

EU legislation overview as it affects European glassmakers

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CONCEPTIONS VERRIERES

Air pollution in Europe is continuously decreasing.

However, the level of clean air obtained today is not sufficient and additional constraints are necessary. The CAFE (Clean Air For Europe) program is the main instrument put in place by the European Commission looking for further reductions of dust (PM 2.5), NO_x and SO₂ through the revision of several Directives on air pollution control.

We need also to fight against Climate Change and the reduction of our CO₂ emissions is now a high priority

As Glass industry we are concerned mainly by

- IPPC Directive and Glass BREF revision**
- EU ETS Directive revision**

IPPC Directive and Glass BREF revision

- Glass BREF revision : Final TWG (Technical Working Group) meeting foreseen in September 2009. Final draft (namely chapter 5 with BATAELs) available “soon”. Strong demand of some Member States (A, D, F, NL) can be foreseen on NO_x, SO₂ and dust reduction
- IPPC Directive revision: BATAELs will become binding
- NO_x and SO₂ trading. Lobbying required in order to have Glass Industry outside the scope (ENTECC study)

IPPC Directive : Glass BREF review

- Original BREF started in 1998, finalised in 2000 and adopted by the Commission in 2001
- The review started in 2006:
 - Reactivation of the TWG (Technical Working Group)
 - List of « wishes »
 - Kick-off meeting of the TWG (January 2007 in Seville)
 - Call for data collection.
 - First draft (Chapters 1 – 4) issued in September 2008
 - Draft on Chapter 4 and 5 available mid-May 2009
 - Final TWG in September 2009
 - Final adoption by IEF (Information Exchange Forum) end of 2009

IPPC Directive: Glass BREF review

Key parameters:

- NOx emissions
- SO₂ emissions
- Dust emissions
- Emissions to water
- Wastes
- Energy consumption
- Emerging techniques

Review of the IPPC Directive

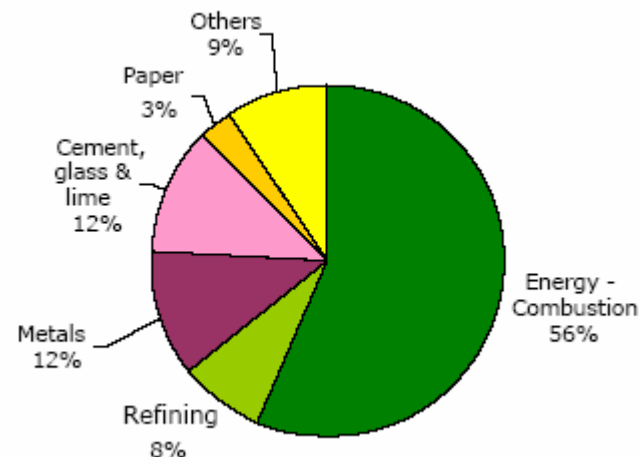
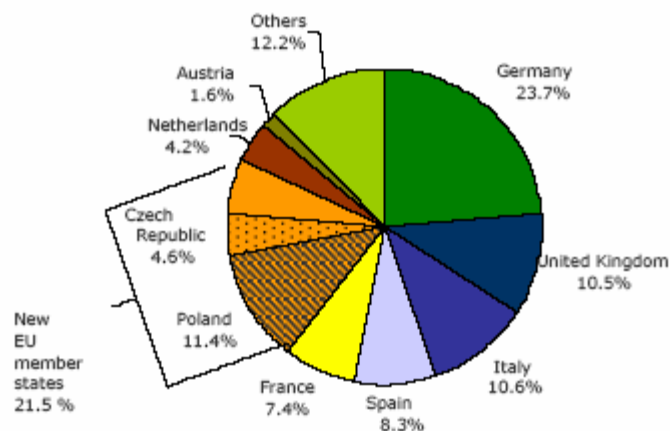
IPPC Directive based on three pillars:

- Integrated approach (cross-media impacts)
- Use of BAT : ELVs must be based on BATAELs, **AELs are not ELVs!**
- Flexibility
 - Duty of results but not duty of means
 - Technico-economic aspects and local conditions must be taken into account
 - Well adapted to diversity in glass industry
- The text is under discussion (Co-decision process). A second reading at European Parliament level is foreseen after the European elections
- **BATAELs ranges will become binding!**

SO₂ and NO_x emission trading (ENTEC study)

- **Glass industry is against ETS for NO_x and SO₂**
- ETS for CO₂ can not be taken as a good example
- There is no room for trade of NO_x and SO₂
- Problems and costs of monitoring
- Disproportionate burden compared to the environmental benefits
- Choice of fuel must remain a possible option
- For Glass only NO_x trading will be studied by ENTEC

EU ETS – Period 2005 to 2007



- EU ETS largely dominated by energy sector
- 23 biggest European companies, producing 70 % of electricity hold around 30% of the allowances
- Glass industry : 21.6Mt on a total of 2.1 billion tonnes (1%) and 475 installations on a total of 11.000 (4,3%)

European Glass industry and EU ETS

- Average emission per installation is 45.000 tonnes of CO₂/year
- Average CO₂ specific emission is 620 kg CO₂ /tonne of glass
- Range from 200 to 1.200 kg CO₂/tonne of glass, not due to energy efficiency reasons but type of products, quality needed, cullet percentage,...
 - Flat glass : 500 - 800 kg/tonne of glass
 - Container : 200 - 700 kg/tonne of glass
 - Continuous filament : 800 - 1000 kg/tonne
 - Tableware : 150 - 1000 kg/tonne
 - Etc...

