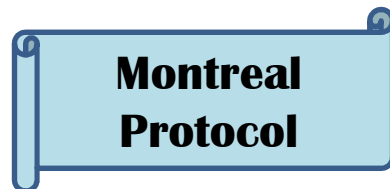
# Background

As part of European climate policy, legislation addressing F-gas emissions was developed and entered into force:

- §§ 2006 – *F-gas Regulation*
- §§ 2006 – *MAC Directive* (mobile AC in passenger cars)

In 2009, the European Commission initiated a study

- on the status of implementation of the F-gas Regulation
- to identify needs for a potential review of the Regulation
- to suggest options for a potential review of the Regulation (also in view of developments at international level)



# Project framework

**Duration:** December 2009 – July 2011

**Partners:**



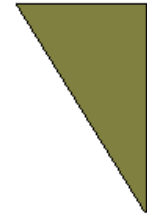
Several technical experts

National experts from several EU Member States

Project Expert Group established by EU Commission

In close cooperation with competent authorities from all EU Member States, industry, NGOs, academia.

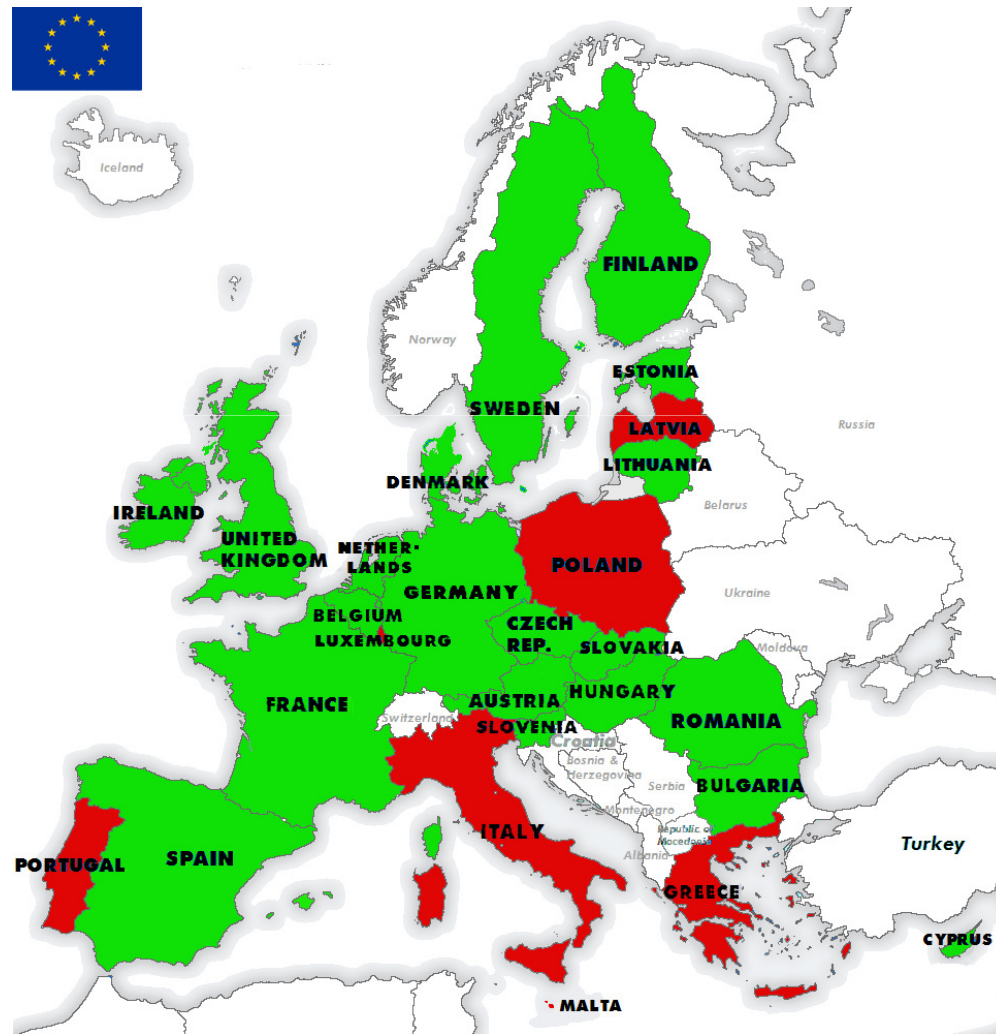
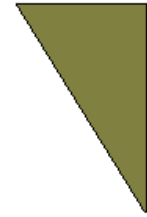
# What is the F-gas Regulation all about?



