Givaudan

Leading Sensory Innovation

Safety and Environmental Report 2005

Table of Contents

Foreword

The continued efforts of Givaudan in the areas of health, safety and environmental protection have again shown good results in 2005. Most S&E key indicators continued to show positive trends reflecting our global objective of minimizing the impact of our activities on the environment, whilst providing a safe work place for our employees.

We have made good progress in almost all areas, but have been unable to achieve the objective set to further reduce the accident rate, which is expressed in workdays lost. Regrettably, this indicator has increased for the second consecutive year. However, we are pleased to report that although the overall number of accidents and their severity has increased, there were neither fatal or severe accidents nor major incidents. We have committed ourselves to taking all the necessary actions to reduce the accident rate and therefore reverse this tendency. Providing a safe working environment remains one of the key objectives of Givaudan and ensuring that all employees follow our safety guidelines is prerequisite to achieve this objective.

The safety and health of our co-workers is a primary objective of our organisation. Our medical surveillance programme and our preventive measures to protect the health of our employees, have lead to another year of zero occupational illness. Whenever necessary, working conditions are immediately adapted to avoid any incident.

Important capital investment projects have been initiated or completed during this year. Amongst these, the most important investment is the construction of the new flavours creation, application, technology and manufacturing site in Shanghai. Further projects where the latest available technologies in the area of S&E could also be used, were the extension of the compounding facilities in Vernier (Switzerland), the renovation of one of the buildings in Argenteuil and the expansion of the Devon facility warehouse in Cincinnati (USA). Specific S&E investments were made to improve the waste water treatment in Vernier, Cincinnati and East Hanover (USA) as well as to increase the odour control in Dübendorf (Switzerland) and in Cuernavaca (Mexico). Another key area was the investments to increase the access security on our sites.

In 2005, the indicators related to environmental protection demonstrated further improvement: CO_2 emissions, energy consumption, hazardous waste and CFC inventory, are all showing decreasing trends. Improving these indicators in the future is still feasible, however at a slower pace, since Givaudan already uses most of the latest technologies on its different sites.

The good results achieved in the area of S&E are also achieved thanks to the audits conducted at the various sites. These audits have a preventive and sometimes corrective purpose, leading to a high level of S&E in all of our sites. Six audits were performed in 2005 on sites located in Switzerland, France, India, Mexico and the USA. Some of these audits were also conducted jointly with an insurance company that brought its expertise and a different view-point.

As a responsible corporate citizen, Givaudan strives to provide safe working conditions for its employees and to reduce the impact of its activities on the environment. To achieve this permanent objective, the company undertakes every effort to apply processes that are safe, consume less energies and raw materials and are as harmless as possible to the environment. Thanks to the efforts of each and every Givaudan employee, the company remains committed to improving in this essential area.

Gilles Andrier

Chief Executive Officer

Summary

Comparison 2005 versus 2004 based on absolute value

Production

Overall production of fragrances and flavours increased by 4.2%.

Safety (Accidents)

The number of workdays lost by employees increased by 17.1%.

Energy

Total energy consumption, composed of electricity, light fuel and natural gas slightly increased by 1.4%. The share of natural gas continues to grow in the overall energy consumption.

CO_2 Emissions

Carbon dioxide (CO_2) decreased further by 7.8% as a consequence of the replacement of light fuel by natural gas.

Inorganic Gas Emissions

NO_x gases decreased by 3.8% and SO_2 gas decreased by 38.1%, due to the replacement of light fuel by natural gas.

VOC Emissions

Total VOC emissions increased by 15.0%.

CFC Consumption

CFC consumption remained constant.

CFC Inventory

CFC Inventory decreased by 10.5%.

Water Consumption

Water consumption increased by 11.4%.

Waste Water

The Total Organic Carbon (TOC) increased by 80% as a consequence of the change of the ingredients production portfolio in Vernier.

Hazardous Waste

Hazardous waste slightly increased by 2.1%. Landfill increased by 8.8%, but remained very low.

Non-Hazardous Waste

Non-hazardous waste decreased by 22.6%. The recycling rate of 75% remains stable.

Investments

Investments include expenses made for S&E specific equipment for fire detection, water/air treatment or water supply for fire-fighting, and an amount taken as a percentage of investments made in operating facilities.

Overall investments in S&E have decreased by 22% in 2005. These S&E investments represented 10.2% of total capital expenditures.

