Environmental Report 2006

UNIONE NAZIONALE INDUSTRIA CONCIARIA

INTRODUCTION

UNIC, the trade association that belongs to CONFINDUSTRIA (the Confederation of Italian Industries), represents Italian tanneries. Italian tanning is a strategic industry for top quality leather manufacturing, an international leader that exports 3.44 billion Euros, equal to almost two thirds of its annual turnover. It is responsible for 65% of all European production and 15% of what is produced world-wide. UNIC is the main tanners' organisation representing a group of specialised companies operating on international markets that cover trade-fairs, innovation, fashion, standardisation, finance and publishing.

For the fourth year running, we have drawn up and distributed a report about the environmental management of the entire industry, to which analysis of the social situation was also recently added.

This supplement is a comprehensive summary of the full report, drawn up in Italian.

Our dynamic approach towards environmental issues has become an important back-up tool when it comes to being competitive, even when dealing with indifferent Public Authorities.

For example, well before the introduction of the first Italian Environmental legislation (1976) we were all set to minimise its impact.

We have developed advanced technologies that allow us to recycle chemicals, treat wastewater efficiently and reuse waste.

Social data confirms the good relationship with the workers and a constant reduction of injuries in the workplace.

The Italian tanning industry holds a recognised supremacy in both production cycle innovation and improvements in human and environmental safety.

Therefore, the leather that our tanneries make is representative of today's values of high level professionalism and moral status.

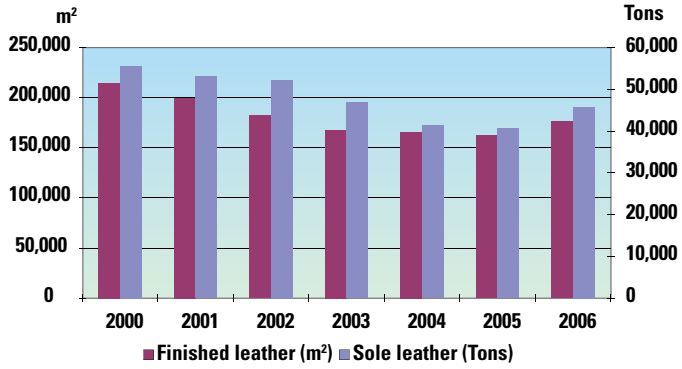
Contents

THE ITALIAN TANNING INDUSTRY
Main macroeconomic data

In 2006, the 2,316 companies within the Italian tanning industry employed 28,313 workers (+1.6% on the previous year).

The industry saw a 9.4% increase in value and 8.5% in surface area (+12.9% in weight for sole leather), the first positive result for five years. 2006 production levels in terms of volume were the highest since 2003, whereas sole leather showed the first positive results since the year 2000 (Figure 1).

Figure 1 ▷ Italian leather production (2000-2006) - volume



Source: UNIC 2006

Economic results were positive in all main industrial districts (Figure 2). Tanneries from the Veneto region (the main national manufacturing area, representing 54.4% of overall production), showed an increase in their production value (+ 7.2% on 2005).

There were also improvements for the second year running in Tuscany, where 26.7% of all Italian produce is concentrated: the figure, on average, was up by 11.8% on 2005. As in 2005, exports were the driving force behind the increases, which were up by 17.6% on the previous year.

The best results were seen in Campania (+19.6%). This figure is particularly positive since tanneries within the area were hit the hardest by the negative trend over the last five years (-48.5%). Ovine leather, which is typical of what the area produces, met the needs of domestic customers who placed orders for footwear and leather goods and who were looking for soft leather

Table 1 ▷ The Italian tanning industry main macroeconomic data (2006)

Companies:	2,316 (-2.5% on 2005)
Employees:	28,313 (+1.6% on 2005)
Production in value/Turnover:	5.32 billion Euros (+9.4%)
Export:	3.44 billion Euros, corresponding to 64.7% of the overall turnover (+7.3%)
Production in volume:	176.4 million sqm. of finished leather (+8.5%)
	45,822 tons of sole leather (+12.9%)
Destination countries for exports	143
EFFECT ON EU-27 TOTAL	
- production in value	65.1%
- production in volume	68.7%
- employees	59.2%
- companies	52.2%
EFFECT ON WORLD TOTAL	
- production in value	14.7%
- production in volume	7% - 12.2% (depending on animal origin)
- global trade in value	20.2% (leader)
DISTRIBUTION OF ITALIAN LEATHER PRODUCTION:	**% ON TOTAL**
- footwear	46.1%
- furniture upholstery	24.9%
- car interior upholstery	4.6%
- leather apparel	5.6%
- leather goods	14.3%
- other	4.5%

Source: UNIC 2006

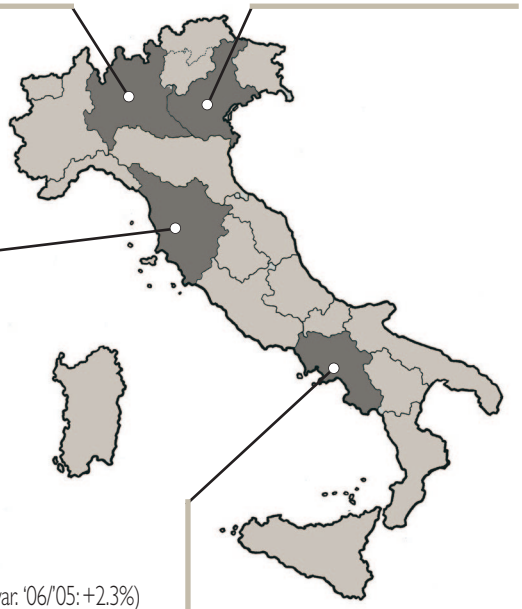
as a sound alternative to calf.

Figures were also up in the Lombardy region (+9.5%), which took advantage of the particular positive year for small skins.

Figure 2 ▷ The Italian tanning industry: Regional structural data (2006)

LOMBARDY
Employees: **1,450** (var. '06/'05: -0.9%)
Companies: **133** (var. '06/'05: -1.5%)
Production: **218 million €** (+9.5%)

VENETO
Employees: **12,082** (var. '06/'05: +1.9%)
Companies: **658** (var. '06/'05: -2.2%)
Production: **2,896 million €** (+7.5%)



TUSCANY
Employees: **8,036** (var. '06/'05: +1.4%)
Companies: **910** (var. '06/'05: -2.7%)
Production: **1,422 million €** (+11.8%)

OTHER REGIONS
Employees: **2,853** (var. '06/'05: +2.3%)
Companies: **177** (var. '06/'05: -1.7%)
Production: **492 million €** (+8.7%)

CAMPANIA
Employees: **3,892** (var. '06/'05: +1.2%)
Companies: **438** (var. '06/'05: -3.1%)
Production: **292 million €** (+19.6%)

Source: UNIC 2006

DISTRIBUTION OF ITALIAN LEATHER PRODUCTION

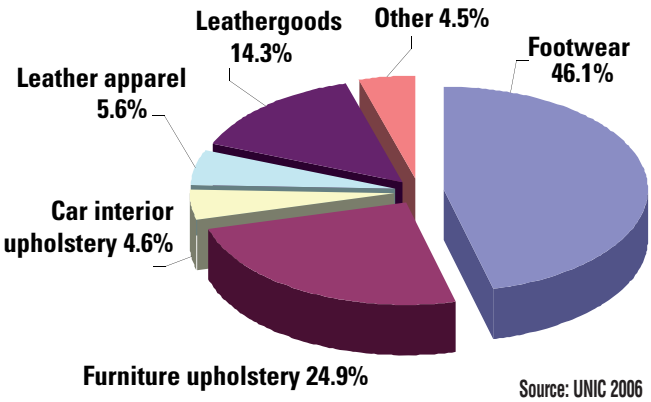
Analysis of the distribution of leather production (Table 2) shows a positive trend for all destination sectors supplied by Italian tanneries and, in particular, for leather goods, which showed a constant growth over the last five years (+27.1%).

Table 2 ▷ Production per client manufacturing sectors (volume 2005-2006)

Destination:	Volume 2006 (millions of m²)	Variation % 2005/06
Footwear	81.3	+8.6%
Furniture upholstery	43.9	+8.5%
Car interior upholstery	8.1	+4.1%
Leather apparel	9.9	+0.5%
Leathergoods	25.3	+13.4%
Other	8	+7.8%
Total	176.4	+8.5%

Source: UNIC 2006

Figure 3 ▷ Distribution of Italian leather production (2006)



Source: UNIC 2006

EXPORTS

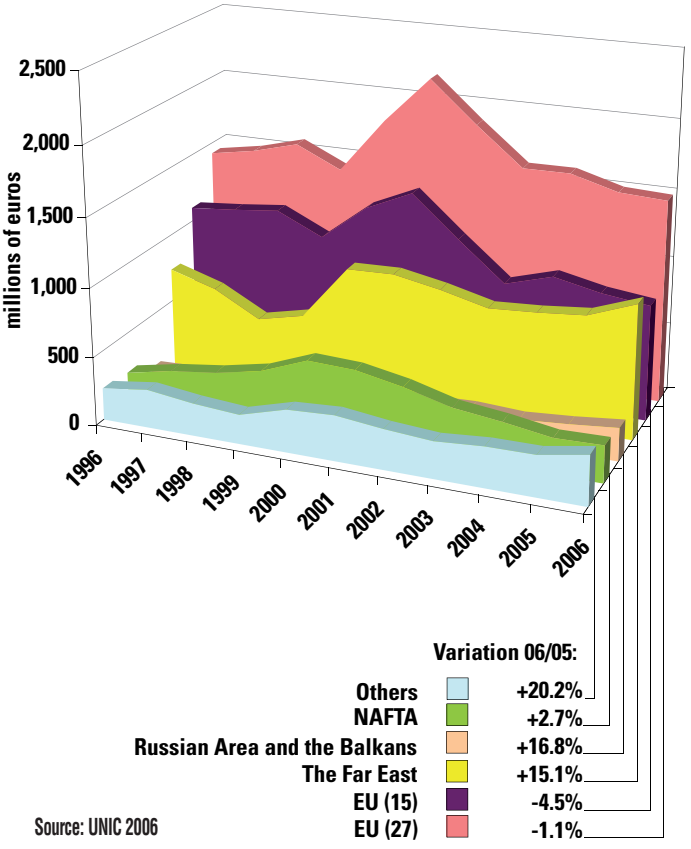
Results in 2006 confirmed the ability of Italian tanneries to penetrate international markets. Products were exported to 143 countries (an all-time record) and reached the 3.44 billion Euromark (+7.3% on 2005) for a volume of 360,605 tons (+5.9%).

