

UNIONE NAZIONALE INDUSTRIA CONCIARIA

Social & Environmental Report 2012

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INTRODUCTION

The Italian leather industry employs 18 thousand workers in over 1,300 companies. The yearly output value amounts to 4.9 billion Euros.

The sector has traditionally been a world leader in terms of:

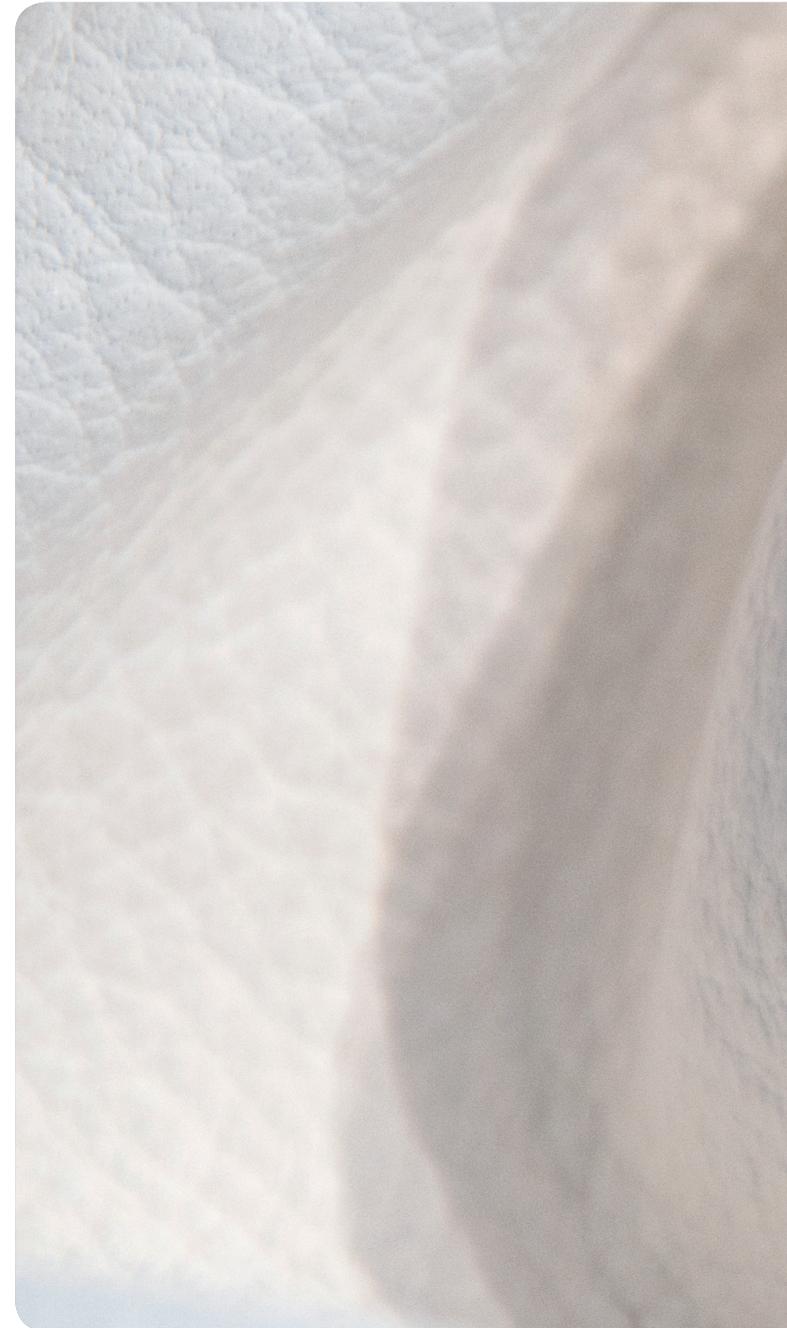
- output value (62% of overall European production and 17% of world production)
- internationalization (27% of world exports of finished leather and 20% of total imports of hides and skins)
- technological, styling and quality standards.

Unione Nazionale Industria Conciaria (UNIC) is the leading tanners' association worldwide operating since 1946 for the protection of the sector. Moreover, the association leads a "team" of companies working in the fields of trade exhibitions, scientific research, design, rules and regulations, finance, publishing, certification.

The Industrial Social and Environmental Responsibility Report has been published yearly for 9 years now. It includes environmental data of ten years. No other tanning sector over the world generates such high-quality and comprehensive documents. The results are drawn from widespread surveys to which several tanners and operators contribute.

The contents of the Report give evidence of a constant commitment in the environmental and social background, as well of the transparency of the Italian tanning industry.

The companies with "accredited" certifications in the environmental and social areas account for 40% of the national tanning turnover. The adoption of a Social Accountability Code (shared by UNIC and the trade unions) is also a sign of great corporate responsibility.





CONTENTS

06 ITALIAN TANNING INDUSTRY

06 National compositional information

12 ENVIRONMENTAL REPORT

14 Consumption of chemicals

16 Consumption of energy

20 Water supplies and wastewater disposal

24 Waste water treatment costs

28 Waste production and management

31 Waste: management costs

34 Atmospheric emissions

36 Atmospheric emissions costs

38 Environmental management system

40 Concluding remarks

46

SOCIAL REPORT

| | |
|----|--------------------------|
| 48 | Human resources |
| 51 | Industrial relationships |
| 53 | Training |
| 54 | Accidents |
| 56 | Corporate giving |

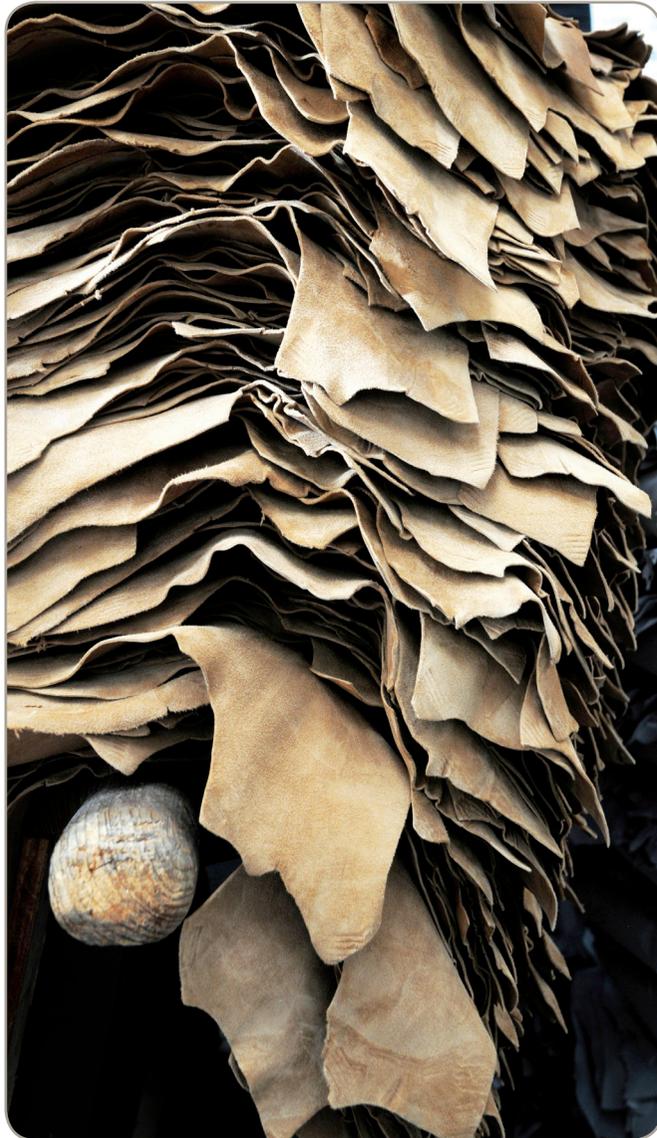
59

APPENDIX

| | |
|----|---|
| 60 | Tanning process and environmental issues |
| 62 | Primary pollutants in wastewater |
| 63 | Primary atmospheric pollutants |
| 64 | Code of Conduct and Social Responsibility |
| 66 | ICEC Social and Environmental Certifications and Declarations |
| 68 | Remarks on the method |
| 70 | List of contributing tanneries |

SECTION ONE

ITALIAN TANNING INDUSTRY



As of the end of 2011, the Italian tanning industry consisted of 1,309 companies – a number slightly lower than the previous year (by -1.6%) – employing 17,996 workers, whose number also suffered a weak fall (-0.9%).

The output volume amounted to 133 million square metres and nearly 40 thousand tons of sole leather, equal to an overall value of about 4.9 billion Euros. Variations as compared to 2010 are not homogeneous: while the output by square metre fell (-2.7%), the amount of sole leather produced grew sizably (+2.8%), as well as the overall output value (+7.5%, with sole leather alone rising to a greatly rewarding +9.4%).

A more detailed examination throughout the year shows that the sector experienced widespread growth during the first six months, while demand generally slowed down abruptly in the second semester, causing the total output volume and value the crease.

For the second consecutive year, a meaningful difference was remarked in the patterns of output value and volume, as a result of the unremitting price rises of raw materials and, accordingly, of finished leather.

The output value got back to the levels of 2005,

and was again lower than the happy 2006-2007 period before the crisis; however, it remained consistent with the average value of the decade, that is slightly below 5 billion Euros. On the other hand, the output volume fell for the eighth time in the last decade, as a consequence of a constant loss of the low-priced product range.

The recovery of 2012 is again the result of international sales (ISTAT official export rates at +10%). The “apparent” domestic market – that is, not including exports to foreign countries where Italian manufacturers delocalized production (typically Eastern Europe, North Africa and the Far East) – remains unvaried and stagnant (+0.1%), but the good news is that it did not fall further for the third time in the last decade.

regional data

The Italian tanning industry is a typical example of the successful “district approach” partly adopted in the domestic economy.

Nearly all production (over 90%) is concentrated in few manufacturing districts, which have developed

table 1 Italian tanners’ output

| Italian tanning industry | 2011 | | Var % 2010 / 2011 | |
|---------------------------------------|-------------|--------------------------|-------------------|--------------|
| | Volume | Value (million euros) | Volume | Value |
| Leather output ('000 m ²) | 133,258 | 4,601.4 | -2.7% | +7.4% |
| Sole leather (tons) | 39,710 | 260.2 | +2.8% | +9.4% |
| TOTAL OUTPUT | n.c. | 4.861,6 | n.c. | +7.5% |

Source: UNIC 2011 - Some roundings might make sums apparently incorent.

figure 1 Italian tanning industry - data by district (2011)

PIEDMONT

| | |
|---|----------------------|
| Workers: 239 | (var. 10/11: -11.5%) |
| Tanneries: 12 | (var. 10/11: 0.0%) |
| Output: 61 mil. € | (var. 10/11: +3.9%) |
| <i>Leather for footwear and leather goods</i> | |

TUSCANY

| | |
|--|--------------------|
| Workers: 5.617 | (var.10/11: +2.1%) |
| Tanneries: 560 | (var.10/11: -1.2%) |
| Output: 1,357 mil. € | (var.10/11: +9.6%) |
| <i>Bovine leather for footwear and leather goods</i> | |

LOMBARDY

| | |
|--|---------------------|
| Workers: 1,045 | (var. 10/11: +0.3%) |
| Tanneries: 49 | (var. 10/11: -2.0%) |
| Output: 277 mil. € | (var. 10/11: +8.6%) |
| <i>Sheep and goat leather for footwear and leather goods</i> | |

VENETO

| | |
|---|--------------------|
| Workers: 8.350 | (var.10/11: -2.4%) |
| Tanneries: 482 | (var.10/11: -1.4%) |
| Output: 2,468 mil. € | (var.10/11: +6.8%) |
| <i>Bovine leather for footwear, furniture and leather goods</i> | |



Source: UNIC, ISTAT 2011

CAMPANIA

| | |
|--|--------------------|
| Workers: 2,098 | (var.10/11: -1.8%) |
| Tanneries: 174 | (var.10/11: -2.8%) |
| Output: 477 mil. € | (var.10/11: +4.7%) |
| <i>Sheep and goat leather for footwear, leather goods and garments</i> | |

OTHER DISCRICTS

| | |
|--|--------------------|
| Workers: 647 | (var.10/11: -0.9%) |
| Tanneries: 32 | (var.10/11: -3.0%) |
| Output: 221 mil. € | (var.10/11: +7.5%) |
| <i>Leather for footwear, leather goods and furniture</i> | |

of which:

APULIA

| | |
|---------------------|--------------------|
| Workers: 402 | (var.10/11: -1.0%) |
| Tanneries: 2 | (var.10/11: 0.0%) |

MARCHE

| | |
|---------------------|--------------------|
| Workers: 137 | (var.10/11: +5.4%) |
| Tanneries: 6 | (var.10/11: 0.0%) |

EMILIA - ROMAGNA

| | |
|---------------------|--------------------|
| Workers: 32 | (var.10/11: +6.7%) |
| Tanneries: 4 | (var.10/11: 0.0%) |

(and often changed to meet market demands) their own product and process characteristics over time.

The most important tanning district by output and number of workers (traditionally, over 50% of the total Italian number) lies in Veneto, in the Chiampo valley, near Vicenza. The area is characterized by the presence of both small/medium-sized companies and large industrial groups enjoying cutting-edge process automation and standardization systems. Most of them are specialist processors of large bovine hides principally for upholstery (furniture and car interiors), footwear and leather goods.

The district with the greatest number of tanners is Tuscany, and namely the towns of S. Croce sull'Arno, Ponte ad Egola and Fucecchio (provinces of Pisa and Firenze). This area, which accounts for 28% of the total Italian output, is characterized by high quality handmade finishing and manufacturing flexibility, with products primarily marketed in the fashion industry. The companies in the district mainly process bovine hides and calfskins, which are partly used to manufacture sole leather. Almost all Italian sole leather is produced in the municipal territory of San

Miniato/Ponte ad Egola.

Campania is home to another tanning district specializing in sheep and goat leather for garments, footwear and leather goods. Tanneries are mostly concentrated in the area of Solofra, near Avellino, and some important companies are also found in the neighbourhood of Naples. The output value in this district accounts for 10% of the total domestic production.

Two other important tanning regions are Lombardy (area of Magenta, manufacturers of sheepskins and goatskins for haute couture) and Piedmont. Their joint share is about 7% of the total domestic output.

For the second consecutive year, all districts grew at a fairly even rate. For all of them, exports rose more than the value of overall production.

The Veneto area, which ranked again as the leading national tanning district with 51% share of the total output, grew by 7% in total value, thanks to double-digit growth in exports (+11%, i.e. the greatest rise of all districts). Sales are still slowed down by the domestic market, and by the furniture market in particular. The best buyers are again fashion (but

not garments) and car interiors.

The Tuscan district featured the largest output value: +9.6%, as reported in Table 1. The growth of sole leather (+9.4% in value, +2.7% in volume) is in line with the mean value of the district.

Campania showed a weaker growth, but with some positive variations for both output value (+4.7%) and exports (+2.8%). The tanners of the district experienced the greatest difficulties to offset the rise in price of raw materials, with sheepskins and goatskins averagely increasing by over 50% between 2011 and 2010.

Tanners in Lombardy also generated very satisfying results (+9% of output value and +6% of exports).

production by animal type and destination

The tanning industry mainly processes bovine hides and skins, sheepskins and goatskins, whose availability depends on meat consumption and, as a consequence, on the corresponding number of slaughtered animals. Bovine hides traditionally account for two thirds of the overall production, followed by sheepskins, goatskins and young bovine skins, i.e. calfskins. Less than 1% is represented by other breeds (pig, reptile, deer, kangaroo).

Here too, all variations in output value indicate some growth as compared to the previous year, while volumes reveal uneven rates.

Calf and "other animals" are the types of leather for which demand proved to be the brightest. These are in fact the most sought after by the top market ranges (the class of "other animals" benefitted from an excellent selling trend of reptile leather), which were the only ones to experience no sizable loss in the second half of 2011.

Bovine leather partially offset the loss of sales to furniture, garments and footwear, thanks to rising orders from the car interiors and leather goods sectors. On the other hand, sales to sheep and goat leather fell for all destinations (while sales to leather goods remained satisfying, demand from garment manufacturers fell heavily).

All types were affected by about 10% rises in mean selling prices. Such flat rises resulted from a need to incorporate the rise of raw materials in the price of finished products and to avoid causing excessive imbalance to the delicate market dynamics. It is therefore understandable that, in such a scenario, the most valuable leather types are the best sold.

The leading customers of Italian tanners fall in two main categories: the fashion industry (footwear, leather goods, garments) and the upholstery sector (furniture, car interiors).

The most important destination market in terms of selling rates is traditionally footwear, to which little less than one half of the tanned leather manufactured in Italy is sold. The second greatest destination is now leather goods, which has been growing at the fastest and steadiest pace in the last decade. The industry of upholstered furniture ranks third: after a booming growth in demand and consumption during the 1990s, the sector has recently experienced steady and heavy falls. On the other hand, the car interiors market is now growing, but with regular ups and downs, thanks to increasing demand by the luxury range of the automotive industry. Finally, the garment sector recently started to fall, especially because of unrewarding fashion trends (here too, at an international level).

During 2011, demand from the various destination markets showed fairly differentiated patterns. Car interiors and leather goods grew sizably (by +12% and +7%, respectively), mainly thanks to an excellent performance of their corresponding top product ranges.

On the other hand, footwear averagely fell by 4%, especially because of the very bad results of the winter season owed to the global consumption crisis and to unfavourable weather conditions. Leather for furniture also started to fall heavily, not only because of a lower consumption of home decoration products (the result of a sluggish real estate market) but also because this destination was the most heavily affected by the general constant rise in the price of raw materials. It is in fact generally more difficult for this sector to assimilate such rises into end-product prices, as their customers tend to increase the use of lower-priced substitute materials.

export markets

Foreign markets are an increasingly essential element for the development of the Italian tanning industry. Their share of the overall turnover has incre-

ased hugely over the past few years and has now exceeded – in terms of "apparent weight" – three quarters of the total (the rate more than doubled as compared to twenty years ago).

In 2011, Italian exports of tanned leather (including hair-on leather) to 116 countries totally amounted to 3.7 billion Euros, with 10% growth as compared to the previous year. This value not only exceeds the pre-crisis levels but it also nears the historical peaks of the 2001-2002 period.

The European Union is the leading customer, as it absorbs over 50% of the exports. After regular falls during the decade astride the new century, owed to a massive delocalization to Asia of some manufacturing plants, exports to the EU area have started to grow again in the past five years. The other leading destination markets are the Far East (26% of the total, i.e. an essentially stable rate in the recent years), Russia and the Balkan area (6%) and North America/



Nafta (5%). The pattern of last year looks generally positive for all these macro-areas, where the growth in value is essentially homogeneous. It is worth noting that the aggregate value of the Nafta countries, which took the lead of the recovery in exports in 2010 with a 34% rate, reached +12% in 2011.

Considering individual countries, China (including Hong Kong) confirmed to be the leading foreign customer, with 7% growth in 2011 and 20% share of the overall exports. Among other leading markets (the first 10 of them accounting for over two thirds of the total), only Portugal and Tunisia fell weakly, while the heaviest increases in demand concerned the United Kingdom (+44%), the US (+19%), Spain (+19%) and France (+18%). The 4 countries have been growing between 70% and 80% in the past two years, with France and Spain also reaching their maximum historical export rate.

suppliers of raw materials

(hides and skins, and semifinished leather)

The main raw materials for the sector are hides and skins, and semifinished leather (wet blue and crust), whose purchase strategies and dynamics are an essential element in corporate management and marketing competition. Because Italian breeding farms are few, the needs of the Italian tanning industry can be hardly met in the domestic market (5%), so that most materials must necessarily be collected abroad.

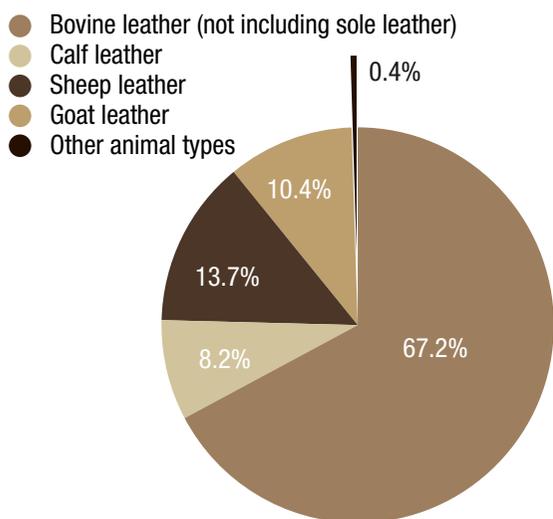
In 2011, the sector imported almost 823 thousand tons of raw materials from 128 countries. The rate grew by 6% as compared to the previous year. This overall volume aggregates hides and skins (456 thousand tons, +12% vs. 2010), semifinished wet

blue leather (357 thousand tons, -1%) and semifinished crust (nearly 10 thousand tons, +30%). The raw material most widely used by Italian tanners in relative terms (i.e. by volumes of "equivalent raw materials") is wet blue (56% of the total volume), followed by hides and skins (42%), and then by crust (2%).

Imports from the European Union, which is the traditional leading supplier of Italian tanners, amounted to 54% in 2011, while supplies from Latin America reached 16%. A less sizable while important role is played by the Nafta countries of Central and North America (9%), Oceania (7%), Russia and the Balkans (5%), Africa/Middle East (6%) and Asia (3%).

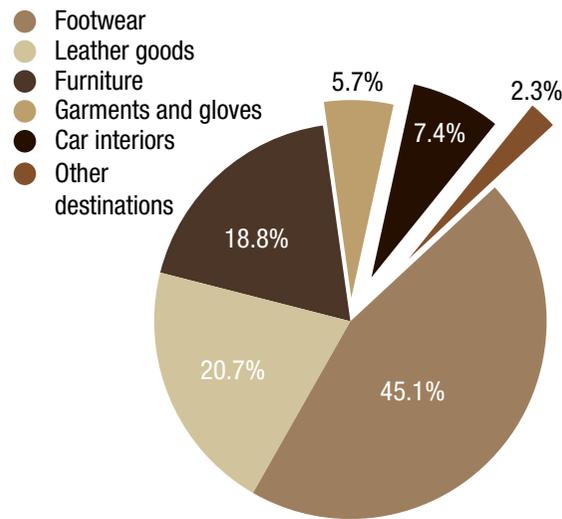
As compared to 2010, the volume of supplies from the EU and Nafta areas experienced double-digit growths (+16% and +22%, respectively). Some interesting growing rates are also seen in the African and Middle Eastern supplies (+6%), while all other principal supplying areas fell by over 10%.

figure 2 Production by animal type
% rate in volume (2011 - m²)



Source: UNIC 2011

figure 3 Production by destination sector
% rate in volume (2011 - m²)



Source: UNIC 2011

international leadership

Italy traditionally plays an international leading role in the tanning sector. Italian tanners are leaders in quality, technical level, design, environmental standards, as demonstrated by their share of the world values.

The Italian industry has been badly affected for several years by structurally unfair competition perpetrated by extra-European tanners (India, Brazil, China, Nigeria) through protectionist practices on their raw materials (one half of the world hides and skins are kept off the free market) and social and environmental dumping policies.

Notwithstanding, the value of domestic production accounts for 62% of the total European output and for 17% of the world output (Fig. 4). Also, under a marketing viewpoint, 27% of finished leather exported from one country to another is estimated to be of Italian origin, and 20% of hides and skins and semifinished products exchanged worldwide gets to Italy.

WORLD
SHARE
OF ITALIAN
TANNING
INDUSTRY

26.9%

LEATHER
EXPORTS

OUTPUT
VALUE
16.7%

TOTAL
RAW
MATERIAL
20.2%

16.9%

HIDES
AND SKIN
IMPORTS

23.7%

SEMIFINISHED
LEATHER
IMPORTS



SECTION TWO



ENVIRONMENTAL



It is now a traditional practice for UNIC to draw the sector's Environmental Report, by processing and aggregating data collected in the field. This year, the Report also includes an analysis of an accurate set of data covering the latest ten years.

The Environmental Report is an accounting tool for the collection of physical and economic data on the environmental impact of manufacturing systems. The Report is aimed at organizing such data and at making up a corpus of information that may be useful to estimate the environmental performance of an industrial activity.

The Environmental Report consists of a set of accounting reference indicators summarizing physical and economic information, which are cross-interpreted to offer a comprehensive scenario of the environmental impact and economic-financial investments that are needed for ultimate environmental management.

With a view to calculating environmental expenses, reference was made to the definition offered by Eurostat: *"any expense incurred to implement an action whose main (direct or indirect) objective is to manage and protect the environment, that is an action deliberately and principally aimed at preventing, reducing or removing the environmental degradation caused by any production and consumption activities"*.

consumption of chemicals

The data collected for the present Environmental Report help estimate the consumption of chemicals over a five-year period.

facturing with a view to alter the structure of dermis and contribute the cosmetic and chemical/physical characteristics required to produce leather.

Chemicals are used at various steps of leather manu-

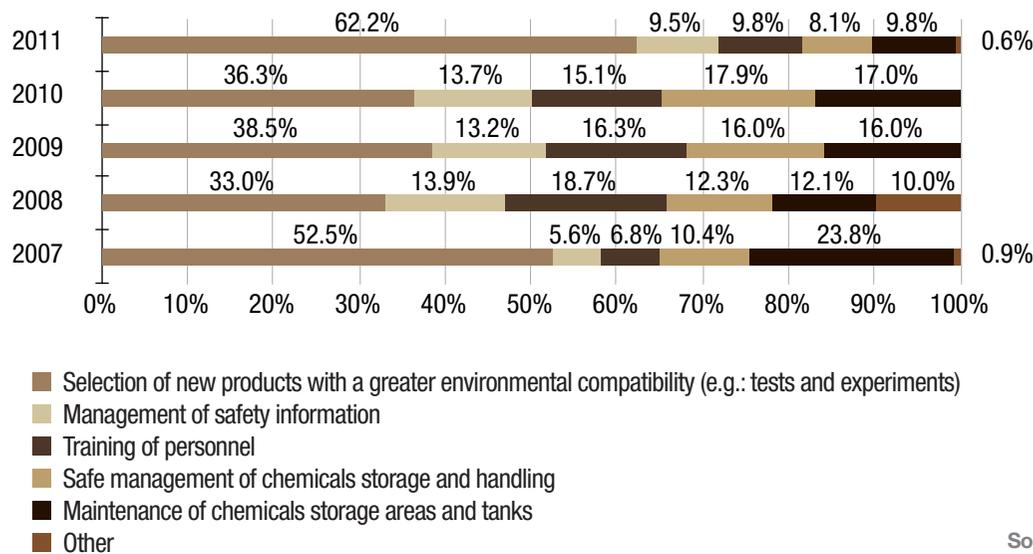
Chemicals are dissolved into aqueous solutions and

table 1 Chemicals: highlights

| INDICATOR | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|------------|------------|------------|------------|------------|
| Total chemicals consumption (kg) | 39,933,154 | 47,385,877 | 50,355,922 | 58,367,907 | 47,009,624 |
| Products containing substances classed as dangerous (%) | 36% | 33% | 31% | 28% | 31% |
| Chemicals per product unit (kg/m ²) | 1.84 | 1.97 | 2.25 | 1.65 | 1.91 |
| Costs incurred to reduce the environmental impact of chemicals/turnover (%) | 0.14% | 0.13% | 0.08% | 0.10% | 0.19% |

Source: UNIC 2011

figure 1 Management of chemicals: characteristic actions during 2007 - 2010 (%)



Source: UNIC 2011





spreaded on top of leather during finishing.