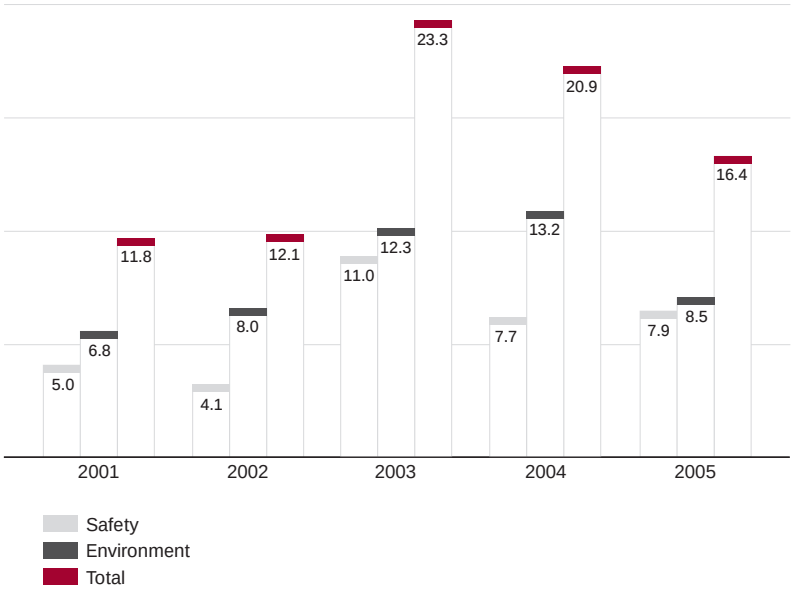
Around 80% of the safety investments related to production expansion projects in Shanghai, Devon and Vernier, as well as the renovation of a building in Argenteuil. Safety specific investments to improve fire prevention and protection in Sant Celoni and East Hanover represented the remaining 20%.

Around 70% of the environmental investments were specific to projects such as the improvement for wastewater treatment in Vernier, Cincinnati and East Hanover and odour control in the sites of Dübendorf and Cuernavaca. The remaining 30% were related to the aforementioned production expansion projects.

Furthermore, since September 2001, a total of CHF 6 million were invested to improve the security of our sites mainly through the installation of access controls to the buildings and surveillance systems.

S&E Investments

in millions of CHF



Expenses

S&E expenses mainly cover S&E services, maintenance of S&E equipment, site remediations, waste elimination costs and training of employees on S&E matters.

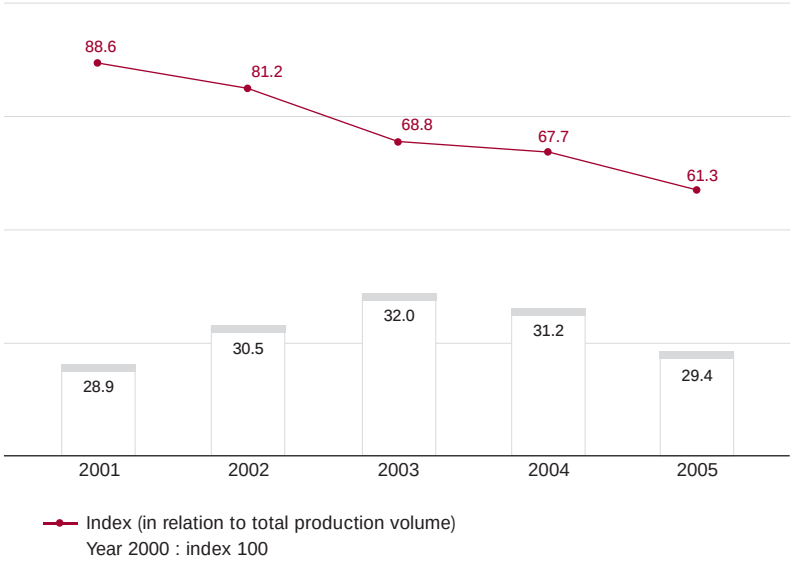
Overall expenses have decreased by 6.1% in absolute value and 9.7% in relation to the production volume.

The split this year was around 60% for environment and 40% for safety. Environmental expenses are larger due to the important running costs of installations like waste waster treatment plants and odour control units.

S&E expenses have decreased by almost 40% since the year 2000 mainly as a consequence of continued strict cost discipline.

S&E Expenses

in millions of CHF



Safety

The Internal Accident Index (IAI) expresses the amount of workdays lost per employee and per year. The frequency is the amount of accidents per 1,000 employees.

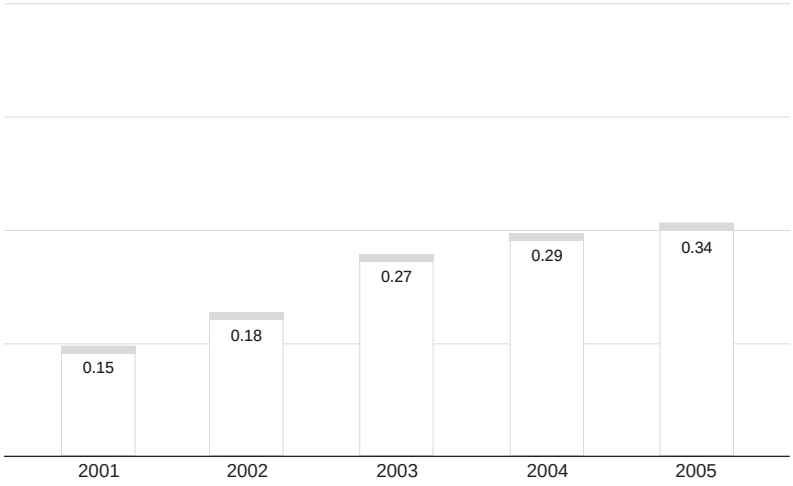
The Internal Accident Index increased further in 2005, as a consequence of an increase in both the number of accidents and their severity, which is expressed in workdays lost. Half of the sites reported an increase of the number of workdays lost per employee. No fatality and no severe accident were reported. In addition, four sites have recorded zero accidents in the period under review.

