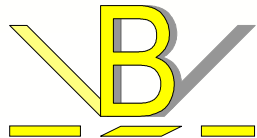


# **Methodological insights from the Flemish Energy Benchmarking Covenant**

**IEA – Workshop on Petrochemical Products**

**Paris 12.12.2006**

**Hubert Van den Bergh**



Verificatiebureau Benchmarking Vlaanderen  
010-048 12.12.2006

# The Covenant

The “Energy-Efficiency Benchmarking Covenant” is an agreement between the Flemish Government and the large energy intensive industry:

- to realise the best international standards (“world top”) of energy efficiency;
- based on international benchmarking;
- all measures up to 2012 fixed in a plan which is updated every four years and monitored every year.

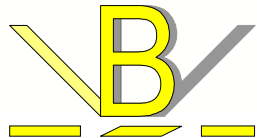


# The Best International Standard

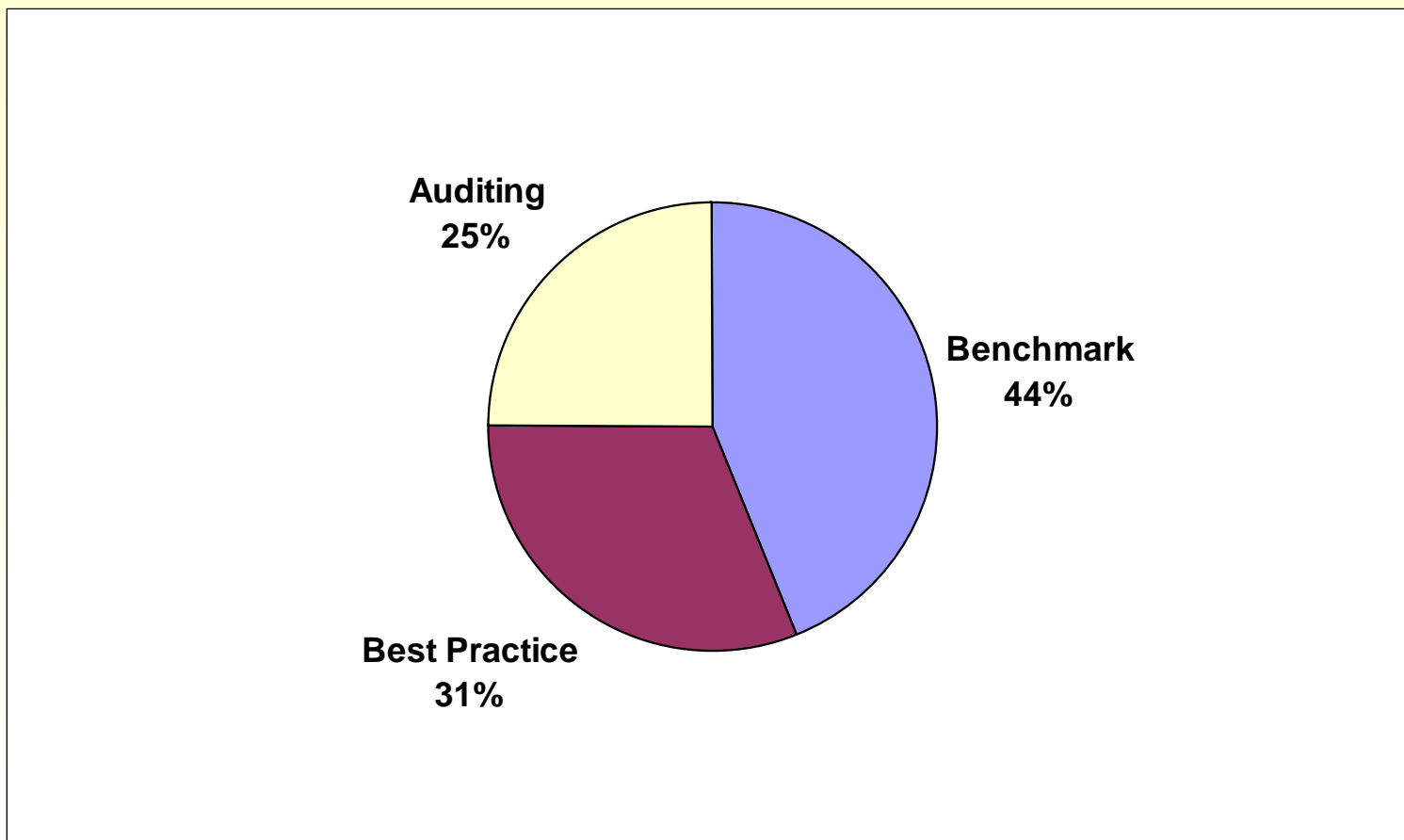
The Best International Standard has to be determined by an approved benchmarking consultant with one of these methods:

- full benchmarking: decile point of the distribution curve;
- region benchmarking: average of the best region;
- best practice: the world best + 10 %;
- auditing: profitable measures to be taken.

