

# Kemira

Environmental Report 2008



Kemira focuses on water and fiber management chemistry, its goal is to be the best in its field. In 2008, Kemira recorded revenue of approximately EUR 2.8 billion and had a staff of 9,400. Kemira operates in 40 countries. Kemira's businesses are organized into three customer-based segments, with expertise in water treatment as the common denominator.



## Economic Downturn Will Not Undermine Environmental Responsibility

Nearly everywhere in the world, the environment and safety are two of the most regulated sectors. Industrial companies, the chemical industry included, are subject to comprehensive and detailed permits and supervisory schemes. These schemes determine our basic operational requirements, which must remain unchanged even during an economic downturn. While voluntary investments can be postponed, we cannot compromise with respect to fundamental prerequisites.

The regulative environment is also largely accountable for creating opportunities for the environmental business. Western societies cannot even imagine giving up such basics as clean drinking water or treatment of waste water, even during an economic downturn. This fosters stability in the environmental business, both in the public sector and among our industrial customers.

Last year, Kemira continued improving its environmental and safety performance despite significant economic challenges and changes. Safety in particular requires a disciplined, long-term view, involving many small steps and an ongoing commitment to raising standards. In our research and development, we will focus on a number of key areas, with water as the common denominator.

Harri Kerminen  
President and CEO, Kemira

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## Kemira – Expert in Water Treatment

Kemira offers a comprehensive product range and an extensive knowledge base in fiber treatment chemistry, chemical water treatment and water separation technology. Our segments focusing on water and fiber management chemistry are Paper, Water and Oil & Mining.

In 2008, our strategy and structure were transformed with the objective of strengthening our customer focus and competitiveness. Our goal is one unified Kemira delivering cost-efficient and customer-driven solutions globally.

### Business Restructuring

We focus on businesses that have water technology as their uniting factor. Kemira has a strong competence, leading technology, and an extensive product range in water and fiber management chemistry. Our segments, Paper, Water, and Oil & Mining, can all use the same product know-how and chemistry in their operations which we have built through dedicated research and development work, as well as numerous acquisitions.

Our new business organization will prove beneficial to us in terms of the delivery of chemicals to our customers, in our development of services and tailored solutions and our pursuit of close customer relationships. The fundamental part of the structural change is the creation of global shared practices and business processes.

Our operations have been divided into four geographical areas: North America, South America, Asia Pacific, and

Europe, Middle East and Africa. Our corporate functions, EHSQ (Environment, Health, Safety, Quality) included, serve all of our segments globally.

### Expanding Environmental Business and Reducing Emissions

In 2008, Kemira's revenue grew by approximately 0.8% on the previous year. During the same year, our environmental revenue increased to an estimated EUR 1,151 million, representing some 40.6% of the Group's total revenue.

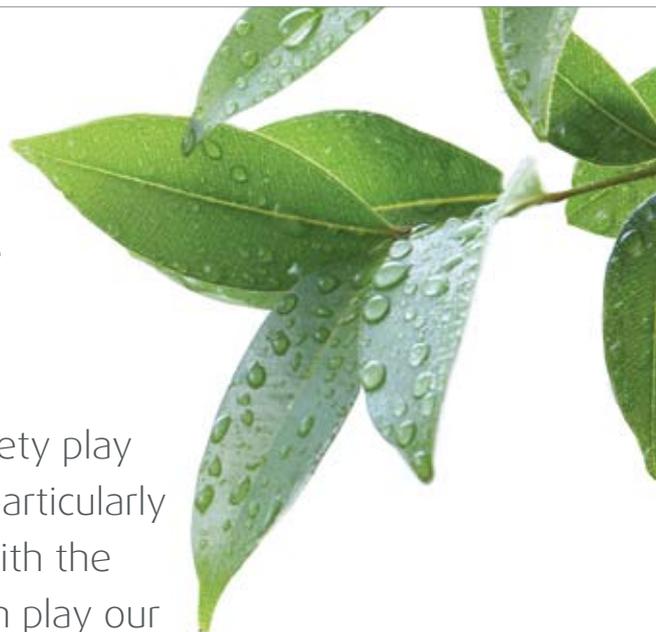
Meanwhile, direct greenhouse emissions from our operations have decreased by approximately 95% since year 2000. The environmental index representing the Group's environmental load showed a decrease of some 3% from the previous year. This index consists of seven key emissions and both non-hazardous and hazardous waste.

