FEDERCHIMICA
CONFINDUSTRIA

The Milan Climate Change Conference

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Federchimica

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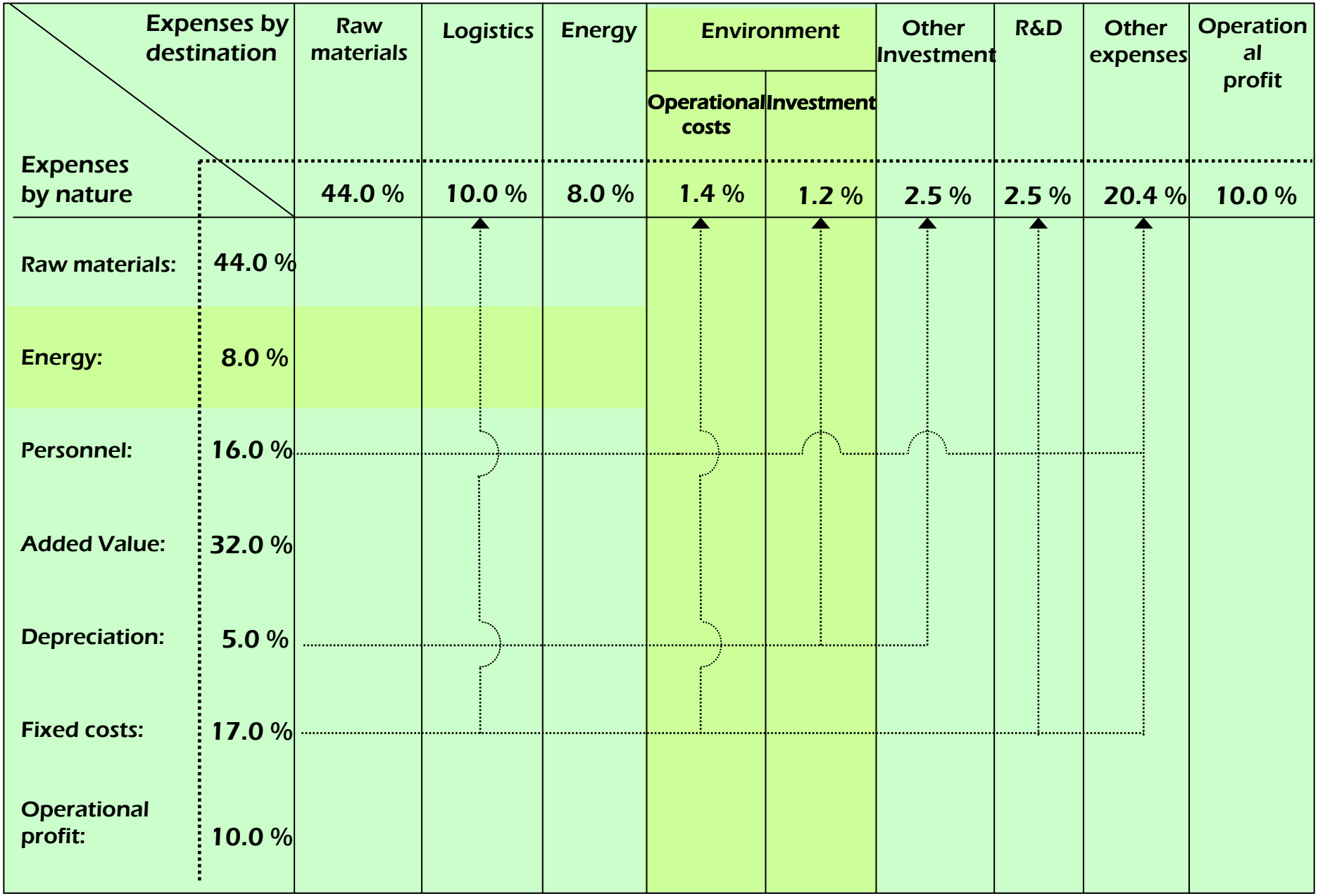
Structure of the presentation

- The energy factor and the Chemical Industry

Break down (%) of the Chemical Industry P&L in Italy (2003 = Euro 46,0 billion of sales).



Source: Federchimica, interview.

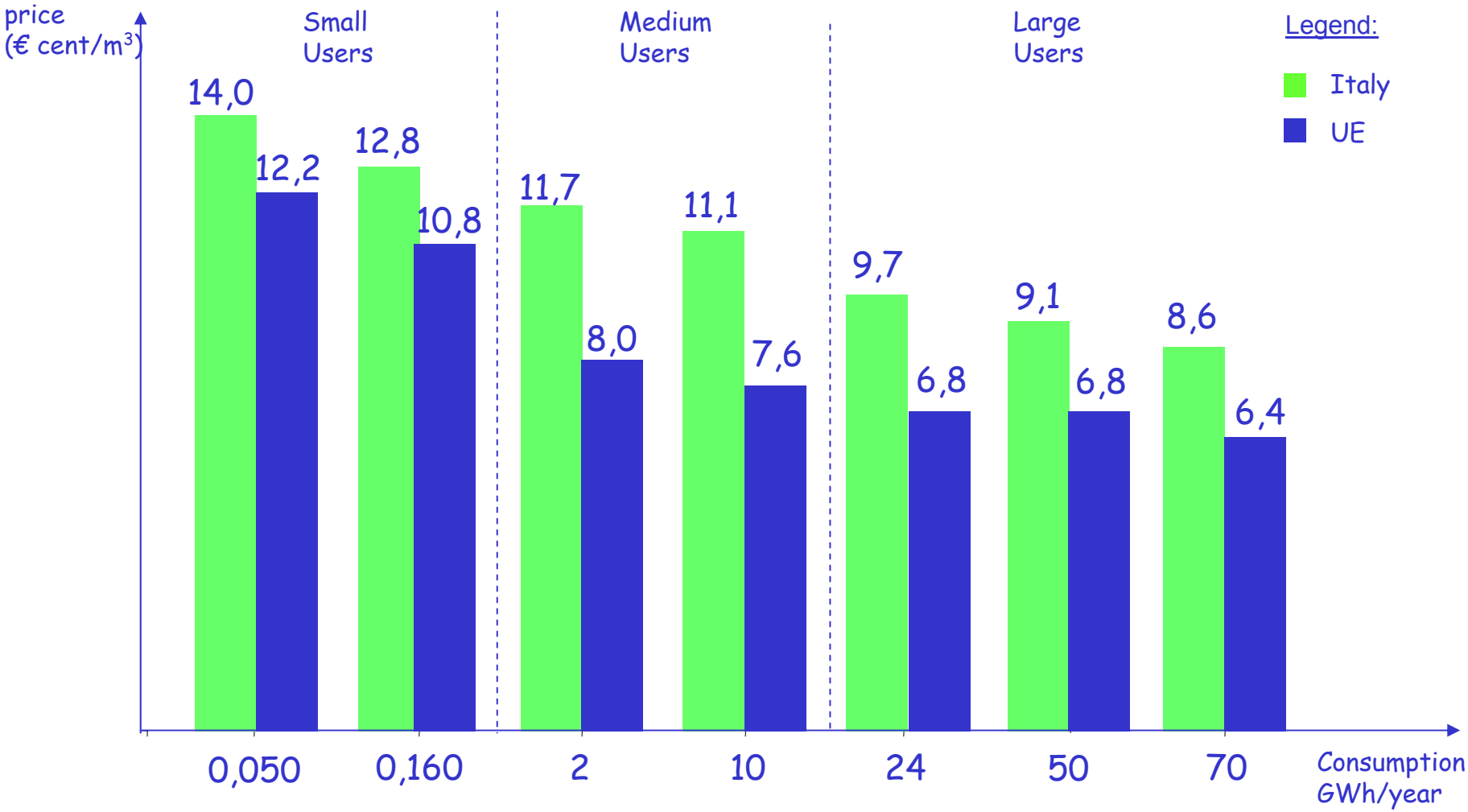
Structure of chemical industry by main segments.