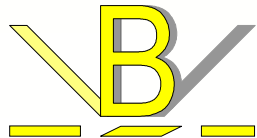
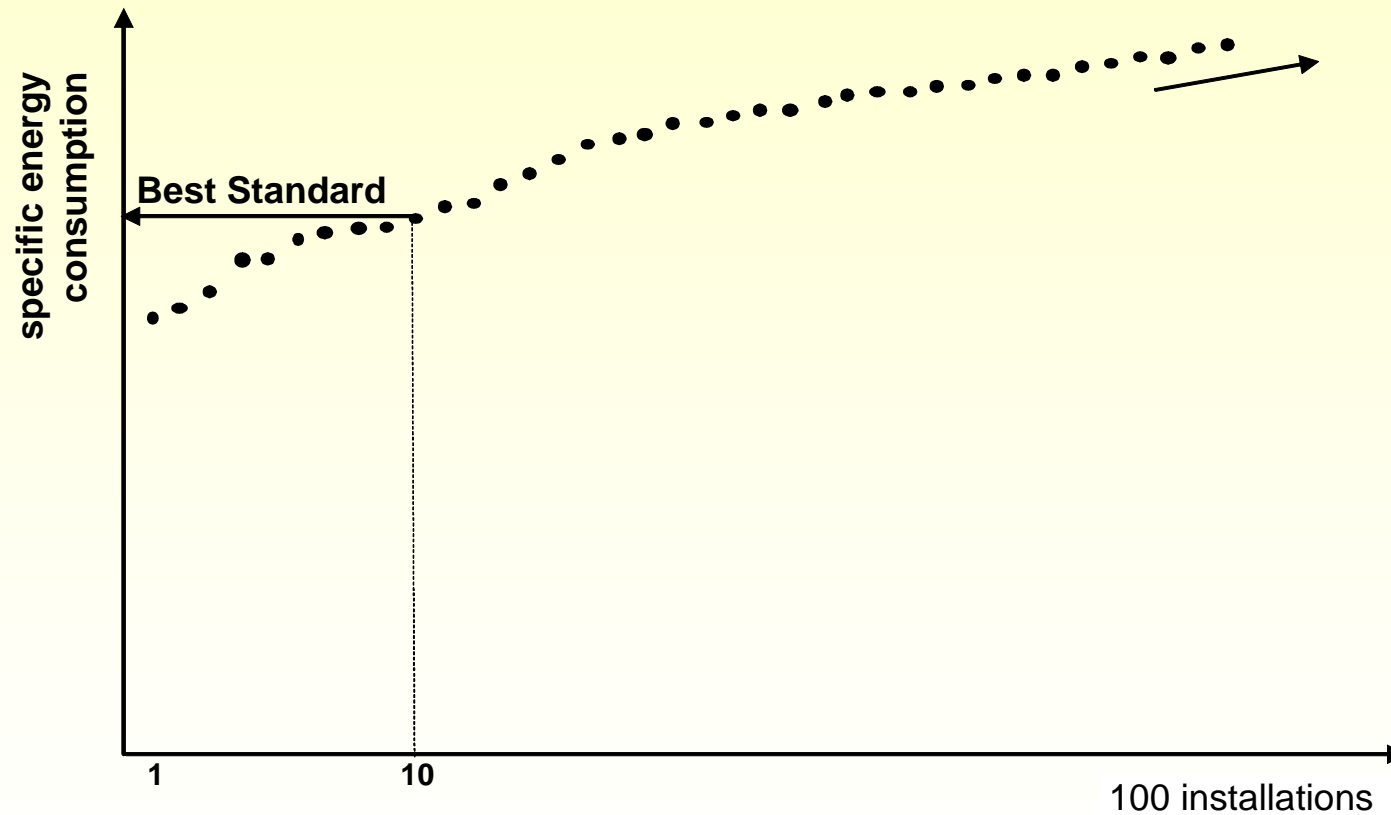
In the coming slides focus will be on full benchmarking, which gives the most information.