At our production sites, the lost time incident frequency (LTA1), an indicator of accidents causing an employee absence of at least one day, was 4.4 in 2008, compared to 6.5 in the previous year. A long-term positive trend indicates that our investment in promoting safe behavior and a safety-oriented culture is bearing fruit.

### Key Figures

	2008	2007	2006	2005	2004
Revenue, EUR million	2,832	2,810	2,522	1,994	2,533
Environmental Capital Expenditure, EUR million	7.2	30.2	12.2	7.4	10.3
Environmental Operating Costs, EUR million	30.0	39.1	35.4	33.3	40.4
Total Environmental Costs (% of revenue)	1.3	2.5	1.9	2.0	2.0
Environmental Index*	26	27	23	25	50

\* Year 1997 index was 100.



### Environment and Safety in the Core of Our Operations

In the chemical industry, environment and safety play an important part in corporate responsibility, particularly concerning products and their supply chain. With the help of water treatment and recycling, we can play our part in reducing our customers' environmental footprint.

#### The Kemira Code of Conduct Addresses:

- Financial reporting
- Environment, health and safety (EHS)
- Business partners
- Fair competition
- Conflicts of interest and bribery
- Support for human rights
- Insider information and investor relations
- Company assets
- Confidentiality and privacy
- Reporting procedures

#### We Are Committed to:

- Preventing and minimizing any harmful effects of our operations on the environment, people and property
- Continuously improving our environmental and safety performance
- Promoting sustainable development by making efficient use of energy and natural resources
- The international Responsible Care (RC) program
- To globalizing our certified management systems

In the chemical industry, safety and the environment take center stage in corporate responsibility. For decades, the industry has placed its main emphasis on occupational and process safety and plant environmental issues, with excellent results. The most tangible example of this work is the global Responsible Care program.

### **Safety First**

At Kemira, we continue to improve the systems, attitudes and work methods related to occupational safety. At our production sites, the lost time incident frequency (LTA1), an indicator of accidents causing an employee absence of at least one day, was 4.4 in 2008, compared to 6.5 in 2007. A long-term positive trend indicates that our investment in promoting safe behavior and a safety-oriented culture is bearing fruit. During times of change, maintaining mental well-being is of utmost importance. We have met this challenge by providing support to our employees, in line with local practices and cultures.

In process safety, key issues include competence, technology and the careful operation of our plants. Moreover, we have allocated more resources to risk analysis and the auditing of process safety. No serious accidents related to process safety occurred in 2008.

We seek to ensure that our products' supply chain is safe, fast and cost efficient. Together with our customers, we optimize transport and storage planning, which indirectly reduces emissions. An analysis of our warehouse and production network is currently underway, followed by optimization in 2009–2010.

We endeavor to develop our supply chain, with a particular emphasis on product safety, and strive towards identifying the risks posed by chemicals and promoting safe ways of using them. In 2006, we set up a REACH competence center in Espoo with the purpose of implementing the European Union REACH chemical legislation in Kemira.

### **Water Treatment – Business With Environmental Responsibility**

In our business operations, we emphasize providing solutions to our customers' environmental problems. For example, we help our customers make better use of scarce resources, decrease their waste load through recycling and streamline their processes. Water plays a special role as a common denominator in our strategy.

In skillful hands, chemical water treatment is efficient and safe. The benefits to society gained from our products are significant and tangible. Chemicals used in water treatment are well known and reliable products, which can be also manufactured locally from recycled raw material, creating the cornerstones of sustainability.

## **Environmental Risks and Liabilities**

The bulk of Kemira's business is in the chemical industry, whose products and operations are governed by numerous international agreements and regional and national legislation all over the world. The Group treats its environmental liabilities and risks in financial statements in accordance with IFRS and observes established internal principles and procedures.

Implementation of the EU chemical legislation, REACH, constitutes a key legal process. In Kemira, pre-registration was completed according to plan in 2008, and the registration is now well underway. In contrast, the legislation on climate change prevention will have limited direct impact on Kemira.