To improve the situation in the sites concerned, general and specific actions will be undertaken during the course of 2006. Namely: Additional training for employees to avoid hazardous behaviour and the strengthening of risk assessments of the workplaces.

Accident frequency increased by 21%.

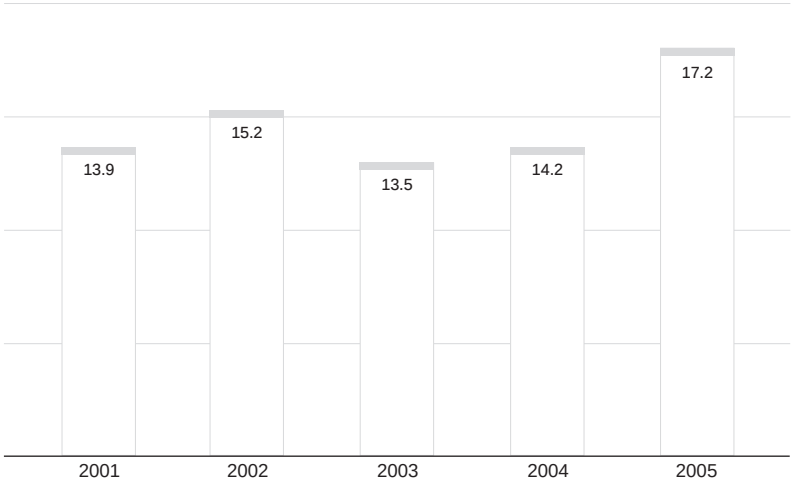
Internal Accident Index

workdays lost per employee



Accident Frequency

accidents per 1,000 employees



Energy

Energy primarily covers the consumption of electricity, light fuel and natural gas to produce chemicals and to manufacture mixtures of liquids and powders.

The energy consumption increased slightly by 1.4%, but decreased by 2.6% when put in relation with the total production volume.

Consumption of electricity increased in total by 6.4%, remained however constant when compared to total production volume.

The use of natural gas has steadily increased over the past five years. The Vernier site, as one of the major energy consumers, has now totally turned to natural gas. As a matter of fact, natural gas generates less carbon dioxide than other fossil energies and is used more and more on Givaudan's sites. This underlines the company's environmental efforts to contribute to the reduction of carbon dioxide and sulphur dioxide emissions.

Since 2003, extra light fuel is decreasing constantly and represents now 27% of the total fossil energy consumption.

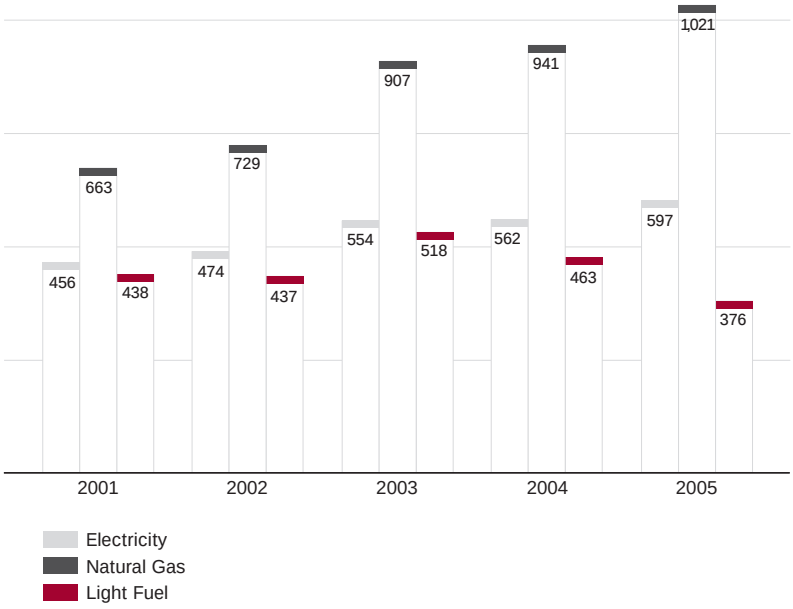
Since 2000, the total energy consumption has decreased by round 10% when put in relation with the total production volume.