Analysis of the value of exports per area (Figure 4) shows positive annual variations for all the main regions with the only exception being the EU (-1.1%) due solely to negative results achieved on the "tra-

ditional" European market (the top 15 EU countries), whereas the 12 countries that recently joined (including Romania and Bulgaria) showed a positive trend.

Figure 4, which shows the variations over the last 10 years, also highlights the positive trend in exports towards the Far East and Russia.

Figure 4 ▷ Leather Exports (1996-2006) per area of destination



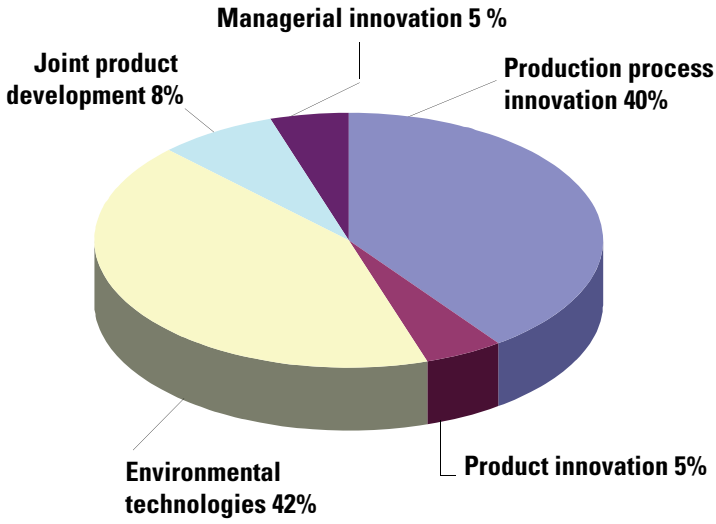
Source: UNIC 2006

Research *and the environment*

Most of the innovation-based projects that are set up jointly within the Italian Tanning Industry lead to direct environmental benefits, so increasing process efficiency, reducing consumption and allowing for recycling and the reuse of by-products.

Widespread co-operation is needed when it comes to environmental research. Every year, the industry has access to around 105 million Euros of public funds (EU, Italian Ministries, Regional Councils) and private capital (tanneries, chemicals and machinery) for an average of 40 research lines.

Figure 5 ▷ Research aims

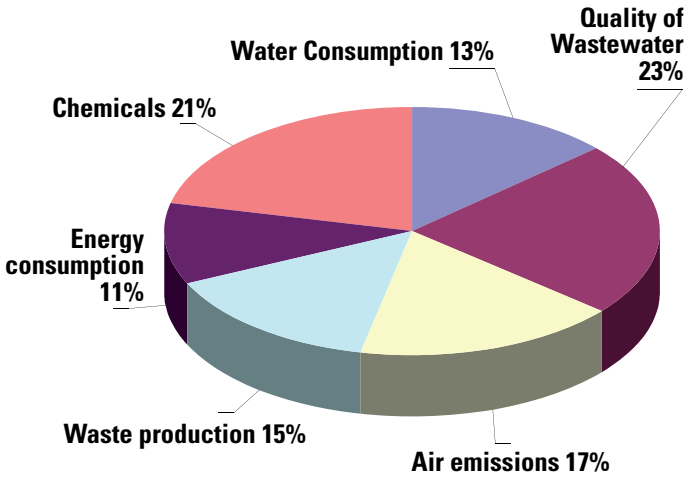


Source: UNIC 2006

Among the extensive range of research issues, environmental-based technologies are geared towards preventing pollution and re-using both by-products and waste. Work is particularly concentrated on purifying, recycling and reusing process water, improving and reusing the proteins found in leather off-cuts, and getting rid of or recycling sludge.

95% of all tanning innovation projects have a positive effect on the environment. Figure. 2 shows the benefits from a number of environmental points of view.

Figure 6 ▷ Environmental benefits from innovation-based project results



Source: UNIC 2006

36% of innovation-based work has a direct impact on water, 13% reduces its consumption and 23% improves the quality of wastewater. A reduction in consumption and the number of risks caused by process chemicals, improvements in the quality of air emissions, and a reduction in the amount of waste that is produced are other significant issues.

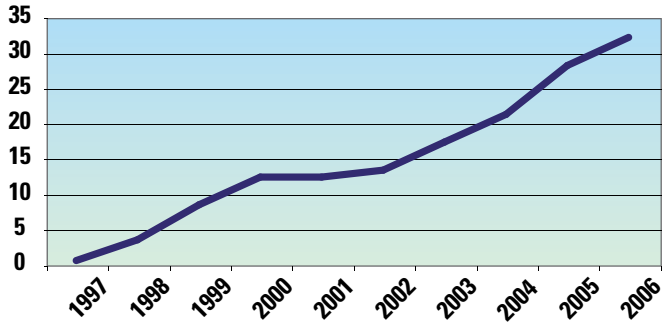
The industry is active through numerous private research institutes which co-operate with Italian & European Universities and Public research bodies.

CERTIFICATIONS

Italian tanneries are much more aware about te chnology, organisation and production process t han their international competitors. As a result, Environmental certification is becoming increasingly more widespread, as can be seen in t he figure below.

An environmental management system for a t annery requires constant commitment, as it is periodically subject to maintenance audits and , every three years, more in-depth and specific inspections are needed for its renewal. Between 1998 and 2006, the number of tanneries that obtained the necessary certifications went up to 32

Figure 7 ▷ ICEC environmental certifications



Source: UNIC 2006

SOME R&D PROJECTS RELEVANT TO ENVIRONMENTAL ISSUES

- New biotech leather analogue to be used as a raw material by tanneries (dermagenesis)
- Development of innovative properties of leather through biotechnology
- New products and tools for preserving rawhide, as alternatives to the use of salt
- Innovative continuous systems and processes for tanning, re-tanning, fat-liquoring and dyeing
- Enzymatic applications for innovative dyeing and finishing processes
- Studies for the substitution of hazardous chemicals subject to REACH restrictions
- Inkjet printing on leather
- Development of a dyeing process with the use of natural dyes of vegetable and animal origin
- Technology for the purification (80-90%) of particles and solvents from air emissions
- Innovative cold Plasma finishing treatments
- Membrane technology for the recovery and reuse of liming baths
- Membrane technology for the recovery and reuse of wastewater

Source: Conciaricerca Italia Srl

THE ENVIRONMENTAL BALANCE

In previous editions the Report was based on Environmental Balance Data collected from a sample group of tanneries.

Here data from the UNIC economic department has been integrated in co-operation with the most important operators who, throughout the territory, manage the main environmental aspects of the tanneries (water treatment plants and waste management companies), resulting in a more complete description on a national level.

We used the Eurostat definition of environmental expenditure: "expenditure incurred for performing activities whose main objective (direct or indirect) is management and protection of the environment, that is to say activities aimed deliberately and principally at preventing, controlling, reducing or eliminating pollution and the environmental decay caused by production and consumption".

WATER SUPPLY AND DISCHARGE

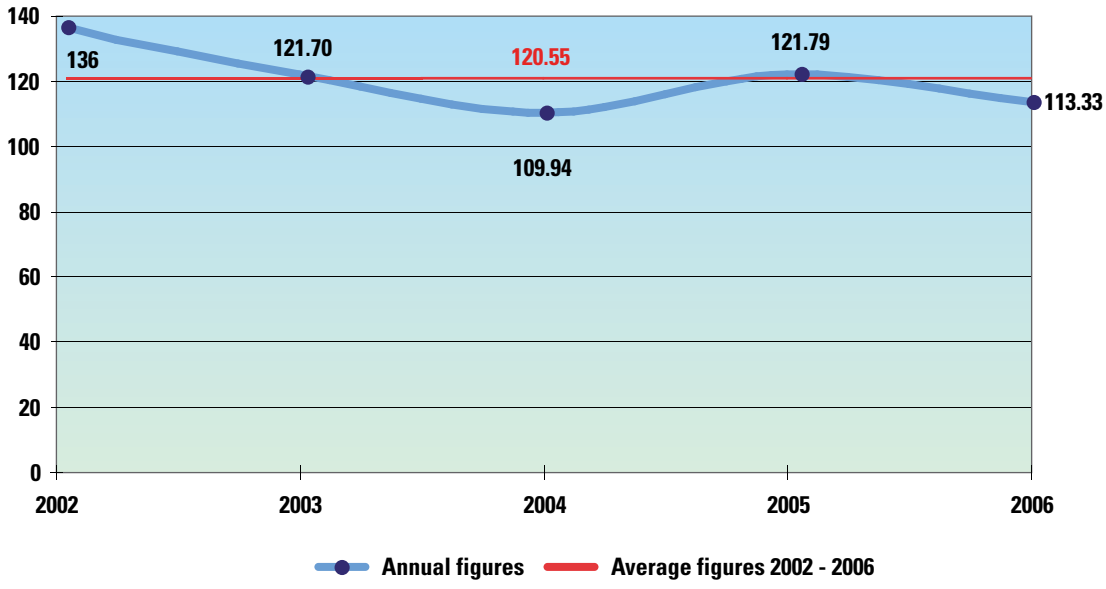
The report confirms that the consumption and purification of water represent the most important environmental aspects for tanneries, from both a physical and financial point of view.

80% of the tanneries draw water for industrial use from their own wells on the production site. In the remaining cases, especially in the Veneto region, water is taken from industrial water supply systems.