Industrial segments	2003			Incidence of cost of energy on sales (%)
	Sales (€ bn)	Companies (No.)(*)	of wich: <50 employees (%)	
Basic chemicals	22,3	438	66	chlorine 60
Fine chemicals	11,5	399	82	fermentation 50
Specialty chemicals	12,2	797	85	
Total chemicals	46,0	1,694	n. m.	

(*) > 10 employees.

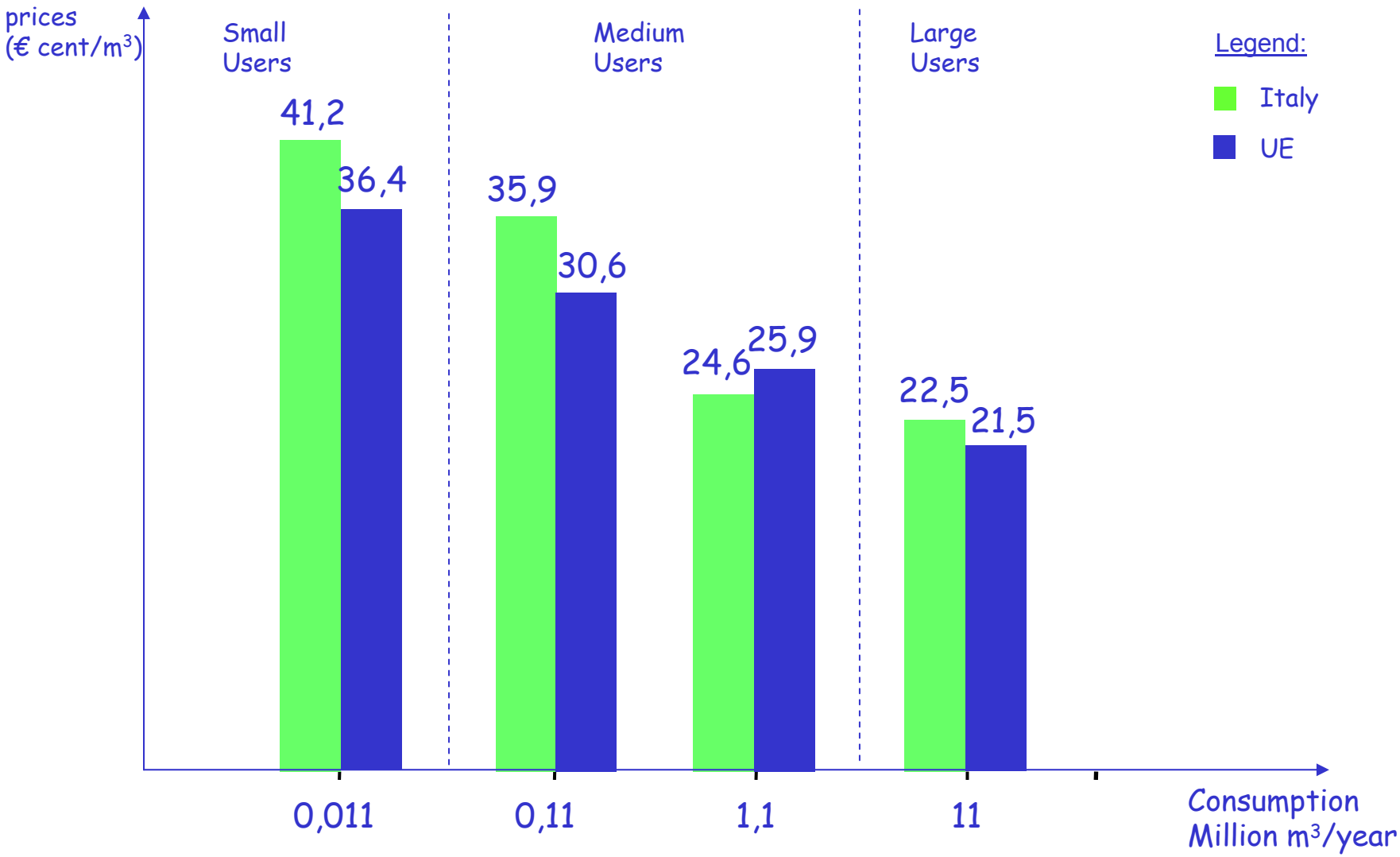
Source: Federchimica, Istat.

Industrial Prices of Electrical Energy, gross of taxes, July 2003.