Chemical research is constantly evolving, with increasingly efficient and eco-friendly products being regularly developed thanks to the collaboration of tanners and manufacturers. This helps reach constant and fast marketing of new items, new product performances and the fulfilment of environmental and work safety standards.

The information collected reveal that about 1.92 kg chemicals were averagely used over the period 2007–2011 to manufacture 1 m² of finished leather. As reported in Table 1, the value resulting from the latest survey is slightly lower than the average above.

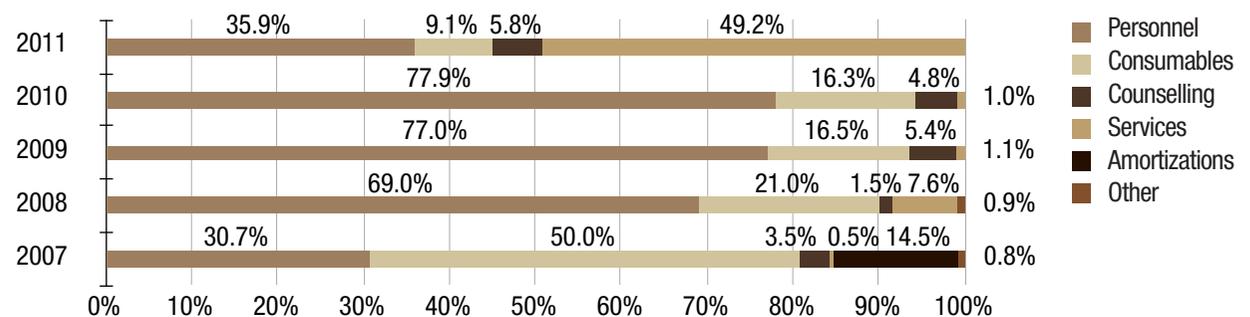
According to the European standards (DIR 67/548 EEC) implemented by Italy, some chemical substances are classed as dangerous when handled and used during manufacturing. 31% of the chemicals used in the examined tanneries fall in this class. The classification, however, does not mean that leather products are dangerous, but it implies that great care must be taken when such products are handled and stored by tanners.

An analysis of the costs related to the reduction of the environmental impact arising from the use of chemicals reveals that the majority of them, and namely 62% of the total, is incurred for the selection of innovative and more eco-friendly products by means of tests and experiments.

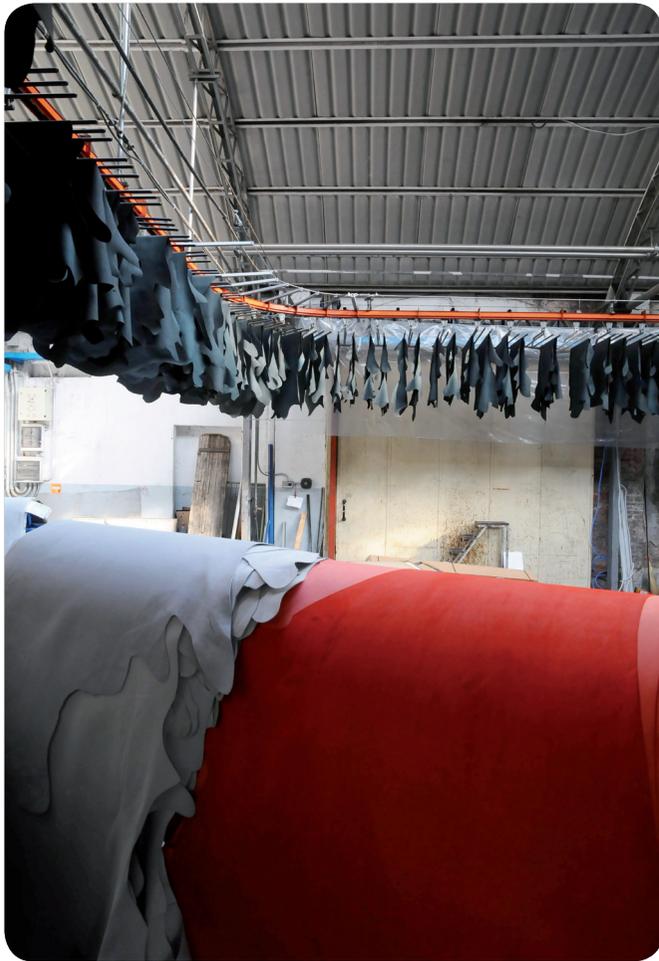
Other actions carried out in the tanneries include the management of safety information about the chemicals used, workers' training, implementation of safe handling practices and maintenance of storage areas.

Fig. 2 shows the types of costs incurred to minimize environmental impact arising from the use of chemicals. It is worth noting that the rate of outsourced services (49.2%) grew sizably in 2011 as compared to the previous period, when the majority of costs were allocated for in-house technical staff. Such great increase is owed to the implementation of a number of projects where both manufacturers and suppliers contribute to the development of innovative and highly eco-friendly processes.

figure 2 Management of chemicals: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011



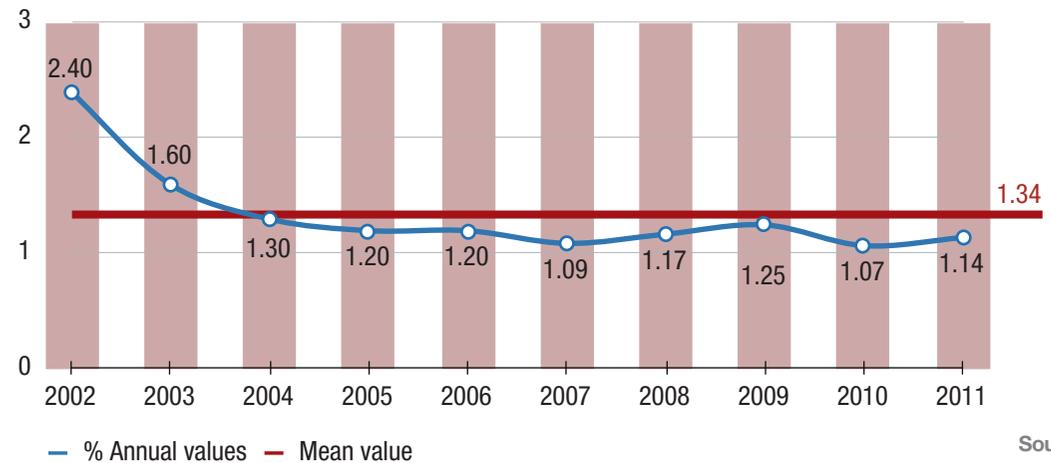
consumption of energy

The various tanning processes need different types of power: electric energy is used to operate machinery and systems; thermal energy is needed to reach the temperature required for some processes (e.g. drying), as well as to heat water and the workplace. While electric power supply may vary, with a varied product mix offered by suppliers accordingly, thermal energy mainly comes

from the combustion of natural gas or other fossil fuels. The 2011 survey also highlighted that some tanneries meet their energy needs by having recourse to renewable sources, sometimes at very high rates (up to 40% of the total consumption).

To calculate the mean overall consumption per pro-

figure 3 Power consumption per product unit 2002 - 2011 (TEP/1.000m²)



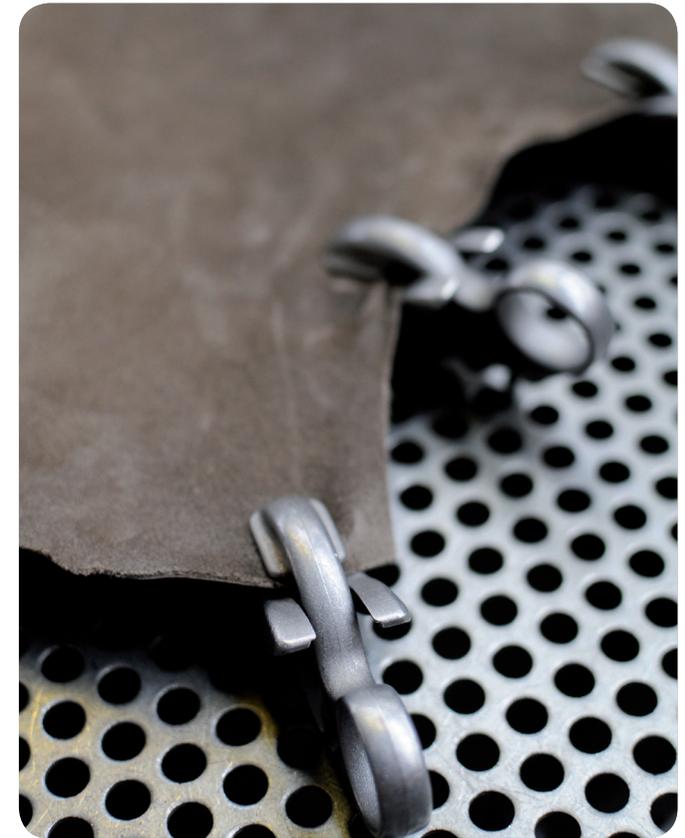
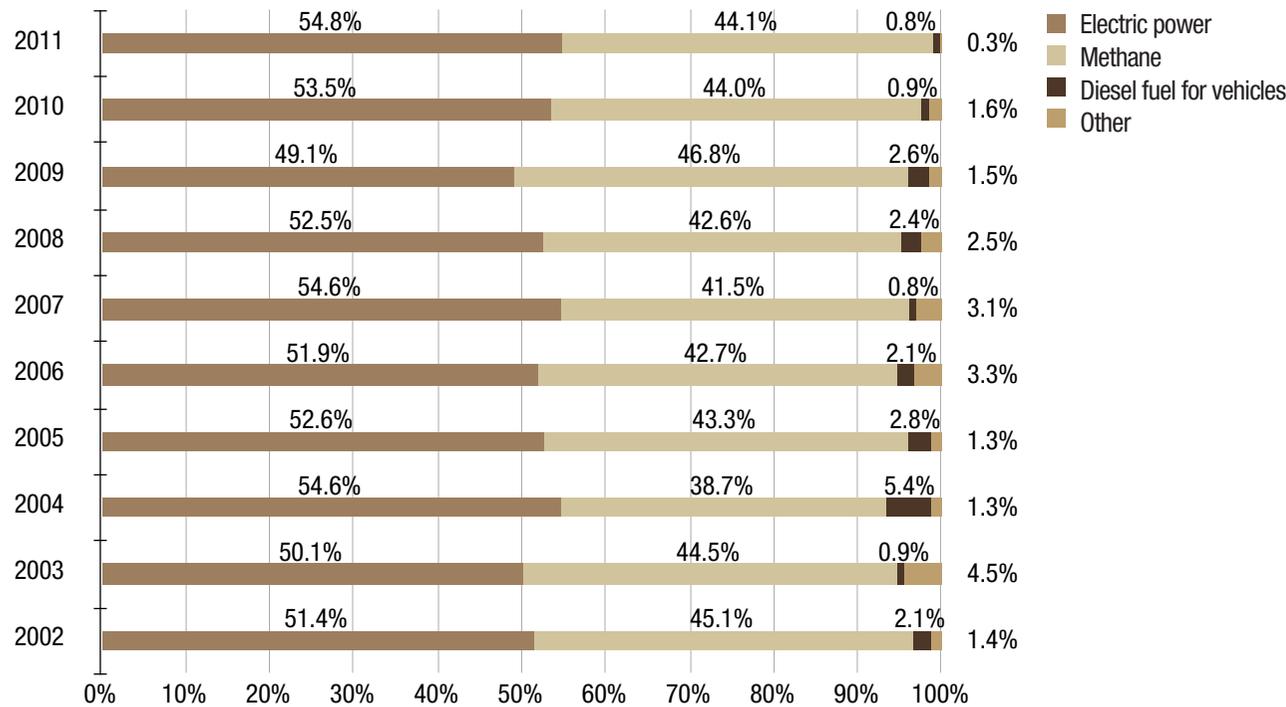
Source: UNIC 2011

table 2 Power consumption, highlights

| INDICATOR | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Energy consumption per product unit (TEP/1.000m ²) | 2.40 | 1.60 | 1.30 | 1.20 | 1.20 | 1.09 | 1.17 | 1.25 | 1.07 | 1.14 |
| Electric power share of total consumption (%) | 51.4% | 50.1% | 54.8% | 52.6% | 51.9% | 54.6% | 52.6% | 49.1% | 53.5% | 54.8% |
| Methane share of total consumption (%) | 45.1% | 44.5% | 38.8% | 43.3% | 42.7% | 41.5% | 42.7% | 46.8% | 44.0% | 44.1% |
| Costs incurred to reduce energy consumption/turnover (%) | - | - | - | - | - | 0.04% | 0.04% | 0.03% | 0.06% | 0.09% |

Source: UNIC 2011

figure 4 Power consumption breakdown: comparison 2002 - 2011 (%)



duct unit, consistently with the method adopted in the Reports of previous years, data have been expressed in Tonnes of Oil Equivalent per 1,000 square meters of leather produced (TOE/1,000 m²).

Figure 3 includes the values of energy consumption per product unit over a 10-year period. The mean result is 1.34 TOE/1,000 m², largely determined by the data of years 2002 and 2003, after which consumption invariably fell below the average.

The value in 2011 is 1.14 TOE/1,000 m².

Because the Environmental Report is a sample survey, it may produce some variability of energy consumption

per unit, which derives from the different energy intensity of various manufacturing processes, from a variable mix of raw materials being processed and by the evolution of the energy efficiency of machinery and systems.

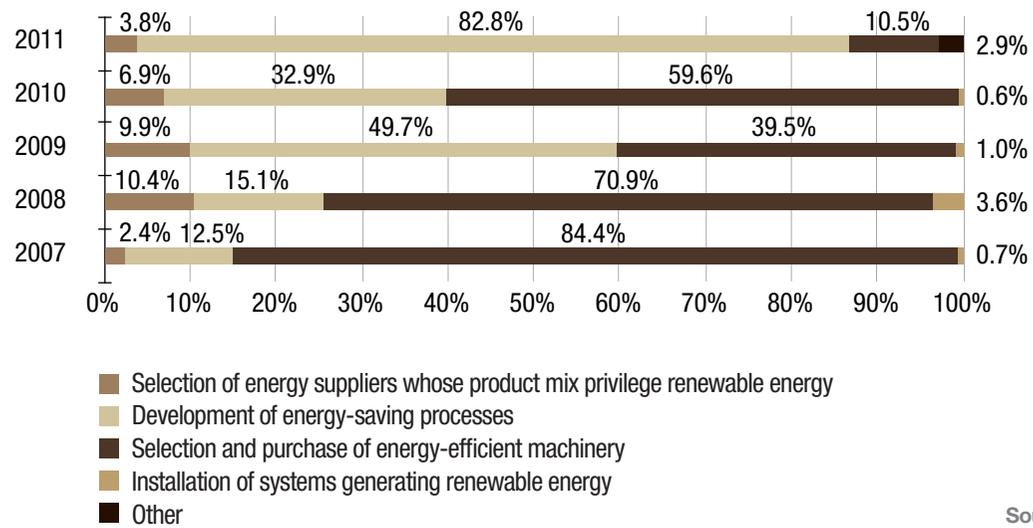
When considering the contributions of various types of energy, electricity and methane again prove to account for nearly all the consumption (98.9%), with BTZ fuel oil, GPL, diesel fuel for vehicles and other fuels meeting the remaining needs.

Reducing energy consumption in tanneries mainly implies buying highly energy-efficient machinery and de-

veloping energy-saving processes. The data collected in 2011 show that these actions together account for 93.3% of the total costs incurred for energy savings, i.e. 82.8% and 10.5%, respectively. The development of targeted projects, often in collaboration with qualified third parties, helped bring the share of outsourced services to 54.3% of the total costs in 2011, while the costs for personnel and amortizations maintained meaningful shares.

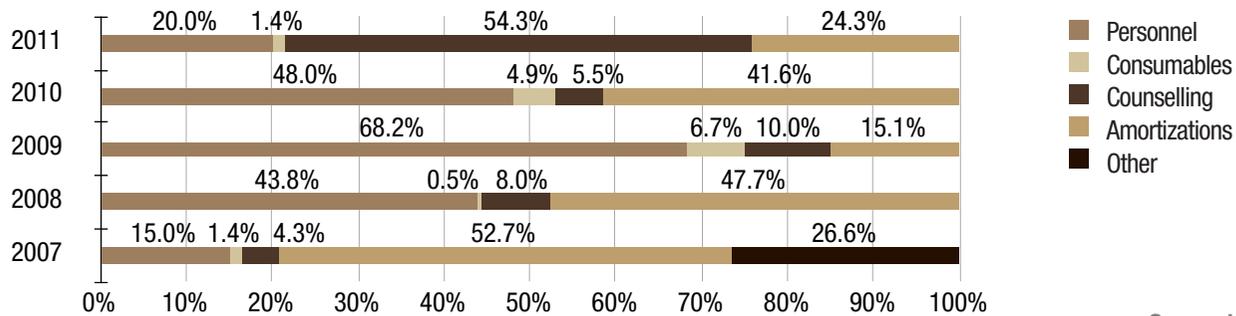
An analysis of the data in Table 3 reveals that the costs incurred to reduce energy consumption have maintained a constant share of the turnover over the period 2007-2010.

figure 5 Reduction of power consumption: characteristic activities 2007 - 2011 (%)



Source: UNIC 2011

figure 6 Reduction of power consumption: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011





IND - ECO: ENERGY EFFICIENCY OF THE LEATHER SECTOR

UNIC leads a group of 16 European partners sponsored by the European Commission (EACI Agency) within "Intelligent Energy Europe", a programme aimed at implementing a project named IND – ECO "Industry Alliance for reducing energy consumption and CO2 emissions". **The project, which started in May 2012 and will last for 3 years, is aimed at developing the best conditions to help tanners and leather manufacturers – especially in the footwear sector – invest in energy efficiency.**

Project supported by



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The project has four primary objectives:

- identifying, by means of energy auditing, the main areas where energy efficiency can be implemented in tanneries and in the leather supply chain;
- identifying the best technical and technological solutions available in the domestic and European scenario to reach energy efficiency;
- starting agreements with economic and financial operators at a European, national and local level, to facilitate corporate access to the capitals needed to invest in energy efficiency;
- tutoring the concerned companies in the development of energy efficiency investment plans.

The companies concerned in the IND – ECO project will be able to:

- obtain free advice by experts and specialists of energy efficiency to perform a comprehensive technical and technological investigation aimed at identifying the main possible interventions to be adopted so as to reach energy efficiency and estimate the resulting energy savings;
- have access to a special database of energy-efficient technological, system and process solutions, with the support of agreements started with the suppliers in the framework of the project;
- benefit from the agreements started with energy specialists, European banks and national and local credit institutions, aimed at facilitating access to loans for energy efficiency investments.

For enquiries: ambiente@unic.it
www.ind-ecoefficiency.eu

water supplies and wastewater disposal

Tanneries use water drawn from authorized and regulated artesian wells under special agreements with industrial and civil aqueducts. Because the data reported here are collected by tanners by reading the water meters of the wells and/or industrial aqueducts to which they are connected (to verify that their quotas defined under the relevant authorizations and supply agreements are respected), they make a very accurate calculation.

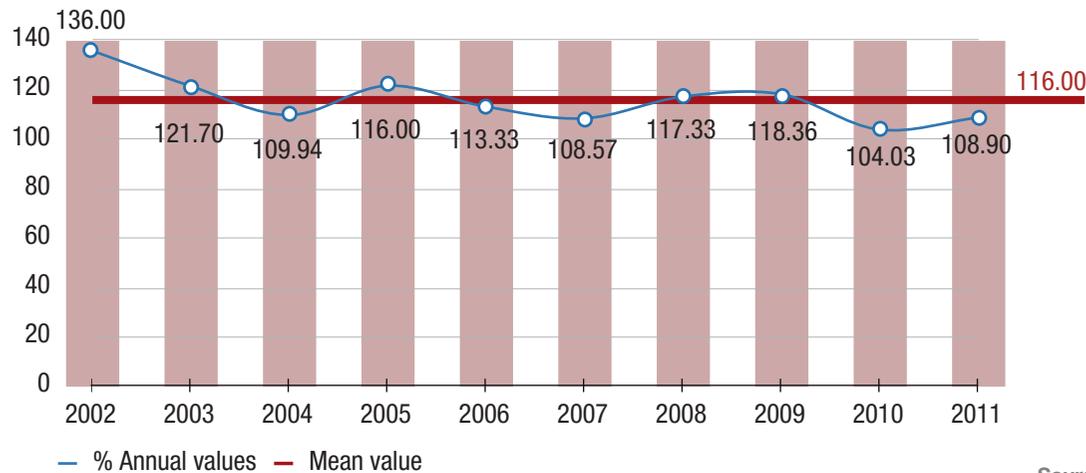
Water serves as a solvent for the chemicals used for some manufacturing processes at different steps. Water is also used to wash leather, machinery and the workplace. Water supply and wastewater cleanup represent the most important environmental aspects for the tanning industry, under a physical and economic viewpoint. In the past, the main tanning districts have developed joint consortiums to manage water cleanup. Thanks to ongoing investments and impro-

vements, they also contribute to depurate civil wastewaters in the relevant area of production.

Figure 7 illustrates a historical 10-year set of water consumption per product unit (expressed in water litres used per m² of leather produced). The resulting mean value is 116 l/m². The value of 2011 is 108.90 litres of water per m² of leather. The historical minimum consumption of the decade was reached in 2010 (104.03 l/m²).

Tanneries are constantly committed to reducing water consumption per product unit. This means they implement various actions, and namely developing efficient processes and choosing and buying highly efficient machinery, whose consumption is accurately monitored. The costs incurred for such actions are detailed in Fig. 8. The cost breakdown illustrated in

figure 7 Water consumption per product unit 2002 - 2011



Source: UNIC 2011

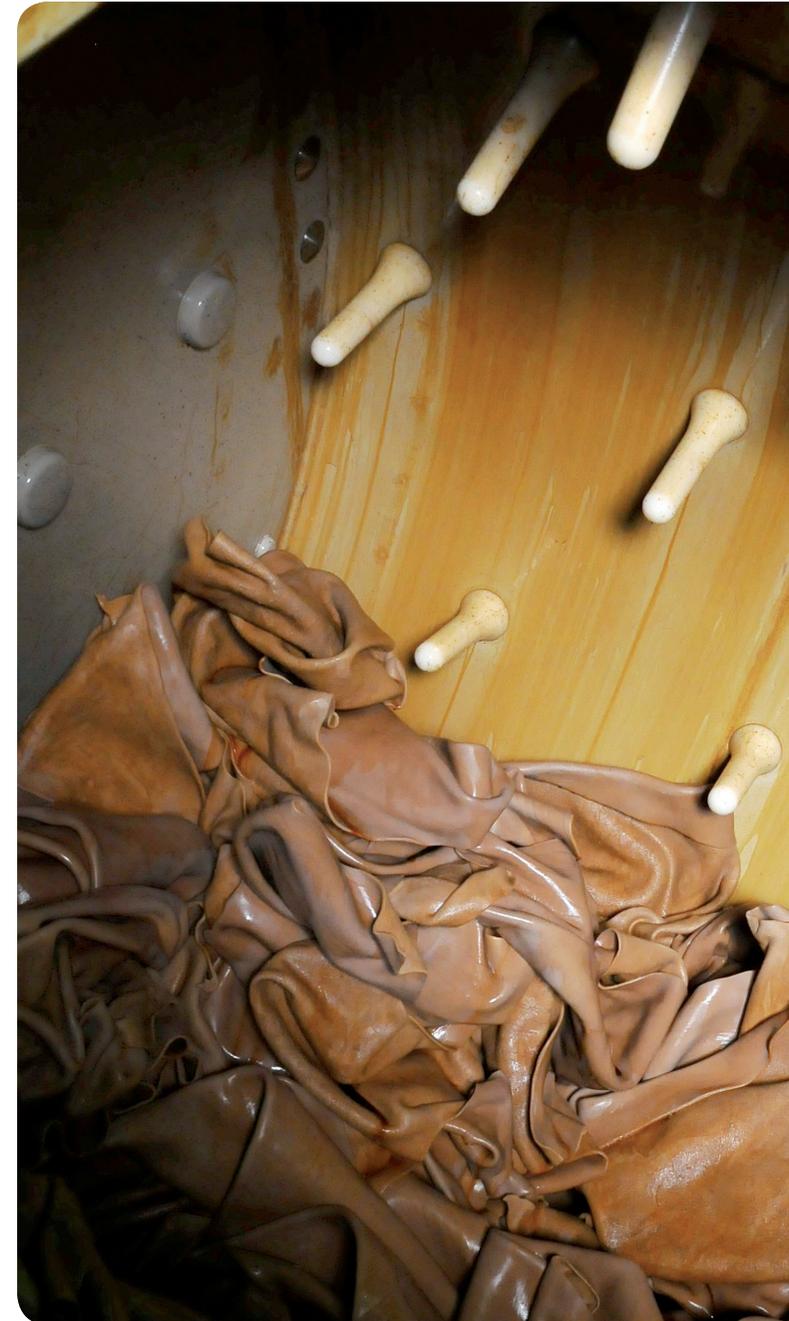
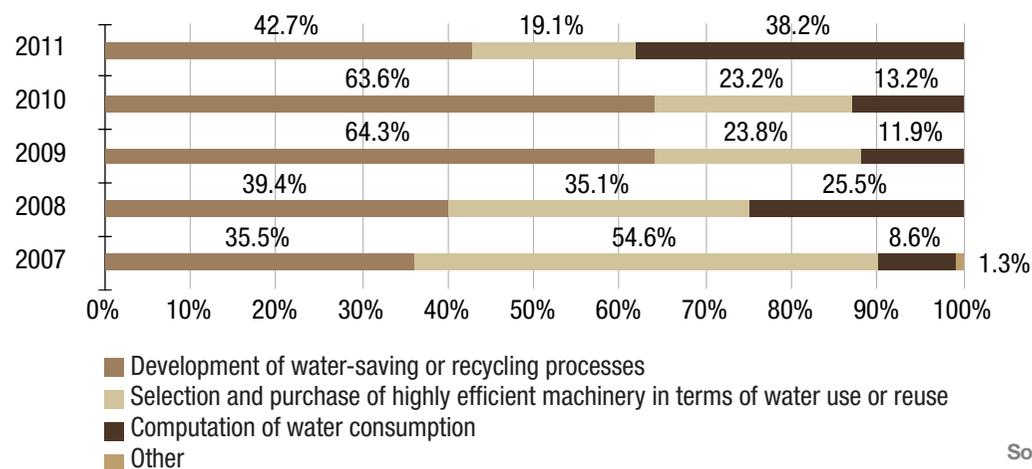