Water consumption per product unit, expressed in litres of water per square metre of leather produced, was equal to 121.79 (l/m²) in 2005 and 113.33 (l/m²) in 2006.

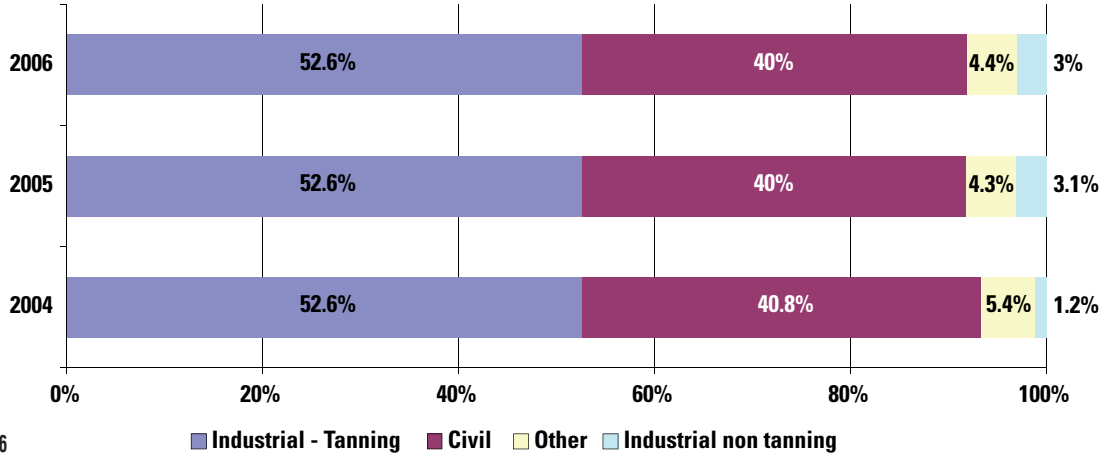
As in Figure 1, water consumption was not subject to any major variations during the analysis period. The average figure over the 5-year analysis period was equal to 120.55 l/m², almost halfway between the minimum figure, registered in 2004 (109.9 l/m²) and the maximum, registered in 2002 (136 l/m²).

Figure 1 ▷ Water consumption per product unit 2002- 2006 (l/m²)



Source: UNIC 2006

Figure 2 ▷ Wastewater Input in centralised purification plants 2004 – 2006 (%)



Source: UNIC 2006

The structure of the industry has led many firms to form private consortia aimed at building centralised and specialised purification plants. Data confirms that, in 2004, 834 tanneries were connected, via consortium trunk lines, to centralised treatment plants, 790 in 2005 and 789 in 2006. The reduction in trend is parallel to the one in the total number of companies throughout the entire industry (2,421 companies in 2004 – 2,316 in 2006). At the same time, almost all tanneries carried out preliminary treatments on the water itself, before sending it to the purification unit. The type of pre-treatment varied from mechanical screening to get rid of any untreated, suspended materials, to actual purification, using chemical, physical and biological treatments.

Other tanneries, mainly located outside the major industrial districts, have installed internal systems for water treatment.

In order to monitor and evaluate the performance levels of the purification systems used by tanneries, the analysis considered the most typical parameters of the tanning process, as below:

- Suspended solids
- COD
- Total nitrogen
- Sulphates
- Ammonia
- Chlorides
- Chromium III
- Sulphides

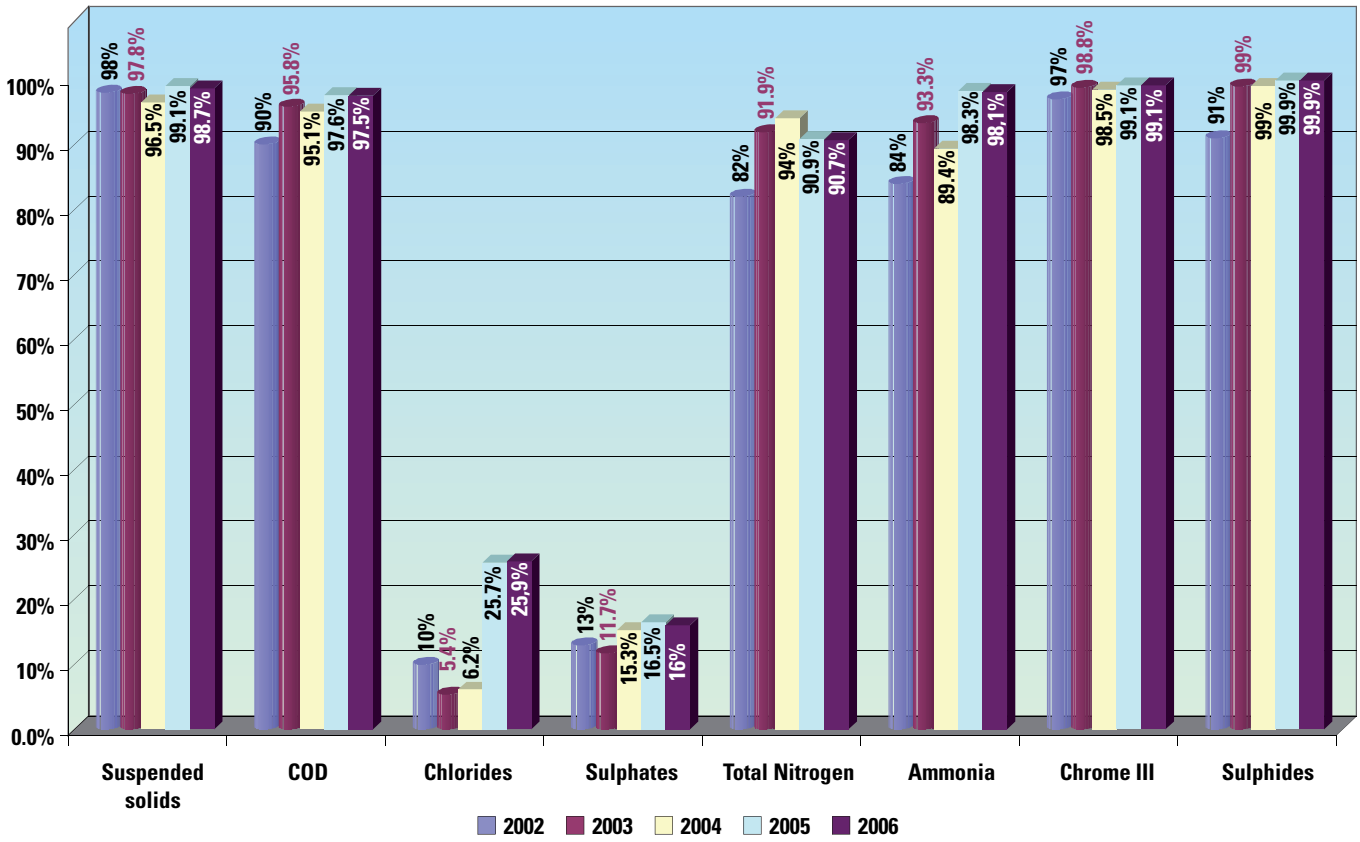
The analysis confirms, and in some cases improves, the results achieved in past editions. Data shown in Table 1 and in Figure 3 represents highly significant abatement goals, almost always close to 90%, with the exception of chlorides and sulphates, that still present problems even with state of the art technologies on an international level. Also with these pollutants, though, an improvement can be seen in the purification performances during the 2005 – 2006 period.

Table 1 ▷ Water purification performances 2002 – 2006 (%)

	2002	2003	2004	2005	2006
Suspended solids	98%	97.8%	96.5%	99.1%	98.7%
COD	90%	95.8%	95.1%	97.6%	97.5%
Chlorides	10%	5.4%	6.2%	25.7%	25.9%
Sulphates	13%	11.7%	15.3%	16.5%	16%
Total Nitrogen	82%	91.9%	94%	90.9%	90.7%
Ammonia	84%	93.3%	89.4%	98.3%	98.1%
Chrome III	97%	98.8%	98.5%	99.1%	99.1%
Sulphides	91%	99%	99%	99.9%	99.9%

Source: UNIC 2006

Figure 3 ▷ Water purification performances 2002 – 2006 (%)



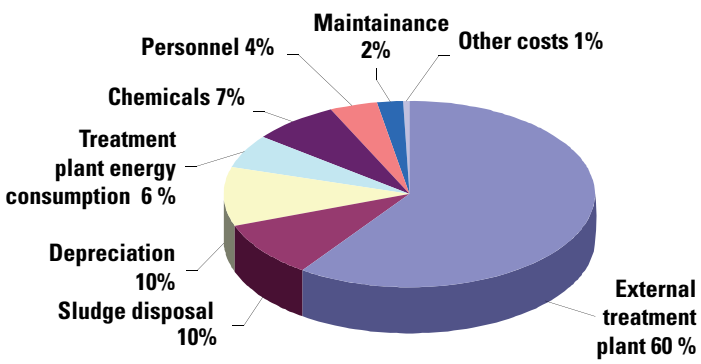
Source: UNIC 2006

Water treatment systems and plants meant that tanneries were able to avoid discharging approximately 381,234 tons of pollutants.