# Share of the methods, on energy basis



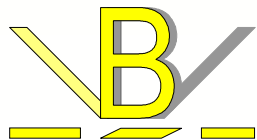
# Distribution curve of a full benchmark



# Important items in benchmarking

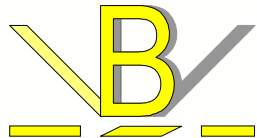
The consultant shall respect important elements, and the verification office needs to control:

- that battery limits are the same;
- that corrections are made for deviations of battery limits, for differences in input or output, environmental requirements, ...



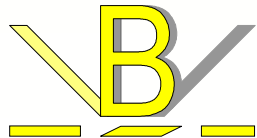
## Further definitions in the covenant

- energy intensive industry;
- participation on site level;
- the Commission, The Verification Office;
- the role of the Parties;
- Explanations;
- energy plans and monitoring prescriptions.



# Scope of reports (1)

- benchmarking studies, distribution curves and individual standards are confidential;
- consultants and Verification Office have a confidentiality agreement with the companies;
- the summary of the individual energy plans are public;
- aggregated results are reported in a way that individual companies cannot be recognised; the results of the chemical industry may be reported, not specific processes;



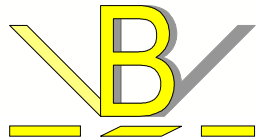
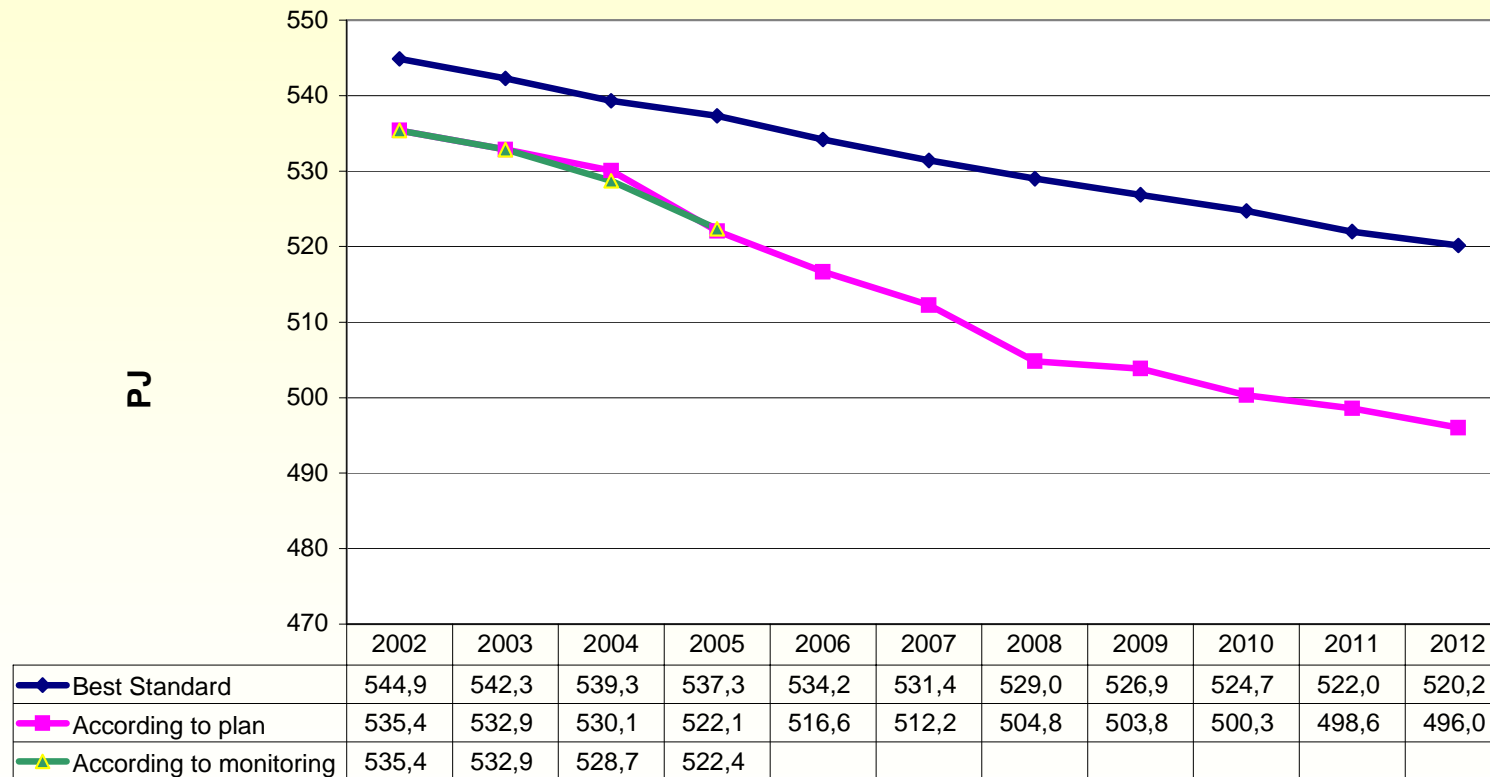
## Scope of reports (2)