Total Energy Consumption

in terajoules

Consumption by Type of Energy

in terajoules



CO_2 Emissions

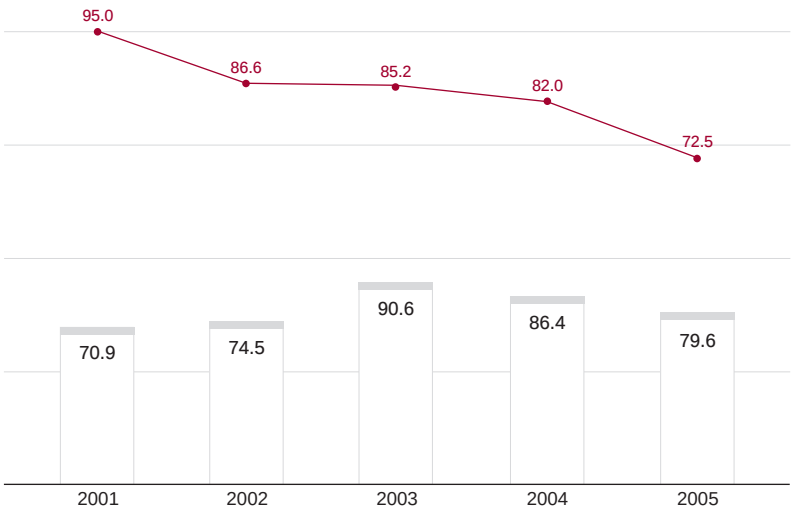
Carbon Dioxide (CO_2) emissions result from the combustion of fossil fuels to generate steam necessary in the production of flavours and fragrances and to heat buildings.

CO_2 emissions have decreased by 7.9% in absolute value and by 11.6% in relation with the production volume. This reduction is a result of the phasing out of light fuel in the Vernier site and Givaudan's ongoing efforts to give a preference to natural gas instead of light fuel whenever possible.

Since 2000 total CO_2 emissions in relation to production volume have decreased significantly.

CO_2 Emissions

in thousand tons



Inorganic Gas Emissions

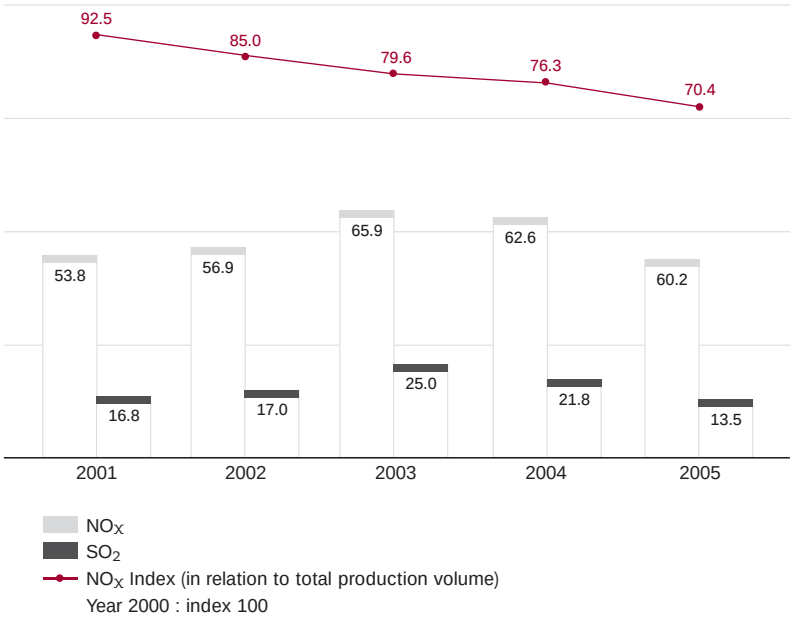
Inorganic gases are sulphur oxides (SO_2) and nitrogen oxides (NO_X) emitted by the combustion of fossil fuels.

Total inorganic gas emissions of 73.7 tons in 2005 decreased by 12.7% compared to the prior year. This further reduction is a consequence of the ongoing replacement of light fuel by natural gas, which generates less nitrogen oxides and less sulphur oxide, since it contains almost no sulphur.

NO_X emissions in relation with the production volume decreased by 7.7%.