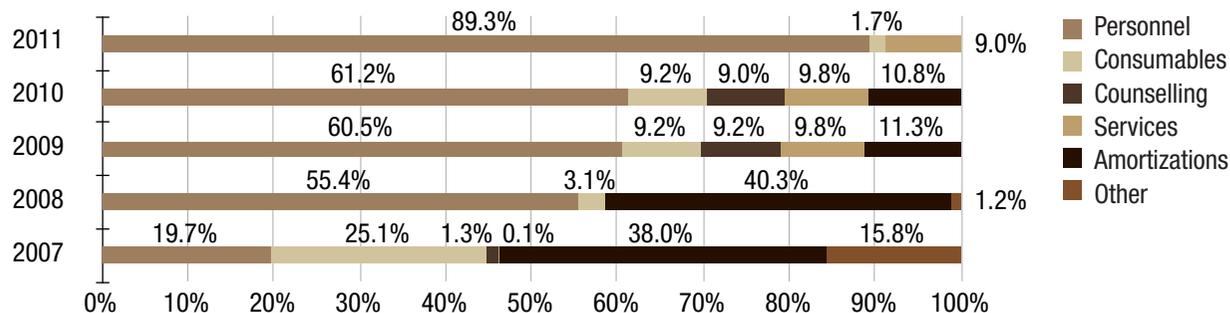


figure 8 Reduction of water consumption: characteristic activities 2007 - 2011 (%)



Source: UNIC 2011

figure 9 Reduction of water consumption: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011

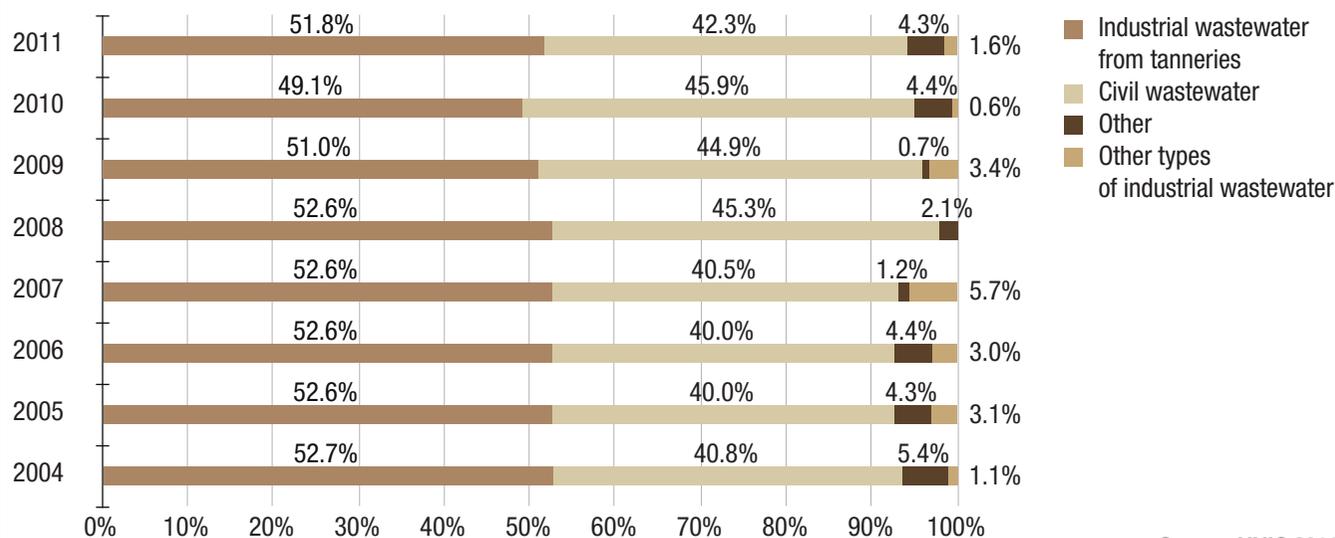
Fig. 9 reveals that the majority of such actions is carried out in-house.

Around 95% of the water used in tanneries goes through some early treatments before being thoroughly deperated. The remaining share is represented

by the humidity trapped in leather, water evaporated during manufacturing processes or water contained in the waste meant for disposal.

The purification plants managed by district consortiums are an international example of inter-corporate collaboration for environmental sustainability. They

figure 10 Water transferred to purification plants 2004 - 2011 (%)



Source: UNIC 2011



have been regularly improved since leather manufacturing started to become an industry. Today, district cleanup facilities also contribute sizably to purify civil wastewater in the relevant territory. Thanks to ongoing investments, local and national framework agreements, innovation and research, they have now reached a high degree of optimization of wastewater and sludge treatment lines.

Therefore, the majority of the wastewater discharged by tanneries is treated in district facilities, after it goes through in-house early treatments aimed at removing all gross residues and at separating some pollutants. All tanneries found outside the manufacturing districts manage water cleanup directly, and they mainly discharge their waste into public sewage systems.

Since 2002 (and for some indicators since 2004), the data about depuration collected in the examined tanneries have been integrated with data derived

from the central district depurators. This approach guarantees more meaningful information, which in the present Report refers to 589 tanneries based in Veneto, Tuscany and Campania.

Figure 10 illustrates the type of wastewater transferred to purification facilities over eight years (2004–2011). Civil wastewater invariably accounts for over 40%, which gives evidence of the public utility of such facilities, most of which were started by private initiative.

Besides civil wastewater, the district plants prevalently treat industrial wastewater generated by tanneries (always accounting for over 50% of the waste over the examined period), with some minor shares for other industrial wastewater or liquid waste transferred either through special collectors or (but less frequently) by truck.

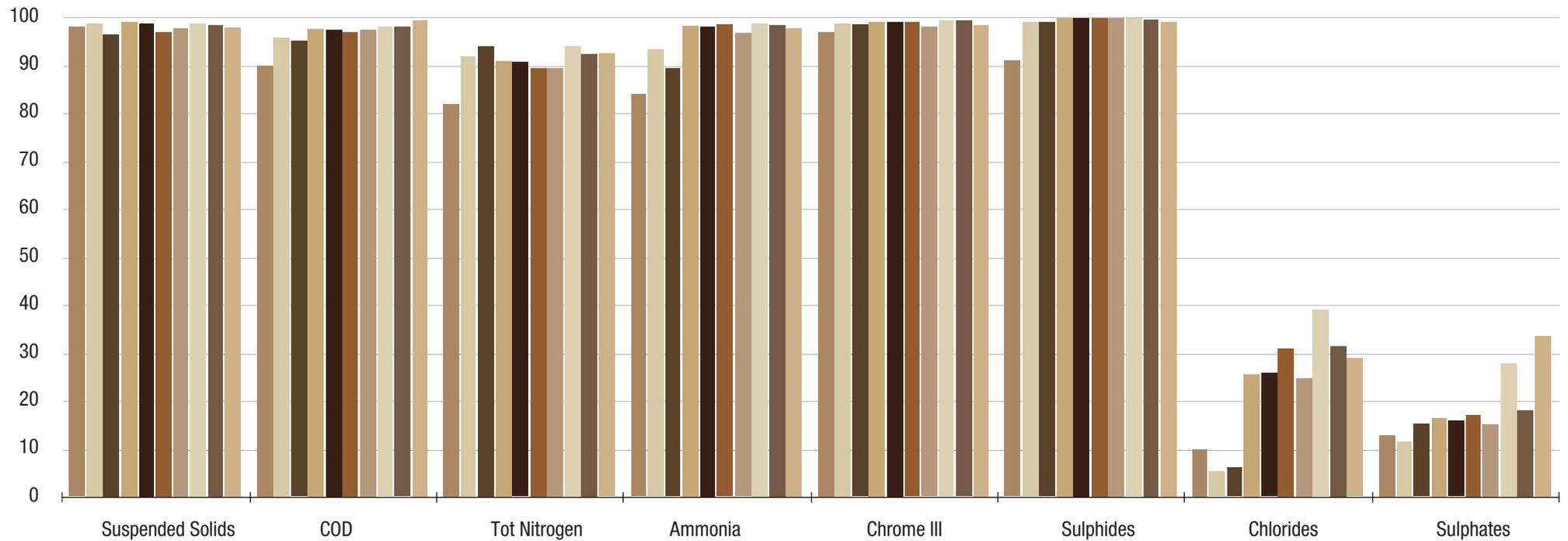
The depuration efficiency tests are carried out ba-

sed on the main parameters used to estimate tanning waste:

- **Suspended Solids;**
- **COD;**
- **Total Nitrogen;**
- **Ammonia;**
- **Chrome III;**
- **Sulphides;**
- **Chlorides;**
- **Sulphates.**

Figure 11 reports the data of depuration efficiency of the elements above (percent rate of pollutant concentration after treatment vs. before treatment) collected since 2002.

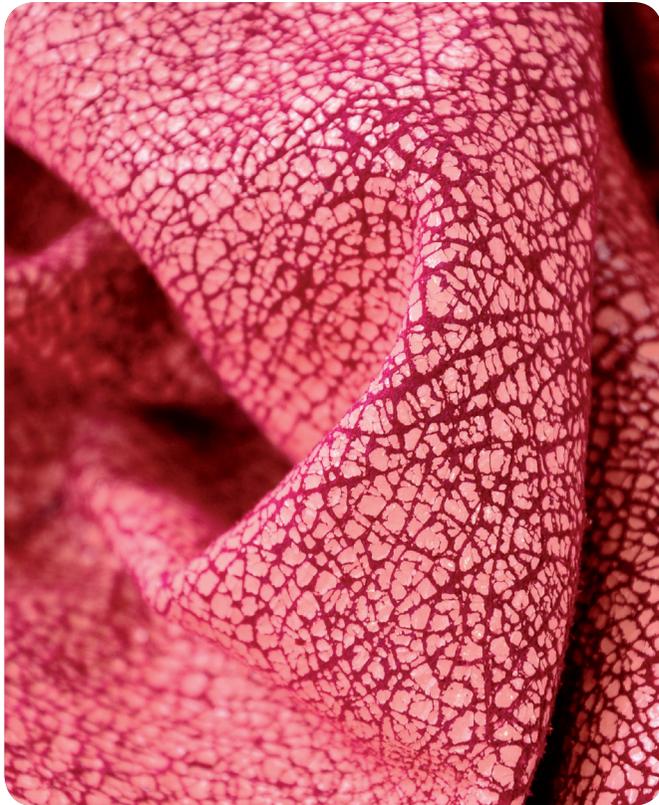
figure 11 Reduction of pollutants in wastewater 2002 - 2011 (%)



| | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Suspended Solids | 98.0% | 97.8% | 96.5% | 99.1% | 98.7% | 97.0% | 97.8% | 98.8% | 98.4% | 97.9% |
| COD | 90.0% | 95.8% | 95.1% | 97.6% | 97.5% | 97.0% | 97.4% | 98.0% | 98.0% | 99.4% |
| Tot Nitrogen | 82.0% | 91.9% | 94.0% | 90.9% | 90.7% | 89.5% | 89.5% | 94.0% | 92.4% | 92.5% |
| Ammonia | 84.0% | 93.3% | 89.4% | 98.3% | 98.1% | 98.5% | 96.7% | 98.7% | 98.4% | 97.8% |
| Chrome III | 97.0% | 98.8% | 98.5% | 99.1% | 99.1% | 99.0% | 98.6% | 99.3% | 99.2% | 98.4% |
| Sulphides | 91.0% | 99.0% | 99.0% | 99.9% | 99.9% | 99.9% | 99.9% | 99.8% | 99.6% | 99.1% |
| Chlorides | 10.0% | 5.4% | 6.2% | 25.7% | 25.9% | 31.0% | 24.9% | 39.1% | 31.5% | 29.0% |
| Sulphates | 13.0% | 11.7% | 15.3% | 16.5% | 16.0% | 17.2% | 15.2% | 27.9% | 18.2% | 33.6% |

Source: UNIC 2011

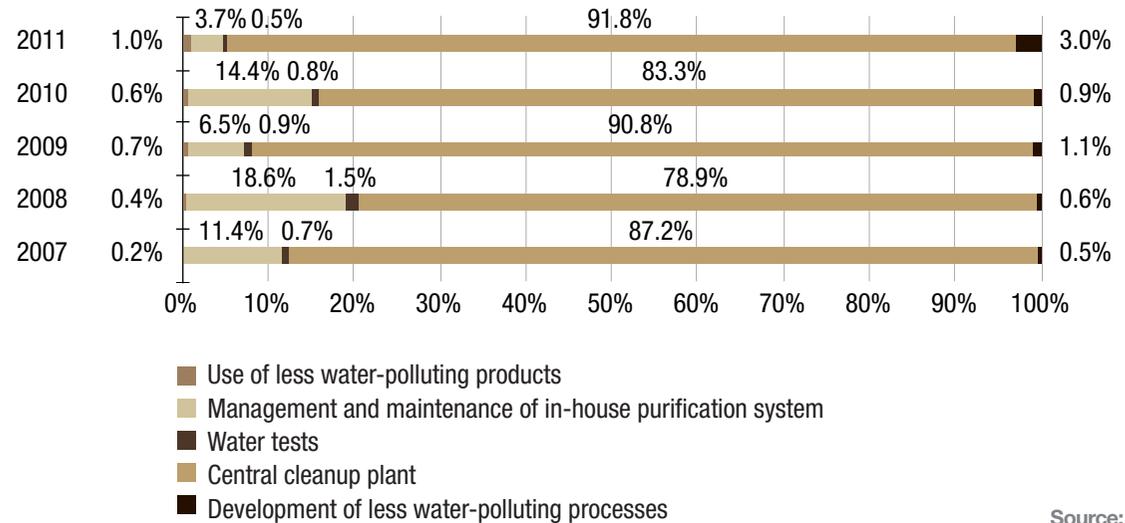
waste water treatment costs



The analysis of cleanup costs has been improved since the year 2007, by identifying the characteristic activities that generate such costs and the breakdown of the costs incurred by tanneries and cleanup facilities.

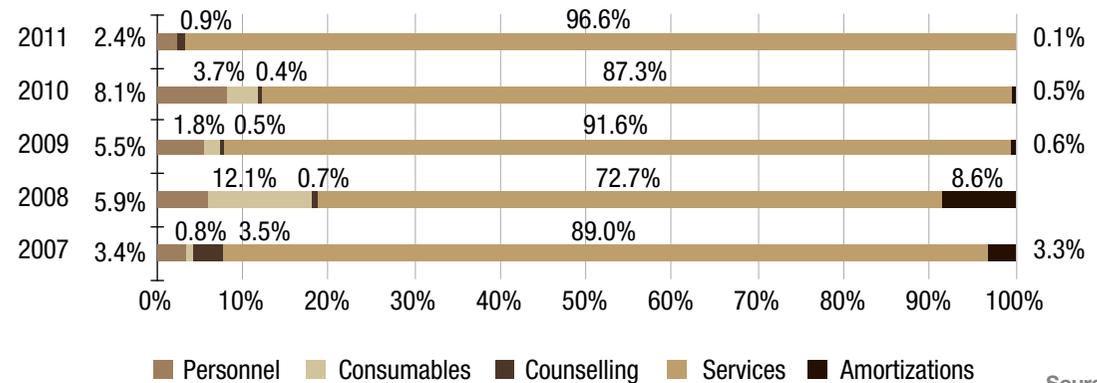
The management of cleanup processes in a tannery – be they carried out in-house or off-site – absorbs almost all costs related to wastewater disposal. An external plant and the management and maintenance of in-house facilities, in fact, account for most of the costs (Fig. 12). The costs for depuration services in 2011 exceeded 96% of the total.

figure 12 Improvement of wastewater disposal: characteristic activities 2007 - 2011 (%)

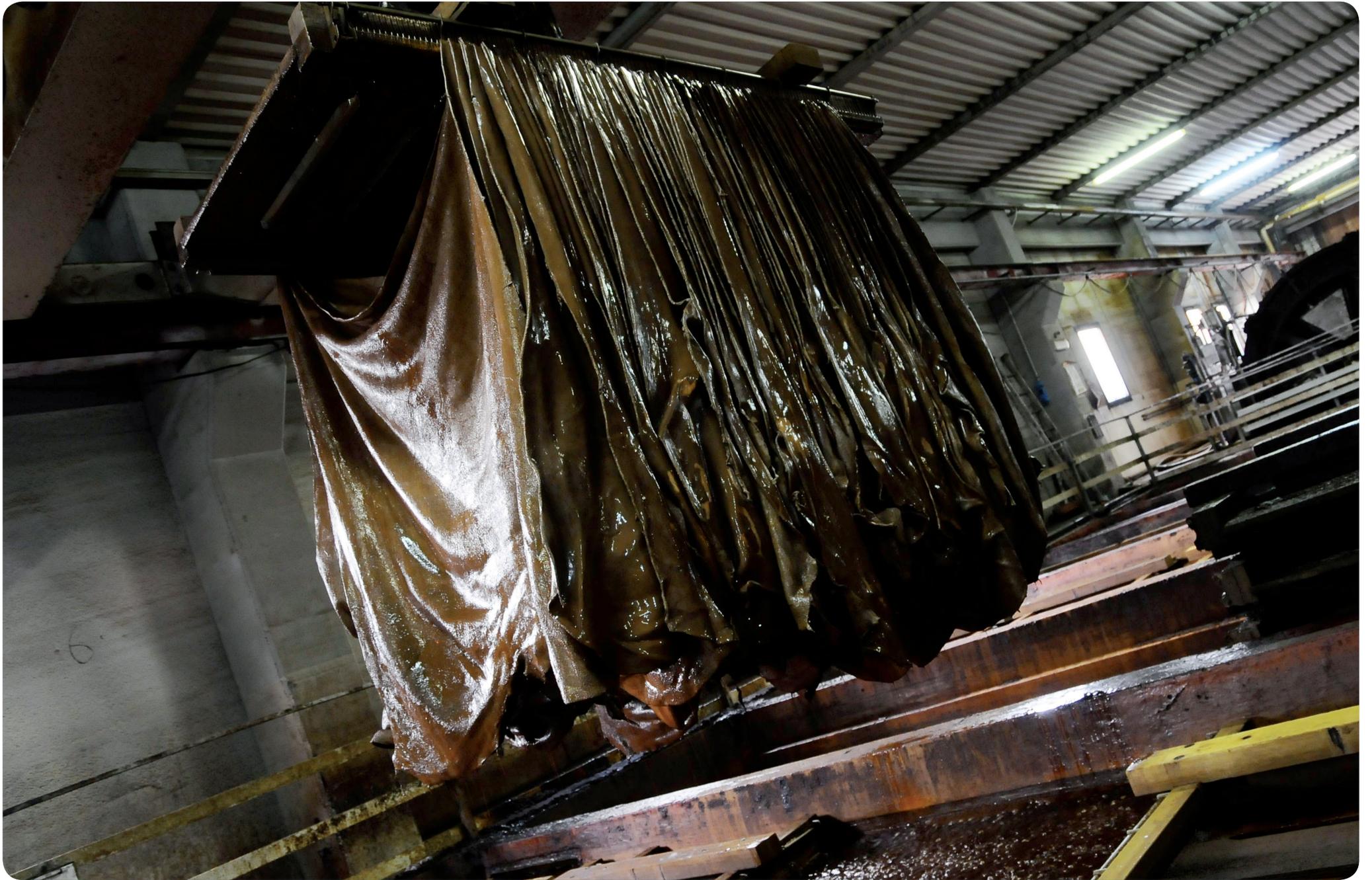


Source: UNIC 2011

figure 13 Improvement of wastewater disposal: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011



In the examined ten-year period, the mean ratio of the cost of wastewater management to turnover is equal to 1.90%, with the values of 2010 and 2011 growing heavily as compared to the previous years. The costs of 2011 reached 2.96% of turnover, with about 107% growth as compared to 2002. This means that the cost of water management doubled in a period when water consumption per product unit tended to fall.

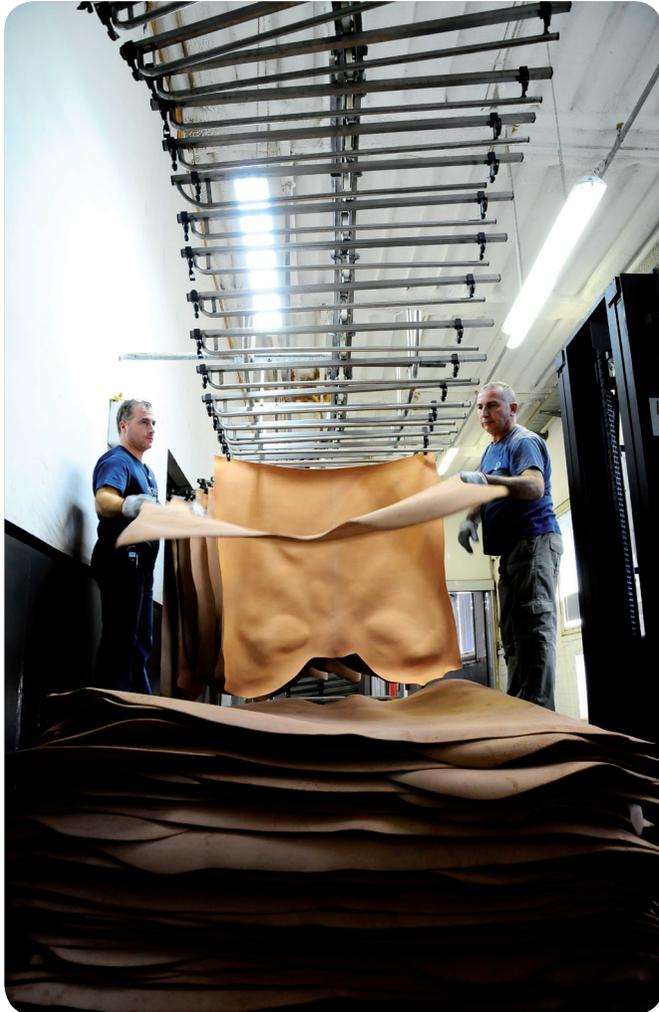
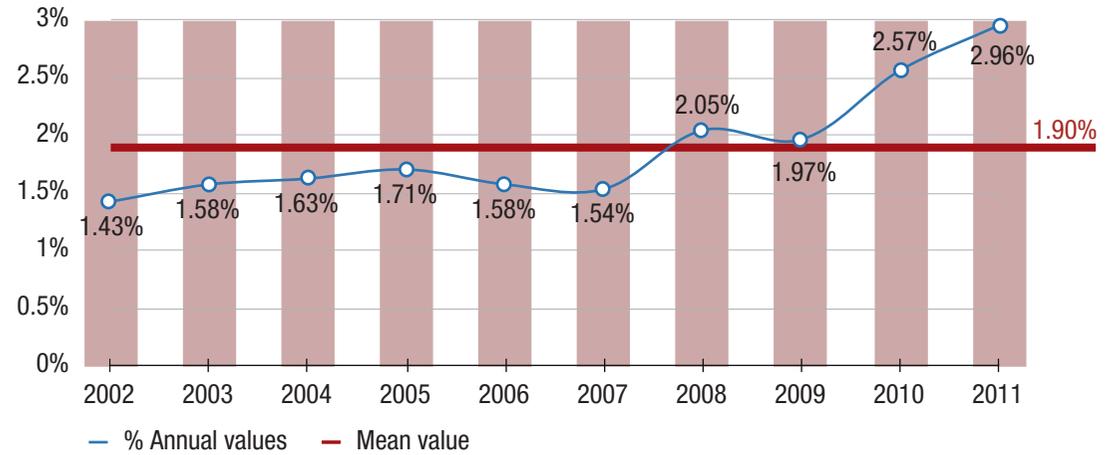
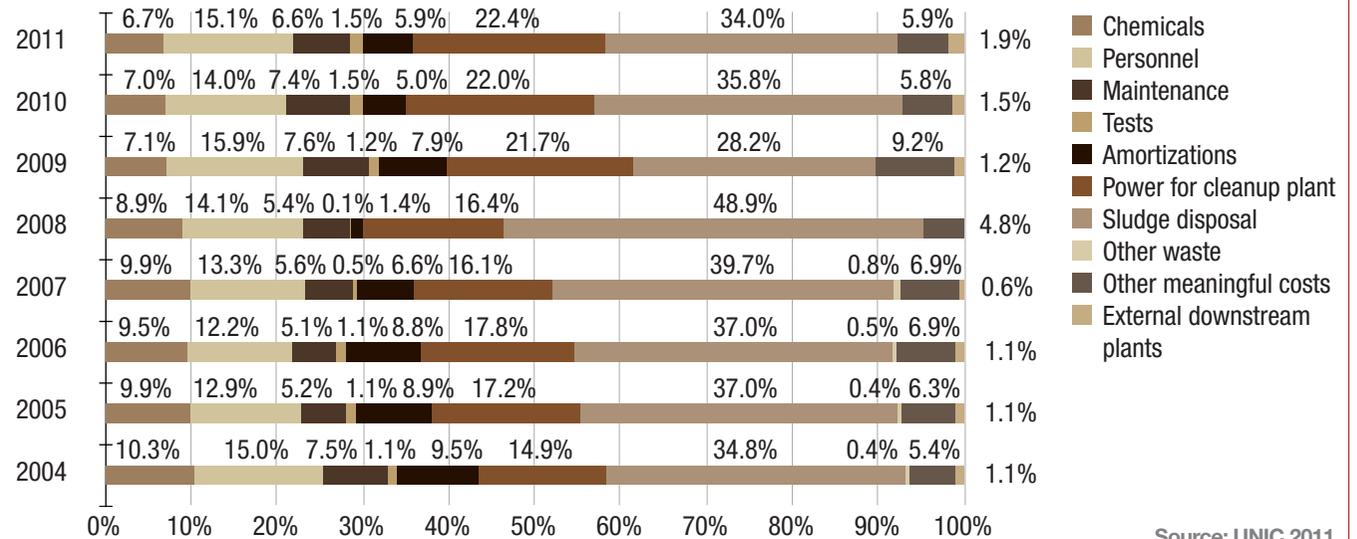


figure 14 Cost of wastewater management/turnover 2002 - 2011 (%)



Source: UNIC 2011

figure 15 Breakdown of treatment costs in district plants 2004 - 2011 (%)



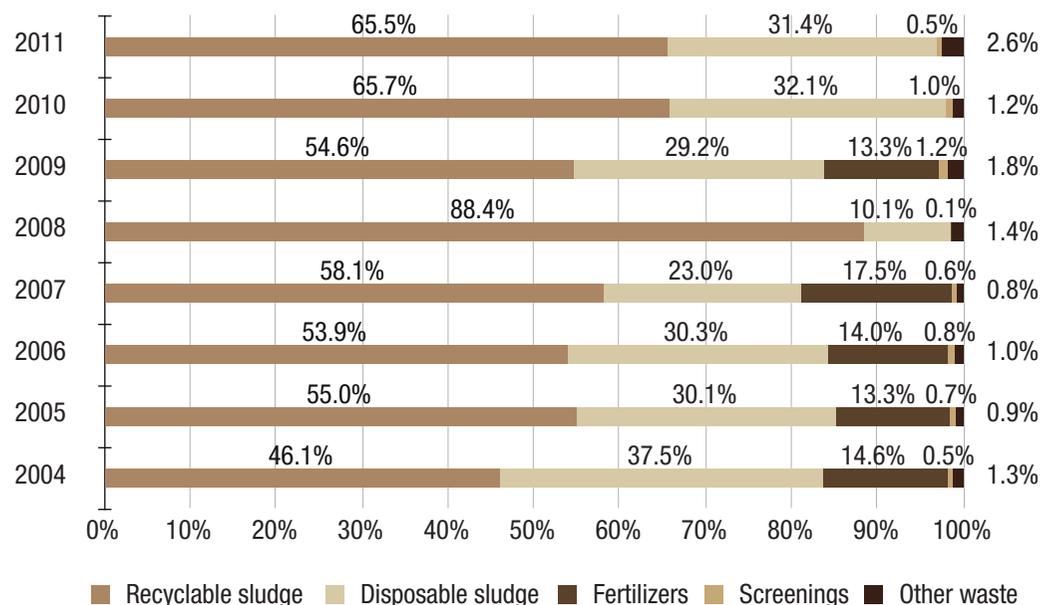
Source: UNIC 2011

A more detailed analysis of the costs incurred for the cleanup plants and a breakdown of such costs (Fig. 15) show that the principal costs are represented by personnel, disposal and transfer of sludge and deperated waste to authorized treatment plants, energy used to operate the plants, amortizations (an

indicator of ongoing investments), maintenance and chemicals required for deperation.