- clusters of companies in the petrochemical industry cannot be separated from other chemical subsectors, because of integration;
- the following graphs are published annually as a result of the monitoring.

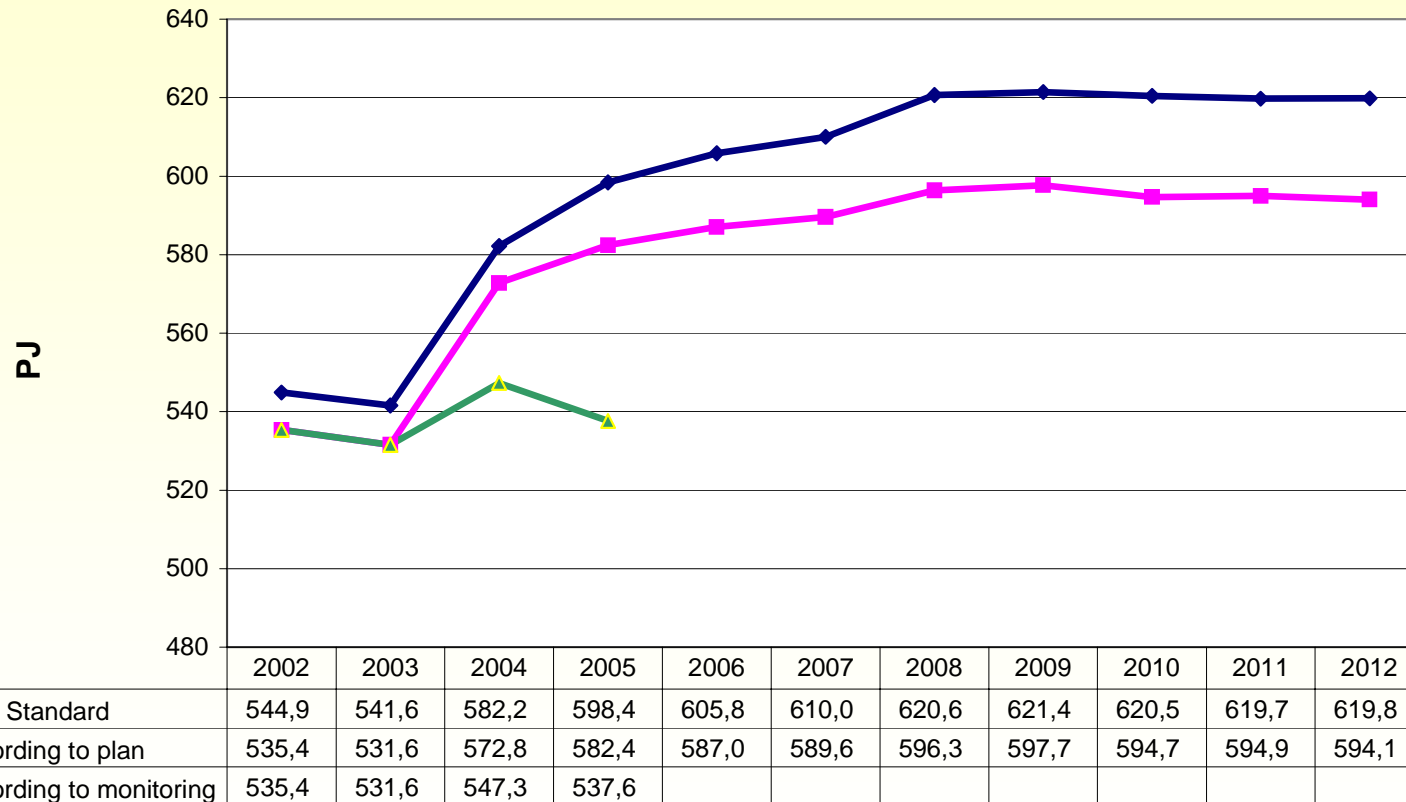


# Total Industry

## Energy consumption plan/monitoring for constant production 2002

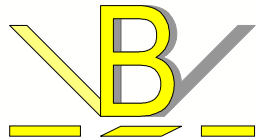
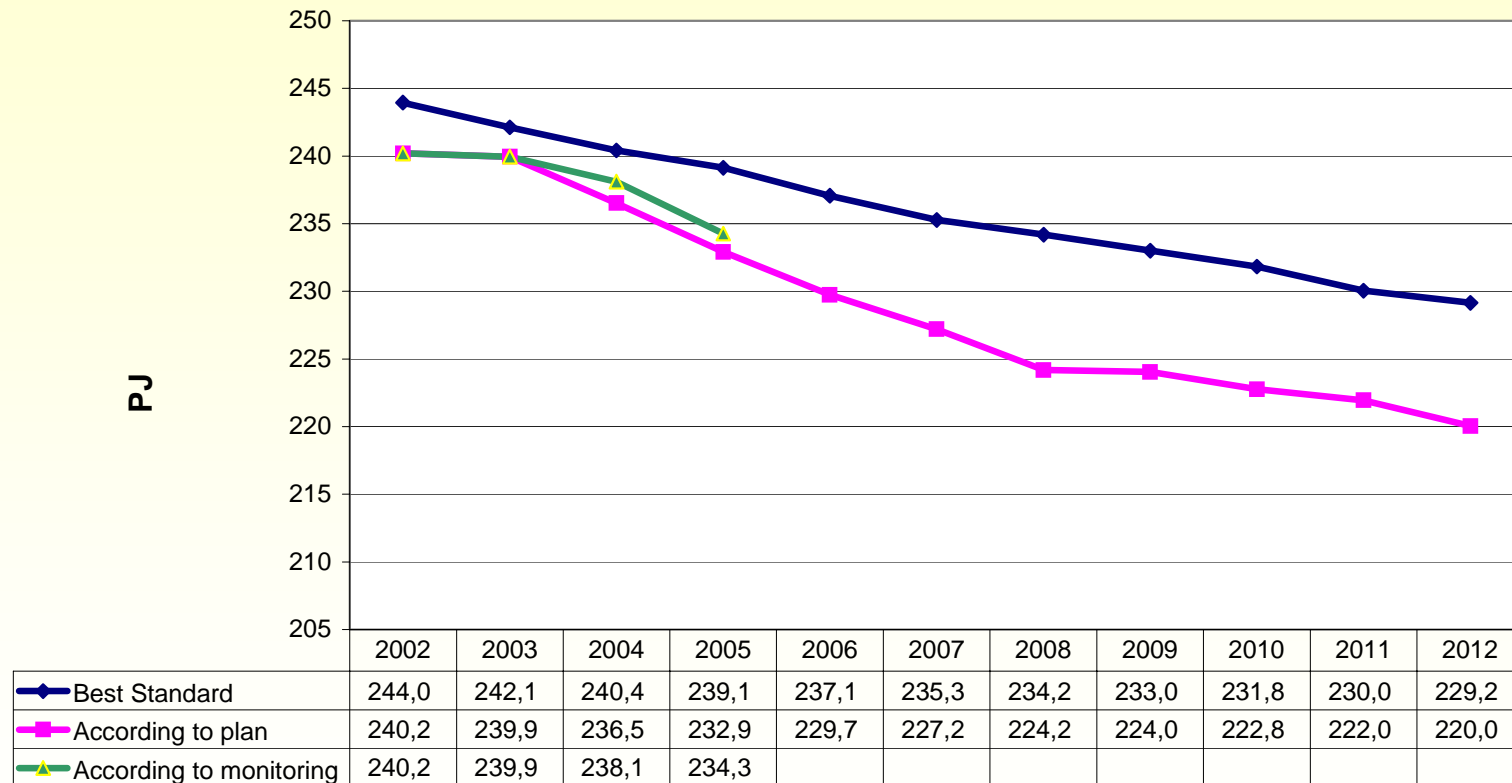