Inorganic Gas Emissions

in tons



VOC Emissions

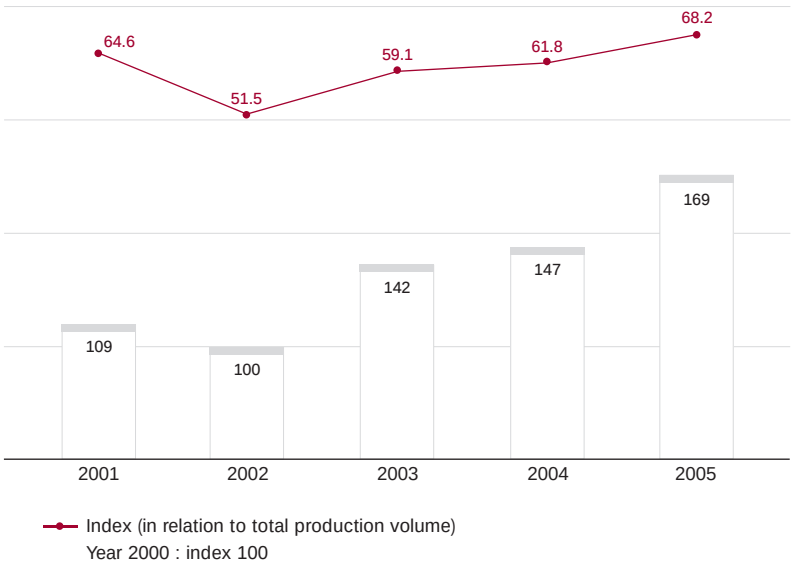
Volatile Organic Compound (VOC) emissions are non-halogenated solvents such as aliphatic alcohols and toluene.

VOC emissions (mainly solvents) have increased by 15% in 2005. For three consecutive years the emissions have been increasing, partly due to the increase of production volume and better monitoring methodology. The measuring of volatile organic compounds emissions is, in an industry like ours, whose production is mainly batch related, a challenge in itself. Therefore the numbers represent Givaudan's best efforts to measure these emissions. Reported numbers for previous years have been corrected accordingly.

A more systematic and better identification of the possible emissions sources in our sites, the efficiency improvement of the monitoring methodology to better evaluate the emissions in batch processes will most probably lead to more precise numbers. This will, on the positive side, lead to more specific actions to contain or reduce these emissions in the future.

VOC Emissions

in tons



CFC

CFC (Chlorofluorocarbon) is only used in cooling or fixed fire extinguishing systems.

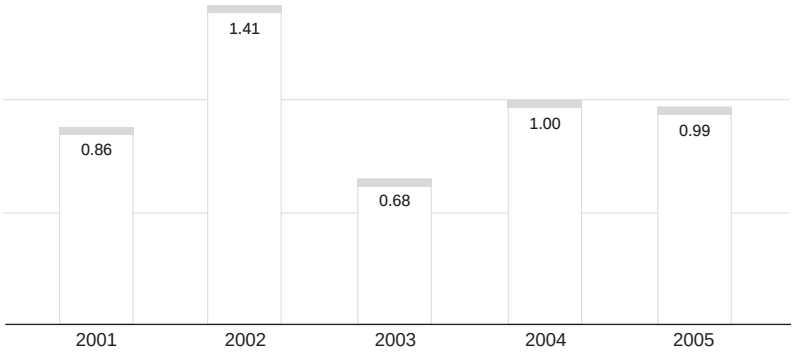
CFC consumption remained in 2005 constant to the prior year.

CFC inventory decreased by 10.3%, due to the dismantling of an installation containing R22 CFC, in our Lakeland (USA) site.

CFC inventory continued to decrease for the third consecutive year as a result of Givaudan's effort to reduce equipment containing CFC.

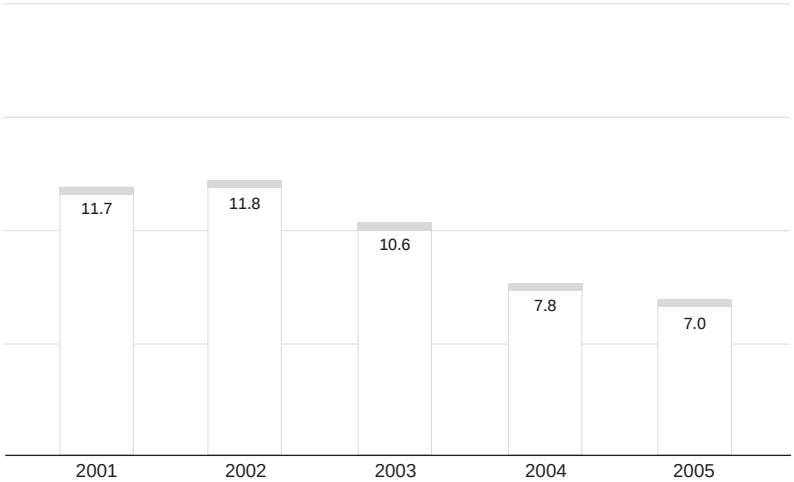
CFC Consumption

in tons



CFC Inventory

in tons



Water Consumption

Water is used for cooling or in manufacturing processes. Consumption consists of industrial water (from rivers or wells) and drinking water (public utility).