Figure 16 illustrates a breakdown of the waste generated by the cleanup plants.

figure 16 Composition of waste generated by district plants 2004 - 2011 (%)



Source: UNIC 2011

THE FOLLOWING CLEANUP PLANTS CONTRIBUTED DATA FOR THE REPORT:

ACQUE DEL CHIAMPO SPA
Arzignano (VI)
www.acquedelchiampospa.it

CONSORZIO AQUARNO SPA
S. Croce sull'arno (PI)
www.depuratoreaquarno.it

CONSORZIO CONCIATORI
DI FUCECCHIO
Ponte a Cappiano (FI)
www.ofnelson.it/ccf/ita.htm

MEDIO CHIAMPO SPA
Montebello Vicentino (VI)
www.mediochiampo.it

Impianto di depurazione di Solofra
COGEI Srl – Solofra (AV)

table 3 Water: highlights

| INDICATOR | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Water consumption per product unit (l/m ²) | 136,0 | 121,7 | 109,9 | 121,8 | 113,3 | 108,6 | 117,3 | 118,4 | 104,0 | 108,9 |
| Cost of water management/turnover (%) | 1,43% | 1,58% | 1,63% | 1,71% | 1,58% | 1,54% | 2,05% | 1,97% | 2,57% | 2,96% |

Source: UNIC 2011

waste production and management

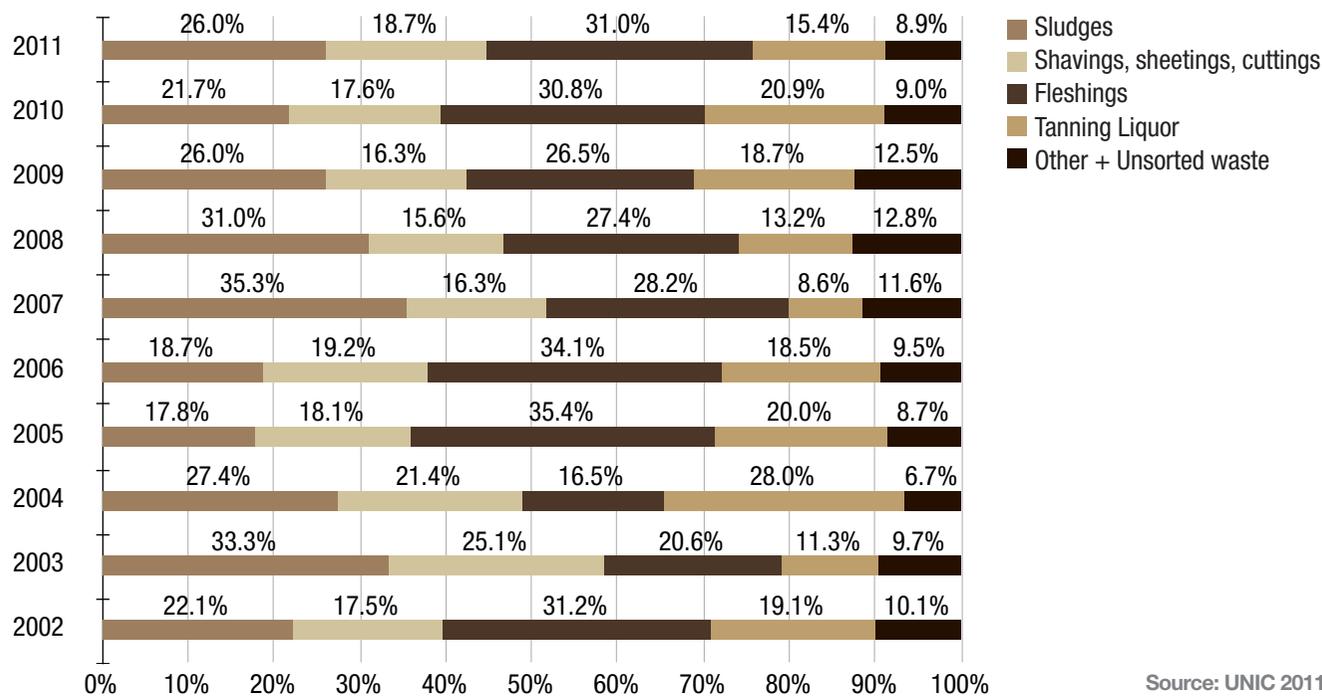
Different types of waste are generated at the various steps of leather manufacturing. Most of them are generated by leather itself, which gets to the tannery as hide/skin or semifinished to be deprived of any components that are useless for the finished product.

The wastes originated in the tanning process vary depending on the manufacturing step and can therefore have different end destinations.

The European Waste Code (EWC) offers an accurate classification of waste under different codes.

- 04 01 wastes from the leather and fur industry**
- 04 01 01** fleshings and lime split wastes
- 04 01 02** liming waste
- 04 01 03** degreasing wastes containing solvents without a liquid phase
- 04 01 04** tanning liquor containing chromium
- 04 01 05** tanning liquor free of chromium
- 04 01 06** sludges, in particular from on-site effluent treatment containing chromium
- 04 01 07** sludges, in particular from on-site effluent treatment free of chromium
- 04 01 08** waste tanned leather (blue sheetings, shavings, cuttings, buffing dust) containing chromium
- 04 01 09** wastes from dressing and finishing
- 04 01 99** wastes not otherwise specified

figure 17 Composition of typical tanning waste 2002 - 2011 (%)



Source: UNIC 2011

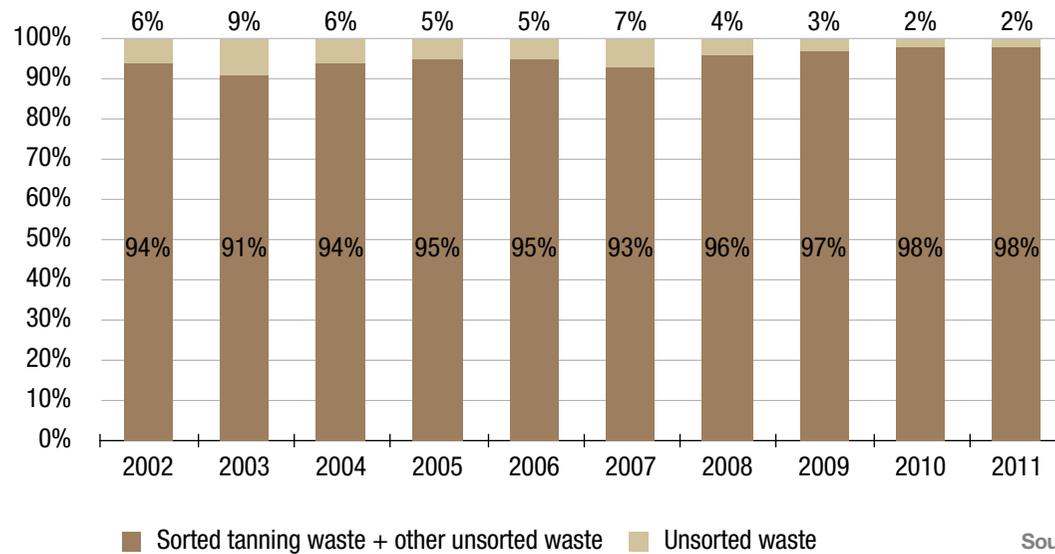
ANIMAL BY PRODUCTS

These standards descend from a European regulation (1774/2002/EC), repealed by Regulations n. 1069/2009 and n. 142/2011, which governs:

- Animal byproducts not intended for human consumption
- Products intended for purposes other than human consumption, including raw materials used to produce animal products.

The new definition of Animal Byproduct applies to "entire bodies or parts of animals, products of animal origin or other products obtained from animals, which are not intended for human consumption". Derived products are defined as "products obtained from one or more treatments, transformations or steps of processing of animal by-products". The products of animal origin to which the regulations make reference are foodstuffs of animal origin. Hides and skins can be identified as "parts of animals". Hides and skins (by-products under category 3) can be processed for manufacturing of: feed for farmed animals, feed for fur animals, feed for pets, organic fertilisers or soil improvers, raw petfood, compost or biogas, cosmetic products, medical products for humans and animals. Manufacturers shall fulfill the following obligations: accompany their shipments of animal byproducts with commercial documents or health certificates, be acknowledged by the competent authorities, perform own checks and written procedures. All authorizations previously issued by the competent authorities are valid to all effects.

figure 18 Separate collection: comparison 2002 - 2011 (%)



Fleshings (resulting from a mechanical removal of portions of subcutaneous tissue off the pelt), hairs and other solid waste generated at earlier manufacturing steps are not classed as waste under the regulations in force, but as Animal Byproducts (see box).

Figure 17 illustrates the composition of waste generated by the examined tanneries.

Waste composition in 2011 is not meaningfully different from the previous years: shavings, cuttings and fleshings account for 49% of the total waste; sewage sludge for 26%; tanning liquors for 15.4%. It is worth noting that the tanneries that are served by district clean-up plants also transfer dissolved waste to them. This implies that the amount of sludge monitored during the study is underestimated. Sludge production in clean-up plants is reported in Figure 16 above.

Tanning liquors containing chromium are transferred by tanker (in compliance with the Italian regulations governing waste disposal) to central recycling facilities. The recycled chromium is then mixed with "fresh" chromium and reused in the manufacturing process.

The separate collection of waste in tanneries helps avoid mixing, preserve the technical characteristics of different materials and, as a consequence, have them recycled by specialised companies.

Figure 18 highlights that waste is almost entirely sorted, with the maximum rate (98%) being reached in 2010 and 2011. Unsorted waste essentially consists of code CER 15.01.06 "mixed material packaging". A number of factors contribute to the technical-economic likelihood of recycling the waste produced, depending on the tannery's internal organization, the degree of technical specialization of the companies catering for waste disposal, technological innovation. 71% of the waste produced in 2011 was later reused/recycled (Fig. 18).

The examined tanneries generated 1.85 kg of waste per square metre of leather produced.

figure 19 End destination of waste 2002 - 2011 (%)

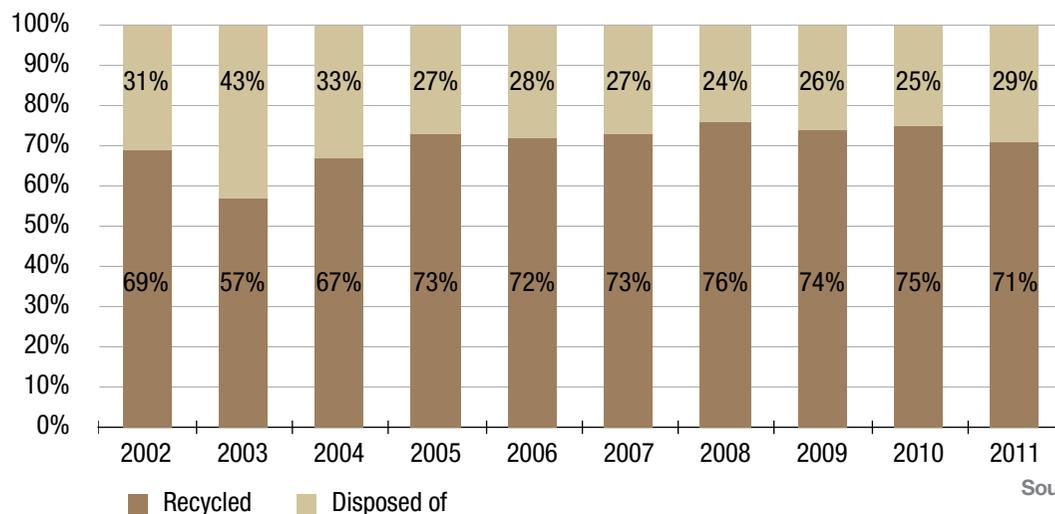
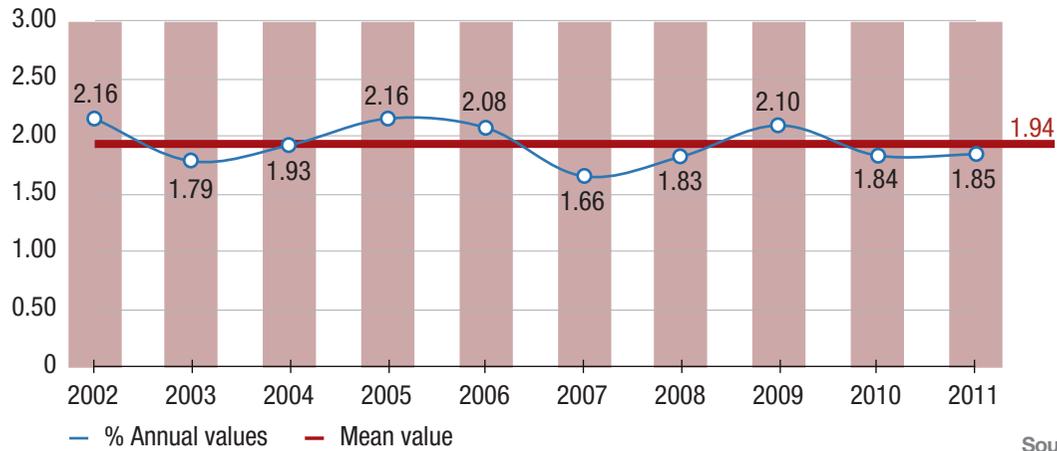
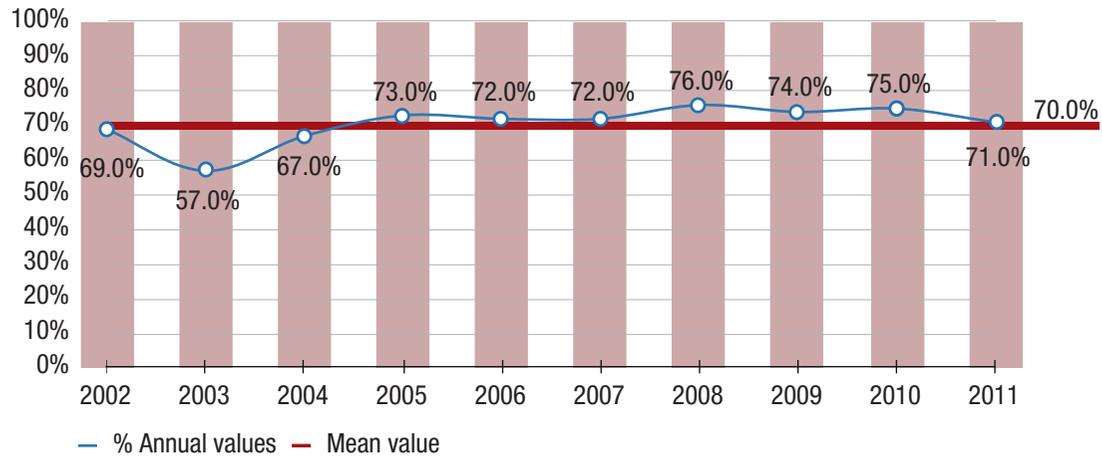


figure 20 Waste production per product unit 2002 - 2011 (kg/m²)



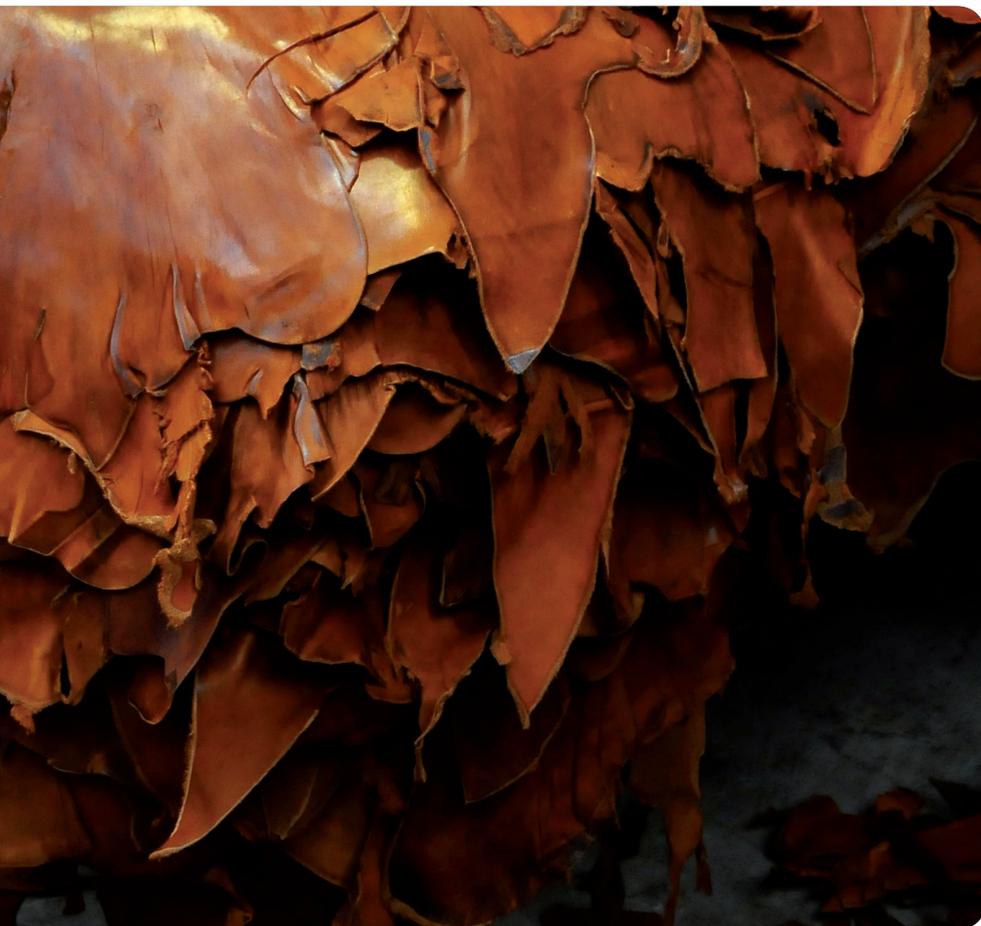
Source: UNIC 2011

figure 21 Waste transferred to recycling plants 2002 - 2011 (%)



Source: UNIC 2011

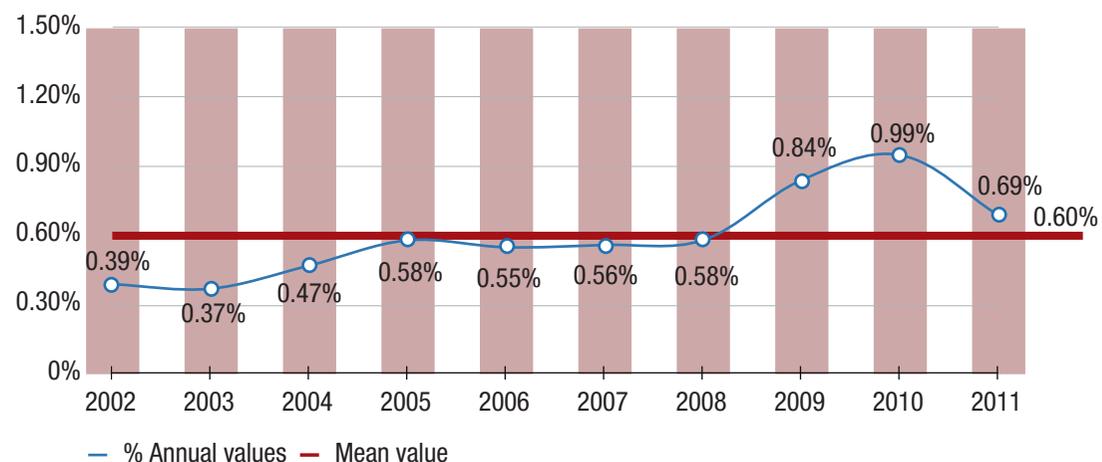




waste: management costs

The ratio of waste management cost to turnover reached 0.69% in 2011. Although the rate fell as compared to 2010 (0.99%, historical peak), it still exceeded the value of 2002 by about 77%.

figure 22 Waste management costs/Turnover 2002 - 2010 (%)



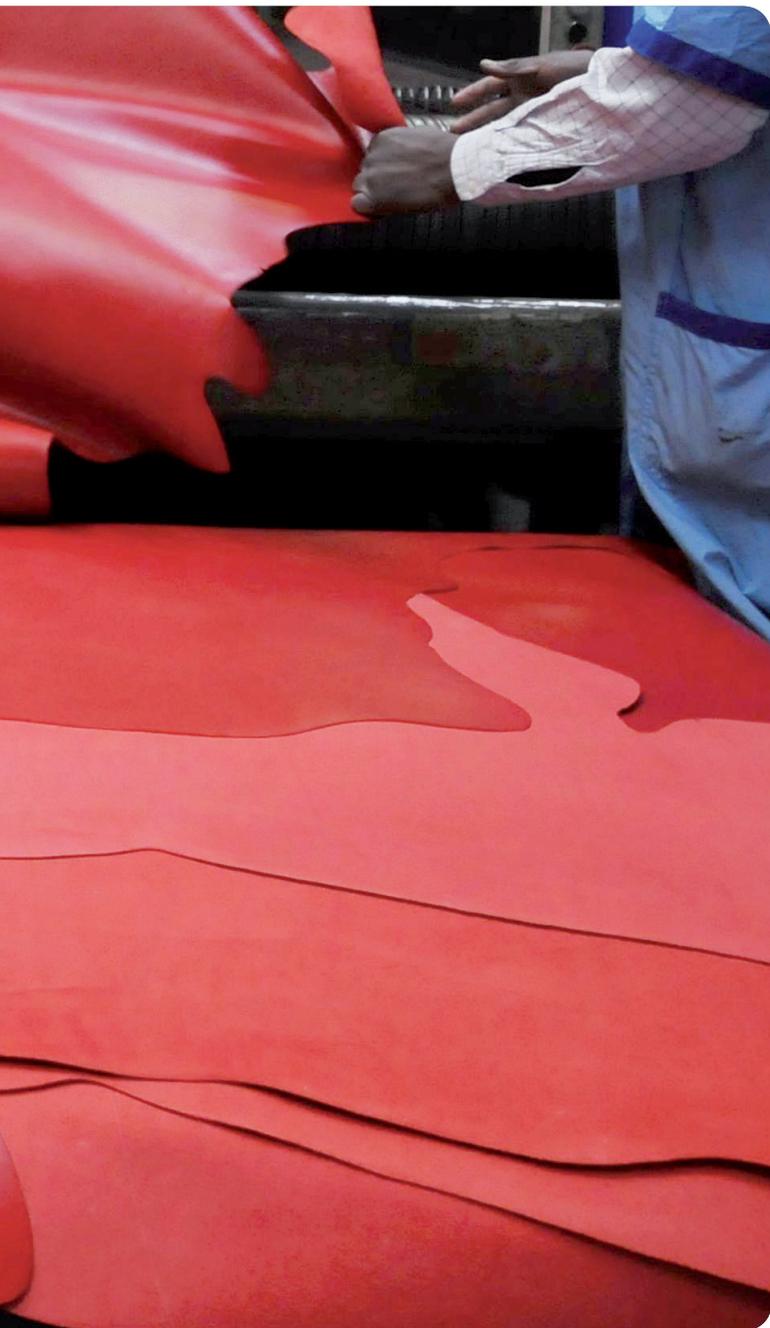
Source: UNIC 2011

table 4 Waste: highlights

| INDICATOR | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Waste/product unit (kg/m ²) | 2.16 | 1.79 | 1.93 | 2.16 | 2.08 | 1.66 | 1.83 | 2.10 | 1.84 | 1.85 |
| Separate collection (%) | 94% | 91% | 94% | 95% | 95% | 93% | 96% | 97% | 98% | 98% |
| Waste transferred to recycling plants (%) | 69% | 57% | 67% | 73% | 72% | 72% | 76% | 74% | 75% | 71% |
| Costs of waste/turnover (%) | 0.39% | 0.37% | 0.47% | 0.58% | 0.55% | 0.56% | 0.58% | 0.84% | 0.99% | 0.69% |