- *„contain, prevent and thereby reduce emissions of the fluorinated greenhouses gases covered by the Kyoto Protocol“* (Art 1)
- Containment measures for stationary refrigeration, air conditioning, heat pump equipment, fire protection systems; in particular applications >3 kg (Art 3)
- Recovery measures for stationary and mobile equipment (Art 4)
- Training and certification measures for personnel and companies (Art 5)
- Annual reporting of F-gas quantities by companies (Art 6)
- Labelling (Art 7)
- Use bans (SF6 only) (Art 8)
- Bans of placing on the market of certain products containing F-gases (Art 9)

Status of implementation:

# Certification bodies in the stationary refrigeration, air conditioning and heat pump sector



Status of July 2011:  
Notification of  
certification bodies for  
this sector to the EU  
Commission

Problems:  
In some Member  
States national  
legislation has not  
been adopted yet.

Status of implementation:

## Certification of personnel and companies

Status of July 2011:

Final personnel and company certification in EU-27 by sectors

| Sector  | Personnel holding final certifications | Companies holding final certifications |
|---|--|--|
| Stationary refrigeration, AC, heat pumps                        | 48%                                    | 43%                                    |
| Fire protection   | 34%                                    | 9%                                     |
| High voltage switchgear   | 72%                                    | -                                      |
| F-gas based solvents  | 54%                                    | -                                      |
| Recovery of F-gases from AC systems contained in passenger cars | 43%                                    | -                                      |

Status of implementation:

Example - **Containment measures (Art 3)**



Key measure: Regular leak checks at stationary equipment to be undertaken by certified personnel