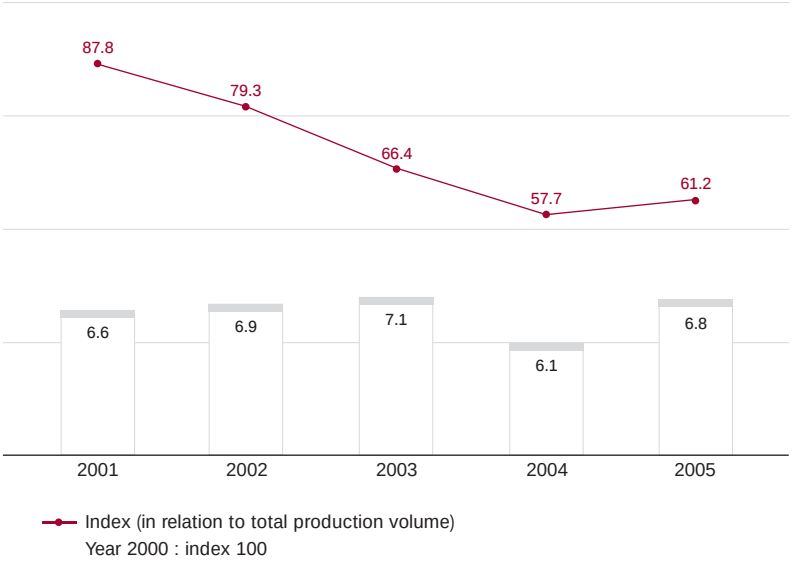
Total water consumption increased in 2005 by 11.1%. The consumption increased by 6.1% when compared to the production volume.

More than 60% of Givaudan's total water consumption stems from the Vernier site, which is our largest fragrance production site. About 80% of the reported increase in consumption comes from this site, where the ingredients portfolio mix has changed over the last years. Whereas the discontinuation of sunscreen filters and other commodity type ingredients has temporarily lead to a consumption decrease in 2004, the increase of production of specialties has lead again to higher consumption levels in 2005.

The production of specialties requiring multi-step synthesis has a direct impact on the increase of water consumption.

Water Consumption

in million m^3



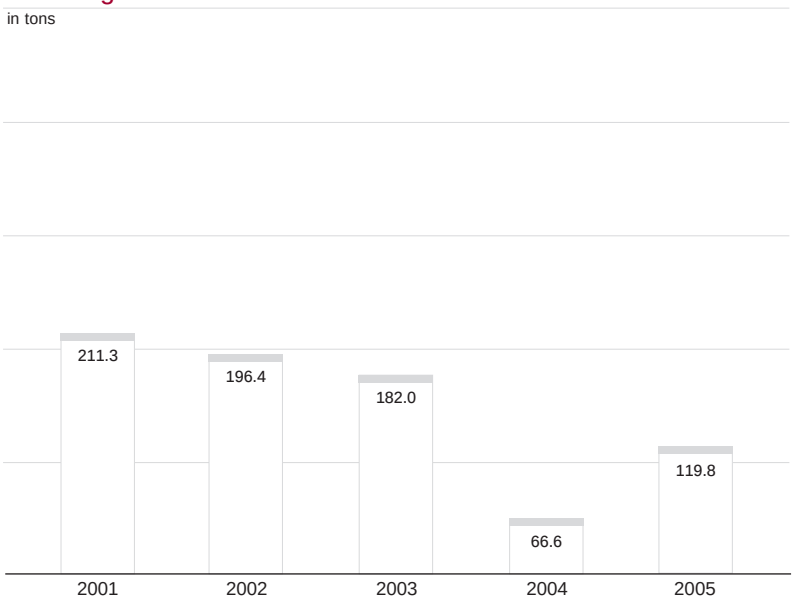
Waste Water

Total Organic Carbon (TOC) expresses the amount of organic substances rejected back into the water after being treated in the waste water treatment plant.

Total organic carbon discarded into the environment has increased in 2005 by 80% compared to prior years. This sharp increase is driven by the change of the ingredients portfolio mix on the Vernier site, which emitted more than 80% of Givaudan's total TOC. The strong decrease in 2004 was due to discontinuation of sunscreen filters and some other commodity type ingredients in Vernier, which created high-loaded biodegradable effluents. In 2005, the increase of specialties production lead again to higher TOC emissions, due to their multi-step production processes.