EFFLUENT TREATMENT COSTS

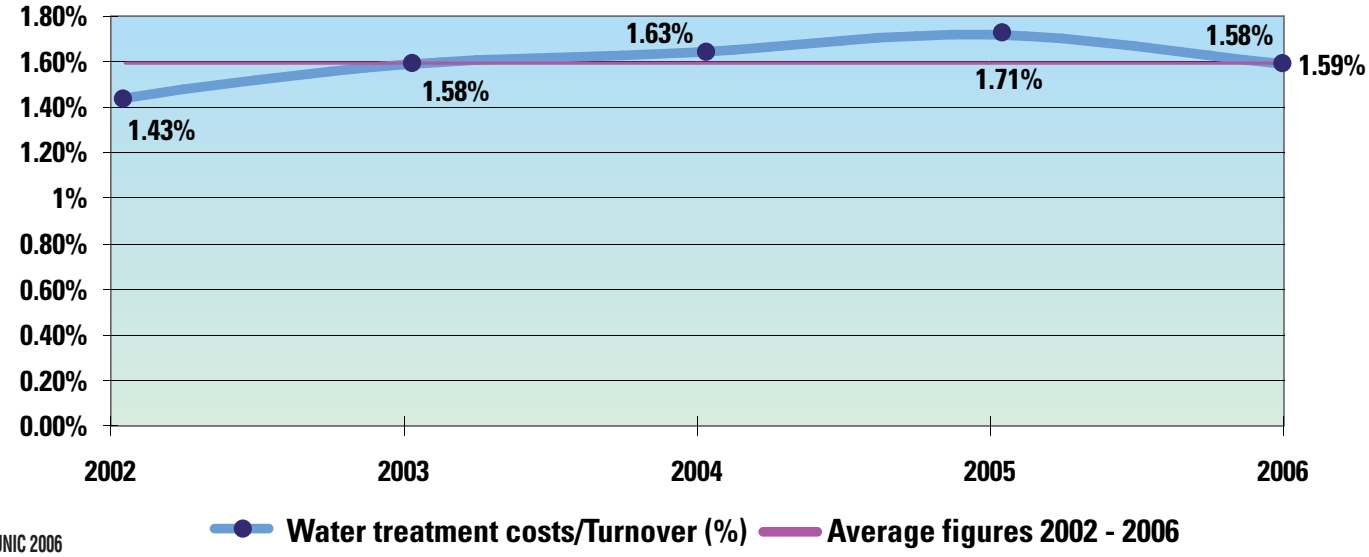
The typical structure of the Effluent treatment costs in a tannery is shown in Figure 4.The external purification plant represents 60% of the total costs, whereas other significant costs are represented by depreciation (leading, therefore, to continuous investments), disposing of the sludge produced, personnel and chemicals.

Figure 4 ▷ Effluent treatment costs distribution (%)



Source: UNIC 2006

Figure 5 ▷ Water Purification costs/Turnover 2002-2006



Source: UNIC 2006

Table 2 ▷ Summary of water supplies and drainage

INDICATOR	2002	2003	2004	2005	2006
Water consumed/Product unit (l/m^2)	136	121.72	109.72	121.79	113.33
Water treatment costs/Turnover (%)	1.43%	1.58%	1.63%	1.71%	1.58%
Unitary water treatment costs (€/m^3)	4.9	5.95	6.47	6.79	6.27
Water treatment costs/Product unit (€/m^2)	0.61	0.52	0.56	0.59	0.54

Source: UNIC 2006

During the five-year survey, the average figure for the Water Purification costs/Turnover index was 1.59%, which hit a minimum in 2004 (1,43%), peaked in 2005 (1,71%) and arrived, in 2006, at a figure (1.58%) that was close to the average.
On average, water purification costs per product unit come in at 0.56 €/m^2, without any significant variations over the past two years (+4% and –4% in 2005 and 2006 respectively).
As far as unitary purification costs are concerned (shown in € per cubic metre of water discharged), the average figure over the five-year period was 6.1 €/m^3, significantly higher than the initial figure in 2002 (4,90 €/m^3) and slightly lower than 2006 levels (6.27 €/m^3).

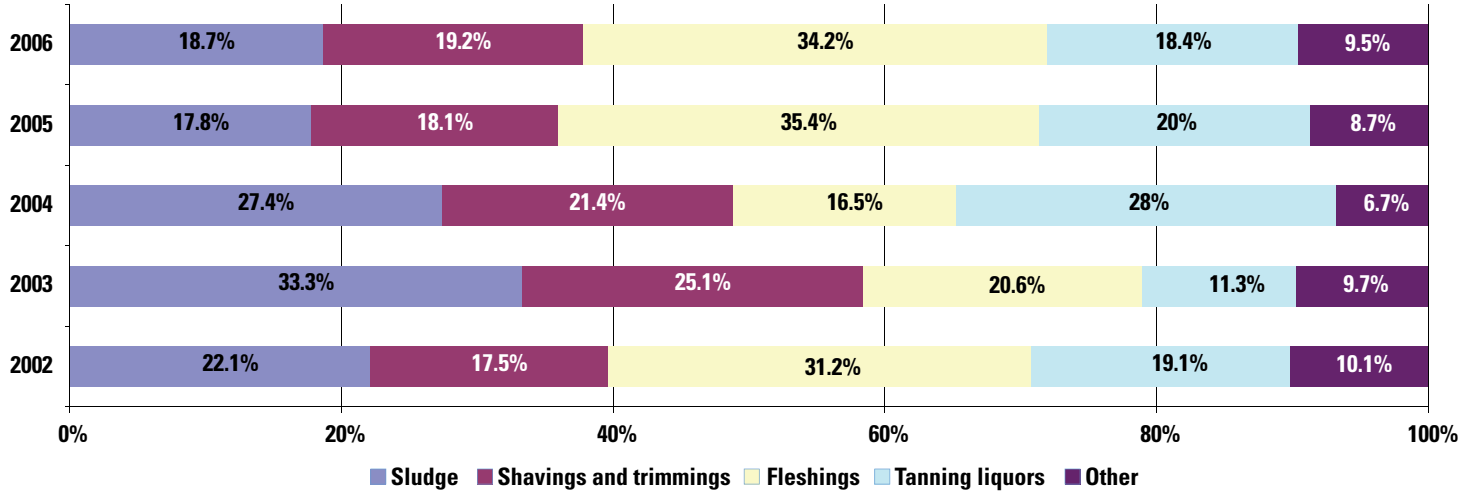
WASTE PRODUCTION AND HANDLING

Waste from tanneries is widely diversified depending on the cycle phase that it comes from and it can, therefore, have different final destinations. The origin of waste from a tanning production process is represented mainly by the elimination from the skins, at various stages of the process, of excess parts or those that are of no use to the finished product.
They originate directly from the waste or flow into the discharge water, which, during purification, generates waste sludge.
As shown in Figure 6, the breakdown of the various types of specific waste of the tanning activity changed significantly over the five-year analysis period. In particular, on average, fleshings accounted for 22.8% of total waste during the 2002 – 2004 period, 35.4% in 2005 and 34.2% in 2006. Other waste, such as exhaust tanning liquors, waste sludge, trimmings and other, rounds off the different kinds of tanning waste, with their quantities varying in relation to

the raw materials processed by tanneries.
It needs pointing out that the job of processing raw hides generates more waste (mainly represented by fleshings, shavings and trimmings) than starting the process from semi-finished materials, such as wet blue or crust.
A breakdown of the various types of specific waste from the tanning activity is shown in Figure 6. Please note, however, that the production of purification sludge coming from the purification process, contracted to consortia firms, is also included.

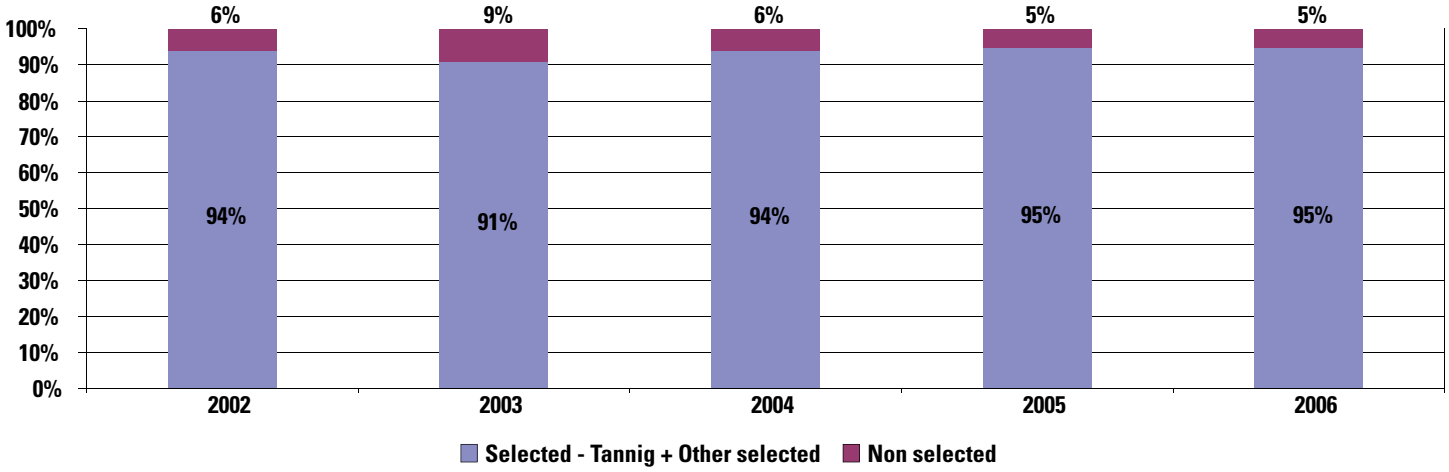
As in Figure 7, percentages of selected waste collection during the 2002 – 2006 period never dropped below 91% of the total waste produced, with 2005 and 2006 levels being equal to 95%. Most of the material collected selectively is represented by typical and specific tanning waste, whilst the remaining part mainly consists of packaging (made out of wood, plastics and other materials) or ferrous materials.