Some lessons from NAP1 and NAP2

- Allocations methods applied to glass industry in general without distinction of the particular situation of sub-sectors
- Some sub-sectors have declining markets, while others show strong growth
- As a consequence, **under or over allocation** (up to plus or minus 20%)
- **Growth is penalised and a (small) subvention is given to declining markets**

The ideal EU ETS Directive

- Free allocation is essential (world-wide competition)
- Allocation method must take into account unforeseeable production growth
- Allocation method must take into account the wide diversity of the Glass industry
- Sector-related method and benchmarking is worth considering (even if quite complicated)

Revision of EU ETS Directive

- Adopted by EU Parliament on 17 December 2008
- A lot of issues left to the Comitology procedure
 - Carbon leakage
 - Benchmarking for free allocations
 - Auctioning
- Lobbying required at Commission level (DG ENT and DG ENV) but also at Member State level
- **High constraint on industry: -21% in absolute value compared to the level of 2005**

EU ETS

Main principles in the revised text are:

- A **cap & trade** system is maintained
- Duration of the period is increased to 8 years (2013-2020)
- Allowances will be granted per sector at European level
- **Full auctioning** will be the rule unless you can prove that your sector will be submitted to severe non-EU competition (carbon leakage)
- Transitional measures for manufacturing industry. Gradually increased percentage of allocations sold at auction from 20% in 2013 to 70% in 2020. Benchmarking will be used when it is possible

“Carbon leakage” is seriously considered by the Commission and MS

- Negative environmental consequences at the global scale
 - *No emission reductions in the EU*
 - *Higher emissions in the rest of the world*
- Negative economic consequences within the EU
 - *Lower growth*
 - *Job losses*
 - *Potential negative consequences on security of supply*
- **Criteria to obtain free allowances by benchmarks (at least partially) are under discussion**

EU ETS revision- Carbon leakage

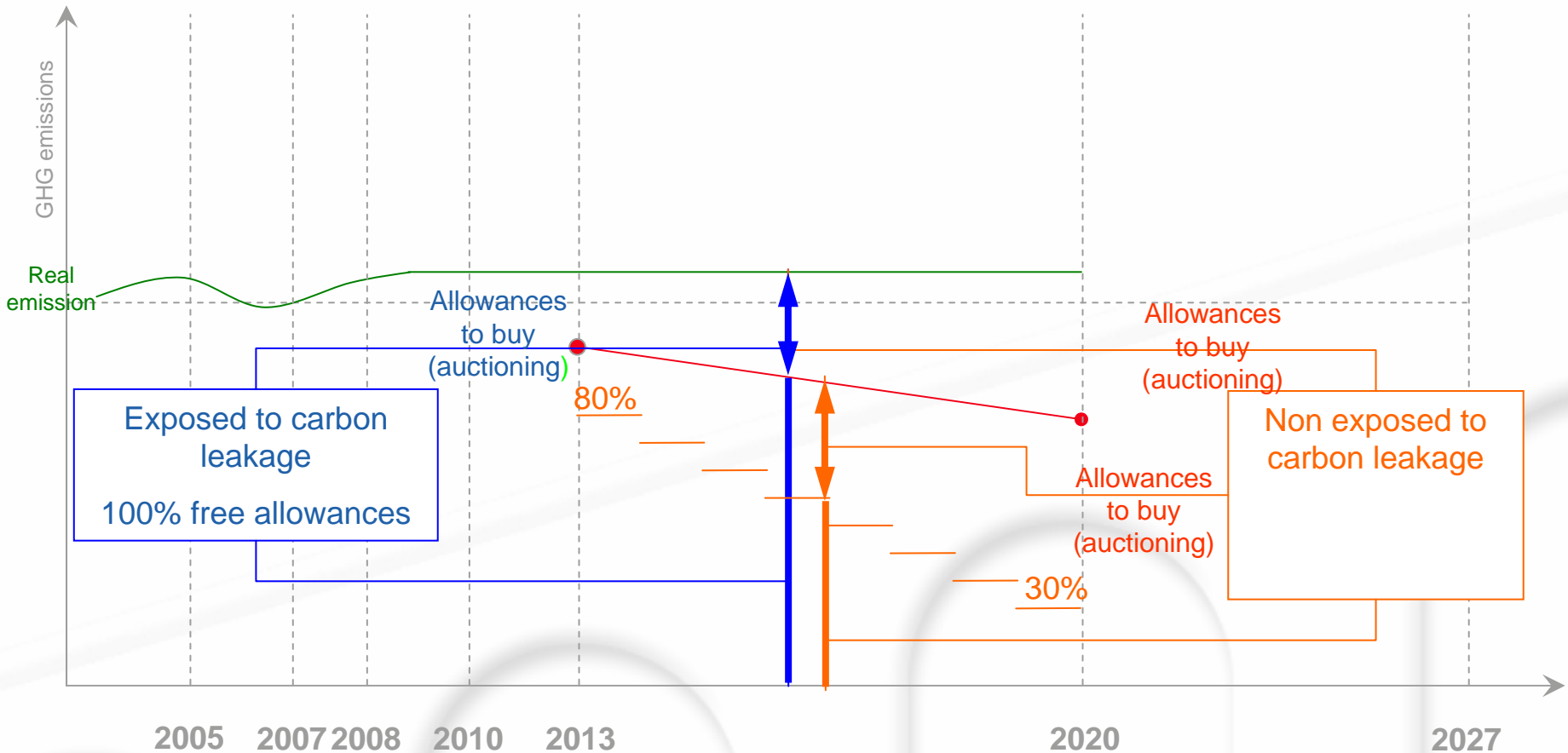
- The list of sub-sectors subject to carbon leakage will be issued in December 2009 according to one of the following 3 criteria with $\text{CO}_2 = 30\text{€}/\text{t}$
- Direct and indirect cost increase $>5\%$ GVA and non-EU trade-intensity $>10\%$
- or cost increase $>30\%$
- or trade-intensity $>30\%$
- Based on NACE -3 and NACE-4 codes + Qualitative criteria