Total Organic Carbon

in tons



Hazardous Waste

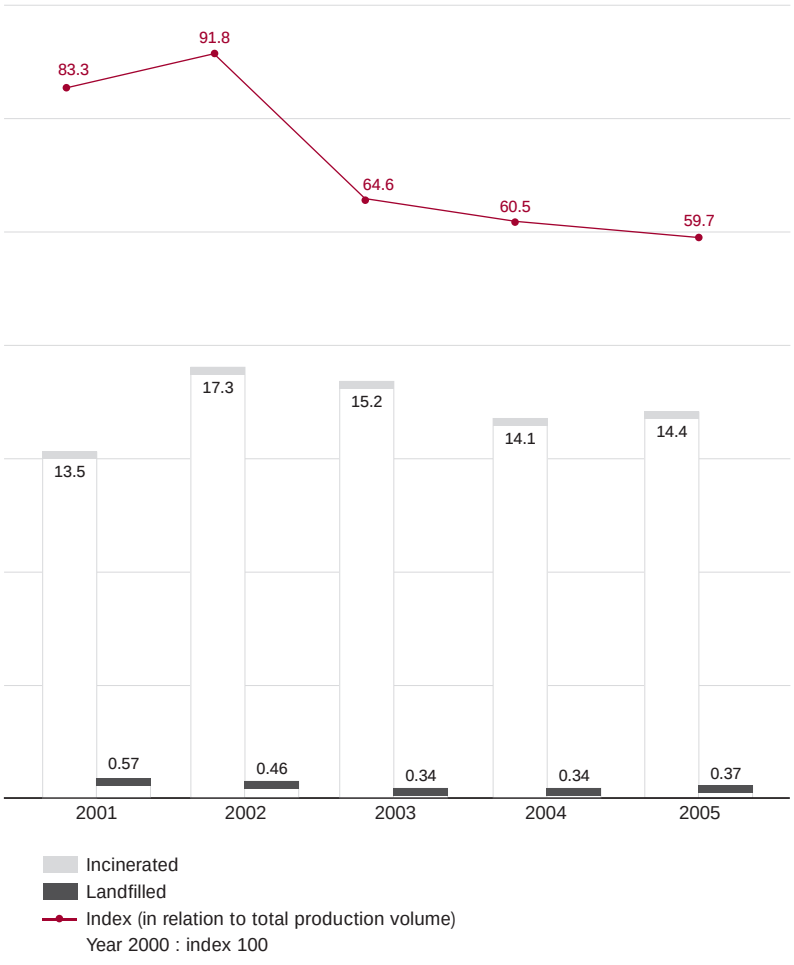
Hazardous waste mainly covers flammable solvents, distillation residues and mineral sludge from waste water treatment plants.

The total of hazardous waste increased slightly by 2.3% in 2005. The major part of the waste is incinerated and only a very small part, made up of sludge from the waste water treatment plant, is still landfilled.

The hazardous waste index in relation with the production volume shows a slight decrease over the three years. Efforts continue to be made to reduce, or at least to stabilise, the generation of waste.

Hazardous Waste

in thousand tons



Non-Hazardous Waste

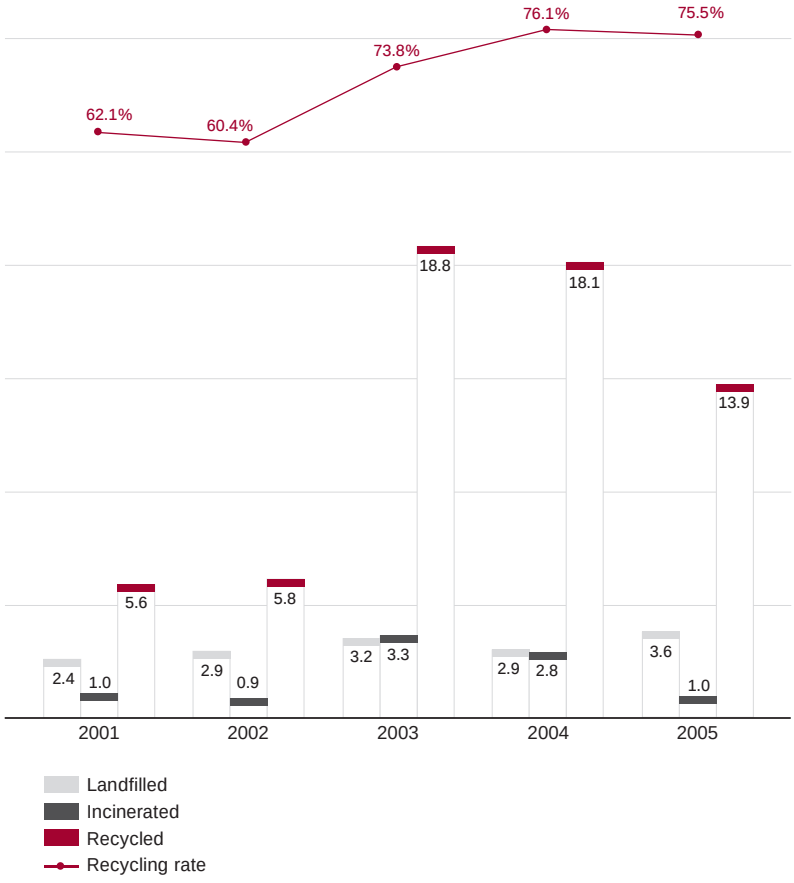
Non-hazardous waste is mainly packaging of all kinds, vegetable matter, etc.

The overall non hazardous waste generated decreased by 15.6% in 2005. The incinerated part has decreased by 23.2% whilst the part of landfilled waste increased by 23.7%. This situation is directly related with the type of waste produced: less combustible and more inert waste was generated.

Recycling rate remained stable, decreasing slightly by 0.8% in 2005. It remains high due to Givaudan's continuous efforts in finding new ways of recycling waste.