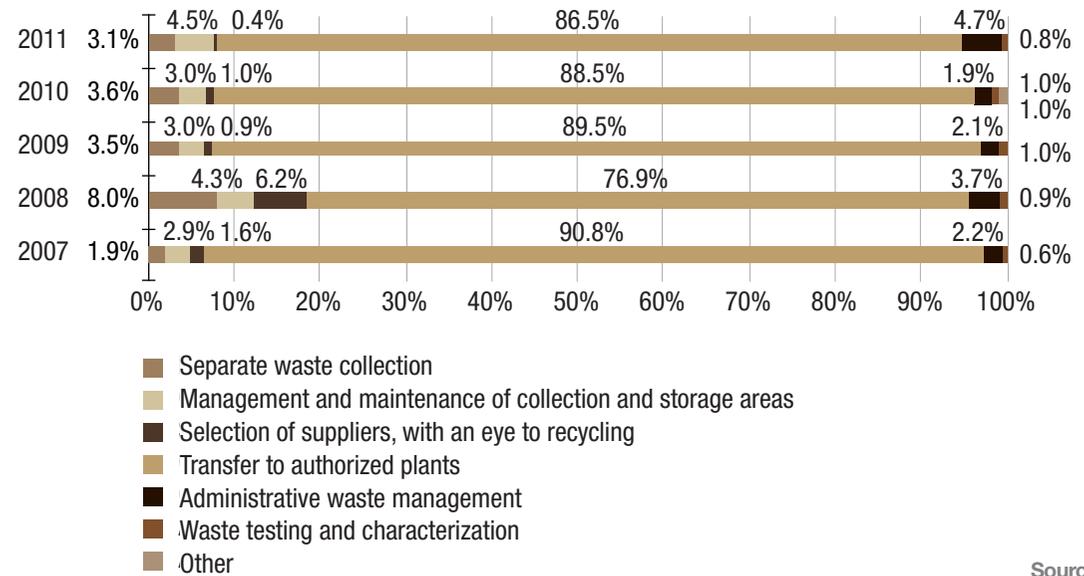
Source: UNIC 2011





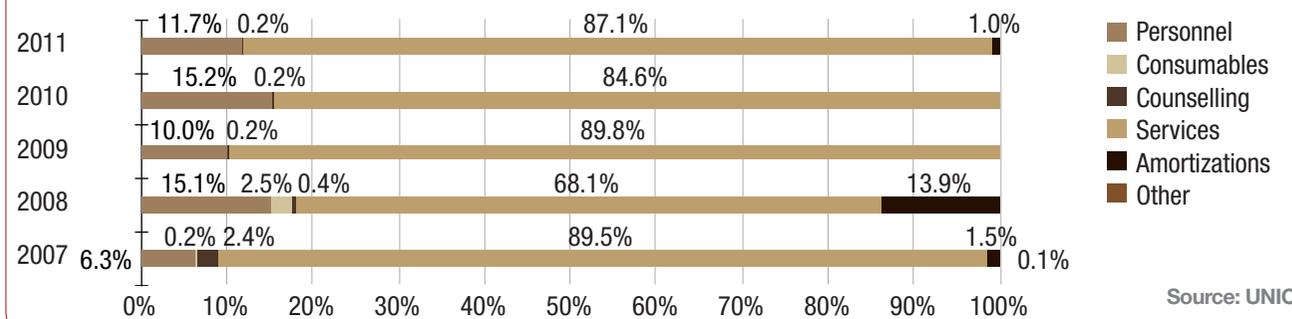
Figures 23 and 24 offer the composition and breakdown of the costs for the characteristic activities of waste management. No variation are seen in the considered period, with the largest shares being allocated to transferring waste to authorized external plants.

figure 23 Waste management: characteristic activities 2007 - 2011 (%)



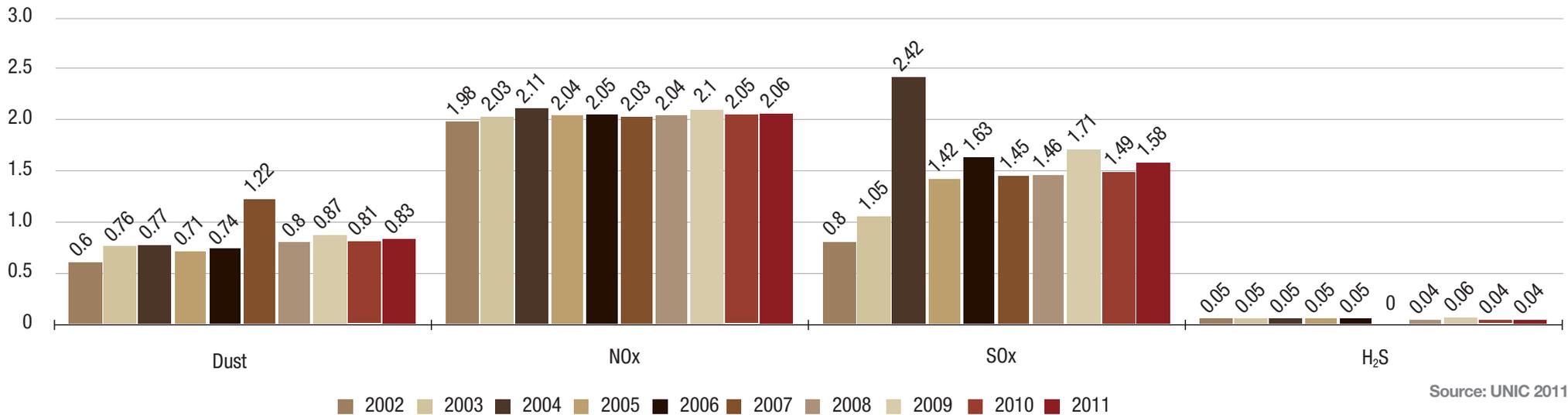
Source: UNIC 2011

figure 24 Waste management: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011

figure 25 Air pollutants per product unit 2002 - 2011 (g/m²)



atmospheric emission

The principal parameters affecting air quality in tanneries are Volatile Organic Compounds (VOC), Dust and Hydrogen Sulphide. Moreover, the thermal systems used to generate heat release a number of pollutants during combustion, and namely Nitrogen Oxides (NO_x), Sulphur Oxides (SO_x), and, of course, Carbon Dioxide (CO₂).

Figure 25 reports the characteristic values of some air pollutants expressed in g/m² calculated with the formula illustrated in the box.

$$\text{POLLUTANT PER PRODUCT UNIT} \\ (\text{g/m}^2) = \text{CA (Kg/year)} / \text{P} * 1.000$$

where:

CA = load per year

P = production in m²

$$\text{Pollutant loads were calculated as follows:} \\ \text{CA [Kg/y]} = \text{C [mg/Nm}^3\text{]} * \text{P [Nm}^3\text{/h]} * \text{h [worked hours/y]} / 10^6$$

where:

C = mean concentration at the chimney

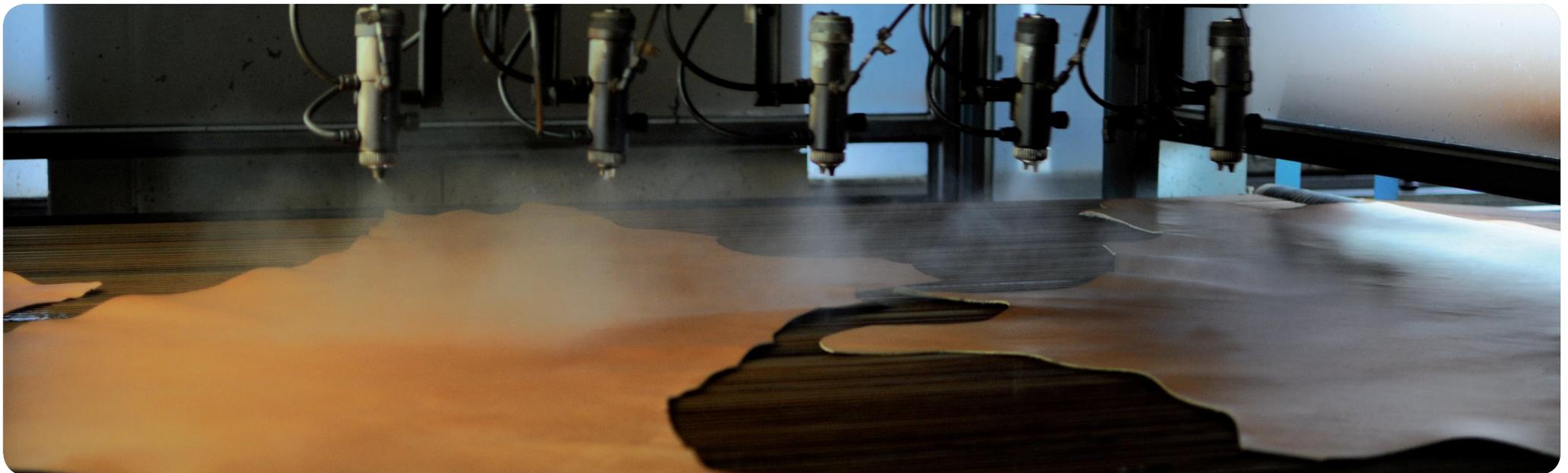
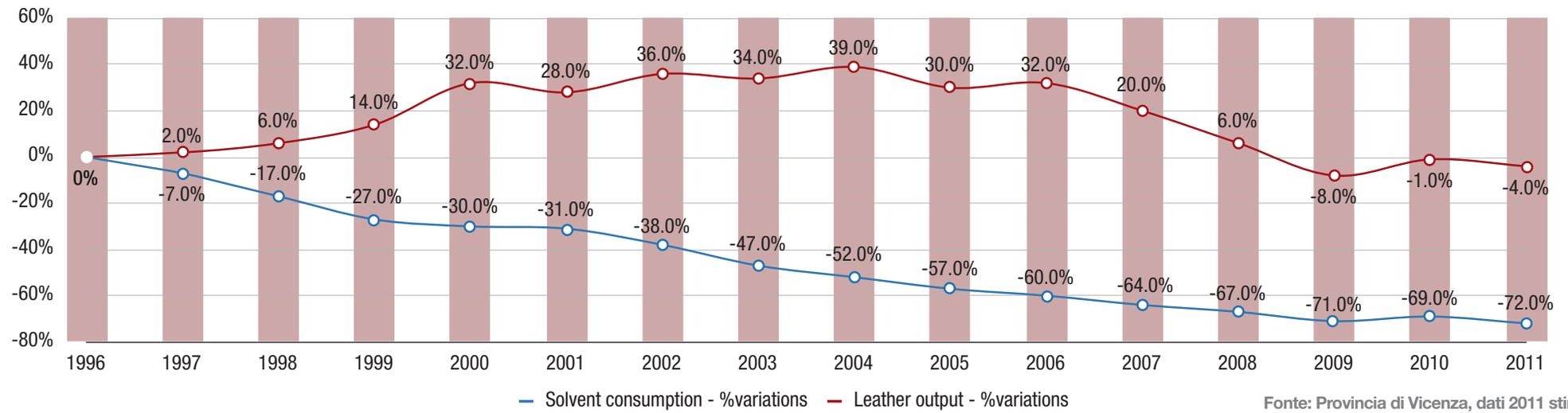
P = overall capacity of pollutant-emitting systems

h = total number of worked hours per year

Emissions are fairly constant throughout the examined period, with pollutants per square metre of leather produced equal to 0.83 g/m² (dust), 2.06 g/m² (NO_x), 1.58 g/m² and 0.04 g/m² (hydrogen sulphide).

You will also find below the data collected by Agenzia Giada in the province of Vicenza, which feature the patterns of solvent consumption and of tanning production in Arzignano district over the period 1996/2011 (2011 data are estimated). The trend for solvent consumption has been decreasing (-72%) from 1996 to 2011, as compared to the output rates shown in the figure.

figure 26 Ratio of output to solvent consumption 1996 - 2009 in Arzignano district

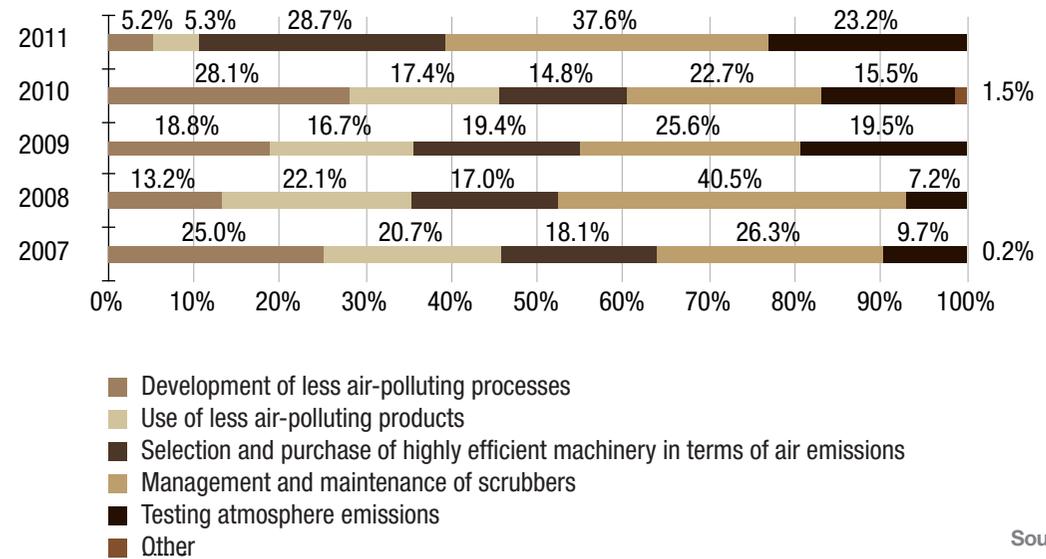


atmospheric emission: costs



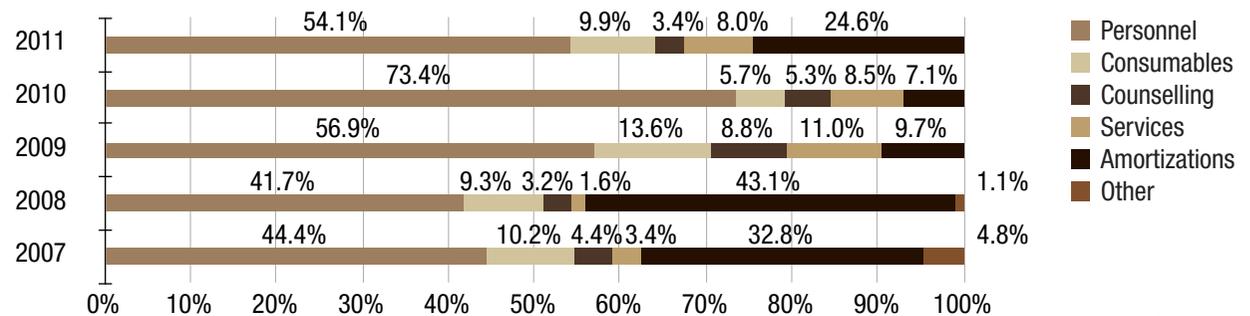
With a view to minimizing emissions, tanneries perform a number of actions: developing processes generating low air pollution; using less polluting products; choosing and buying highly efficient machinery in terms of atmospheric emissions; managing and maintaining scrubbers, testing emission levels. The composition and breakdown of the costs incurred for such actions are reported in Fig. 27 and Fig. 28.

figure 27 Reduction of atmospheric emissions: characteristic activities 2007 - 2011 (%)



Source: UNIC 2011

figure 28 Reduction of atmospheric emissions: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011

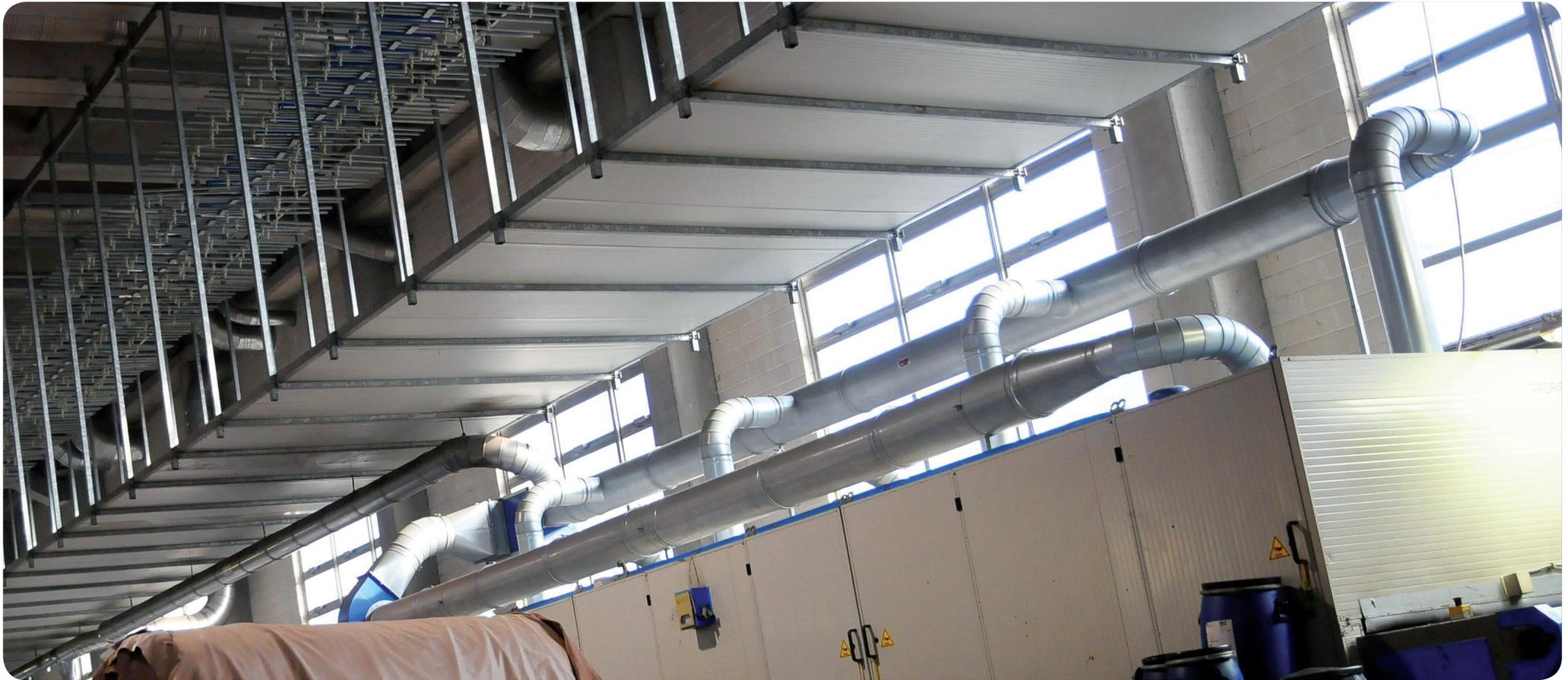


table 5 Atmospheric emissions: highlights

| INDICATOR | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 |
|--------------------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Dust (g/m ²) | 0,60 | 0,76 | 0,77 | 0,71 | 0,74 | 1,22 | 0,80 | 0,87 | 0,81 | 0,83 |
| Nox (g/m ²) | 1,98 | 2,03 | 2,11 | 2,04 | 2,05 | 2,03 | 2,04 | 2,10 | 2,05 | 2,06 |
| Sox (g/m ²) | 0,80 | 1,05 | 2,42 | 1,42 | 1,63 | 1,45 | 1,46 | 1,71 | 1,49 | 1,58 |
| H ₂ S (g/m ²) | 0,05 | 0,05 | 0,05 | 0,05 | 0,05 | 0,004 | 0,04 | 0,06 | 0,04 | 0,04 |
| Emission costs/turnover (%) | 0,1% | 0,10% | 0,10% | 0,10% | 0,12% | 0,11% | 0,11% | 0,08% | 0,12% | 0,10% |

Source: UNIC 2011

environmental management system

In the frame of a corporate management system, the environmental management system is principally aimed at developing environmental policies, starting from the full compliance with the legislation in force.

Therefore, implementing an environmental manage-

ment system means developing and enforcing corporate policies and objectives by taking into account the prescriptions of the law, the standards adopted by the organization itself and the information about important environmental issues.

The environmental management system applies to the environmental issues considered as important by an organization, which can be kept under control by the organization and which can be influenced by the organization's actions (e.g. the environmental issues related to the activity of an organization's suppliers).

Some of the examined tanneries are certified under UNI EN ISO 14001, while others operate in compliance with EMAS regulations. Moreover, it is worth noting that some typical environmental management actions are also performed by non-certified tanneries, as they make an integral part of their corporate management system.

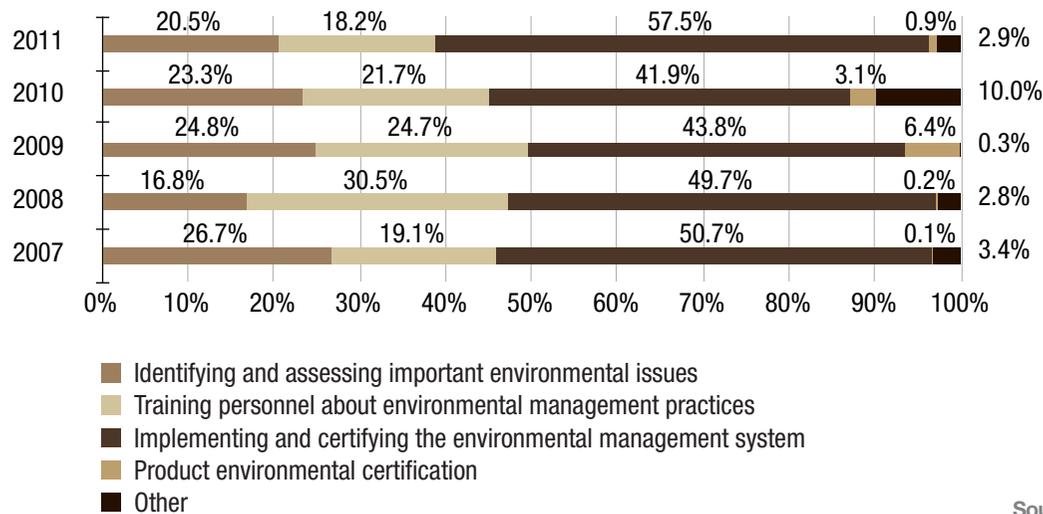
The main actions included in an environmental management system are as follows:

- **Identifying and assessing important environmental issues**
- **Training personnel about environmental management practices**
- **Implementing and certifying the environmental management system**
- **Getting product environmental certification**

In addition to the direct management of the various environmental issues, the tannery's personnel is also engaged in actions aimed at preventing pollution and at improving corporate environment, but with a more managerial approach.

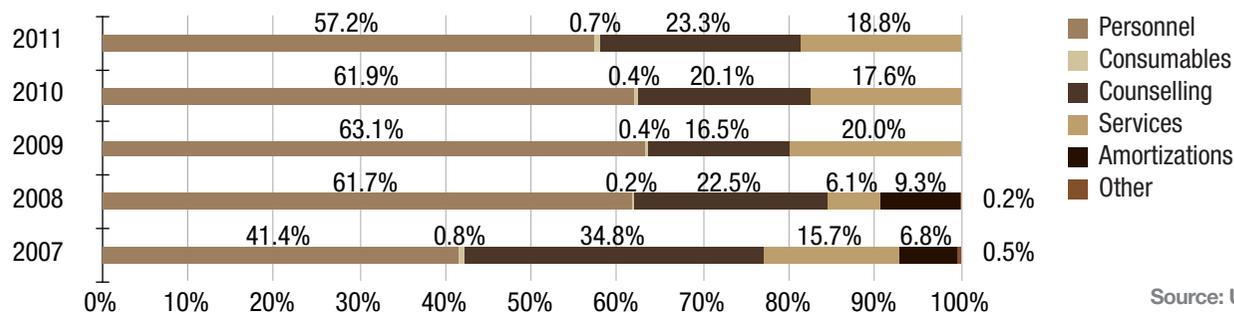
The characteristic planning and control activities of an environmental management system are reported in Fig. 29. Also, as shown in Fig. 30, the greatest share of the costs incurred for these activities is allocated for personnel, counselling and services.

figure 29 Environmental management system: characteristic activities 2007 - 2011 (%)



Source: UNIC 2011

figure 30 Environmental management system: cost breakdown 2007 - 2011 (%)



Source: UNIC 2011



concluding remarks

The incidence of environmental expenses to turnover reached 4.22% in 2011, that is the maximum value over the examined ten-year period.

