Allocation method in the Glass Industry
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CPIV – Standing Committee of the European Glass Industries.

Standing Committee of the European Glass Industries
Comité Permanent des Industries du Verre Européennes

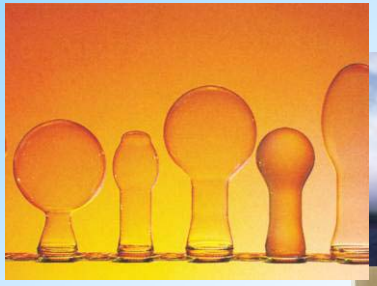
Contents

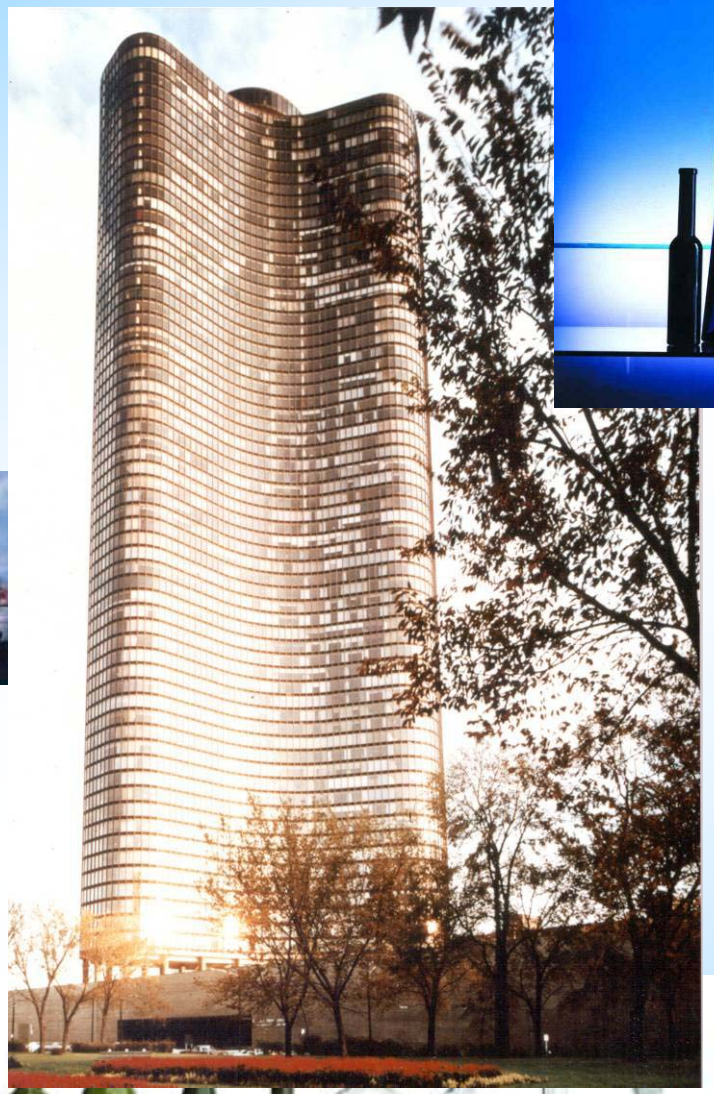
- The glass industry is very diverse
- Lessons from NAP1 and NAP2
- Criteria for a Benchmarking in the European glass industry
- Conclusions

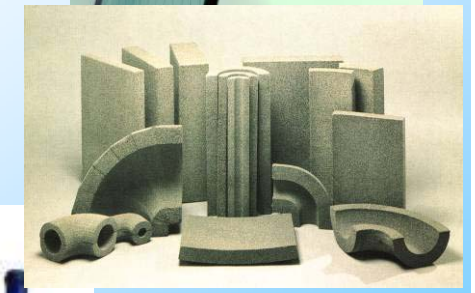
The glass industry

- The glass industry can be divided into the following **5 sub-sectors**: container glass, flat glass, fibre glass, tableware and special glass.
  - **The container glass industry**, which is the largest group, comprises glass packaging for drinks, food, perfumes, pharmaceuticals…
  - **The flat glass industry** produces predominantly float glass but also rolled, cast and other flat glass which is used mostly for architectural and automotive applications.
  - **The fibre glass industry** includes the production of continuous filaments of glass fibre for reinforcement purposes and textiles as well as insulating glass fibres.
  - **The domestic glass industry** includes hand-made and machine made articles such as soda-lime and crystal drinking glasses or kitchen ware as well as decorative articles.
  - **The special glass industry** produces mainly glass for technical applications (optics, electronics, lighting, engineering, ophthalmic lenses etc). Borosilicate glasses are mainly included in this category.

The glass industry produces a large spectrum of **articles**







The glass industry

- The glass industry in figures (EU-25):
  - **Companies**: ca. 1.300 (producers and transformers)
  - **Employment**: ca. 196.000
  - **Production Volume**: 37 million tonnes (world share: ca. 30 %)
  - **Production Value**: ca. 37 billion € (world share: ca. 32 %)
- **CO_2 Emissions in EU ETS**: 21,6Mt on a total of 2,1 billion tonnes (ca. 1%) and 475 installations on a total of 11.000 (ca. 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
- Allocation methods based on historical emission are not adapted to the diversity of the glass sector

How to improve allocation method?