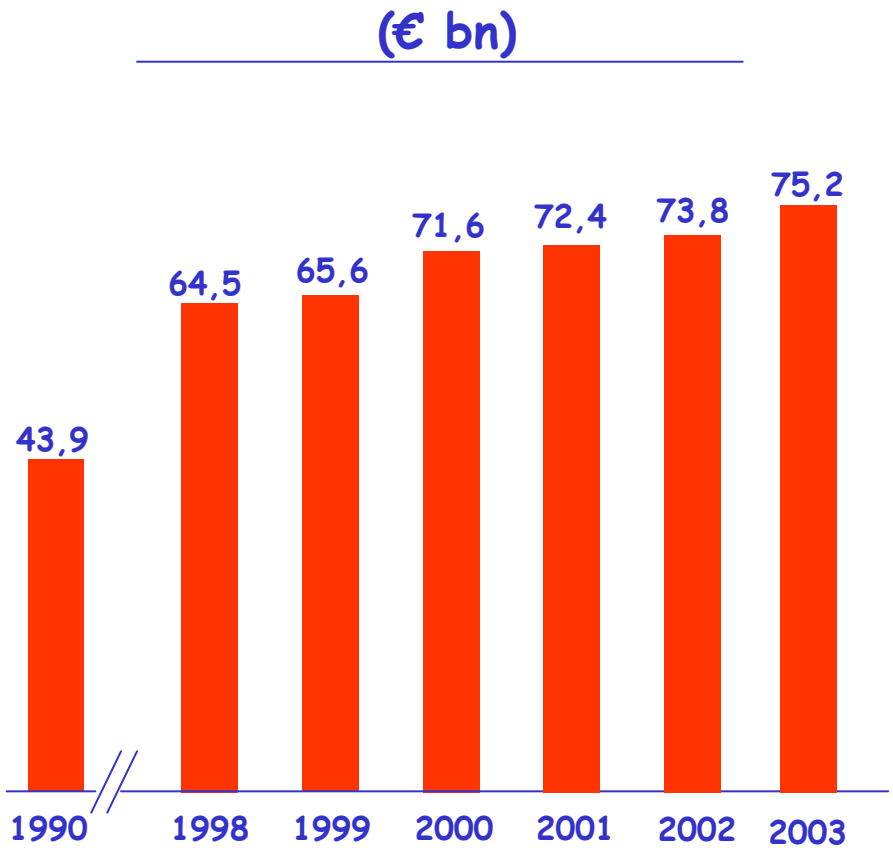
Source: Statistical Office of E.C., Authority for Electrical Energy and Gas.

Industrial Prices of Natural Gas, gross of taxes, July 2003.

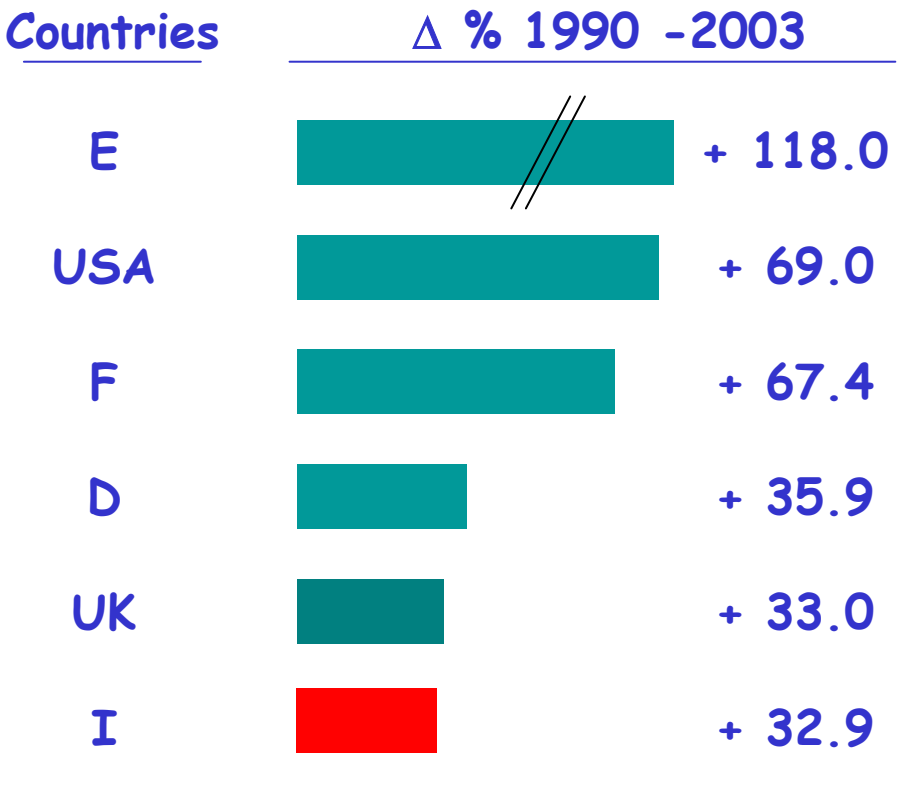


Source: Statistical Office of E.C., Authority of Electrical Energy and Gas.

Chemical consumption in Italy.



Growth of chemicals production in selected countries.



Source: Eurostat.