Figure 6 ▷ Composition of typical tanning waste 2002 - 2006 (%)



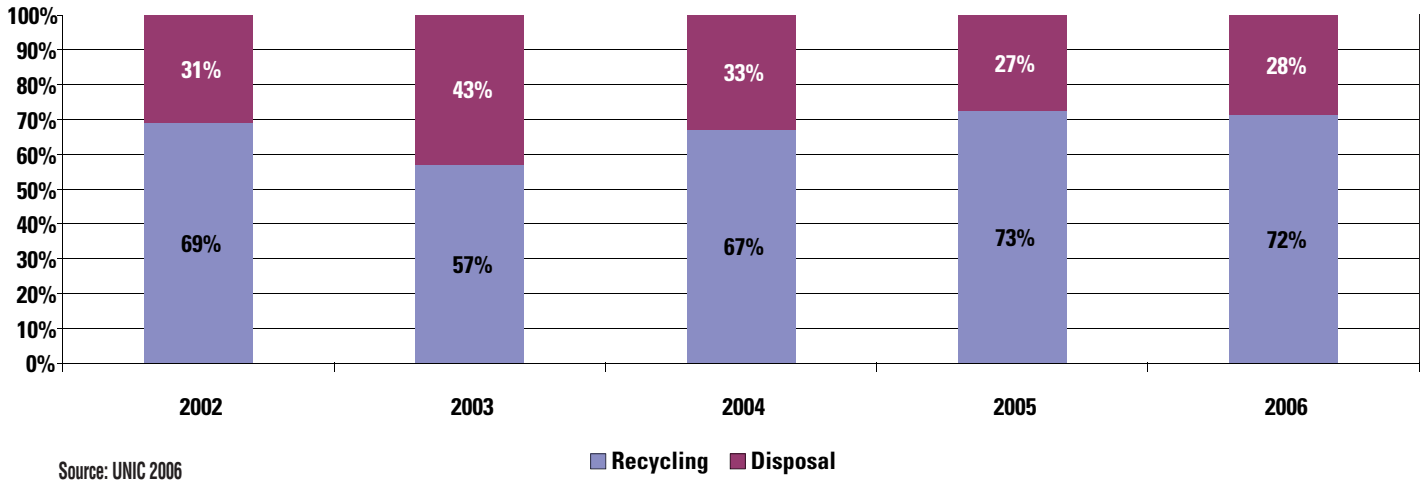
Source: UNIC 2006

Figure 7 ▷ Selective waste collection: 2002 - 2006 (%)



Source: UNIC 2006

Figure 8 ▷ Final waste destination 2002 - 2006 (%)

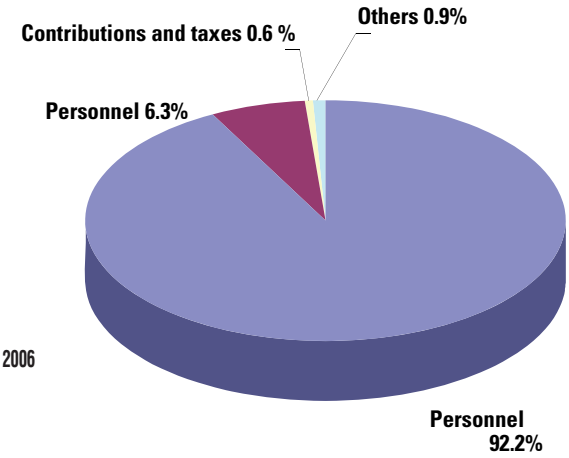


Source: UNIC 2006

By analysing the final waste destinations it was possible to see, as in Figure 8, that the percentage of waste sent off for recycling increased over the last three years and that the figure was below 67% only in 2003 (57%).

A radical evolution in in-house organisation at tanneries allowed for the constant composition of waste to be recycled, a decisive factor for successful applications of the technologies developed.

Figure 9 ▷ Waste: breakdown of costs (%)



Source: UNIC 2006

WASTE MANAGEMENT COSTS

The breakdown of waste management costs in a tannery is represented in Figure 9. These costs consist mainly (92.2%) of the entry regarding waste disposal by authorised organisations (irrespective of the final destination of the waste itself) and, to a lesser extent, staffing (6.3%) and other administrative costs.

Table 3 groups together the summary data describing waste management in tanneries during the 2002 – 2006 period (part of which is shown in figures 10 – 12). In the five-year period considered, even if the production of waste per product unit did not vary much (2.08 kg per m^2 of leather produced in 2006, with an average value of equal to 2.02 kg/m^2) and if the cost of waste disposal remained almost stable (approximately 0.05 €/kg being the average figure during the period), we can still see an increase in the effect of waste management costs on turnover, accompanied by an increase in total waste management (0.10 €/m^2 in 2002 and 0.17 €/m^2 in 2006).

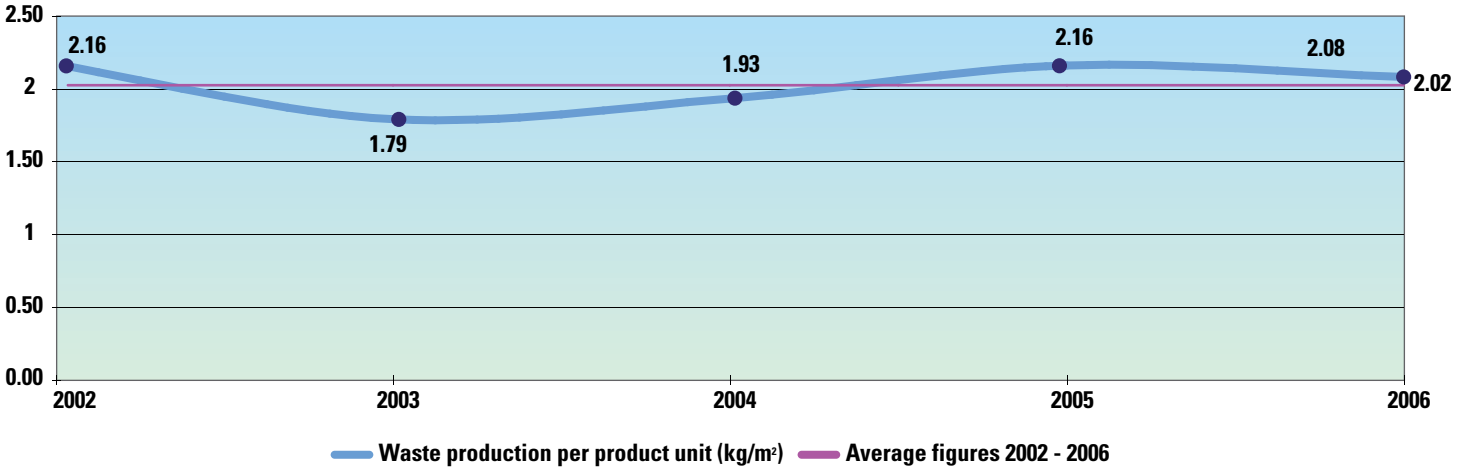
In 2006 waste management costs were equal to 0.55% of the turnover, a figure that averaged out at 0.47% over the 2002 – 2006 period.

Table 3 ▷ Summary of waste production and management 2002 - 2006

INDICATOR	2002	2003	2004	2005	2006
Wastes/product unit (kg/m^2)	2.16	1.79	1.93	2.16	2.08
Wasted recovered and recycled (%)	69%	57%	67%	73%	72%
Costs of waste treatment/turnover (%)	0.39%	0.37%	0.47%	0.58%	0.55%
Waste unitary costs (€/kg)	0.060	0.060	0.040	0.050	0.047
Costs of waste treatment/product unit (€/m^2)	0.120	0.100	0.110	0.174	0.166

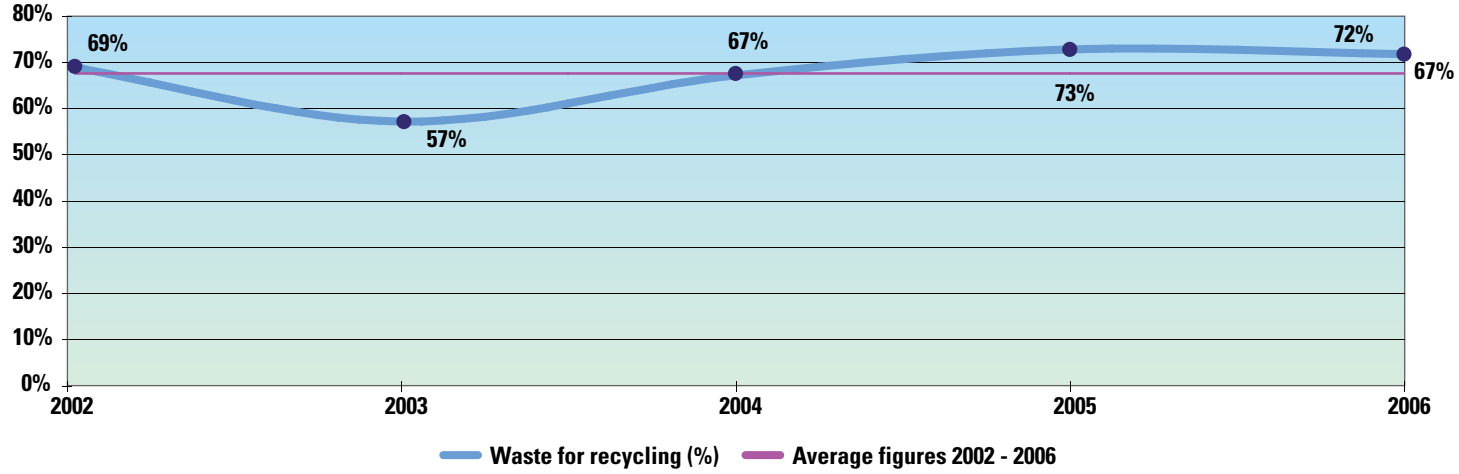
Source: UNIC 2006

Figure 10 ▷ Waste production per product unit 2002 - 2006 (kg/m²)