Acquisitions and divestments have not had a significant impact on the Group's environmental responsibility, with the exception of the new pigment joint venture with Rockwood Inc. It was agreed that the parties' closed on-site landfills will be excluded from the joint venture and the parties will remain responsible for them individually. Kemira Group assumed responsibility over two piling areas in Pori and began their closure in accordance with the environmental permit in 2008. A provision for this was recognized in line with the closing plan.

Provisions for environmental remediation totaled EUR 18.8 million. In addition to Pori, the largest provisions concerned the remediation of the sediment in a lake adjacent to the Vaasa plant.

In the context of all of its M&A in 2008, Kemira carried out due diligence analyses related to soil and groundwater contamination caused by the sites' previous operations.

In connection to the Group's environmental reporting, a total of three sites reported temporary exceedances of environmental permits. The authorities are aware of these cases and the required corrective actions have been completed or initiated.

## **Emissions Allowances**

The Group holds assigned emissions allowances under the EU Emissions Trading System at a single site in Sweden. In net volumes, these allowances at Group level showed a surplus of 2,230 carbon dioxide tonnes in 2008.

## Our Environmental Impact Has Decreased

Kemira's carbon footprint has reduced significantly over the years. Along with diminishing waste water releases, our water footprint shows how our products help treat increasingly larger volumes of water across the world.

The direct greenhouse emissions from our operations have decreased by approximately 95% since year 2000. Such a marked improvement has been enabled by the divestment of business operations and the outsourcing of power generation in recent years. One of the most significant factors affecting our carbon footprint, electricity, is mainly generated by nuclear or hydropower. To an increasing extent, heat generated by our key energy partners is based on renewable fuels, recycled fuels and coal-free process energy. However, all indirect emissions affecting our global carbon footprint have not been calculated.

We are making efforts to increase our self-sufficiency in terms of electricity, and to further improve our energy efficiency. We are committed to the voluntary energy efficiency agreement of the Confederation of Finnish Industries EK, in force until the end of 2016. This agreement covers our production sites in Finland.

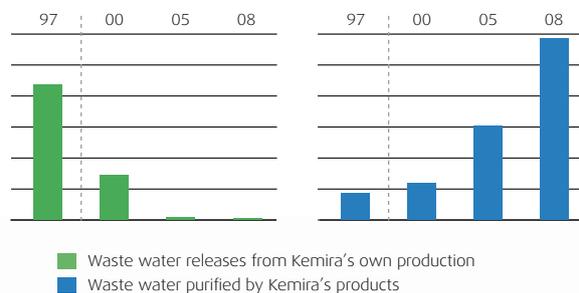
In the future, improvements in energy efficiency will be included in our global management systems, and we will take steps to enhance the efficiency of our transport logistics and energy use.

### Positive Water Footprint – More Clean Water

While the carbon footprint is a well known environmental concept, the water footprint is a less familiar indicator of water use or contamination caused by products, people or companies. A positive water or carbon footprint is also possible, since products can have a positive impact on the environment by cleaning water or absorbing carbon.

Kemira's water footprint shows how our products help treat increasingly larger volumes of our customers' water across the world. Meanwhile, we have significantly reduced waste water discharges from our production processes by increasing water purification or recycling and through acquisitions and divestments, among other things. The end result is a purifying water footprint.

Development of Kemira's Water Footprint



### REACH Pre-Registering Completed

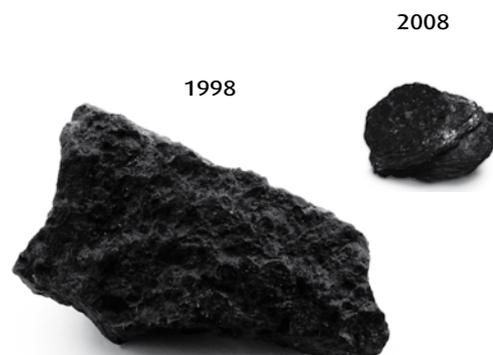
Pre-registering was the first stage of implementing the European Union REACH chemical legislation, which took place between 1 June 2008 and 1 December 2008. Kemira submitted close to 3,000 pre-registrations, including substances imported to the EU or produced by Kemira, and the key raw materials.

Preparations for the first-stage registration, to be completed by 1 December 2010, are well underway. Together with other chemical industry companies, we are involved in developing the registration procedures. Currently, the information exchange forums specified by the Decree are being set up. During this phase, the final number of registrators and the registration costs will become clearer.