High compliance: Large companies, large equipment

Low compliance: Small companies, small equipment



Awareness of equipment operators varies largely within EU

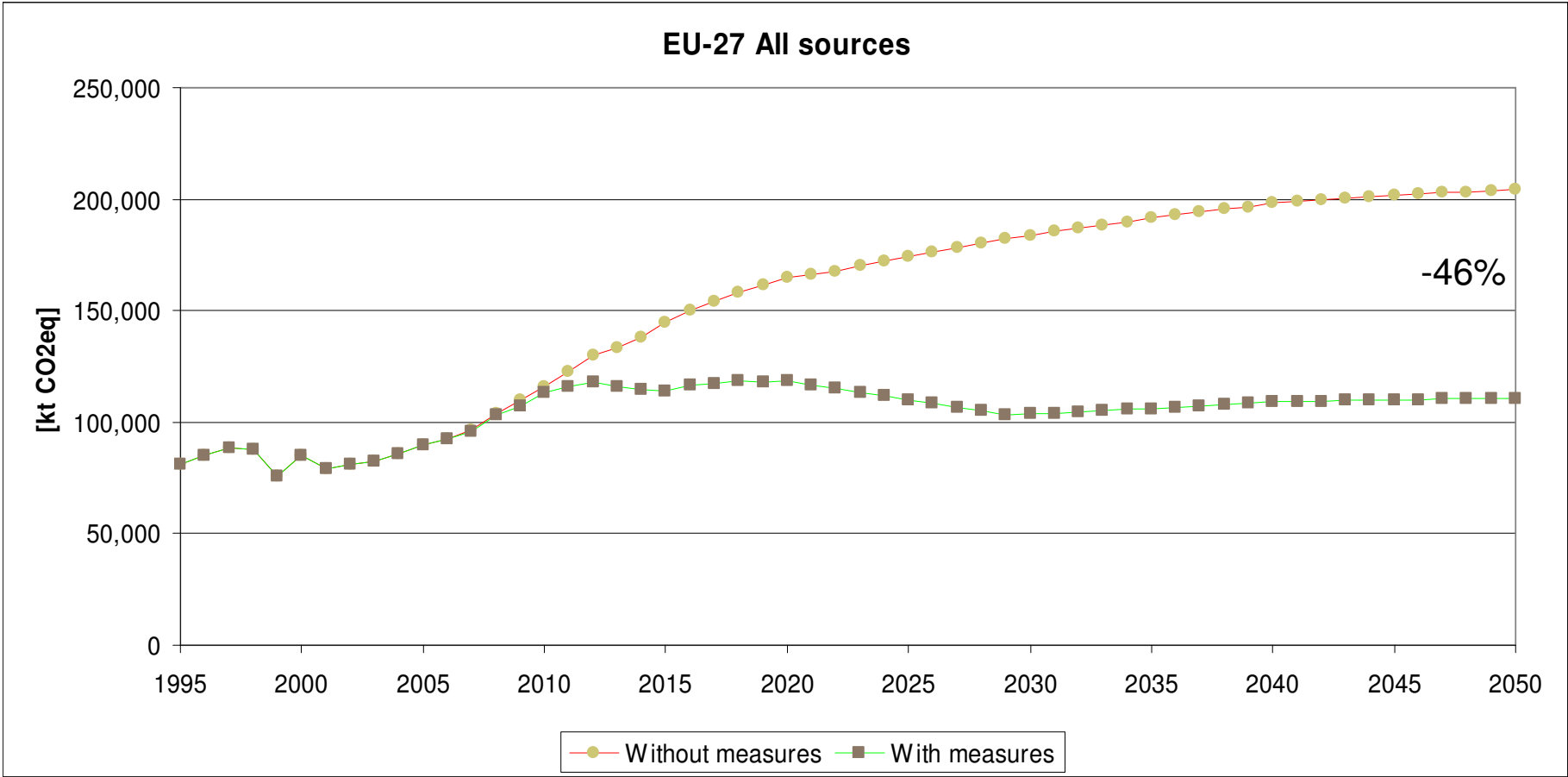
**Do containment measures acc to Art 3 largely reduce F-gas emissions in EU today?**

- Unknown, no survey on large scale yet, only small samples of data
- Time series is still too short

# What will be the future effect of EU legislation on F-gas emissions?



Projections built upon sectoral data and information based on input from authorities and industry.





# Will EU legislation on F-gas emissions be sufficient for the future?



- Stable level of F-gas emissions but no decrease in the long term
- Certain problems in implementation and application of F-gas Regulation
- Some European Member States are ahead of others, also because of their national policies
- International developments under the Montreal Protocol might require HFC phase down
- European climate targets require strong emission reductions. F-gases are potent greenhouse gases (high GWP) and F-gas abatement could lead to high reductions.

# What options are available for further EU action to reduce F-gas emissions? – 1. Example



Option: Voluntary agreements by industry

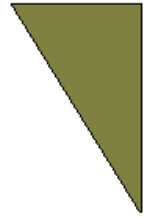
Start: as soon as possible

Sectors:



- Commercial refrigeration: HFC phase down (!! Commitment of CGF at COP 16 in 2010)
- Transport refrigeration: HFC phase down
- Photovoltaics industry: replace NF3
- Foam industry: Replace HFC-134a in XPS foam
- Semiconductor industry: Reduce F-gas emissions from the production process
- Domestic refrigeration: Phase out HFC-134a
- Fire protection: Phase out HFC-23
- Halocarbon production: Destroy HFC-23 emissions from manufacture

# What options are available for further EU action to reduce F-gas emissions? – 2. Example



Option: Further bans for the use of F-gases  
Start years differ between sectors

Sectors:

- Use of SF6 in magnesium die casting and recycling
- HFCs in aerosols
- HFCs in foam products
- F-gases in certain closed applications where safe and energy efficient alternatives are available