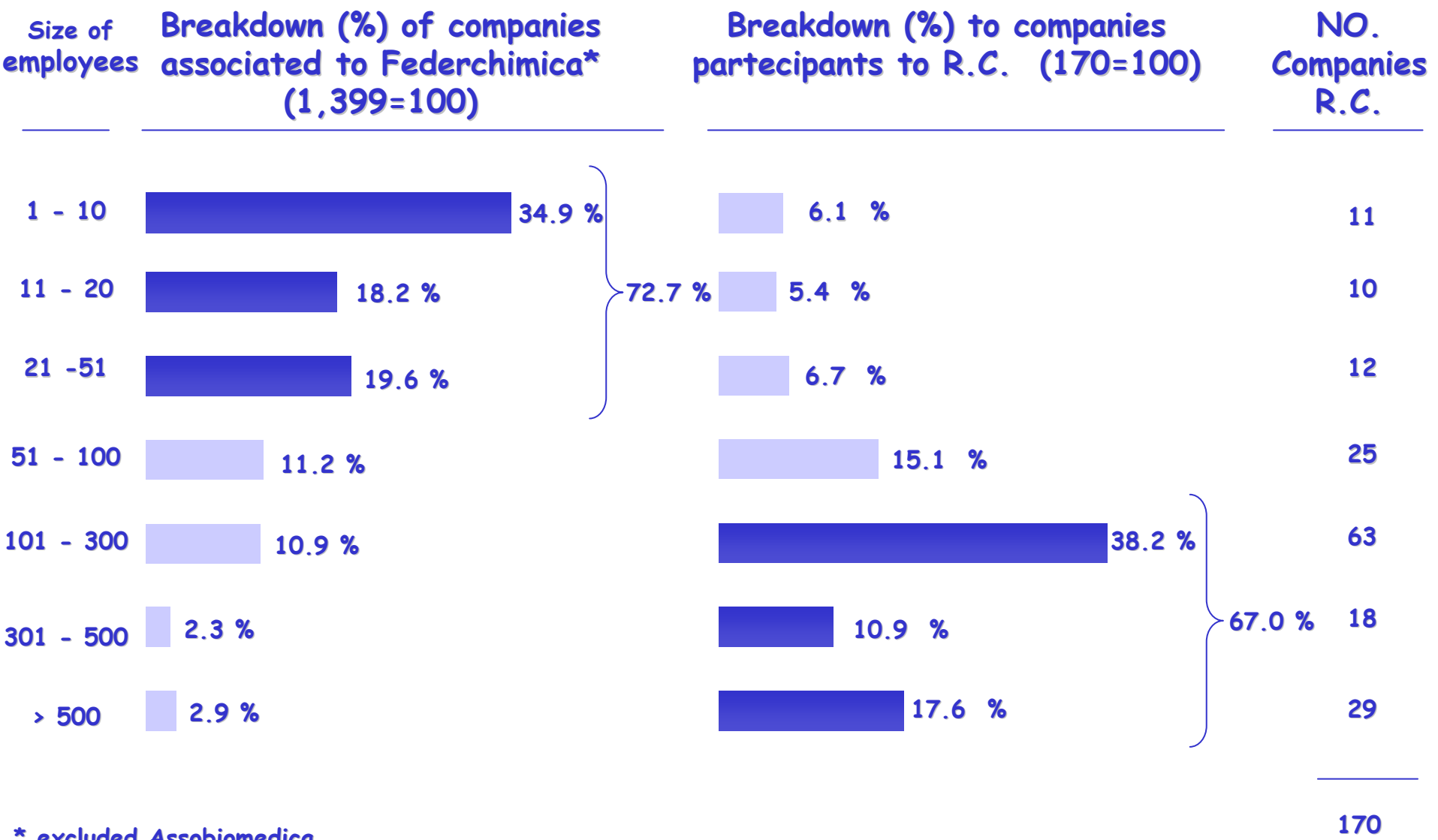
Structure of the presentation

- ~~The energy factor and the chemical industry~~
- **The voluntary programme of "Responsible Care" and the performances on CO_2 management**

Voluntary programmes adopted by chemical companies in Italy.

Items	Main Contents	Details
Name/Date:	"Responsible Care" (1992)	2 principles are: "optimization of factors of production" "reduction of emissions..."
Sub – projects:	"Product Stewardship" (2002) "V.E.E.P. - Voluntary Energy Efficiency Programme" (1995)	optimisation of chemicals and their effects 
Reference:	"Long term Agreement of the VNCI and the Minister of Economic Affairs about management energy efficiency" (1993)	• Incorporation of NOVEM • Tutorships by Senior Managers • Venture Capital backing of pilot projects

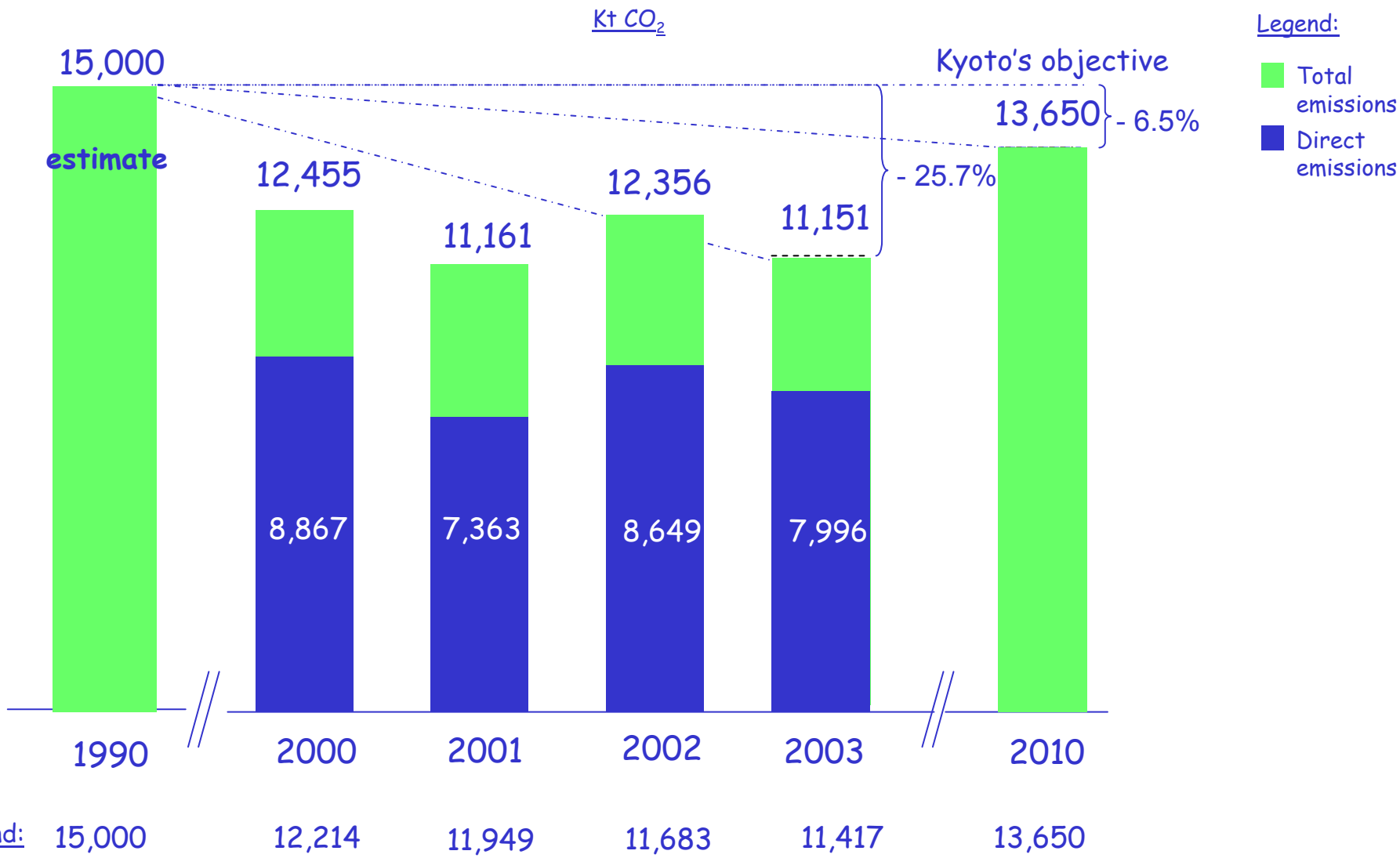
Companies associated to Federchimica and partecipants to R.C. Programme (2004).