REACH will significantly increase the need for communication in the supply chain. In addition to the previous product data, the required information will include data on substances, volumes, usage and exposure, and administrative registration data. All this is possible only by carrying out considerable changes in the Kemira information systems.

Along with REACH, we are continuing to make efforts to improve product safety, for example by developing product management and product safety evaluation processes, and paying increasing attention to product safety in our product development projects.

### Kemira's Carbon Footprint



### Our Example of a Smaller Carbon Footprint Product

Crystallized calcium sulfate pigment developed by Kemira, is a diverse product, which saves both costs and the environment. It can be used both as coating and as filler pigment for paper.

In 2008, Kemira commissioned an external body to calculate the carbon footprint of Kemira's calcium sulfate pigment. The findings were compared to the carbon footprint of a similar calcium carbonate pigment. They show that the production of calcium sulfate pigment produces less greenhouse gases than that of calcium carbonate pigment. The carbon footprint was 10% smaller for the ground product and 25% smaller for the precipitated product. Consequently, the carbon footprint of the paper product was smaller when calcium sulfate pigment was used in production.

This carbon footprint calculation included the impact due to process type, production location and logistics and energy use.

### Local Raw Materials

The new production process for calcium sulfate pigment, introduced by Kemira at the beginning of 2009, is extremely energy efficient, consuming a third less energy than previous methods.

The raw material for calcium sulfate pigment is calcium sulfate, i.e. gypsum. Kemira receives gypsum from the Yara phosphoric acid plant, located next to Kemira's Siilinjärvi plant, where it is generated in large quantities as a by-product. Consequently, we have a guaranteed raw material supply with a short transport distance.

### Chemistry as a Solution for Environmental Problems

Chemicals are often perceived as an environmental problem, while in fact they are a vital part of the solution. In 2008, Kemira's environmental business accounted for 40.6% of revenue.

There is no clear international definition of environmental business, especially with respect to "green" chemicals. In Kemira, we have long followed our own unofficial classification in order to monitor growth in this application area.

Currently, our environmental business can be divided into three main segments: products used directly in environmental protection, such as water treatment chemicals, products reprocessed from waste, and alternative products competing on the market on the strength of their environmental argument. The latter include products such as chlorine-replacing oxygen chemicals and solvent-free paints.

#### Growth in Water Treatment Applications

Our environmental business continued on a long-term growth path. In 2008, our environmental revenue increased to an estimated EUR 1,151 million, representing some 40.6% of the Group's total revenue. This represents a growth of 2% from the previous year.

Last year, water treatment chemicals represented the key growth business in South America, among other geographical areas. In the Paper segment, the economic downturn was reflected also in the sales of environmental applications. In contrast, sales of environmentally benign de-icing products showed a marked increase.



## Management Systems at Production Sites

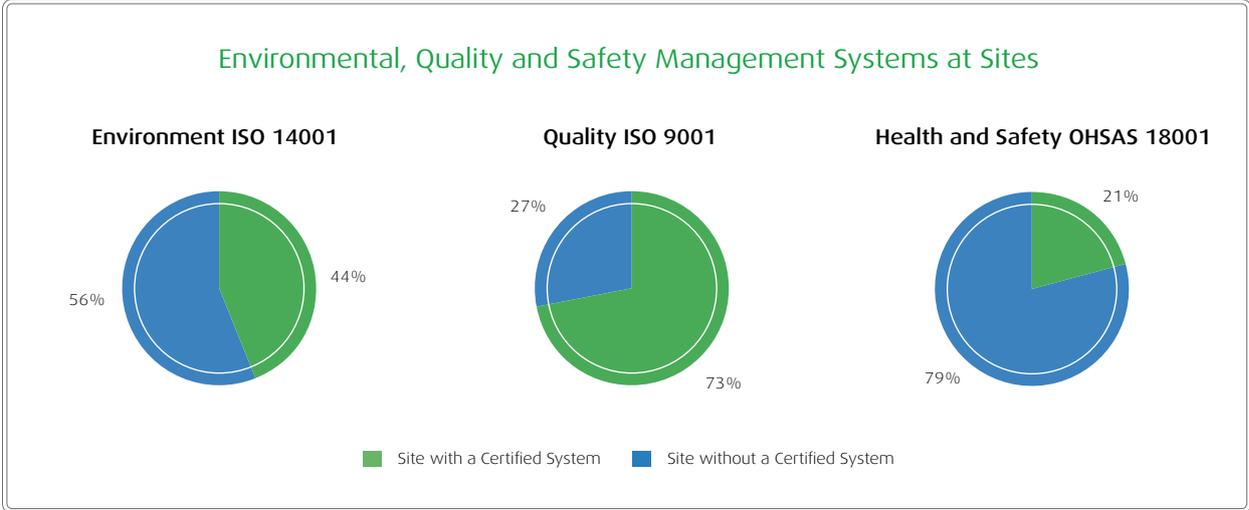
Kemira and Lloyds LRQA signed on a global agreement on certifying EHSQ systems at Kemira’s plants. Following the Group’s restructuring, our EHSQ function was reorganized on regional basis.