# Total Industry Energy consumption for planned / monitored production



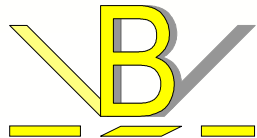
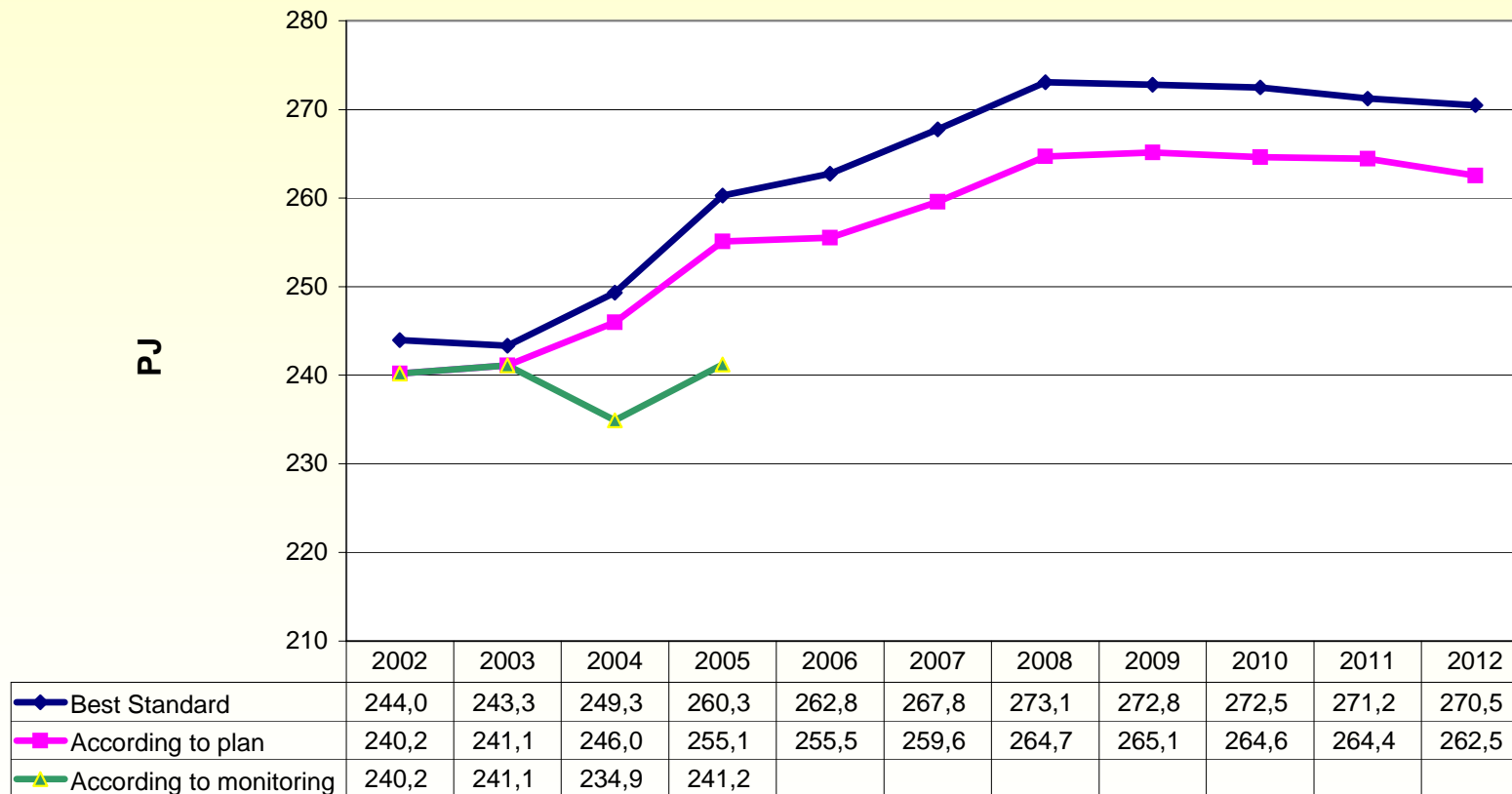
# Chemical Industry