Carbon Leakage

A first list of exposed sectors issued by the Commission on 29 April 2009

- Except glass fibres (continuous filament and glasswool), all other categories of glass (flat glass, hollow glass, special glass) are considered as exposed
- Next steps for continuous filament: use the qualitative assessment criteria. In principle, continuous filament glass has a good chance to be considered as exposed
- Final adoption (Comitology) in December 2009

Carbon leakage and rules of allocations



EU ETS revision- Benchmarks

- Benchmarks by sub-sectors must be defined end of 2010 (Comitology)
- Commission study (made by Ecofys and Fraunhofer Institute) on benchmarks available since end of February 2009. This report does not take into account the directive voted in December : Average of 10% most efficient installations
- Study not appropriate for glass, mainly for glass container where the benchmark is based on very high level of cullet (85%) and only on natural gas
- New version under discussion will be issued in September 2009. In the mean time, the glass industry is in contact with the Fraunhofer Institute through CPIV and European Glass Associations

Benchmarks – Key issues

1. Benchmarking for all sectors and product groups ?
2. What to do with the non-benchmarked products groups and sectors ?
3. How to determine the number of product groups?
4. How to determine the average of the most efficient 10% ?

Driving forces and techniques allowing progress in energy consumption and CO₂ emissions

- Energy costs
- Cullet recycling
- Better furnace design: more energy recovery, less energy losses, higher furnace capacity
- Batch and Cullet preheating
- Switching from oil to gas

The absolute cap for EU ETS sector will be -21% from 2005 level (and more than -30% in case of international agreement)

- It is important for the manufacturing industry to **avoid auctioning but in the meantime we do not pay enough attention to the cap!**
- Taking into account the growth, the total reduction needed in 2020 could be **more than 40%** expressed in specific units (tonnes of CO₂/ tonne of glass)
- Example: The average energy consumption for an end fired furnace in container glass industry is 4.2 GJ/tonne (3.5 million BTU/ton)
- A reduction of 40% corresponds to 2.52 GJ/t (2.2 million BTU/ton), not far from the theoretical energy requirements for melting glass.
- **Impossible to reach this value only by energy saving!**

Absolute cap -21%: What are the alternatives?

- To **reduce the production** accordingly. Not acceptable
- To produce the glass in a country where the carbon constraint does not exist (**carbon leakage**)
- To buy allowances on the market. CO₂ price will be (very) high and **pass through** will not be always possible
- A technology breakthrough. Use of green electricity? Use of carbon free energy (renewable, biomass,...)
- Is this target realistic?

Glass Products and Sustainability

- ETS is only one element of Climate Change mitigation
- Glass products contribute to huge energy savings
- More and more sophisticated glass products offer solutions for limiting GHG emissions
 - Building materials (low emissivity glazing, glasswool,..)
 - Renewable energy (reinforcing fibre)



Wind turbines



Photovoltaic



In solar energy production and wind turbines, glass plays a fundamental role