Each geographical area has dedicated individuals and teams to develop and audit the EHSQ systems for each unit in the region. At corporate level, the EHSQ function works closely with the production organization.

The Group EHSQ policy has been revised with a special emphasis on safety, while further harmonization of EHSQ practices and performance indicators is being promoted in

our plants. Our objective is to obtain EHSQ certificates to all production sites, the number of which totaled 89 at the end of 2008; the target for 2009 is ten new certificates.

At the end of 2008, 66 sites had a certified environmental, quality or safety management system, and one new certificate was awarded during the year. No major non-conformities were detected in the system maintenance.



### Environment and Safety at Our Sites

We took many small steps to improve environment and safety at our production sites in 2008. No major environmental investment projects were under way.

#### Europe

At the Prerov and Zelivka plants in the Czech Republic, energy efficiency was improved in the production of water treatment chemicals, and Prerov obtained permission to process pickling liquors. In Police, Poland, new sewage system was installed and the plant switched to emission-free technology in the production of sodium aluminate.

In Lauterbourg, France, waste volumes were reduced and storage safety improved. In Spain, water management and filtration efficiency were improved in water treatment chemicals plants. In Tarragona, preparations were completed to use recycled acid as raw material. The new ferric chloride plant in Torrelavegas will reduce emissions and make raw material and energy use more efficient.

The Botlek plant in the Netherlands implemented process changes to lower waste water releases, particularly the copper load in water. An incident involving acrylonitrile and copper leakage to the site's treatment plant was reported. The Rosenberg hydrogen peroxide plant installed a catalyst dust filter and improved water systems. Furthermore, in Tiel, the volume of waste water to the city water treatment plant was reduced. An outbreak of fire at one drying line occurred in June, causing some property damage and production losses. In the United Kingdom, the Bradford plant enhanced energy efficiency and continued preparations for replacing zinc in all production lines.

In Helsingborg, Sweden, soil investigations continued and some construction areas were cleaned up. The Fredrikstad plant in Norway initiated the replacement of process chlorine with oxygen.

In Finland, the Kuusankoski plant introduced new equipment to remove chrome from waste water and renewed piping systems. The Äetsä plant took measures to enhance water monitoring, and soil remediation work was continued on site by former occupants. In Vaasa, the number of occupational incidents was significantly reduced. No further necessary measures were identified in the soil and ground water report for the Oulu plants. A noise investigation was carried out in the hydrogen peroxide plant.

The transfer of the Pori titanium dioxide plant to a joint venture caused a substantial change in the releases, waste volumes and environmental costs reported by the Group. Furthermore, the closing of the iron sulfate landfill on the industrial site was commenced under the environmental permit; a project which will continue for several years. The closing will considerably reduce leaching waters and risks in the area, and recycled materials can be used in the capping structure.

#### North America

In Vancouver, Canada, a new thin film evaporator was installed in the paper chemicals plant, reducing the volume of biosludge. Leakage prevention was improved in our St. Catharines plant, while product changes reduced the plant's VOC (Volatile Organic Compound) emissions. While the Fon-

tana plant discontinued the use of chlorine in ferric chloride production, a waste recycling program was introduced in the Prince George plant. In the United States, storage areas were improved and soil investigations continued in the Mobile plant.

#### **South America**

Waste recycling efficiency was improved in Telemaco Borba, Brazil, and dust emissions and waste water volumes reduced. In Fray Bentos, Uruguay, the plant introduced a new drop separator and improved gas scrubbing. In connection to the Nheel Quimica acquisition in Brazil, a comprehensive environmental analysis was carried out on site and improvement measures were planned.