Non-Hazardous Waste

in thousand tons



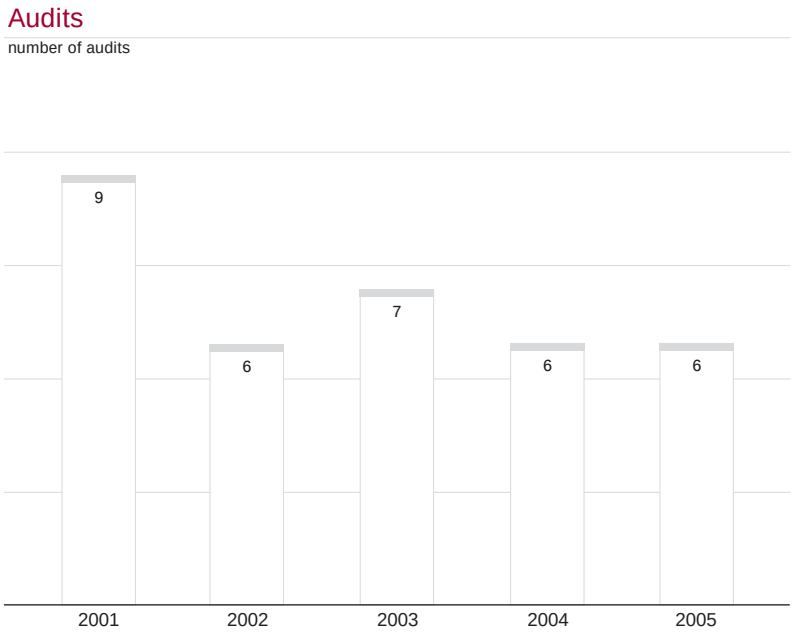
Audits

Safety and environmental audits are performed on a regular basis in Givaudan's 24 production facilities.

In 2005, six audits were performed in Europe, Asia and USA. During these audits no significant issues were identified, showing the high level of safety, hygiene and environmental protection in all Givaudan activities.

On all Givaudan sites, risk management has become an important tool to conduct the business in a safer and more environment friendly manner.

Audits in co-operation with an insurance company has been pursued in 2005 and had again confirmed the high level of Givaudan in S&E.



Sites

Sites participating in the 2005 S&E Report

Sites

USA

Cincinnati	(Ohio)
Devon	(Kentucky)
East Hanover	(New Jersey)
Lakeland	(Florida)
Mount Olive	(New Jersey)
New Milford	(Connecticut)
Saint Louis	(Missouri)

Latin America

Cuernavaca	(Mexico)
Munro	(Argentina)
Sao Paulo	(Brazil)

Europe

Argenteuil	(France)
Barneveld	(Netherlands)
Dortmund	(Germany)
Dübendorf	(Switzerland)
Kemptthal	(Switzerland)
Lyon	(France)
Sant Celoni	(Spain)
Vernier	(Switzerland)

Asia

Bangalore	(India)
Fukuroi	(Japan)
Jakarta	(Indonesia)
Shanghai	(China)
Singapore	(Singapore)

Oceania

Sydney	(Australia)

Use Of Solar Energy

For many years already, the reduction of energy consumption has become a steady objective of the Givaudan Group. During the past years, the majority of energy producing and consuming equipment has been either changed or upgraded, to use the latest available technologies. One of the key objectives, the replacement of light fuel by natural gas has almost been achieved and the results of this objective are published in this report. In addition to natural gas, solar energy is another alternative to reduce fossil energy consumption.

Safety and environment experts are always involved in all major capital projects, even if the project is only the transformation of an administrative building as was the case with the recent renovation in Argenteuil (France) of the building that today houses the perfumery school, the flavours application laboratories and the offices for sales force, finance and administration. Consequently, Givaudan's S&E representatives took the opportunity during the project phase to review all the possible options to reduce energy consumption. After a careful study, including the number of hours of sun in this area, the installation of solar captors on the roof were proposed as an alternative source of energy .

The building was inaugurated in September 2005. On the roof of the lower part of the building, around 300 m² glass tubes, filled with a

West view of the Argenteuil building, with the lower part on the left side

Solar captors on the roof of the lower part of the building.

special gas, capture the solar heat and release it through a vaporisation and condensation cycle. The energy gained is used to prepare chilled water for air conditioning, to preheat the air for the ventilation and to produce hot water. As part of this novel installation, the building was fitted with a double wall made of glass. Exhaust air from the building circulates between the two glass panels, which are 80 cm apart, allowing a person to walk through for maintenance and cleaning purposes. This double wall acts as an air buffer which insulates the building from the heat in summer, requiring less air conditioning, and the cold in winter, which reduces the heating bill.

The cost for the solar installation was around CHF 1 million and provides more than 15% of the total energy needs of the building. In combination with the novel façade technology, the consumption of natural gas could be reduced, leading to a reduction of about 18 tonnes of CO_2 emissions.

Detailed view of the glass tubes.

View of double wall and walkway.

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Credits

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