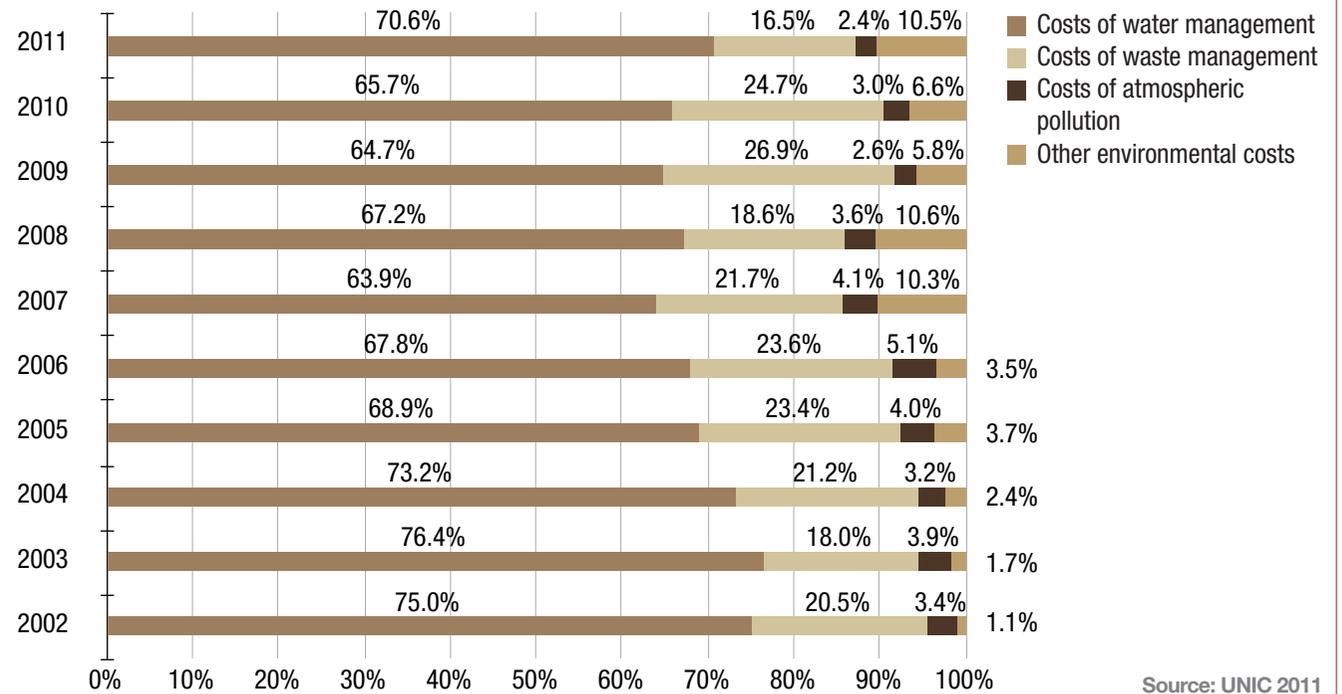
The various environmental indicators monitored here showed in some cases a sinusoidal pattern over the years. It is worth recalling that, considering the surveyed sample, variations may also be affected by the different types of raw materials processed, excessive splitting of production and the size of product lots, which are variable over time.

Generally speaking, however, the tanneries' environmental performance remains high throughout the period and mean values are meaningful when considered over a long period.

Concerning the distribution of environmental costs, Figure 31 reveals that, here too, water and waste management are the most important economic issues. Also, "other environmental costs" have been growing significantly since 2007, and reached 10.5% in 2011. This item includes, among other costs, the expenses incurred for environmental management in the tannery, that is, all managerial aspects connected to the actions aimed at guaranteeing a constant improvement of corporate environmental performance, including full compliance with the legislation in force.

As anticipated, the most significant aspect in competitive terms is certainly represented by the sizable growth in the ratio of environmental costs to turnover (4.22%, historical peak), which rose by 5.5% as against the value of 2010 and by about 122% as against 2002. The incidence on total operating expenses also amounts to 4.22%, as a result of the fact that these costs accounted for 99.9% of the output value in 2011.

figure 31 Total environmental costs 2002 - 2011 (%)

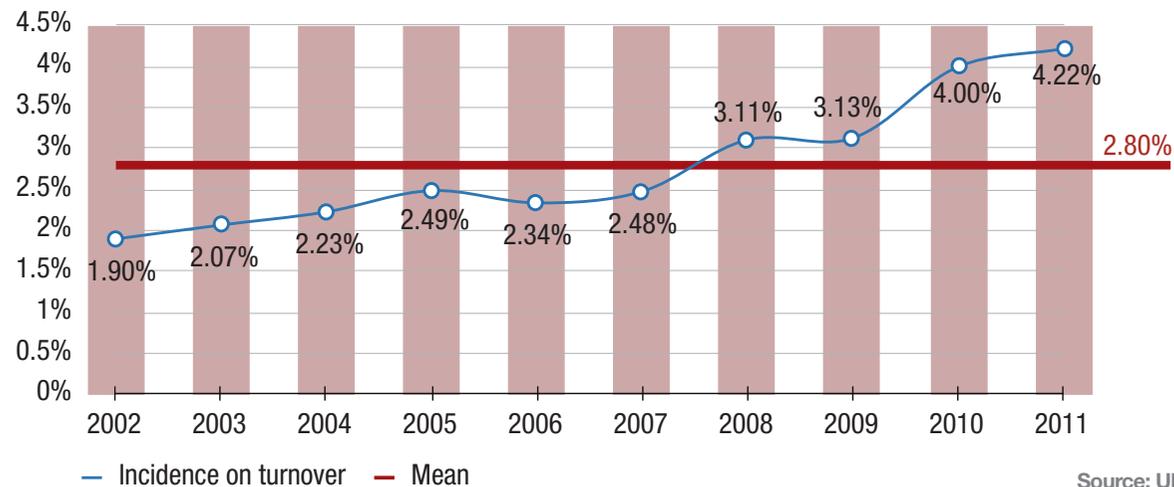


Source: UNIC 2011



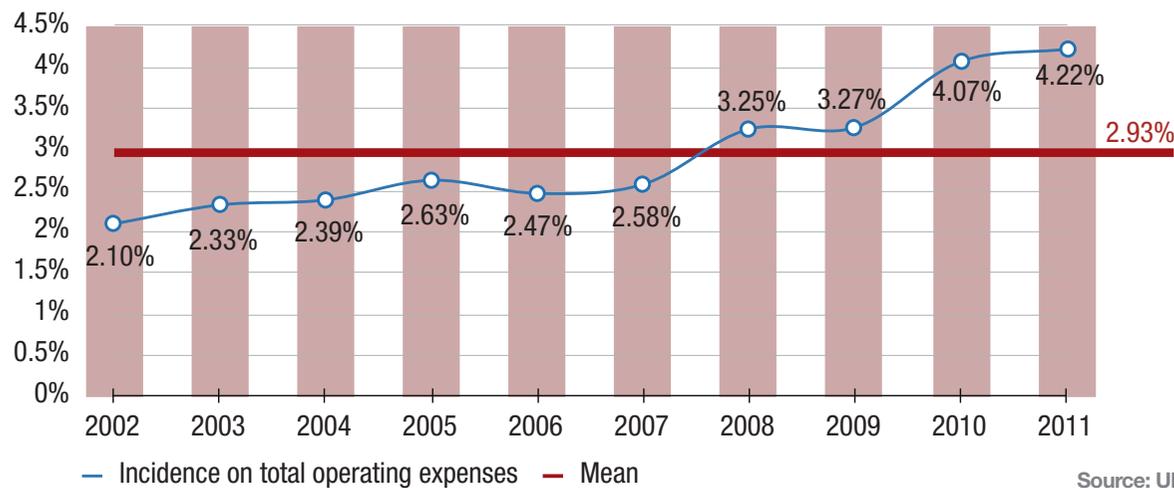


figure 32 Incidence of environmental costs on turnover 2002 - 2011 (%)



Source: UNIC 2011

figure 33 Incidence of environmental costs on total operating expenses 2002 - 2011 (%)



Source: UNIC 2011

figure 34 Variations of environmental costs / Turnover – output value 2002 - 2011 (%)

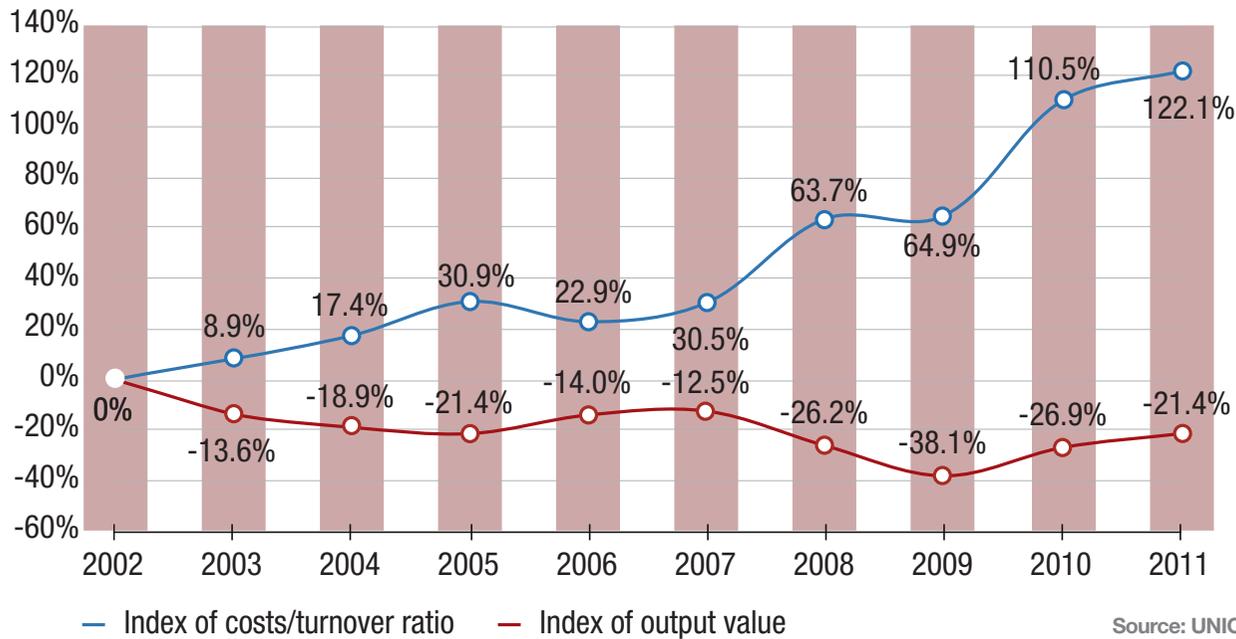


Figure 34 outlines the pattern of variations of output value and of the ratio of environmental costs to turnover indexed at 2002. The values referred to the past years show an almost mirroring pattern: the incidence of environmental costs grew as the output value diminished. A different behaviour can be seen in the years 2010 and 2011: the incidence of environmental costs, which have been increasingly growing, is greater than the corresponding recovery in output value. This causes the corporate margins to shrink, in spite of performance values varying only trivially or, in some cases, improving.

Hence, environmental management proves to be decisive in Italian tanneries' competitive edge in the world scenario: the economic recovery of this leading sector in the domestic economy – which has been building up firm results over the years thanks to ongoing investments – now risks to be hindered by strict and complicated environmental regulations, as well as by the competitive advantage of international competitors, who must not bear such high costs for reducing environmental impact and pollution.

2002

Energy consumption



100%

Water consumption



100%

Waste production



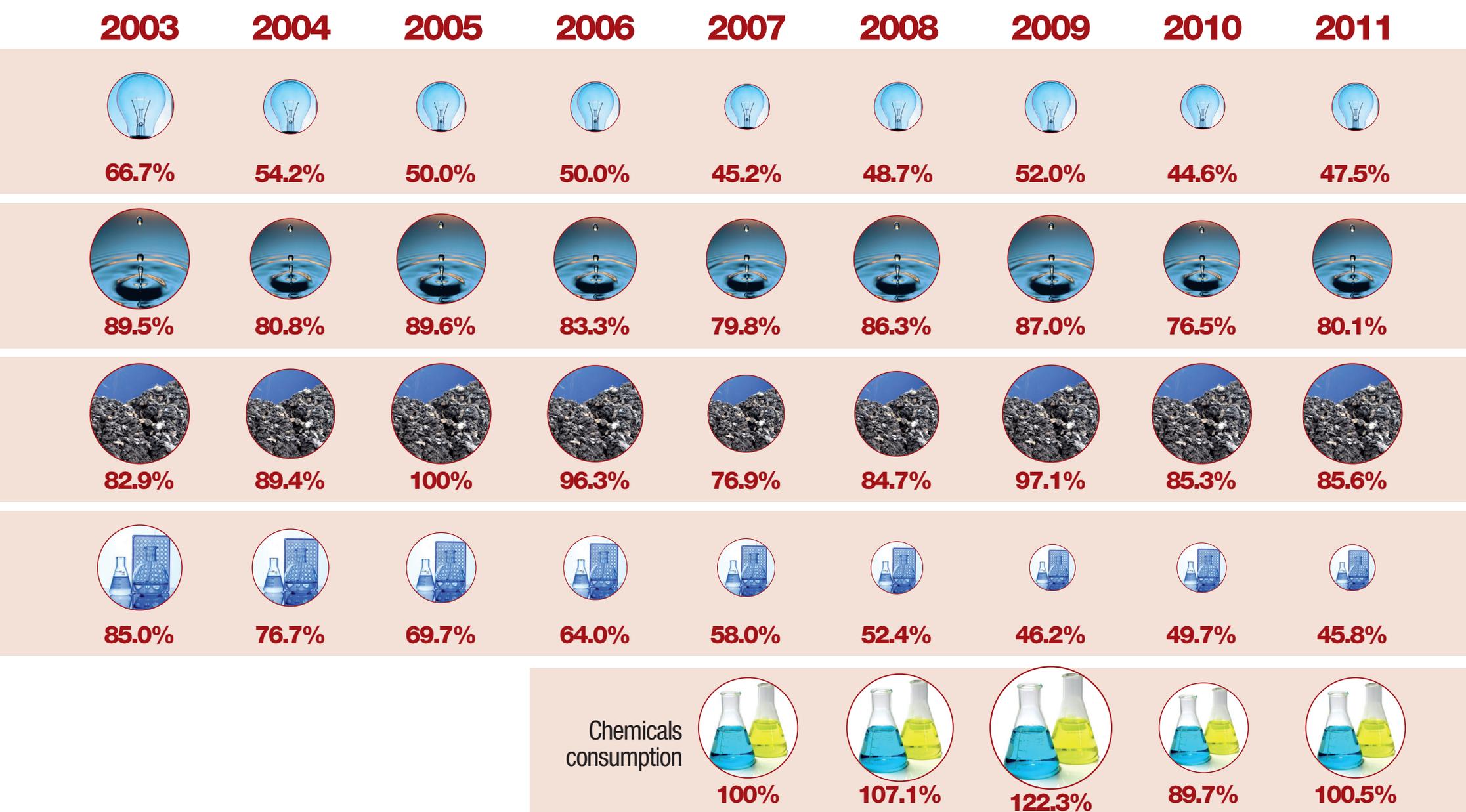
100%

Solvent consumption



100%

figure 35 Reduction of consumption and emissions of the principal parameters (%)



SECTION THREE



SOCIAL REPORT



In consideration of the industry's operational structure, tanneries have always been specially rooted in the territory where they operate for all aspects related to development sustainability. They contribute to the economic growth of local communities, help social unity and support the development of prevention and depollution policies.

The information contained in the Corporate Social Report take into account some special indicators to mirror the industry's social structure and corporate relations with workers, the community and other stakeholders, as follows:

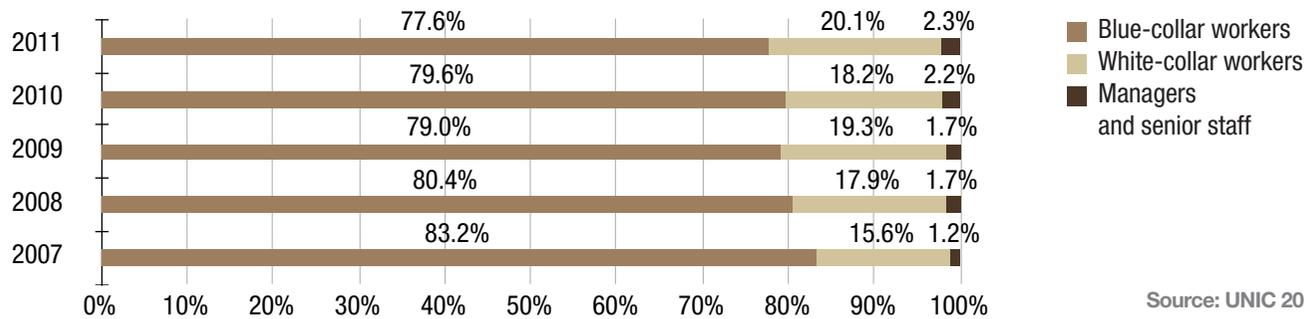
- **organization's structure**
- **type of employment contracts**
- **age group**
- **seniority of service**
- **level of education**
- **area of origin**
- **structure of industrial relationships**
- **union members**
- **redundancy schemes**
- **disciplinary measures**
- **workers' incentives and benefits**
- **training activities**
- **relative accident frequency**
- **injury severity ratio**
- **mean injury duration**
- **actions taken to minimize the risks for worker's health and safety**
- **associations and corporate self-regulation**
- **participation to local initiatives**
- **relationships with the community and charity.**

An analysis of the information collected about social management prove that the tanning industry guarantees stable and long-lasting employment relationships, continuously facilitates young people's access to work, makes increasingly more room to women and invests in the development of staff skills.

Since 1999, the sector has endorsed a Social Responsibility Code, which is a useful tool to make the principles driving corporate activities known, as it officially includes the definition of corporate social responsibility values. The latest edition of the document (attached as an Appendix to the present Report) – which adopts the contents of SA8000, a leading International Convention (ILO) in the field of protection of workers' rights, and especially of minor workers' - was formally endorsed by all social partners upon signing the latest CCNL (National Labour Collective Agreement).

human resources

figure 1 Organization's structure 2006 - 2011 (%)



In 2011 too, the organizational structure of the surveyed tanneries (Fig. 1) looks predominantly focussed on vocational roles of a technical-productive type, as blue-collar workers account for nearly 80% of the total workforce in all five years being examined. They are followed by white-collar workers (20.1% in 2011) and by managers/senior staff (2.3%).

figure 2 Type of employment contracts 2006 - 2011 (%)

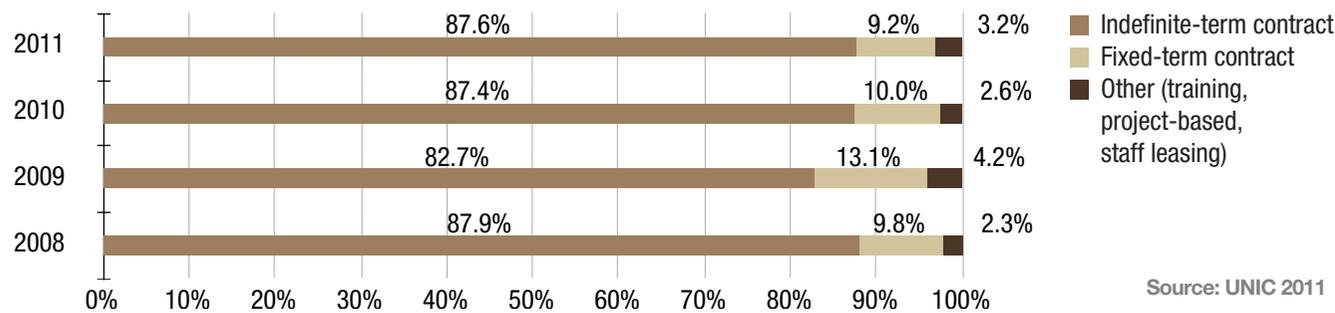
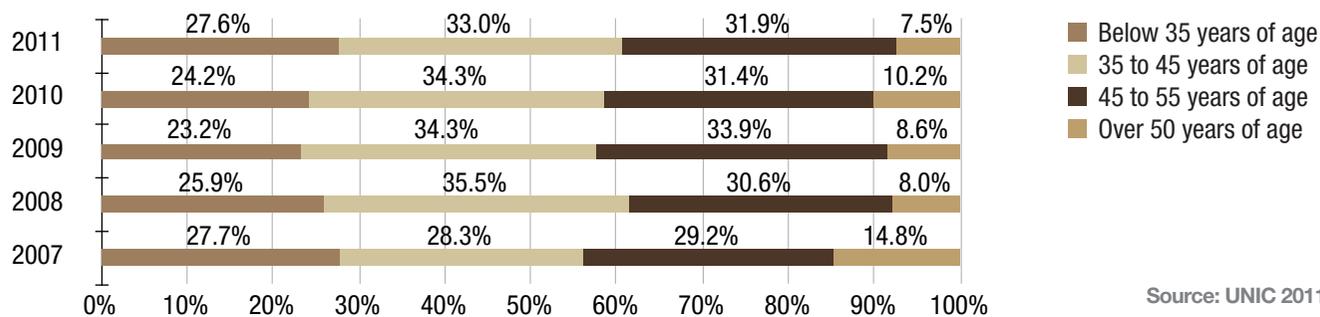


Figure 2 reports information about the evolution in the types of employment agreements over the period 2006–2011. It turns evident that the majority of tanneries privilege indefinite-term contracts, with rates invariably approximating 90%. In 2011, fixed-term contracts accounted for 9.2% of the total and other types of contract (e.g. training, project-based or staff leasing) for the remaining 2.3%.

The data of 2011 highlight that 50.6% of tanning workers are below 45 years of age, 31.9% are aged between 45 and 55, 7.5% are above 55 years. This reveals that the sector combines long-term experience and new workforce at the same time.

figure 3 Age groups 2006 - 2011 (%)



The 61% rate of workers who have worked in the tanneries for less than ten years (values are fairly similar in the four surveyed years) is a positive indication that new workers are constantly introduced in the industry. Data also show that a significant share of the workers who start working in a tannery then spend a large portion of their career there.

The level of professional schooling and below-secondary education took the greatest relative share in 2011 too (67.1% of the total workforce), but it fell slightly as compared to the previous years. At the same time, the value of workers with a secondary school diploma or university degree reached the historical peak in 2011 (32.9% of the total workforce).



The information contained in Fig. 6 tell that the tanning industry draws from the territory an important added value for competitiveness. A sizable share of the workforce comes from the area (province) where the tannery is based (67.3% in 2011). On the other hand, another meaningful share of workers come from the rest of Italy, the EU and non-EU countries, which reveals that the tanning industry helps intercultural and social unity. This confirms that the sector plays a key role for the sustainability of local economies and for social integration.

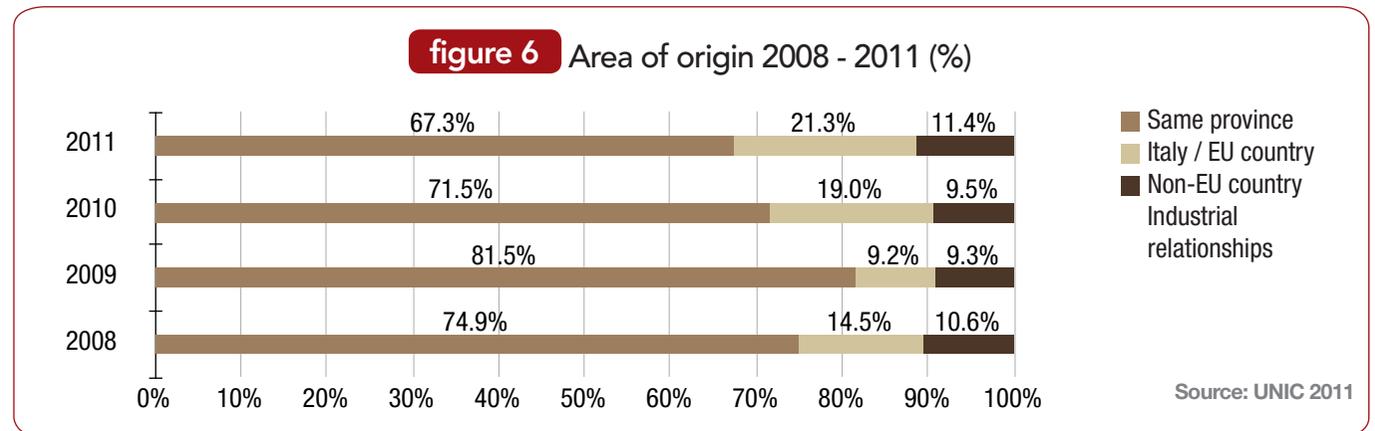
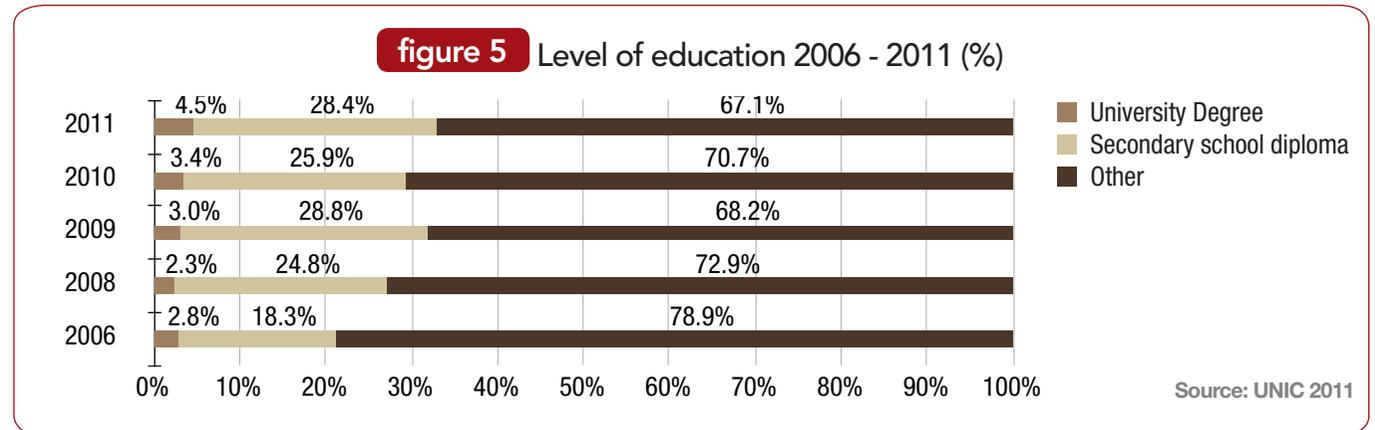
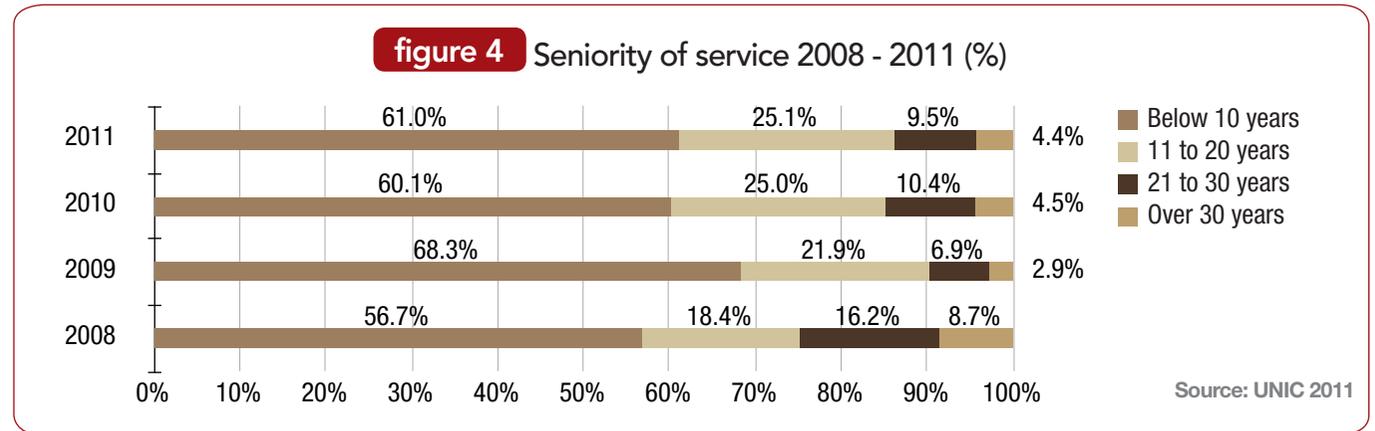


figure 7 Structure of industrial relations 2009 - 2011 (%)