#### **Asia Pacific**

New gas scrubber equipment was introduced in the Yixing plant, and rain and waste water were separated into basins. Environmental due diligence investigations were conducted in the region, in connection to acquisitions.

#### **Tikkurila**

Tikkurila continued the EHSQ auditing of paint and coating plants with the key objective of improving occupational safety. The Vantaa site obtained a new environmental permit, and no problems were identified in the external audits of management systems. In Sweden, the Stockholm unit was closed down, and the new plant in Nykvarn manufactures only waterborne products. The plant also improves energy efficiency and reduces transportation. In Debica, Poland, soil remediation continued as planned.

In Russia, solvent-based production was moved from the Ramenskoye plant to St. Petersburg. New logistics centers will be completed in 2009 in Mytishchi in the Moscow area, and in St. Petersburg. Gamma Industrial Coatings commenced solvent waste distillation and recycling. In October, Tikkurila Powder Coatings obtained a quality certificate. Currently, all Tikkurila's plants but one have a quality system in place.

#### **case**



### **Energy Efficient Disinfection Method**

Disinfection is an efficient method of treating waste water. However, disinfection methods vary not only according to their cost but energy consumption and environmental impact. Kemira's DesinFix™ method represents the highest level of disinfectant technology. The product does not generate any environmentally hazardous by-products or accumulate in the environment.

DesinFix™ contains formic acid and hydrogen peroxide, which when accurately mixed form a highly efficient biocide. Compared to the competing UV light or ozone methods, the technology has lower investment costs. Other benefits include energy efficiency and minimal maintenance requirements.

### **Removing Metals from Pulp While Protecting the Environment**

Metals contained in pulp weaken the performance of bleaching chemicals. Such metals can be removed by chelating agents, which bind metal ions. Fennobio products, which have been developed by Kemira, remove harmful metals while protecting the environment. Fennobio products biodegrade faster than conventional chelating agents and contain significantly less nitrogen.

By switching to Fennobio products, companies with restrictions on using conventional agents, imposed upon them by the environmental authorities, can also benefit from chelating.

## Marked Drop in Emissions and Energy Use

In 2008, revenue of Kemira Group grew by 0.8%. The production volumes included in the reporting fell by some 4% and total energy use by around 9%. These changes can be mainly attributed to the Pori M&A transaction. The index representing the Group's environmental load showed a decrease of some 3% from the previous year. This index consists of seven key emissions and both non-hazardous and hazardous waste.

Greenhouse gas emissions continued to fall, showing a reduction of some 8% on the previous year. The current emission level is only about 5% of that measured in year 2000. This reduction can be explained largely by mergers and acquisitions, which have led to a less energy-intensive business portfolio. The volume of other inorganic compound emissions into the air also dropped significantly. Meanwhile, the decrease in volatile organic compounds (VOC) was noticeable, especially in the Group's paint business. Water volumes and waste water loads took a downward turn across the board.

The amount of non-hazardous waste decreased sharply, to less than half of its volume last year. In addition to the change in ownership, sales of the Pori plant's by-products showed a clear increase, reducing the need for waste piling. Consequently, landfill piling decreased by two thirds at Group level. The volume of hazardous waste decreased by some 18%, while at plant level both upward and downward changes were observed, caused by storage changes, soil remediation projects and other factors.

### Environmental Costs Fell Significantly

Environmental costs showed a marked decrease from the previous year, totaling EUR 37.2 million (69.3). Environmental investments fell by three quarters, accounting for EUR 7.2 million (30.2), and no significant investments were underway or planned. In 2007, this figure was increased, particularly by the waste productizing investments in Pori. Environmental protection operating costs decreased by some 23%, accounting for EUR 30.0 million (39.1). This drop was mainly attributed to the Pori restructuring and the lower costs of soil remediation.

Our Environmental Report deals with the Group companies in line with financial reporting. The report has been prepared in accordance with the following, where applicable:

- The Finnish Accountancy Standards Board's recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies, 2003
- Cefic (European Chemical Industry Association): Responsible Care Reporting Guidelines 2006
- Applicable IFRS guidelines

# Kemira Group Environmental Statistics

Kemira's environmental statistics cover 89 production sites in different parts of the world. Separate warehousing or distribution centers are not included. In 2008, 3 plants reported for the first time and 2 plants were closed down.