- Fine tuning by glass sub-sectors is absolutely necessary
- Sector-related Approach can be considered, based on a benchmarking
- Allocation method must take into account unforeseeable production growth (ex-post adjustments must be foreseen)

Criteria for a technical benchmarking in the European Glass Industry

Benchmarking depends on many parameters :

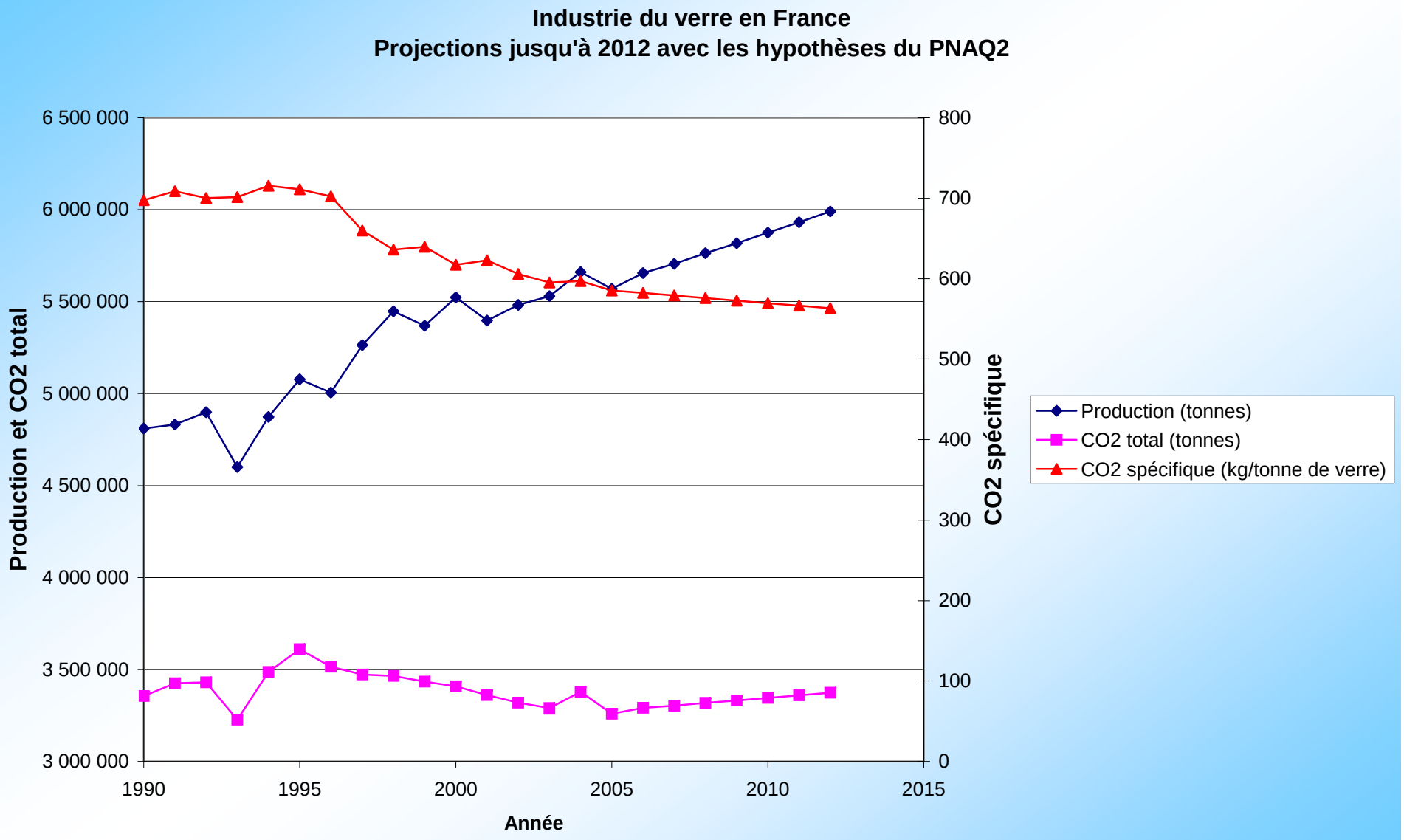
Essential parameters

- Furnace (type, size 20-900 t/day)
- Glass (quality, colour) influence specific pull and CO_2 emissions
- Fuel (oil or gas): with oil, energy consumption is lower than with gas, but CO_2 emissions are higher
- Level of glass recycling (10% cullet = -2,5% in energy, 1t of cullet avoid emission of 250 to 300 kg of CO_2)
- Batch material and humidity
- Air preheat temperature
- Furnace aging
- Climate conditions and season effect: -10°C = around +4% in energy consumption

Auctioning should be avoided

- Free allocation is essential as glass industry faces worldwide competition.
- Safety net on benchmarking by auditing?
  - Benchmarking will not be applicable in 10 to 20 % installations
  - Auditing by accredited experts could replace general benchmarking in some special cases
  - Harmonised European rules required but local flexibility must be maintained. Management of audits would be a Member State's responsibility.
- Business cycles are crucial when considering the implementation of new technologies (lifetime of a float furnace in flat glass sector is 15 to 18 years)

Glass Industry in France
CO_2 emissions until 2012 with NAP2 hypothesis



Conclusions

- Free allocation is essential (world-wide competition). Auctioning should be avoided.
- 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)
- Auditing can be used as a safety net
- Harmonised European Benchmarking required

Thank you for your attention