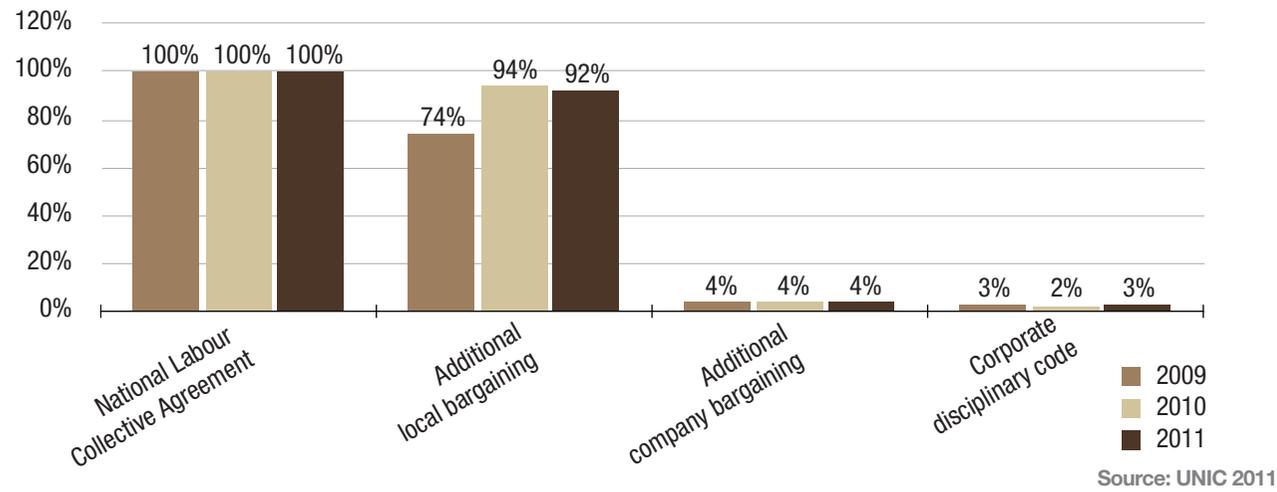
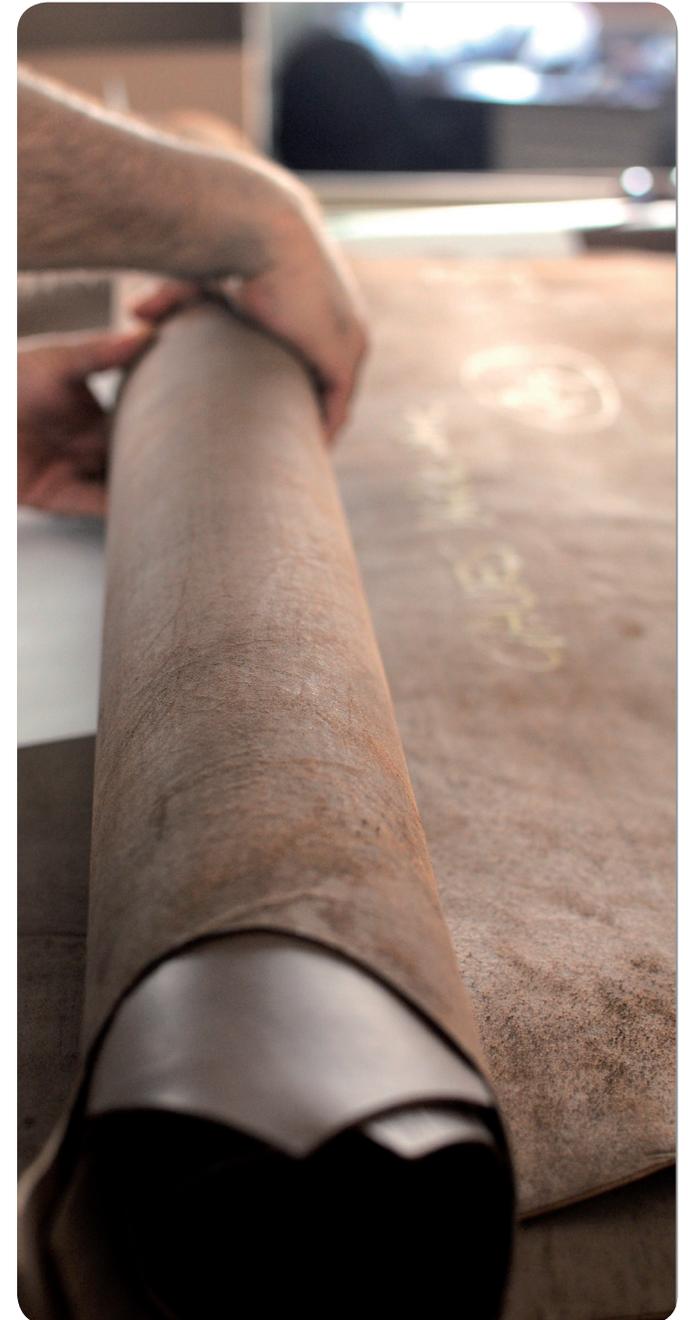
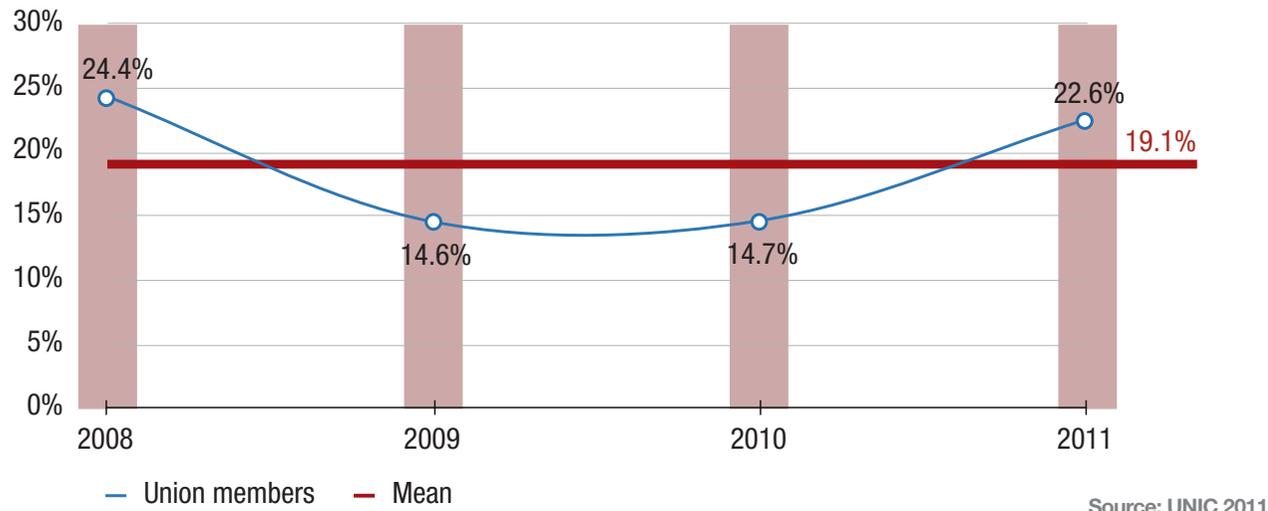


figure 8 Union members 2008 - 2011 (%)



industrial relation

The industry is particularly committed to developing constructive relationships with the social partners and is internationally acknowledged as an example for the creation of joint projects at a national and European level.

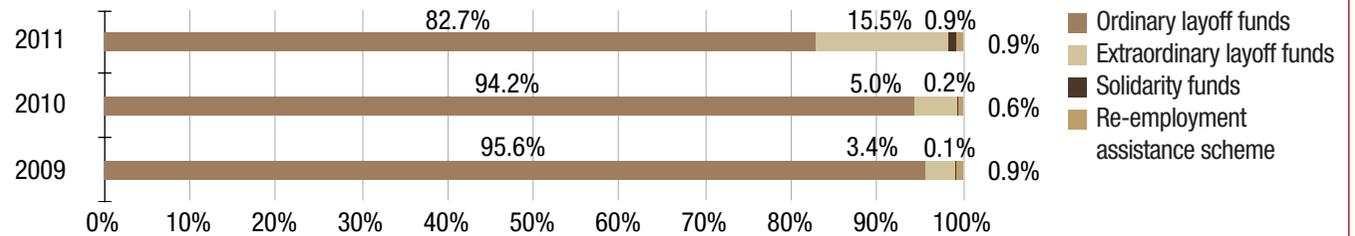
Figure 7 illustrates the implementation of various bargaining tools made available for tanneries. Data reveal that, in addition to the National Tanners' Labour Collective Agreement being endorsed by all surveyed tanneries, additional local bargaining was integrated by a large number of them in 2011. Moreover, 4% of the sample started additional company bargaining and 3% of them adopted corporate disciplinary codes.

In the examined 4-year period, the rate of union members varied between 14.6% and 24.4% of the total workers.

Figure 9 reports information concerning the number of workers who had recourse to redundancy schemes over the period 2009–2011. 2011 data reveal that, although the largest share is taken by ordinary layoff funds (82.7%), recourse to extraordinary layoff funds rose sizably as compared to the previous year, and reached 15.5%. Other schemes (solidarity, re-employment assistance, early retirement) were only trivially used in 2011 too.

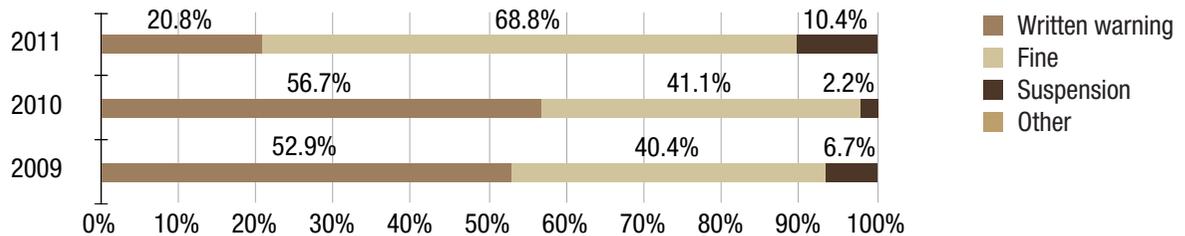
Also, an analysis of the information concerning disciplinary measures (Fig.10) and incentives (Fig.11) reveals that the latter prevailed in number in 2011 too. Disciplinary measures generally consist of written warning and fines, with only 10% of stricter measures, e.g. suspensions. The various forms of benefits monitored over three years included: tax counselling, accommodation, flexible working hours.

figure 9 Redundancy schemes 2009 - 2011 (%)



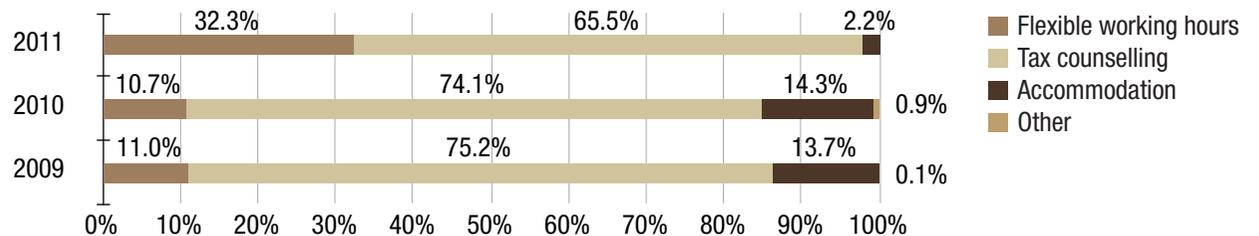
Source: UNIC 2011

figure 10 Disciplinary measures 2009 - 2011 (%)



Source: UNIC 2011

figure 11 Incentives and benefits 2009 - 2011 (%)



Source: UNIC 2011



training activities

Training activities performed in tanneries fall into two categories:

- compulsory training: all training activities prescribed under the law or the labour agreement, e.g. regarding health and safety at work, qualifications, apprenticeship, traineeship, etc.

- training aimed at upgrading the workers' skills, vocational updating, committing workers to corporate objectives, qualifying personnel further and, as a consequence, helping corporate growth.

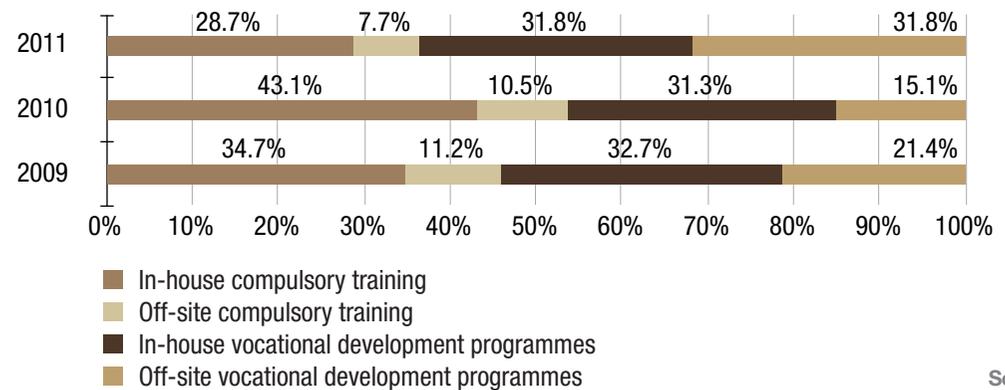
Both types of training may be performed inside the tannery (in-house training) or at the premises of competent training agencies (off-site training).

The survey was carried out by monitoring both the number of training activities (Fig. 12) and the number of people concerned (Fig.13).

With a countertrend as compared to the previous years, training interventions aimed at the workers' vocational development took the largest share in 2011, i.e. 63.6%, which proves that tanneries are committed to developing their manpower's skills.

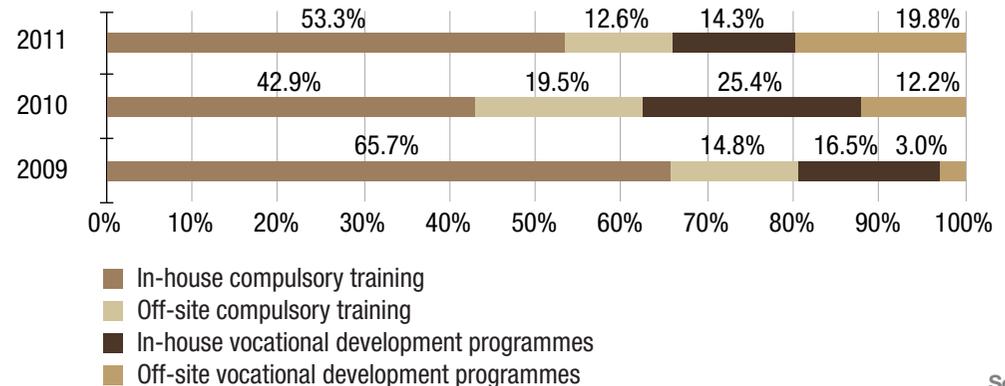
With reference to the number of people concerned, about 65.6% of them were administered compulsory training, either in-house or off-site.

figure 12 Training activities 2009 - 2011: breakdown by number of activities (%)



Source: UNIC 2011

figure 13 Training activities 2009 - 2011: breakdown by number of people (%)



Source: UNIC 2011

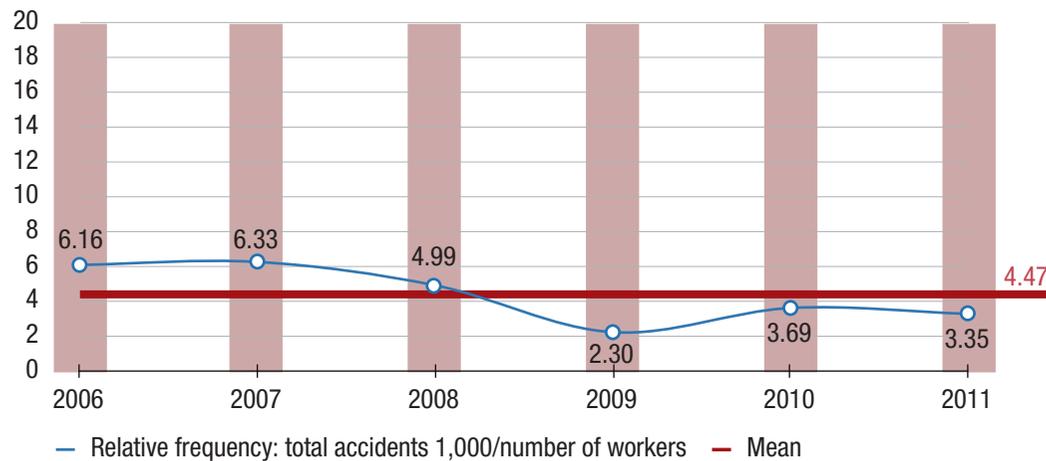
accidents

Data about accidents at work over the period 2006-2008 were supplied by INAIL (National Fund for Accidents at Work), while information about the period 2009-2011 was drawn from the tanneries in the sample. In this Report too, three classes of indicators were processed, in compliance with the parameters commonly used by INAIL or mentioned in UNI 7249:2007 standard about "Statistics of accidents at work":

- **Relative accident frequency:**
*total accidents*1000/number of workers*
- **Injury severity ratio:** *lost days per number of workers*
- **Mean injury duration:** *days of absence from work/number of accidents*

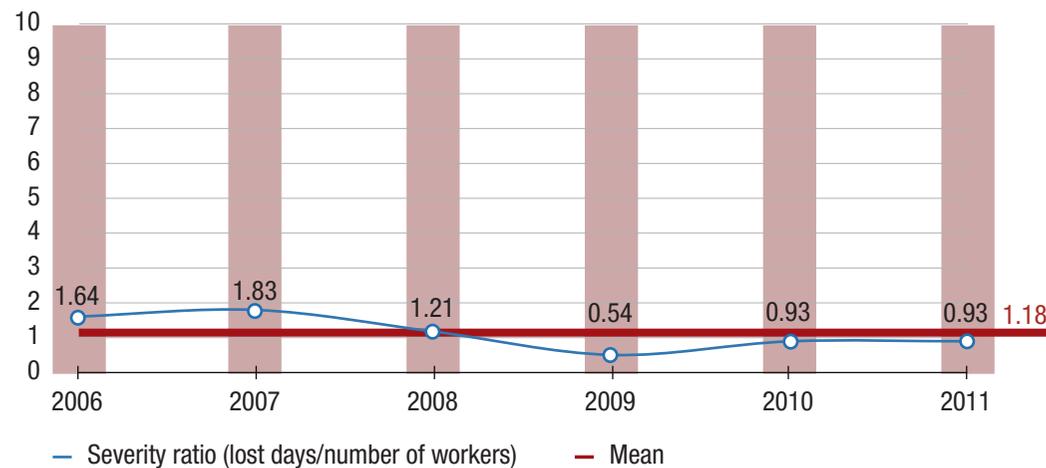


figure 14 Relative accident frequency 2006 - 2011 (1,000 accidents/number of workers)



Source: UNIC 2011

figure 15 Severity ratio 2006 - 2011 (lost days/number of workers)



Source: UNIC 2011

The relative frequency pattern (Fig. 14) shows that the index fell in 2011 (3.35) as compared to the latest Report, and was lower than the mean value over the examined period (4.47).

The injury severity ratio (Fig. 15) reveals a constant 0.93 value in the last two years.

The mean duration of accident-related absence from work grew in 2011 (Fig. 16) to reach, 27.63, i.e. slightly greater than the 6-year period mean value (26.05 days).

Tanneries have increasingly had recourse to structured systems to minimize the risks for the workers' health and safety, and namely to management systems, procedures/practices aimed at minimizing occupational risks, targeted projects. A breakdown of such actions is offered in Fig. 17.

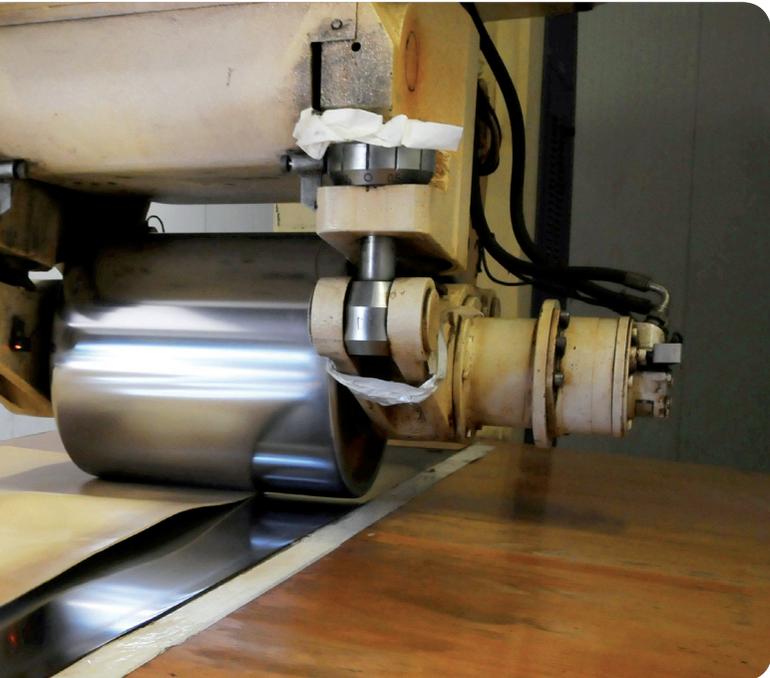


figure 16 Mean duration 2006 - 2011 (days of absence from work/number of accidents)



Source: UNIC 2011

figure 17 Actions taken to minimize occupational risks 2009 - 2011 (%)



Source: UNIC 2011

corporate giving

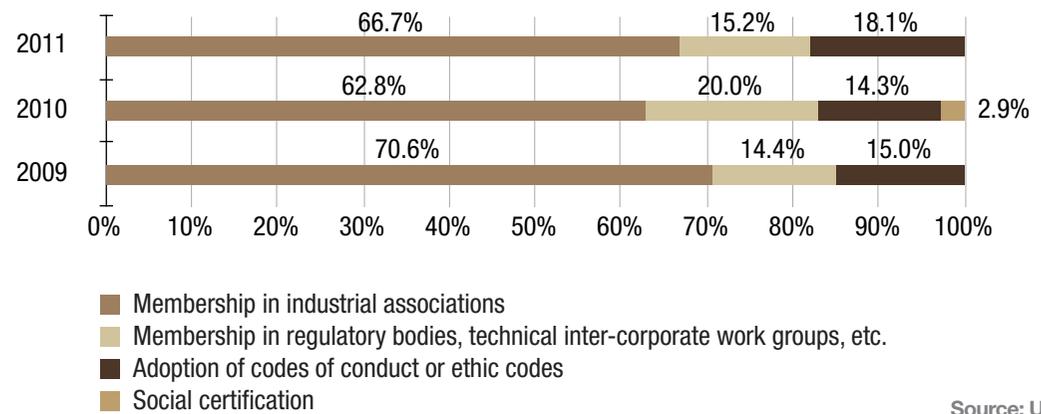
The corporate giving aspects included in the present Report were selected to offer an indication of the tanneries' commitment for the local and social environment, as well as to present some examples of the policies adopted by the surveyed tanneries to improve the living conditions of local and non-local communities.

The data of Fig. 18 reveal that tanneries, in addition to industrial and local associations, also join regulatory bodies and technical work groups, and they adopt ethic codes or codes of conduct. All these approaches are considered as meaningful tools for the development of association policies and of self-regulation systems.

Figure 19 also shows the importance for the sector to commit to local and district projects, especially under special partnership agreements started with local or national public authorities.