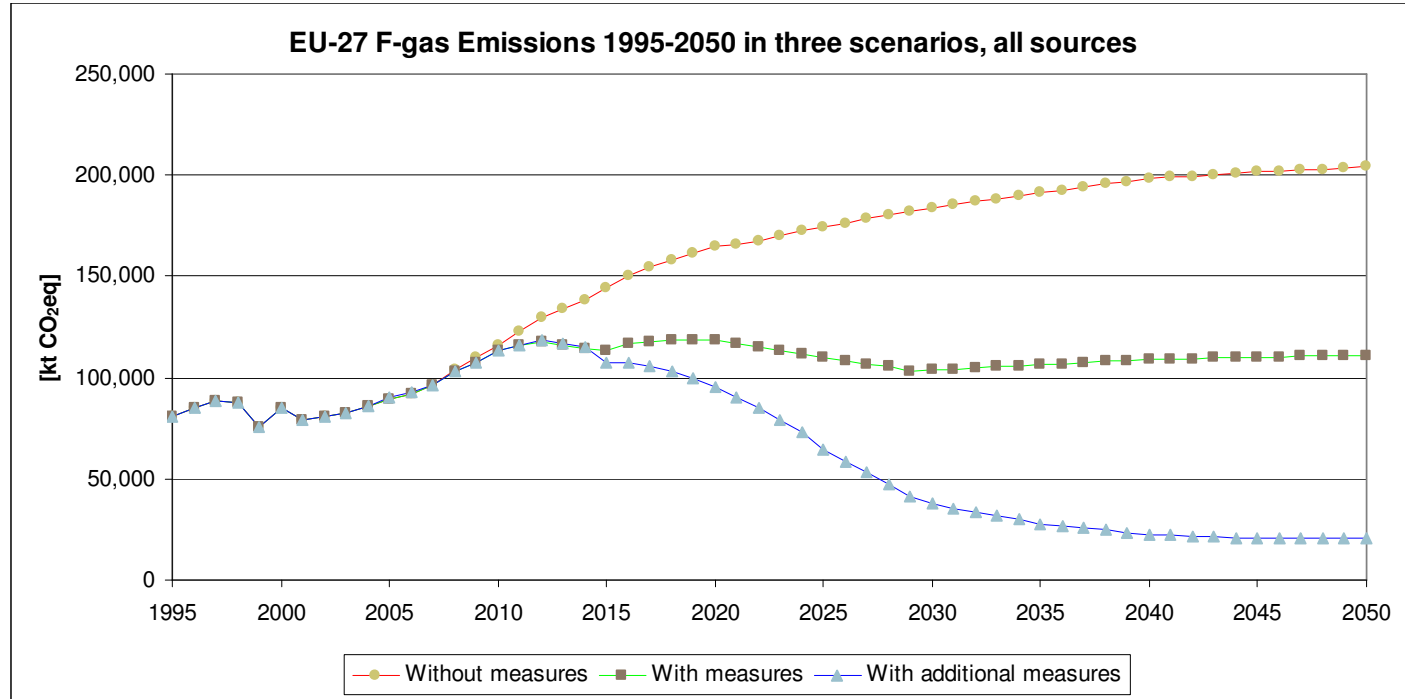
Sectors: Refrigeration, air conditioning, fire protection,  
mobile air conditioning (ships, rail)

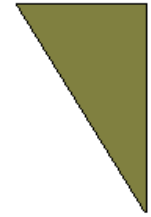
# What options are available for further EU action to reduce F-gas emissions? – III. Example



## Option: Phase down of HFCs

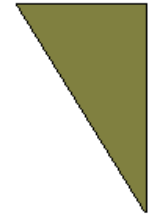
- all sectors relying on HFCs
- comparably large potential to reduce long term F-gas emissions
- suitable to implement international phase down
- Would allow national policies in the Member States
- flexible





## What will happen next at EU level?

- Further work on certain review options to be done
- EU Report on the status of implementation of the F-gas Regulation soon to be published
- Preparatory study soon to be published
- Public stakeholder consultation
- Decision IF a legislative proposal for a review of the F-gas Regulation will be elaborated. Such proposal also needs to consider the status of international negotiations by then.



**Thank you very much for your attention.**

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