* excluded Assobiomedica

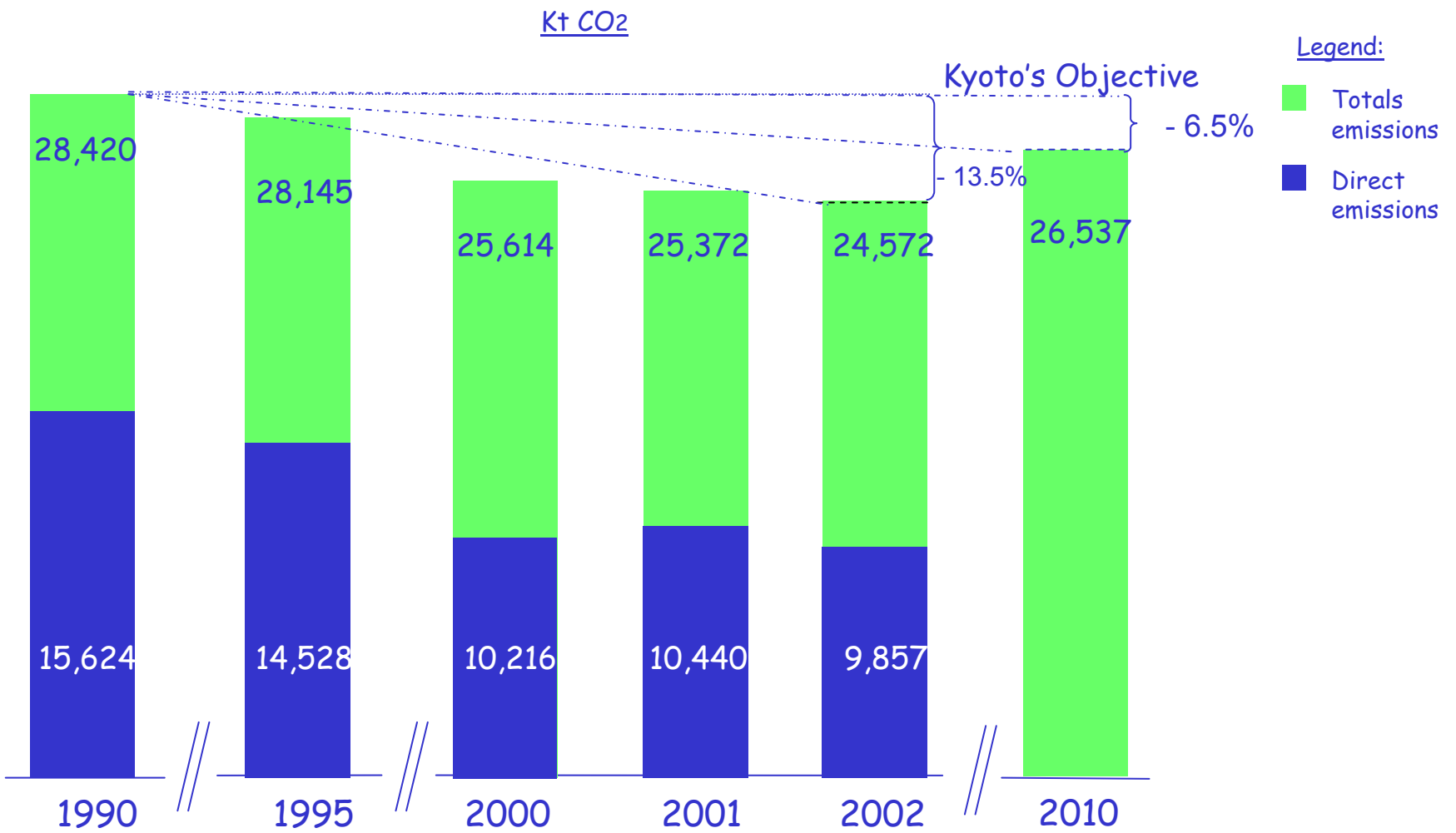
Source: Federchimica.

CO_2 Emissions from chemical companies in the Responsible Care® Programme.



Source: Federchimica.