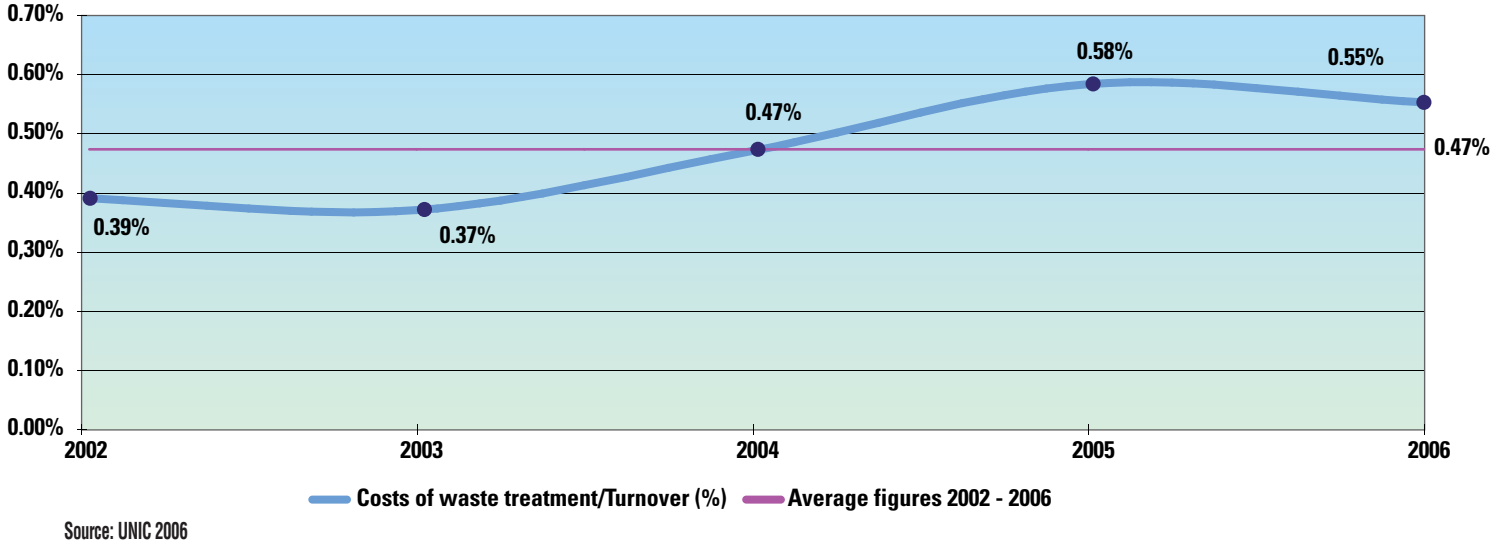
Source: UNIC 2006

Figure 11 ▷ Waste for recycling 2002 - 2006 (%)



Source: UNIC 2006

Figure 12 ▷ Waste costs/Turnover 2002 - 2006 (%)



Source: UNIC 2006

ATHMOSPHERIC EMISSIONS

The atmospheric emissions produced during the various phases of a conventional tanning process, and emitted after purification treatments, can be traced back to dust, Volatile Organic Compounds (VOC) and hydrogen sulphide (H_2S). What's more, nitrogen oxides (NOx), sulphur oxides (SOx) and carbon dioxide (CO_2) are emitted during combustion in thermal power plants for the production of hot water, steam and, in some cases, electricity.

Figure 13 shows the levels (in g/m²) of certain air pollutants.

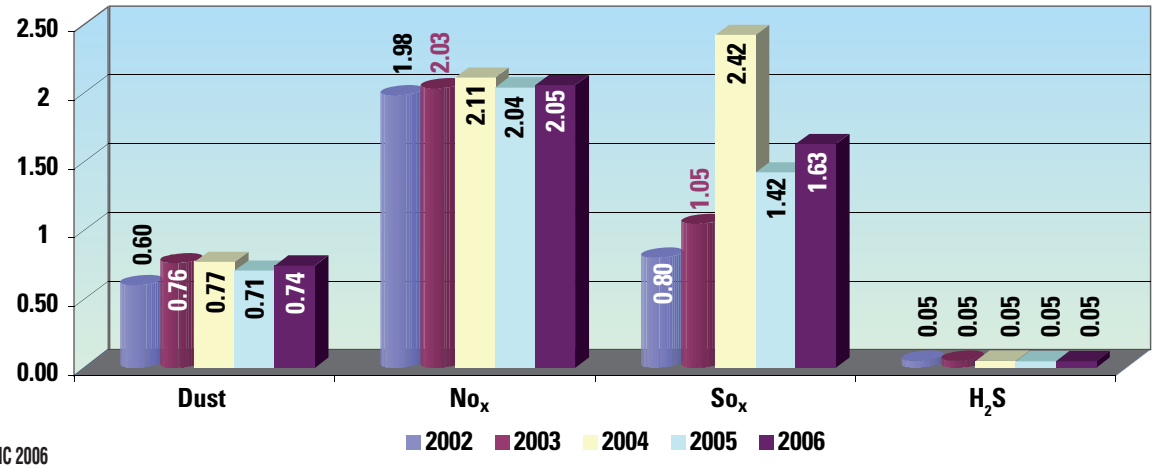
With regard to the VOCs, as in the previous editions of the Report, data was collected by the province of Vicenza on the Arzignano (Veneto) tanning district and shows, from 1996 to 2005, a decreasing trend in the consumption of solvents (-57%) compared to an 30% increase in production. Figure 14 and Table 4 shown below describe in detail the progress that has been made.

Table 4 ▷ Trend in production and consumption of solvents 1996 - 2005, Arzignano district.

	Solvent consumption		Leather Production	
	Figure shown in kg	Variation %	Figure shown in m²	Variation %
1996	18,439,000	0	125,326,000	0
1997	17,128,000	-7%	128,350,000	2%
1998	15,295,000	-17%	132,856,000	6%
1999	13,489,000	-27%	143,422,000	14%
2000	12,852,000	-30%	165,221,000	32%
2001	12,756,000	-31%	160,766,000	28%
2002	11,467,000	-38%	170,983,000	36%
2003	9,751,000	-47%	167,902,000	34%
2004	8,795,000	-52%	174,391,000	39%
2005	7,987,000	-57%	162,676,000	30%

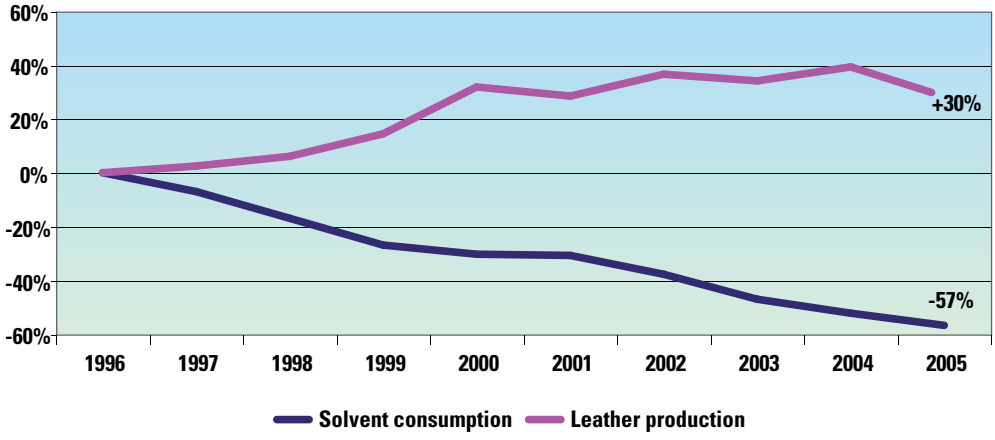
Source: Vicenza province

Figure 13 ▷ Pollutants in the atmosphere per product unit (g/m²)



Source: UNIC 2006

Figure 14 ▷ Trend in production and consumption of solvents

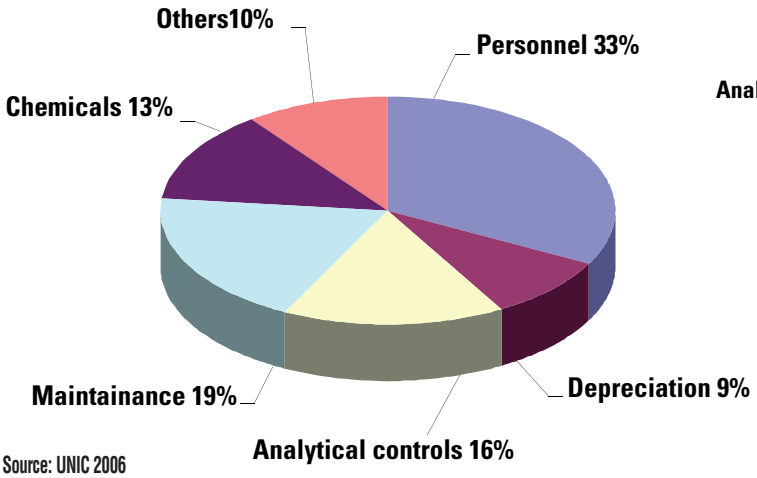


Source: Vicenza province

ATHMOSPHERIC EMISSION COSTS

Costs for atmospheric emissions represented 4% and 5% of the total environmental costs in 2005 and 2006 respectively and their share on the turnover never exceeded 0.1% during the period 2002 – 2006. By analysing their breakdown, the main cost items are related to personnel costs (34%). Analysis, chemicals used for the purification of the emissions and maintenance contracts for the abatement systems and power plants are other significant cost categories. The fact also has to be considered that some of the most important results regarding atmospheric emissions were achieved by substituting solvent-based chemicals that were originally used, with innovative water-based products. Price differences between these products can be considered as environmental costs, but they are very difficult to monitor and, therefore, were not taken into consideration in the analysis.

Figure 15 ▷ Breakdown of atmospheric emission management costs (%)

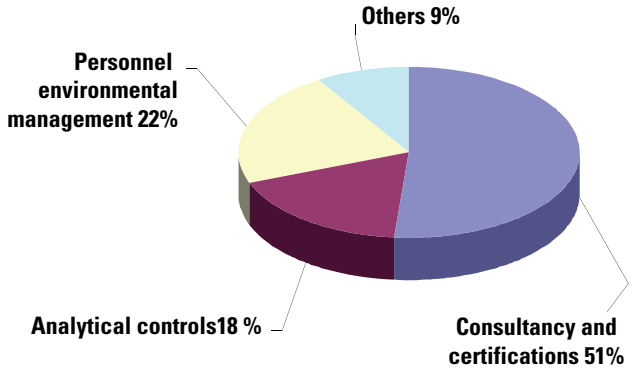


Source: UNIC 2006

OTHER ENVIRONMENTAL COSTS

Other environmental costs regard additional activities carried out by tanneries that still have environmental protection and pollution prevention as their main goal.
Other environmental costs represented 3.6% and 3.4% of all environmental costs in 2005 and 2006 respectively and their effect on the turnover never exceeded 0.1% during the 2002 – 2006 period.
Figure 16 describes their breakdown and, as can be seen, consultancy and the certification of environmental management systems represent the major cost item.