To conclude, donations and other liberalities allocated to no-profit organizations and international charity funds (see data of 2011) make an important contribution to good relationships with the local communities.

figure 18 Associations and self-regulation 2009 - 2011 (%)



Source: UNIC 2011



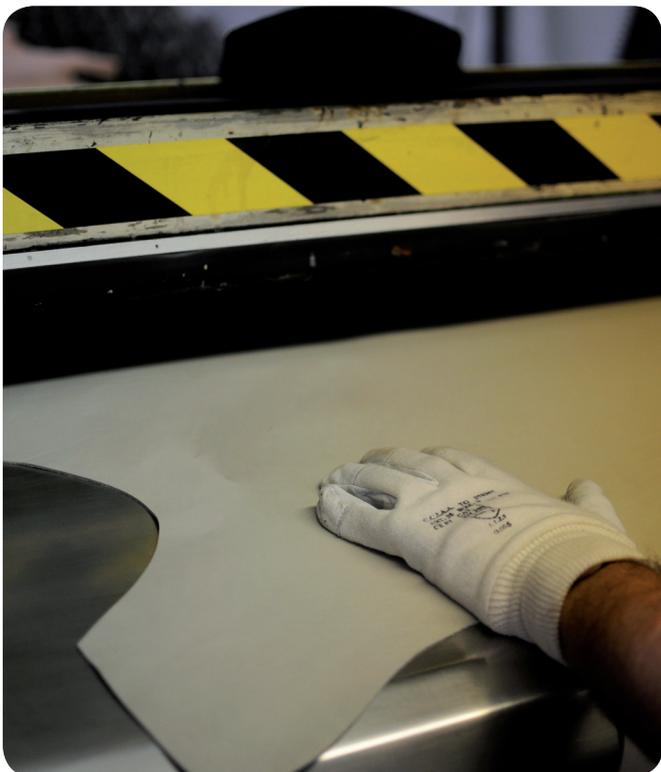
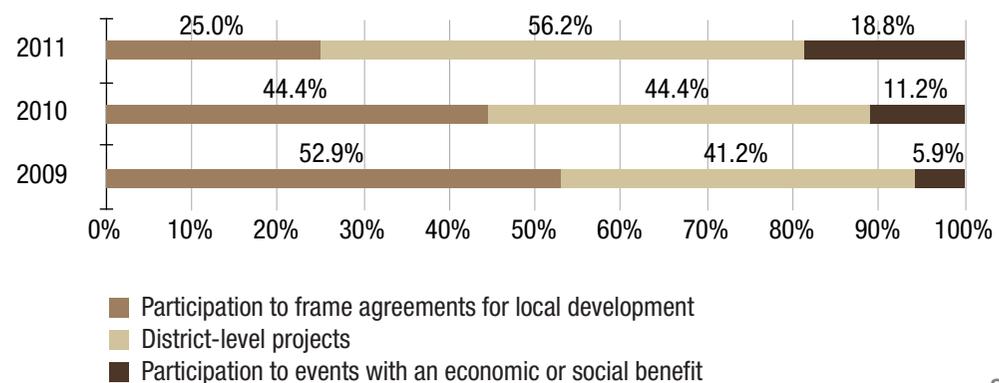
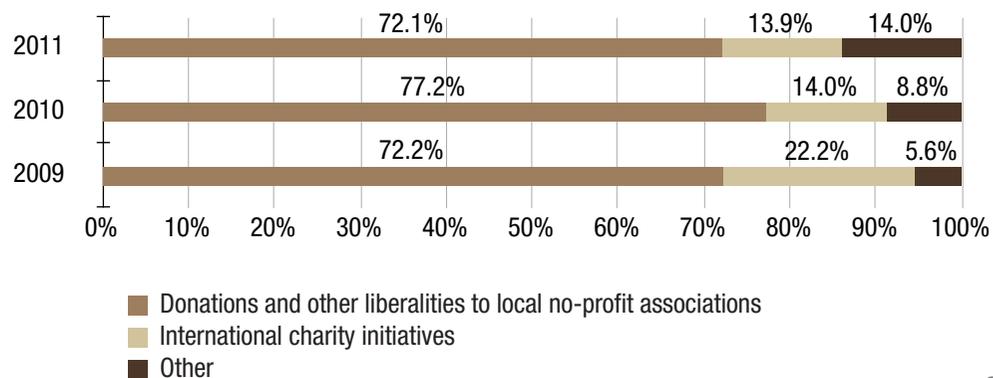


figure 19 Participation to local initiatives 2009 - 2011 (%)



Source: UNIC 2011

figure 20 Relationships with the community and charity 2009 - 2011 (%)



Source: UNIC 2011

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APPENDIX >

TANNING PROCESS AND ENVIRONMENTAL ISSUES

The tanning process includes various chemical and mechanical processes aimed at turning putrescible organic matter (hides and skins) into products with a high added value. Before being tanned, hides and skins undergo a preservation process, which helps them maintain the best conditions throughout

the leather manufacturing steps.

The methods most widely used are as follows: cooling (hides and skins are kept at low temperature and treated with specially adapted products to inhibit the proliferation of bacteria); curing (sodium chloride inhibits bacteria proliferation and therefore

decomposition); and drying. Preservation must be performed carefully to avoid free ammonia and bad smells to be released, though these are not hazardous for human health or for the eco-system. Tanneries store hides and skins in special rooms at suitable temperature, so as to avoid degradation.

BEAMHOUSE

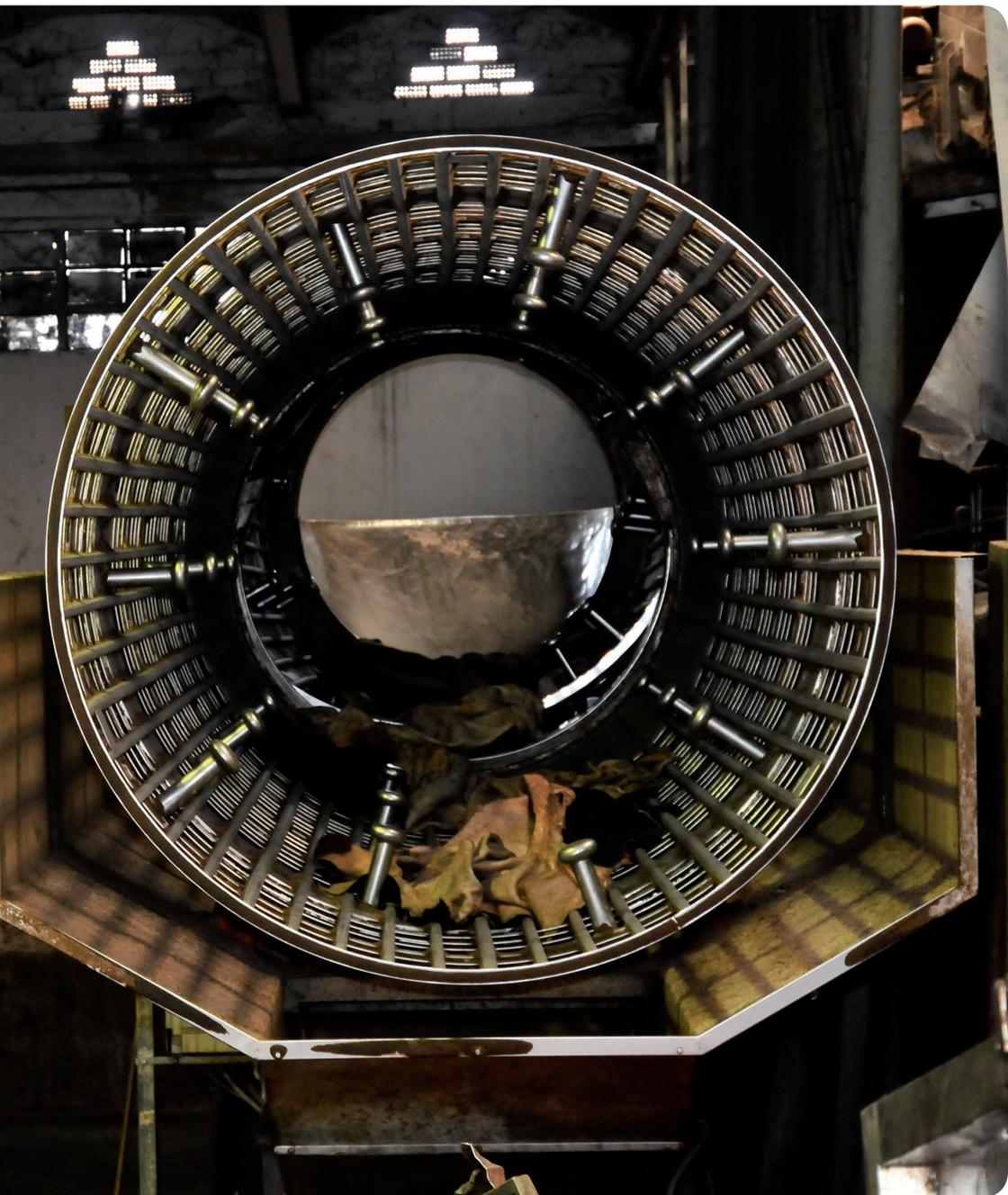
Beamhouse operations help remove all components that are useless in the manufacturing process (salt, portions of subcutaneous tissue), as well as relax collagen texture and facilitate the penetration of the chemicals introduced at later steps. Soaking, liming/dehairing operations are usually carried out in drums, i.e. large cylindrical reactors looking like industrial washing machines. Beamhouse drums are used to wash and dehair hides and skins by soaking them into a solution of water and chemicals or enzymes. Subcutaneous tissues are then removed through fleshing, after which hides and skins are treated and sometimes cut longitudinally to obtain two or more layers (splitting). Afterwards, hides and skins are soaked again in drums to remove all residues of liming chemicals and get them ready to be tanned.

During beamhouse operations, water consumption depends on the weight of the processed hides and skins. Water is rich in dissolved substances that affect leather quality. The beamhouse has the greatest impact on the pollutants contained in wastewater transferred to cleanup plants, i.e. COD, suspended solids, chlorides, sulphides and organic nitrogen. Hairs may be collected in special grilles and reused. Fleshings resulting from fleshing operations, hairs and trimmings can be recycled in several ways for industrial and farming destinations.

TANNING

The tanning process causes certain substances to irreversibly fix onto leather fibres so as to prevent them from rotting and help them get stable and long lasting, while not altering their natural characteristics. There are several tanning methods, which consist of different steps depending on the type of processing and on end products: chrome tanning (principally based on chromium salts), vegetable tanning, organic and mixed tanning. Sole leather is normally produced by tanning hides and skins in a number of vats containing solutions with increasing concentrations of tannin extracts. After tanning, leather is usually shaved to get uniform thickness.

The amount of water used during tanning operations depends on the weight of the processed hides and skins. The wastewater generated in tanneries contains COD, surfactants, chlorides, sulphides, ammonia nitrogen, chromium III. Shaving by-products are collected separately to be recycled for the production, for instance, of regenerated leather, glue and fertilizers.



WET POST-TANNING

After tanning, leather must be processed in drums again to add some special properties, e.g. roundness, texture, feel and, obviously, colour. Leather is first retanned with natural and/or synthetic substances, e.g. tannins and resins of various types, and later dyed with a number of colouring agents. Special dyes or retannage operations are also used for sole leather to make some special products, for instance coloured soles, ultra-soft soles, or elastic soles.

The next step includes stuffing, which influences the softness of the end-product and adds waterproof and antioxidant qualities.

Wastewater generated by dyeing operations, whose amount per product unit is lower than the amount of wastewater generated at earlier steps, are transferred to cleanup plants to abate COD, ammonia nitrogen, phenolic compounds, and fats. Most colouring substances get used up in dyeing baths.

FINISHING

Before finishing, dyed leather is dried off with a number of operations, including pressing and drying. Afterwards, several mechanical operations are used to soften, stretch and smooth leather finish. In some cases, the surface is also buffed to obtain a velvety finish with a more or less long "hair". Finishing consists in laying a superficial coat of different types and at different degrees of thickness or transparency, depending on the end product. The most widely used finishing method is compressed air spraying. Leather is put on a conveyor belt running at variable speed to receive the required amount of coating mix as it is sprayed by special – usually rotating – guns. The last operation before marketing includes trimming, whereby leather is deprived of all useless or flawed portions.

During finishing, particulate matter and volatile organic compounds are sucked and transferred to special treatment systems, i.e. filters and scrubbers of all sorts. In the last few years, several solvent-based finishing products have been replaced with aqueous-based substances. Leather trimmings generated during the final selection step are collected separately and recycled.

Suspended Solids (TSS - Total Suspended Solids)

This parameter indicates the quantity of undissolved solids, normally measured in milligrams/litre (mg/l) which can be separated by filtration from a liquid sample. Tannery waste products are mainly due to undissolved chemical products or decay residues of hides/skins during the wet operations. These solids can be removed from the waste products (with a positive effect also on the COD) by means of chemical and physical treatments.

COD (Chemical Oxygen Demand)

The value is expressed in milligrams of oxygen per litre (mgO_2/l), and represents the quantity of oxygen required for the complete oxidation of the organic and inorganic compounds contained in the waste products. Therefore, this represents an index that measures the pollution level of the water due to the organic residues of hides/skins (hair and dermis) and chemical products not depleted in the process baths (for example: ammonia, surface active agents, sulphides, organic acids, organic solvents, tannins, resins, aldehydes, colouring agents, fats, etc.). The COD is controlled in the water treatment by combining physical actions (for example: filtering/screening, etc.) with chemical and biological processes.

Sulphate ($\text{SO}_4^{=}$)

The presence of high concentrations of sulphates can cause various problems, first of all, a reduced self-purifying capacity of the receiving body of water. Sulphates have an oxidising action that subtracts oxygen from the decomposition processes of the other pollutants. In addition, sulphates are responsible for increasing the water's salinity and the consequent increase of the osmotic potential that represents a fundamental parameter for aquatic life. Sulphates are contained in a vast range of chemical products in the tannery and decreasing their respective content can also be achieved by substituting traditional chemicals with alternative products.

PRIMARY POLLUTANTS IN WASTEWATER

Nitrogen

This represents one of the key parameters when assessing the pollutant load because Nitrogen exercises its action at both the chemical and biological level, by intervening directly on the metabolism of the living organisms. Nitrogen is generally expressed in terms of TKN: Total Kjeldhal Nitrogen, namely, the concentration of total organic Nitrogen deriving from the breakdown of proteins and urea. Due consideration must also be taken of the portion of Nitrogen that derives from ammonia (NH_3) and from ammonium salts (NH_4^+) which are used in the processes in addition to the TKN, in order to determine the total Nitrogen content in the waste products.

The water treatment activity mainly entails biological processes acting on the nitrification/denitrification balance.

Chlorides (Cl-)

The chlorides contained in the tannery discharges are entirely of mineral origin and are referable to the refresh phase that dissolves the preserving salt, the ammonium chloride that may be used in the decalcination/maceration process and the use of sodium chloride and hydrochloric acid in the pickle and in tanning.

Their presence is not considered to cause particular concern, except for the influence that a high salt load can cause on the water's osmotic potential, on the water's organoleptic characteristics and possible corrosion phenomena on the pipes, associated with the water's higher electric conductivity.

Chrome III

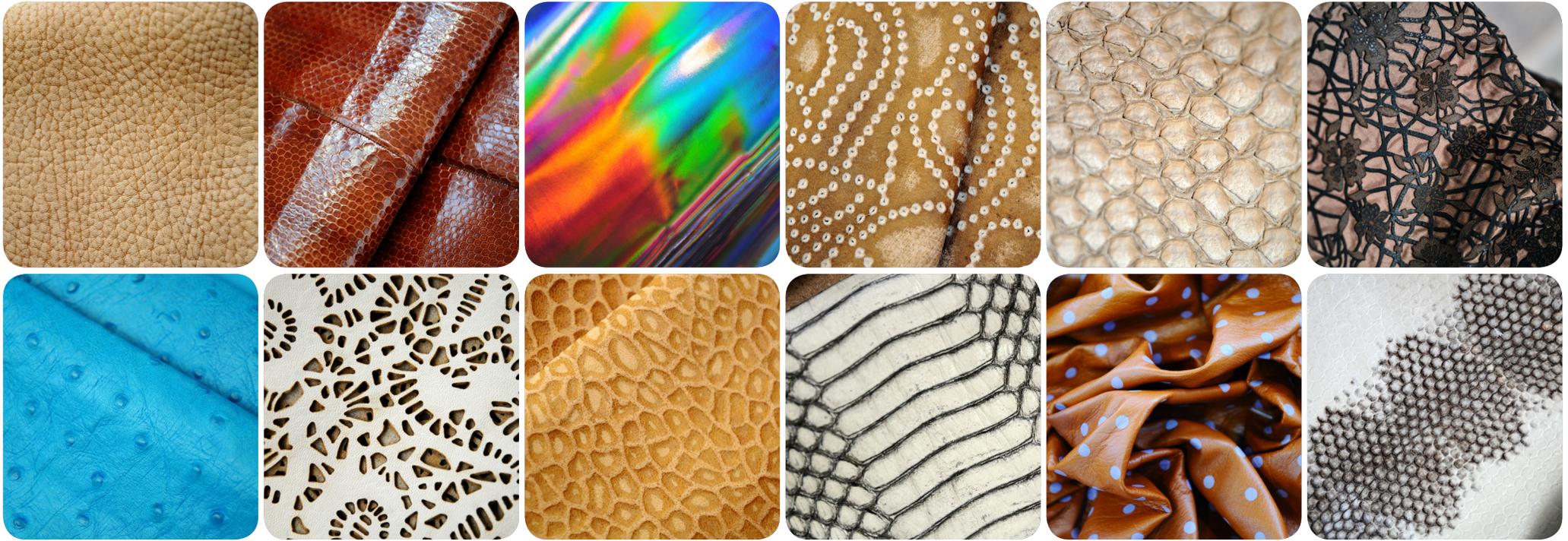
Basic chrome sulphate (CrOHSO_4) is a tanning agent that is able to fix itself irreversibly to the collagen fibres, preventing the fibres from decaying without changing their softness, flexibility and the original fibrous structure and it is very widely used in the tanning industry for this reason. The chrome does not have particular toxic characteristics in its trivalent state of oxidation.

The technologies available to the sector enable a significant portion of the chrome contained in the depleted tanning baths to be recovered using chemical and physical treatments, reducing the concentrations entering the water treatment systems, which complete their removal.

Sulphides (Cl^-)

Sodium sulphide (Na_2S) is used in the initial processing phases, in particular, to remove hair from hides/skins which have hair. The environmental impact is mainly due to its potential toxicity in certain environmental conditions, to its contribution to the COD value and, less impacting but more evident, the characteristic bad odour transferred to the water.

The sulphides are largely eliminated (more than 99%) using traditional chemical, physical and biological treatment systems. A further possibility of removing sulphides is represented by intervening on the process by adopting, for example, enzyme unhairing processes to achieve the total or partial substitution of the sulphide and replenishing the depleted baths and reusing them.



PRIMARY ATMOSPHERIC POLLUTANTS

VOC Volatile Organic Compounds

Substances emitted during the spray finishing process of leather in limited concentrations and in large volumes of air which are then transferred to scrubbers (lamella filters and scrubbers). The technological solutions to reduce the pollution caused by VOC focus on substituting solvent-based products with equivalent water-based products, in order to reduce the source of pollution.

Dusts

Substances produced by a number of mechanical operations, for example, shaving and grinding, connected to specific extractor/removal devices to reduce the concentration; the dust is produced in the form of particles of coloured pigments contained in the products, also in the finishing spray cabins.

H₂S⁻ Hydrogen Sulphide

A gas with a characteristic smell of rotten eggs. The gas originates mainly from the calcination waste materials and originates in the decalcination drums due to the change in the values of pH. These drums are connected to the extractor systems to limit the emission of the gas in the environment, the extractor systems use caustic soda solutions which combine with the H₂S and remove more than 95% of the gases emitted.

NO_x e SO_x Nitrogen Oxides and Sulphur

Combustion by-products in the heating plants. Their concentration in the emissions depends on the oxidation of the Nitrogen present in the air and the quantity of Sulphur in the fuels used. The heating plants which use traditional fuels (diesel oil and low sulphur content oil) are now gradually being converted to cleaner solutions (methane gas).

CODE OF CONDUCT AND SOCIAL RESPONSIBILITY



Foreword

To be compliant with UNIC (voluntary) Code of Conduct and Social Responsibility, a company must meet the minimum requirements contained in the present document. The requirements are drawn from the international agreements on “social responsibility” issued by ILO (International Labour Organization) and adapted for the manufacturers and service providers of the leather industry.

The present Code is approved by the following trade unions: FILCTEM-CGIL, FEMCA-CISL, UILCEM-UIL.

To verify that the requirements needed to obtain declarations of compliance with UNIC Code of Conduct and Social Responsibility are met and maintained, companies are regularly inspected by a qualified third party (ICEC) charged by UNIC thereof. Further controls are also possible to check that a company’s suppliers/contractors meet the provisions prescribed for them.

Social Responsibility

1. CHILD LABOUR

- 1.1 ■ The company will not use or support the use of child labour (i.e. any person aged less than 16 years).
- 1.2 ■ The company will particularly protect minor workers from any conditions that may be dangerous,

hazardous or harmful for their health, both inside and outside the workplace, in compliance with the prescriptions of the law in force.

2. FORCED LABOUR

- 2.1 ■ The company will not use or support the use of forced labour, nor ask their staff to deposit any money or identity documents as they are hired. Forced labour means any job or service obtained under the menace of any penalty, or for which any person did not offer himself/herself voluntarily, or which is obtained as compensation for a debt.

3. HEALTH AND SAFETY

- 3.1 ■ The company will provide a safe and healthy workplace and will adopt all measures to prevent work accidents and damage to health during the performance of a job or resulting therefrom.
- 3.2 ■ The company will appoint a managers’ representative to implement all issues guaranteeing health and safety in the workplace.
- 3.3 ■ The company will ensure that the staff receives regular and documented training about health and safety at work, that such training is repeated for any new or reassigned staff, and check that training is efficient.

4. ENVIRONMENT

- 4.1 ■ The company will fix and maintain procedures and practices aimed at reducing the environmental impact of its activities.

5. RIGHT OF ASSOCIATION AND BARGAINING

5.1 ■ The company will respect the right of all workers to join the union of their own choice and to participate to collective bargaining.

6. DISCRIMINATION

6.1 ■ The company will not discriminate upon hiring, remuneration, access to training, advancement, layoff or retirement based on sex, race, national origin, disability, religion, social status, sexual preference, union membership, political affiliation, age.

7. WORKING HOURS

7.1 ■ The company will comply with the laws and all dispositions currently in force contained in the National Collective Labour Agreement regarding the working hours for the workers of the tanning industry and related sectors. The mean weekly hours, calculated over a reference 12-month period, will not exceed 48 effective working hours. The staff will be guaranteed at least 24 consecutive hours' rest every 7 days.

8. REMUNERATION

8.1 ■ The company will guarantee that remuneration always corresponds to the standards fixed by the law and to the minimum parameters fixed in the National Collective Labour Agreement for the workers of the

tanning industry and related sectors.

8.2 ■ The company will guarantee that the composition of remuneration and of allowances is clearly and regularly specified.

9. MANAGEMENT

9.1 ■ The management will define their corporate policy for social responsibility and working conditions so as to guarantee:

a) that the company is committed to comply or keep complying with the legislation in force and to fulfil the recognized international agreements;

b) that the company is committed to regularly improve its organizational system;

c) that the corporate policy is easily accessed and understood by all employees, including the managers and heads of staff;

d) that the corporate policy is accessed by the general public.

9.2 ■ The company will appoint a managers' representative to ensure, independently from all other responsibilities, that all the requirements of the present document are met (see also 3.2).

9.3 ■ The company will guarantee that the workers choose a representative to facilitate the relationships with the managers regarding the issues of the present document.

9.4 ■ The company will fix and maintain special procedures to assess and select suppliers and contractors based on their capacity to meet the requirements

of the present document and give documented evidence thereof.

9.5 ■ The company will fix and maintain special procedures to regularly communicate to all concerned parties the data and other information regarding corporate performance related to the requirements of the present document.

9.6 ■ The company will keep a suitable documentation certifying compliance to the requirements of the present document.

10. PROFESSIONAL BEHAVIOUR

10.1 ■ The company will file the reports on the management of its activities with a public body, and provide true information thereof to all third parties.

10.2 ■ The company will respect the principles of loyalty, fairness and transparency upon staff hiring, and behave in a just way with its collaborators, by facilitating their professional growth. The company will also act with transparency, fairness and good faith in its relationships with the institutions, customers, suppliers, and competitors, and avoid any unfair competitive actions likely to cause damage and violate the principles of the present code. The company will guarantee product quality and consumers' protection.

10.3 ■ In case of any disputes related to the issues of the present document, the company will give objective evidence to demonstrate that they are being addressed with adequate corrective measures. The company will also implement preventive actions aimed at avoiding that such disputes may arise again.

ICEEC SOCIAL AND ENVIRONMENTAL CERTI



UNI EN ISO 14001 Certification

"Environmental Management Systems"

ICEEC Accreditation
Accredia nr. 019 D

The certified company's management system is adequate for keeping the environmental impact of its activities under control and is systematically improved in a consistent, efficient and sustainable way.



EMAS REG. 1221/2009 Validation

"Eco-management and auditing system"

ICEEC Accreditation
**Ecolabel-Ecoaudit Commission
nr. IT-V-0016**

EMAS is mainly focussed on improving the environment and offering to the market, control authorities and citizens a useful tool to be informed about a company's environmental performance, i.e. the Environmental Declaration



UNI TR 11181 Declaration

"Guidelines for the Environmental Report of leather products"

This document defines a uniform and nationally acknowledged model to be used upon assessing a product's environmental impact. By extending the analysis from raw hides and skins to finished leather, these guidelines help preparing the Environmental report of leather products



EPD Validation

"Environmental Product declaration"

ICEEC Accreditation
Accredia nr. 005 H

Based on the enforcement of the Product Category Rules (PCR) governing bovine leather, this document helps companies issue their product environmental declarations in compliance with ISO 14025 standard, and with a Life Cycle Assessment approach in accordance with ISO 14040 standard.

CERTIFICATIONS AND DECLARATIONS



UNI 11427 Product Certification

"Definition of the performance characteristics of leather with a low environmental impact"

ICEC Accreditation under preparation with Accredia

The environmental criteria and functional characteristic of eco-friendly leather are being standardized at a national level. In particular, this standard fixes the minimum requirements to be met to obtain the eco-leather logo.



Code of Conduct and Social Responsibility Declaration UNIC Social Accountability

The Code represents an essential tool to make the principles driving the company be known. The document officially identifies the values of conduct and social responsibility adopted by the company. The document is based on the principles of SA 8000, i.e. a leading international agreement (ILO) concerning the protection of workers' rights, as well as commercial ethics and social and environmental responsibility. The present Code has been approved by the unions.



OHSAS 18001 Certification

"Health and Safety at Work Management Systems"

Accreditation under preparation with Accredia

The implementation of a H&S at Work Management System helps companies identify and keep under control all risks related to health and safety in the workplace, reduce the number of possible accidents, be compliant with the legislation in force, and constantly improve corporate performances. It also translates into allowances from INAIL (Italian Institute for Insurance against Work Accidents).



For any further enquiries:

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REMARKS ON THE METHOD

The present Environmental Report was prepared by collecting information in the field, and namely from a number of tanneries willing to collaborate. The criteria adopted for the selection of tanneries are based on territory, type of production, and relative weight within the manufacturing districts they belong to. As a matter of fact, the selected sample of tanneries accurately mirrors the sector's composition at a national level by geographical distribution, output value and number of employed workers. The 30 tanneries included in the

study are mainly located in the three leading tanning districts of Italy and their aggregate output accounted for 18.6% of the national value in 2011 (i.e. the greatest value of all Reports). Concerning the number of workers, their share amounts to 12.6% of the total number.

Concerning water consumption and wastewater production (which are the most important environmental information under a physical and economic viewpoint), the collaboration of district cleanup

plants helped extend the sample to all 589 tanneries connected to them in the districts of Veneto, Tuscany and Campania.

Lastly, the Social Report was based on the information collected in the field from the tanneries included in the sample and integrated with the data supplied by labour consultants. This additional information helped extend the sample to a number of 157 tanneries, totaling about 3,850 workers.



WE WISH TO THANK THE FOLLOWING TANNERIES FOR

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OR THEIR CONTRIBUTION TO THE PRESENT REPORT:

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