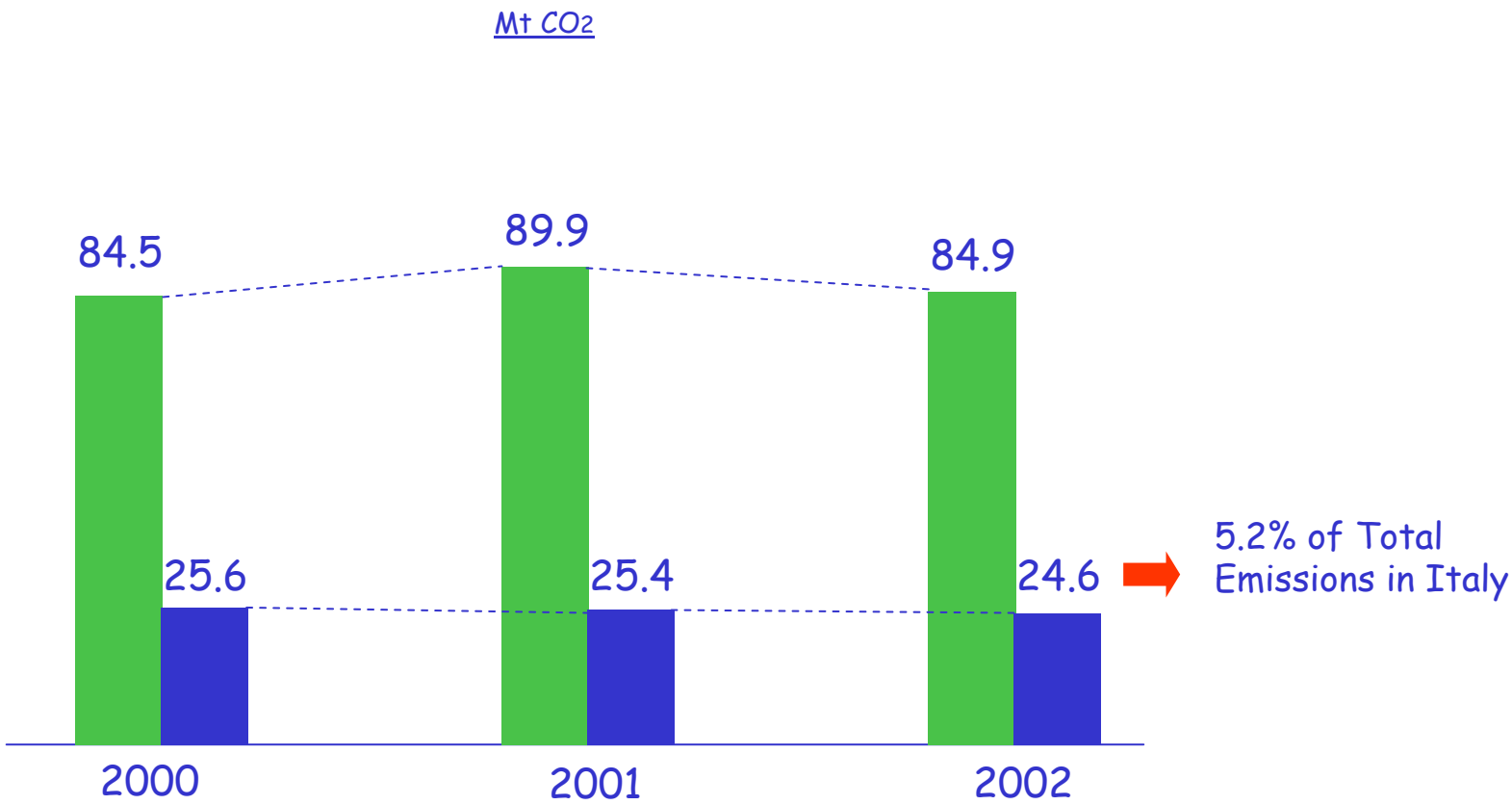
CO_2 Emissions in the Chemical Industry in Italy.



	1990	1995	2000	2001	2002
Chemical Industry Index	100,0	102,5	106,4	101,2	101,4

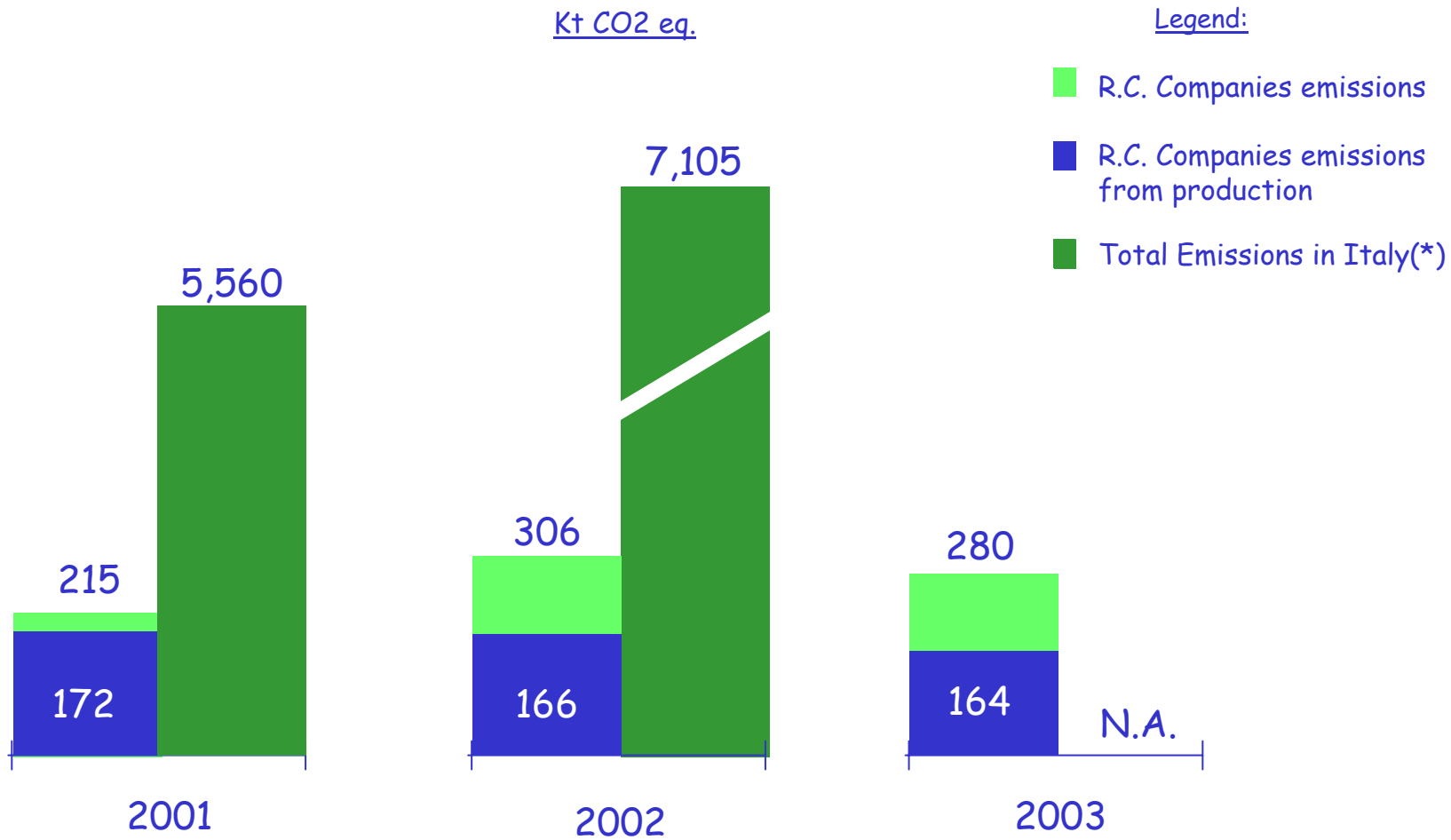
Source: Ministry of Industry.