Figure 16 ▷ Breakdown of other environmental costs



Source: UNIC 2006

Table 5 ▷ Summary of atmospheric emissions

	2002	2003	2004	2005	2006
Dust	0.60	0.76	0.77	0.71	0.74
NOx	1.98	2.03	2.11	2.04	2.05
SOx	0.80	1.05	2.42	1.42	1.63
H_2S	0.05	0.05	0.05	0.05	0.05
Air emission reduction costs/turnover (%)	**0.1%**	**0.1%**	**0.1%**	**0.1%**	**0.1%**
Air emission reduction costs/product unit (€/m²)	**0.0490**	**0.0420**	**0.0300**	**0.0383**	**0.0348**

Source: UNIC 2006

ENERGY CONSUMPTION

The energy used in tanning is mainly electricity and heat, the first is used to operate the plants and equipment, and the second to control the temperature of the water and work areas. Production in the tanning industry does not entail high energy intensity.
As shown in Figure 17, electricity and methane consumption cover almost all the energy needs of the industry, though which also relies, to a much smaller extent, on fuel oil and diesel oil, as a result of a gradual conversion process of the heat production systems towards cleaner fuels.

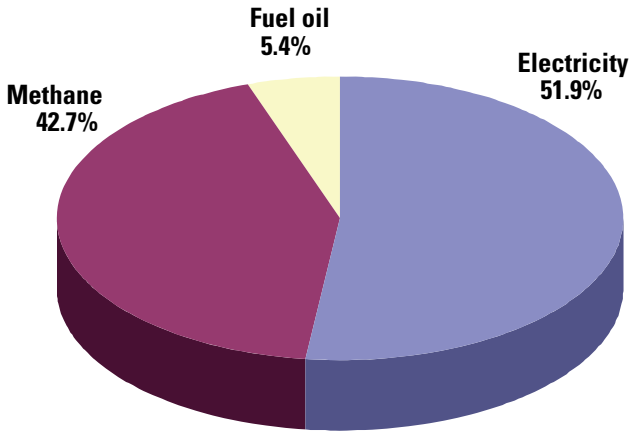
The average energy consumption figure per product unit during the 2002 – 2006 period was equal to 0.0016 tonnes of oil equivalent (TOE) per m^2.

ENERGY PRICE

A survey based on national data showed that energy costs represent almost 2.1% of the overall turnover. Total expenditure for energy was equal to 108.1 million Euros in 2006 (+18.7% on 2005). Figure 18 shows the trend in electricity, methane and fuel oil prices over the last three years.

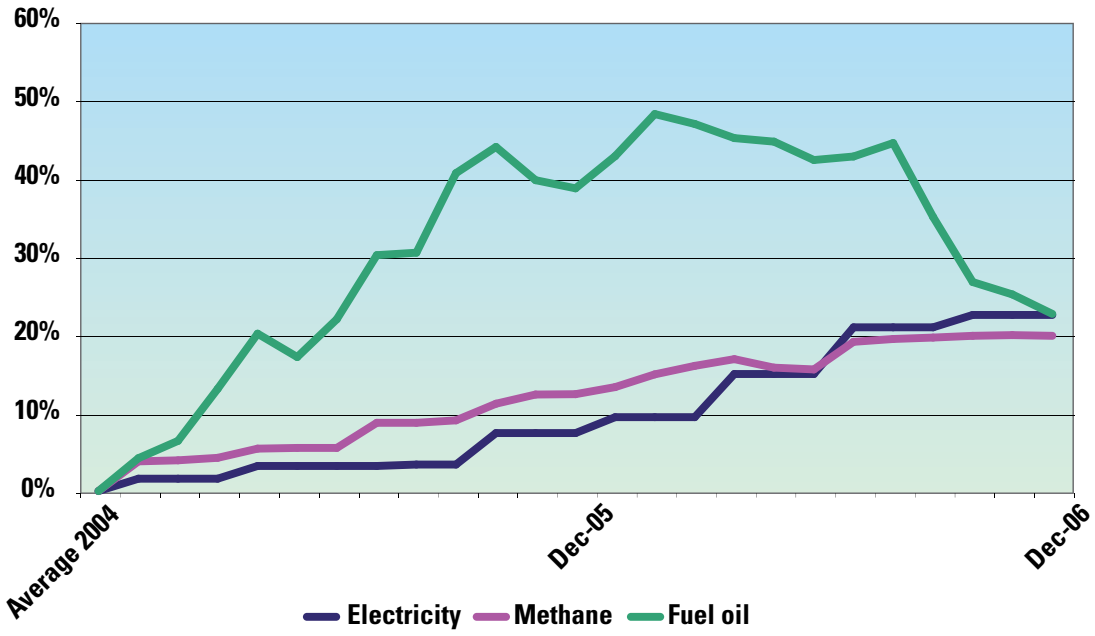
Electricity is the energy source that suffered the highest price increase (+ 22.2% in 2004 and 20.3% in January 2005), which is showing no signs of stopping.
Methane showed a similar behaviour (+21.2% on average in 2004, +16.8% on January 2005).
Fuel oil prices showed the most intense fluctuations over the period considered: the price shot up during 2004 and 2005, peaked in February 2006 (+ 48.1% on 2004) and a fell rapidly throughout the rest of 2006.

Figure 17 ▷ Breakdown of energy consumption



Source: UNIC 2006

Figure 18 ▷ Price trends in the main energy sources 2004 – 2006



FINAL CONSIDERATIONS

During the 2002 – 2006 period total environmental costs per tannery fell by 0.5%, dropping from 600,208 to 597,248 Euros.

This was partly due to the improvements made in both environmental performance levels and pollution prevention, but the data has to be evaluated by taking into account the amount of leather produced, which fell steadily until 2005 and only went up in 2006.

As shown in Figure 20, water purification and waste management represented more than 90% of the total environmental costs during the entire five-year period.

Table 6 ▷ Total environmental costs 2002 – 2006

	2002	2003	2004	2005	2006	Variation 2002/2006
Total environmental costs	600,208	577,122.3	570,239.8	635,848.3	597,248	**-0.50%**
Water treatment	450,398	444,047.8	420,414.1	468,784.5	440,326.1	**-2.29%**
Waste management	123,051	101,503.1	116,714.1	130,142.6	122,242	**-0.66%**
Air emissions	20,190	21,939.8	18,255.5	20,355.9	19,120.1	**-5.60%**
Others	6,569	9,631.5	14,856.1	16,565.3	15,559.7	**57.78%**

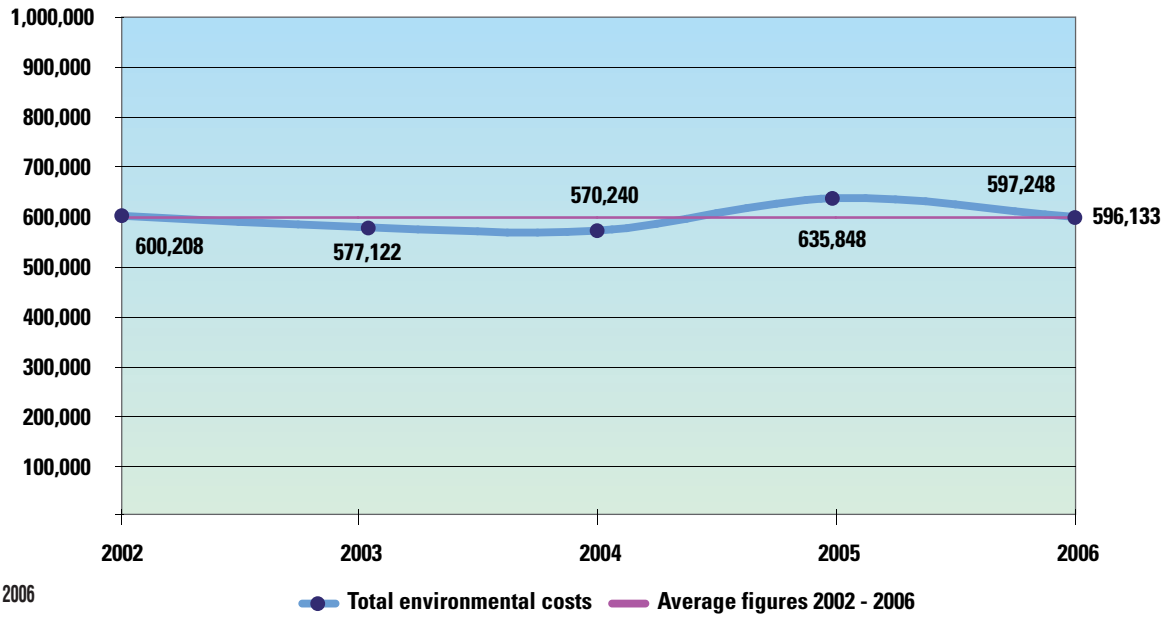
Source: UNIC 2006

Table 7 ▷ Breakdown of total environmental costs 2002 – 2006

	2002	2003	2004	2005	2006
Water treatment	75%	76.4%	73.2%	68.9%	67.8%
Waste management	20.5%	18%	21.2%	23.4%	23.6%
Air emissions	3.4%	3.9%	3.2%	4.1%	5.1%
Others	1.1%	1.7%	2.4%	3.6%	3.5%
	100%	**100%**	**100%**	**100%**	**100%**