The titanium dioxide production at Pori, Finland, which had a significant effect on the total volumes, was included in the statistics for a period of 8 months.

	2008	2007	2006	2005	2004
<b>Releases into water, tonnes</b>					
Chemical Oxygen Demand (COD) <sup>1)</sup>	53	69	29	79	309
Nitrogen (N)	48	70	87	96	542
Phosphorus (P)	0.4	2	4	7	15
Suspended solids, 1,000 tonnes	0.5	0.9	0.9	0.9	1.3
Metals (Hg+Cd+Pb+Cr+As+Cu+Ni+Zn)	1.2	2.3	2.3	2.0	4.0
<b>Releases into air, tonnes</b>					
Particulates	63	69	40	128	257
Sulphur dioxide (SO <sub>2</sub> ) <sup>2)</sup>	1,801	1,957	1,813	3,036	4,330
Nitrogen oxides (NO <sub>x</sub> ) <sup>3)</sup>	323	372	298	1,152	2,864
Carbon dioxide (CO <sub>2</sub> ), 1,000 tonnes	205	223	224	805	1,828
Volatile organic compounds (VOC) <sup>4)</sup>	177	182	171	130	136
Volatile inorganic compounds (VIC) <sup>5)</sup>	142	144	23	24	1,310
<b>Waste<sup>6)</sup>, tonnes</b>					
Hazardous wastes, total	9,554	8,073	6,497	5,290	10,310
— Off-site landfill	3,269	2,738	2,161	1,316	3,621
— Off-site incineration	3,709	3,815	2,332	1,933	4,892
— On-site landfill	0	0	35	35	94
— Other treatment	2,576	1,521	1,969	2,006	1,704
Non-hazardous wastes, 1,000 tonnes	299	639	526	654	1,903
<b>Natural resources</b>					
Fuel consumption, ktoe <sup>7)</sup>	89	107	92	242	427
Fuel consumption as raw material, ktoe	83	92	93	81	560
Purchased electricity, TJ	10,857	11,082	10,420	9,594	4,137
Purchased heat, TJ	6,497	7,340	6,754	1,177	907
Cooling water volume, million m <sup>3</sup> , approx.	199	219	213	202	239
Waste water volume, million m <sup>3</sup> , approx.	6.0	6.1	5.7	5.4	13
<b>Safety</b>					
Number of accidents <sup>8)</sup> per million working hours	4.4	6.5	6.0	8.4	6.7
<b>Key figures, EUR million</b>					
Group revenue	2,832	2,810	2,522	1,994	2,533
Environmental capital expenditure	7.2	30.2	12.2	7.4	10.3
Environmental operating costs	30.0	39.1	35.4	33.3	40.4
Total environmental costs, % of revenue	1.3	2.5	1.9	2.0	2.0

<sup>1)</sup> Estimate. In this case, partly caused by inorganic discharges.

<sup>2)</sup> All sulphur compounds calculated as SO<sub>2</sub>.

<sup>3)</sup> Nitric oxide and nitrogen dioxide calculated as NO<sub>x</sub>.

<sup>4)</sup> VOC is a sum of volatile organic compounds as defined in EU Directive 1999/13/EC.

<sup>5)</sup> Sum of ammonia, hydrogen chloride and six other simple inorganic compounds.

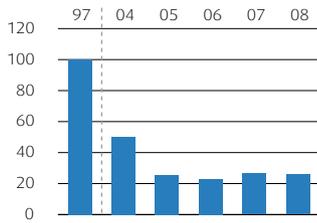
<sup>6)</sup> Reported figures do not include on-site incineration, waste which is further processed into products at the sites, or sold as a co-product to external recycling. Figures are on wet basis.

<sup>7)</sup> 1,000 tonnes of oil equivalent. Energy figures for 2005–2007 changed due to corrected data from one site.

<sup>8)</sup> Accidents causing an employee absence of at least one day (LTA1).