## Energy consumption plan/monitoring for constant production 2002

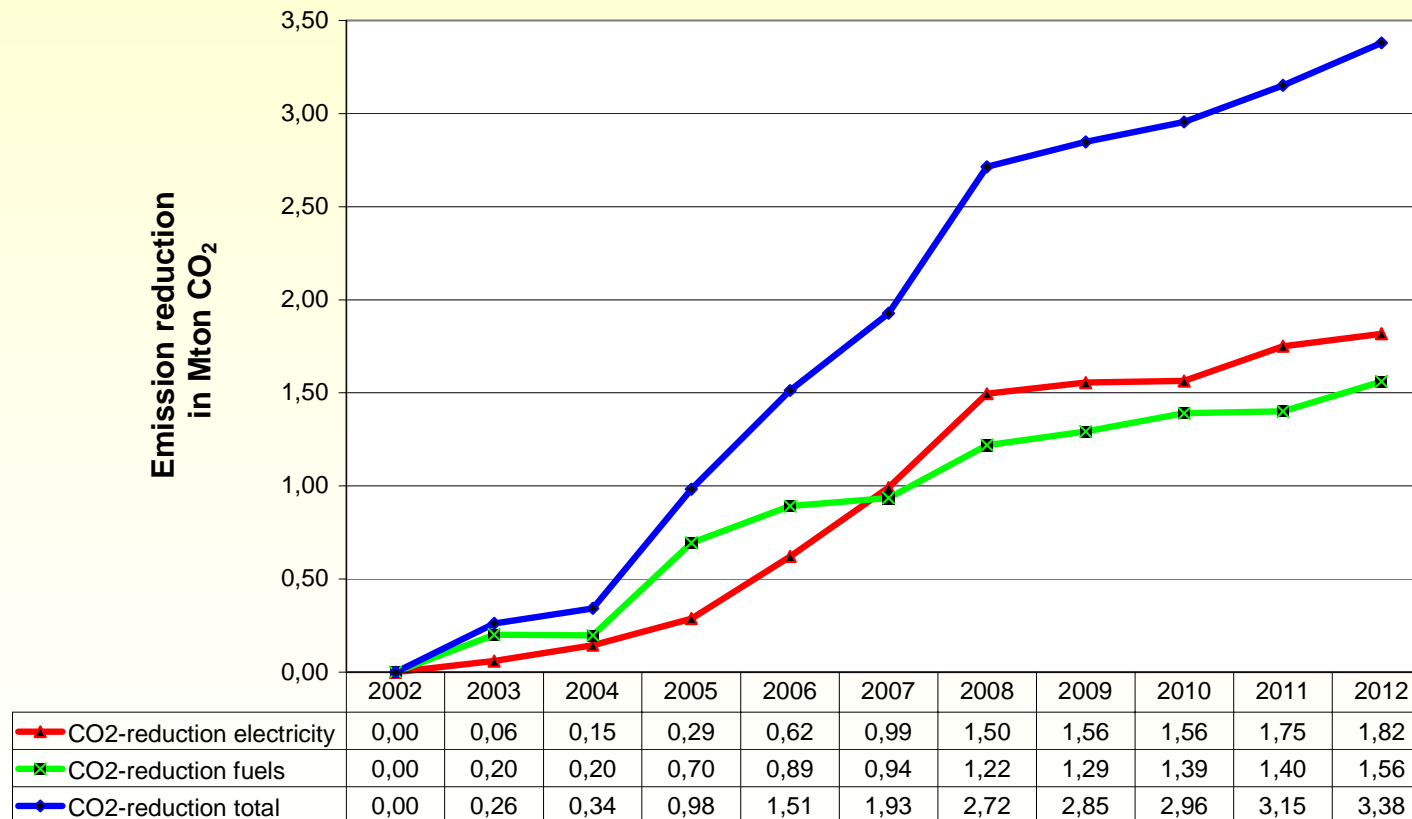


# Chemical Industry

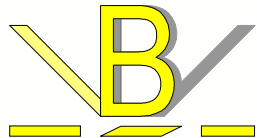
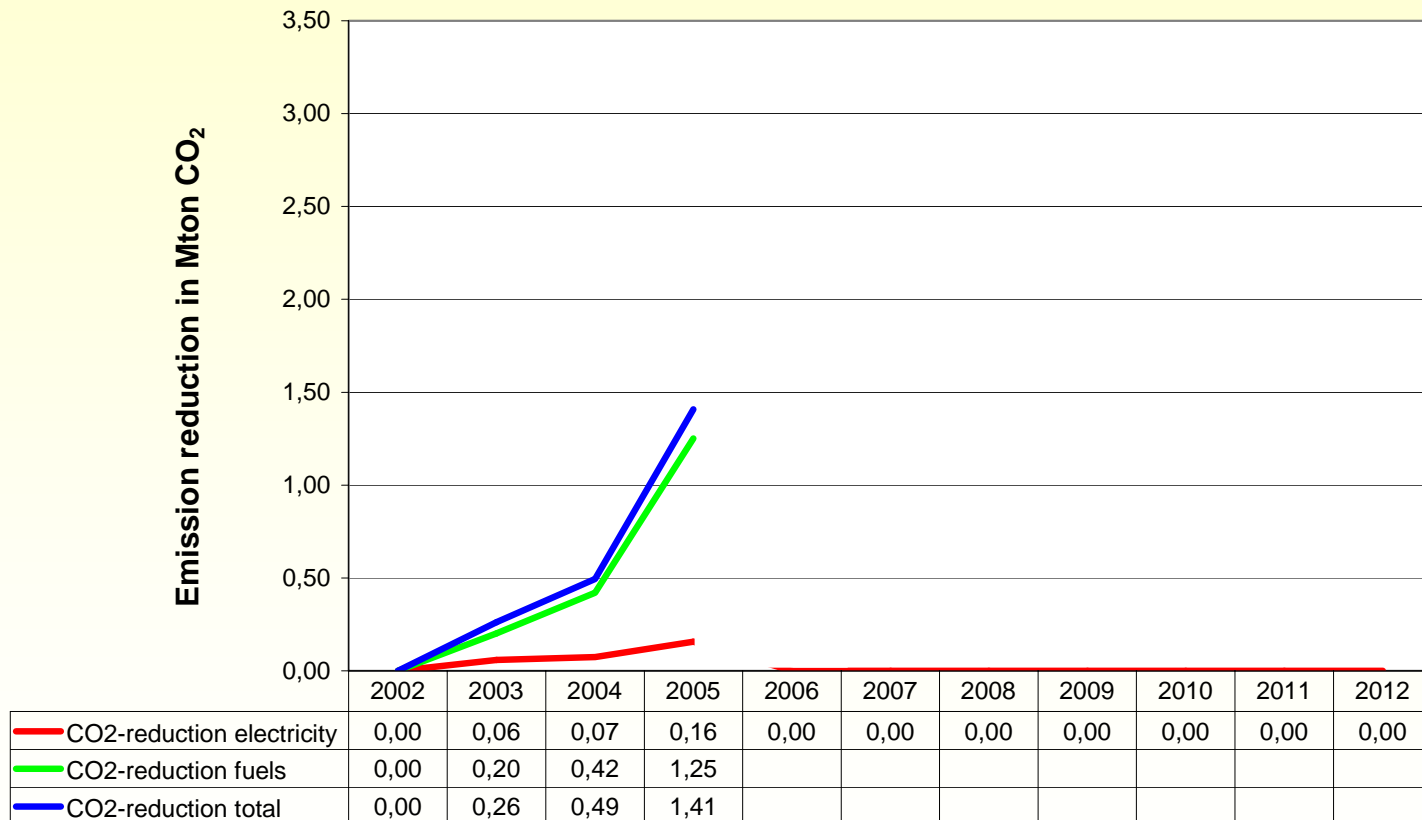
## Energy consumption for planned / monitored production



# Emission Reduction for total of Industry (according to energy plans)

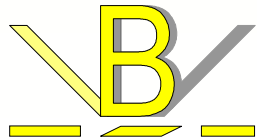


# Emission reduction for total of Industry (according to monitoring)



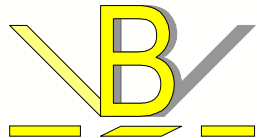
# Why an energy benchmark? Why not CO<sub>2</sub>?

- an energy benchmark includes exothermic processes, and all users of recovered exothermic heat, which is a necessity to benchmark the chemical industry;
- an energy benchmark includes electricity consumption;
- only the core business, in full responsibility of the company, can be covered by a covenant.



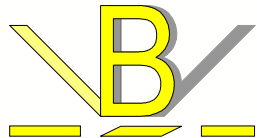
# What can be benchmarked? What can be subject of a covenant?

	B.M.	COV.
▪ <b>Energy consumption</b>	X	X
▪ <b>Renewable Energy</b>	X	-
▪ <b>Cogeneration</b>	X	-
▪ <b>CO<sub>2</sub></b>	?	-
▪ <b>Recovered Feedstock</b>	X	?



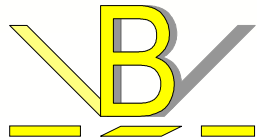
# Ways to Enhanced use of benchmarking

- full benchmarks for more installations;
- enhanced participation and scope;
- international covenant approach;
- distribution curves publicly available for allocation of emission rights and other policy programmes.



**For more information and results:**

**[www.benchmarking.be](http://www.benchmarking.be)**



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