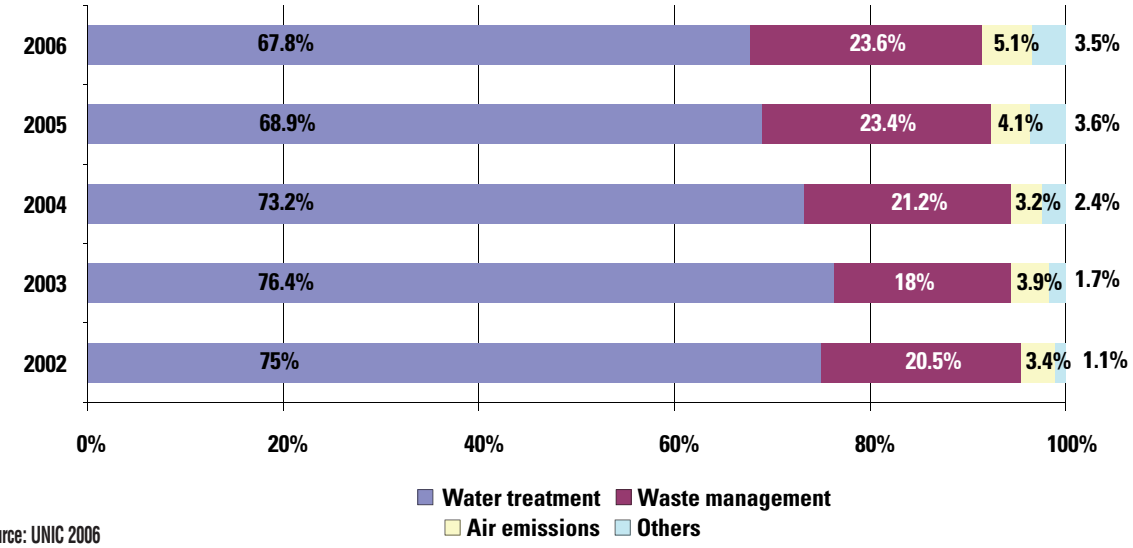
Source: UNIC 2006

Figure 19 ▷ Total environmental costs 2002 – 2006



Source: UNIC 2006

Figure 20 ▷ Breakdown of total environmental costs 2002 – 2006



Source: UNIC 2006

As shown in Table 8, Figure 21 and 22 even though environmental costs as a whole did not vary much, they had a remarkable effect on turnover and the total running costs (+22.9% and 17.7% respectively).

To focus on the causes that led to the above, it was necessary to index-link the total environmental costs and national production figures at 2002 levels. The results are shown in figure 23 below.
It would appear that the environmental costs maintained a rigidity that increased their effect on production figures exactly when production itself suffered a downturn, as was the case during the 2002 – 2005 period.

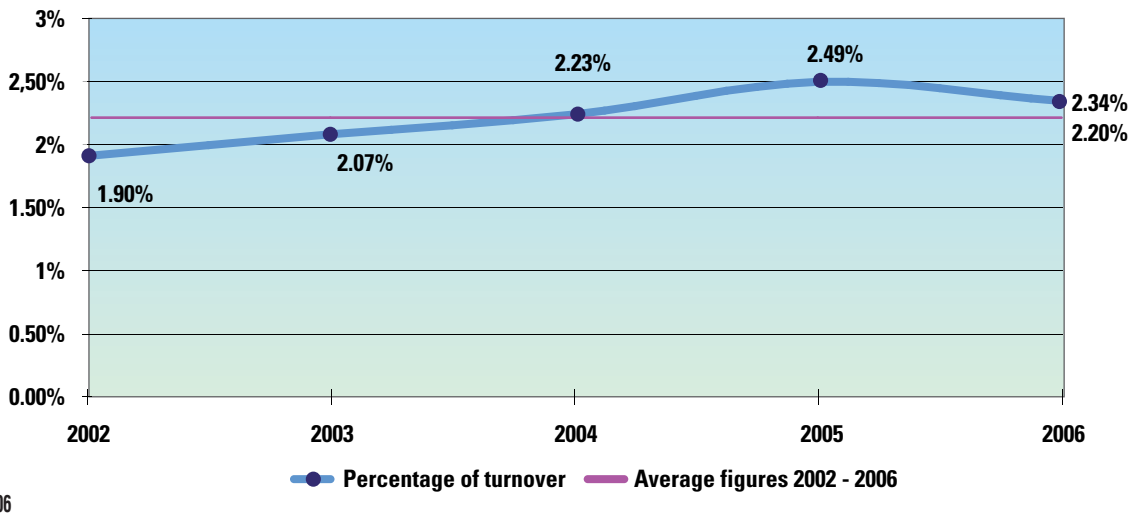
As explained in previous editions of the Report, the industry has invested a great deal in environmental protection technologies, facilities and infrastructures, so creating a real industrial system of tanning environmental protection. The reason for the rigidity of the environmental costs is due to the fixed cost entries for the maintenance of assets, infrastructures and organisations that have been set up and which do not follow production trends within the industry.

Table 8 ▷ Environmental costs and financial statements: 2002 – 2006

	2002	2003	2004	2005	2006	Variation 2002/2006
Percentage of turnover	1.90%	2.07%	2.23%	2.49%	2.34%	22.93%
Percentage of total costs	2.10%	2.33%	2.39%	2.63%	2.47%	17.09%

Fonte: UNIC 2006

Figure 21 ▷ Environmental costs/Turnover 2002 – 2006



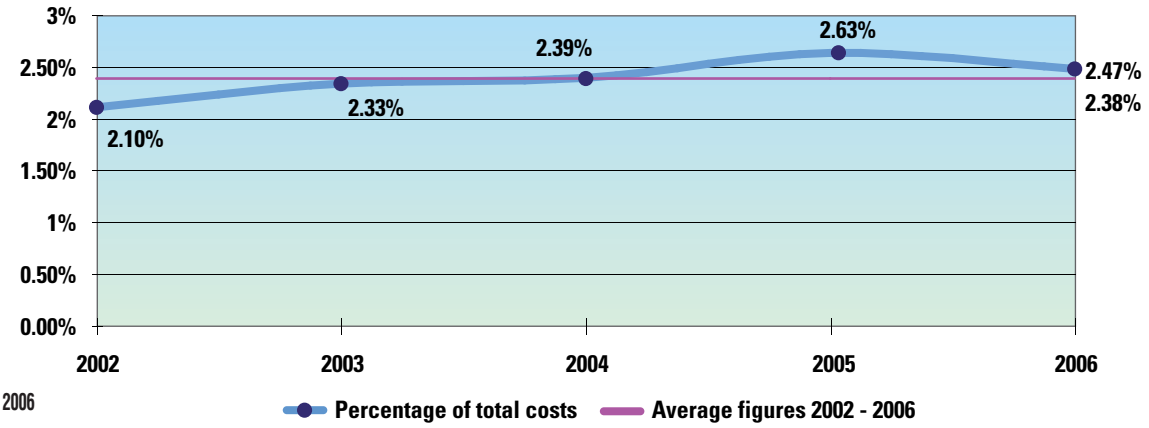
Source: UNIC 2006

The environmental commitment and the resulting financial effort within the tanning industry take on even greater significance at a time when international competition is forcing the Italian industrial system to increasingly reveal the environmental and ethical nature of its production, turning the rules of the game towards cleaner production. The Italian tanning industry is at the cutting edge of this challenge and this report represents the first essential communication tool.

Elements gathered and explained in this edition of the Report are also aimed at demonstrating that an industrial development such as the Italian tanning industry, constantly committed towards environmental protection and total transparency, also allows for dynamic and flexible rules to be introduced and the foundations to be laid for encouraging environmentally-correct behaviour.

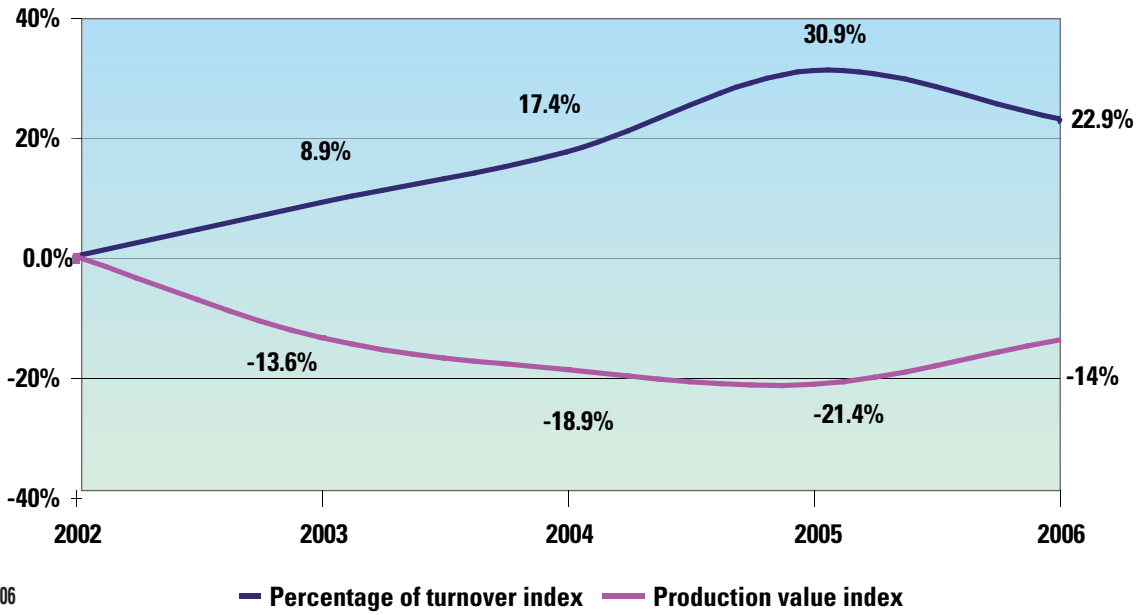
It is now even more important for the Italian tanning industry to act on the markets in order to be able to look upon the environment as an added value, transforming environmental-based running costs into profitable investments and, at the same time, developing a new growth paradigm for the national industry and local economies

Figure 22 ▷ Environmental costs/Total running costs 2002 – 2006



Source: UNIC 2006

Figure 23 ▷ Environmental costs/National production figures 2002 – 2006



Source: UNIC 2006