Comparison of CO_2 emissions by the Chemical Industry(■) and by Manifactures + Building Industries(■).



Source: Federchimica, APAT.

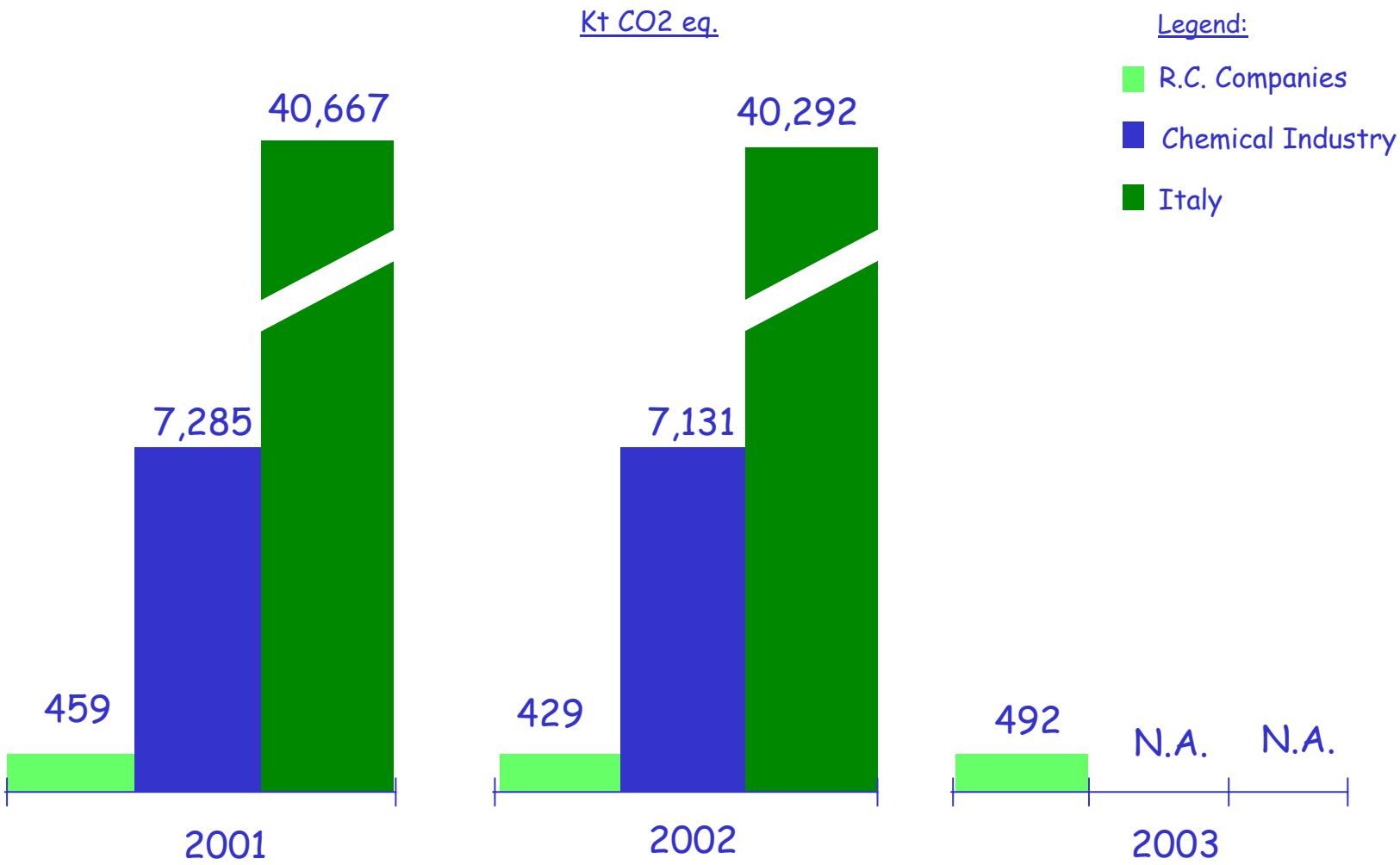
Hydro Fluoro-Carbons emissions by the chemical companies and comparison with Total Emissions in Italy.



(*) Emissions of HFC from consumption and production.

Source: Federchimica, United Nations Framework for Climate Change Convention.

N_2O Emissions by the Responsible Care Companies and comparison with Chemical Industry and Total Emissions in Italy.



Source: Federchimica, United Nations Framework for Climate Change Convention.

Structure of the presentation

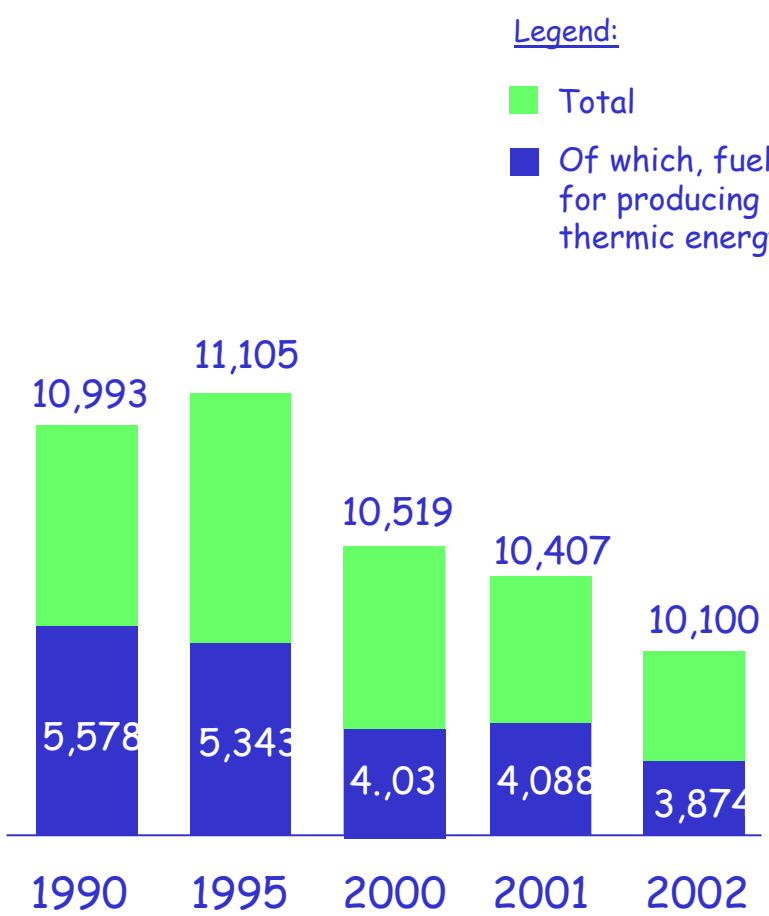
- The energy factor and the Chemical Industry
- The voluntary programme of "Responsible Care" and the performances on CO_2 management
- **Further areas of improvement**

Two areas of further improvement:

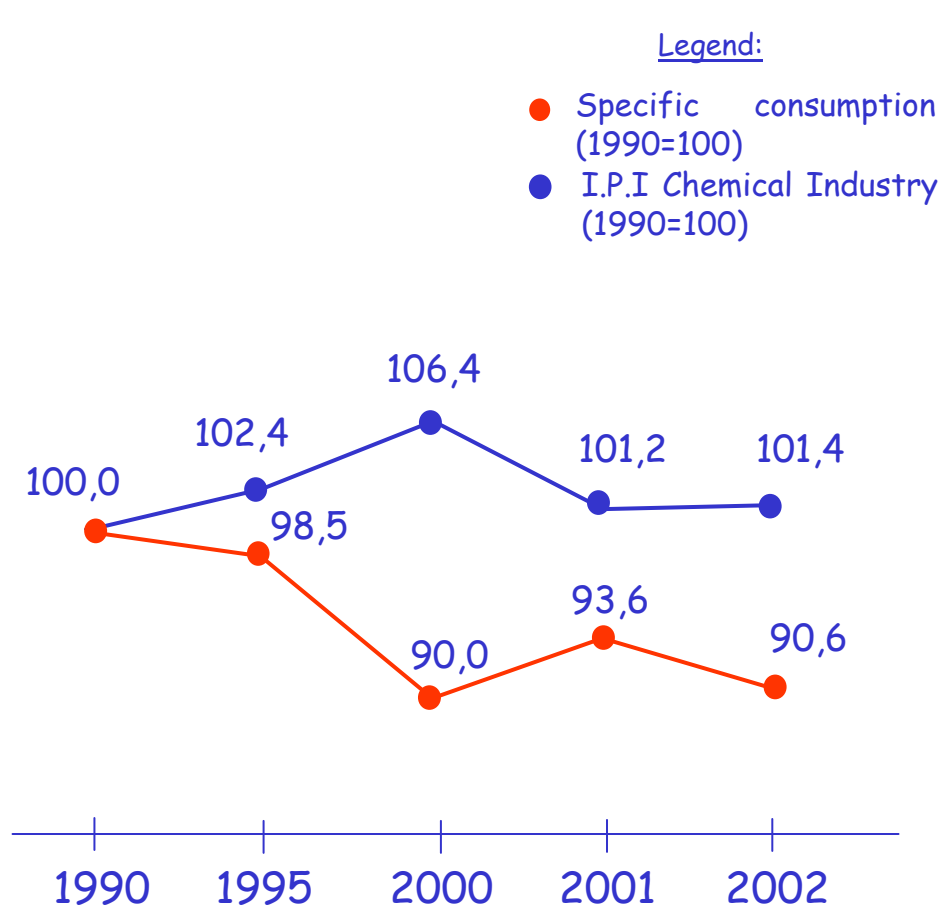
Sections	Examples	Effects
Productive Capacity		
New Processes or improved	Combined Cycle Gas Turbines, fumes filtration, compressed air equipment, gas recovery	Total projects: ~ € bn 1.0
Energy Efficiency + sustainable development	L.C.A. Product Stewardship Integrated Management System	€ 200,0K expenses/year Roi= 150% payback = 6 months

Structure and evolution of energy consumption in the Chemical Industry in Italy.

Energy consumption (Ktep)

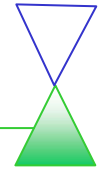


Specific consumption of Energy (Ktep / I.P.I.)



Source: Ministry of Industry.

Two areas of further improvement:



Examples	Impact on Kyoto's Protocol
• Panels for thermic and acustic insulation • Coatings for interiors	The "3 litres theme". Application on an old building restructured . Consumption of 3 litres of oil for heating= Δ % -80 CO_2 emission vs similar building, not treated
• "Solvent - fee" paints	Reduction of energy consumption in the application phases

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- Further areas of improvement

→ **Some proposals to Public Authorities (Local) and Bankers**

An interesting model from the U.K.

CARBON TRUST

£ 270,0 million (?!)

As part of its activites, the Carbon Trust has identified the value of Carbon Management in both the public and private sectors. This approach is designed to understand the risks and opportunities involved in the policies and measures which are placing a cost / value on CO_2 emissions, and in developing and implementing a coherent plan for managing them.

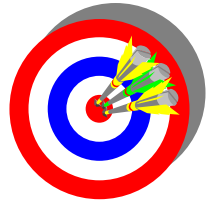
CARBON Management Pilot Programme

£ 20,0 million

5 steps:

- develop an overall understading of risks and opportunities from the organisation's CO_2 emissions;
- develop strategy for carbon management;
- estimate CO_2 emissions and evaluate abatement costs and opportunities;
- develop an implementation plan with prioritised
- manage the implementation process and review progress.

Objectivies



Subjects	Mechanisms	Consequences
Local Public Administrations	• Enhance the values and behaviours of the chemical companies towards CO_2 emissions reductions on the territory	• Rationalisation of Command and Control approach (I.P.P.C.) • Shared Information System
Bankers	• Rating Agency for SME_s adopting Voluntary Programme • Stock Warrants Off (Balance - sheet) Research & Development to energy?	• To benefit potential high R.O.I. in the energy business • To foster spin-off and tecnology trasfer

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- The voluntary programme of "Responsible Care" and the performances on CO^2 management
- Further areas of improvement
- Some proposals to Public Authorities (Local) and Bankers.
- Conclusions

- High energy prices have produced good tecnologies on energy efficiency in the Chemical Industry;

- small size of chemical enterprises (flexibility, technology oriented) and of Downstream Users (innovative product portfolio opportunities);

- Venture Capital approach needed to create value from Kyoto's potential constraints!