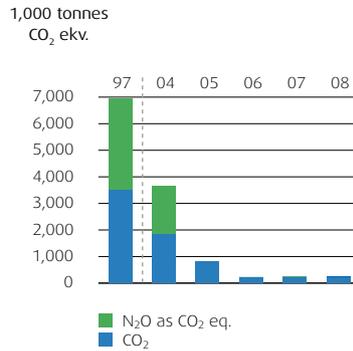
# Environmental Graphics

**Environmental Index**

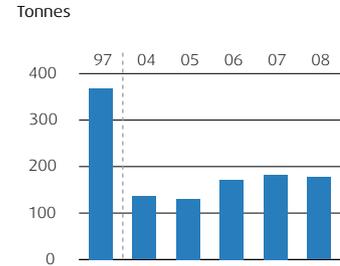


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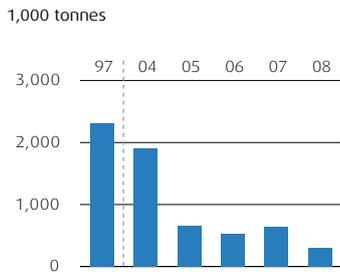
**Greenhouse Gas Emissions**



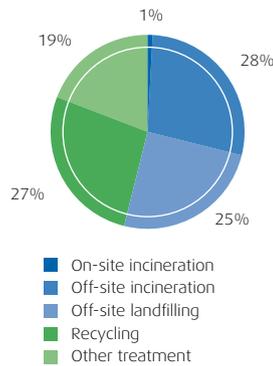
**VOC Emissions**



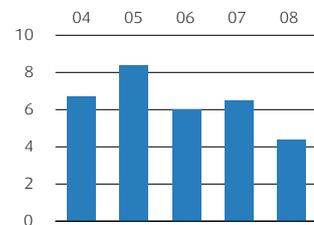
**Non-Hazardous Waste Generation**



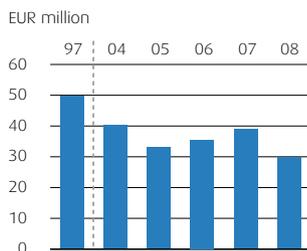
**Hazardous Waste Treatment**



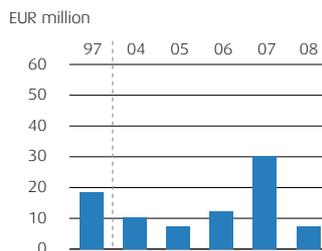
**Lost Time Incidents Per Million Working Hours**



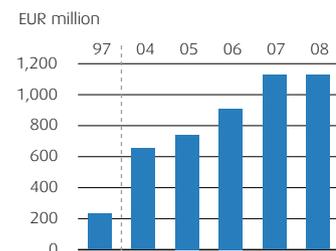
**Environmental Operating Costs**



**Environmental Capital Expenditure**



**Environmental Business**



# Independent Assurance Report

## To the Board of Directors of Kemira Oyj

At the request of Kemira Oyj, we have reviewed the information presented in Kemira Oyj's Environmental Report 2008. The Environmental Report is the responsibility of the management of Kemira Oyj and has been approved by the Board of Directors of Kemira Oyj. The responsibility of KPMG is to issue an assurance report on the information presented in the Environmental Report.

### Context and scope of the assurance

Kemira Oyj's annual Environmental Report consists of data and statements describing the efforts and progress Kemira Oyj has made related to the environmental aspects of its operations.

Kemira Oyj has prepared its Environmental Report according to its internal reporting guidelines as well as according to, where applicable, the Finnish Accountancy Standards Board's recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (2006), and the European Chemical Industry Council's (CEFIC) Health, Safety and Environmental Reporting Guidelines (2006).

Our engagement was designed to provide limited assurance on whether the information presented in Kemira Oyj's Environmental Report 2008 is fairly stated in all material respects.

### Standards and criteria for the assurance

We conducted our engagement in accordance with the Finnish Institute of Authorised Public Accountants' Standard 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information. Amongst others, this standard requires that the assurance team members possess the specific knowledge, skills and professional competencies needed to understand and review the Environmental Information, and that they comply with the requirements of the IFAC Code of Ethics for Professional Accountants to ensure their independence.

The evaluation criteria used for our assurance are the Kemira Oyj's internal reporting guidelines as well as the Finnish Accountancy Standards Board's recommendation on the recognition, measurement and disclosure of environmental issues in the annual accounts and annual reports of companies (2006), and the CEFIC Health, Safety and Environmental Reporting Guidelines, where applicable to Kemira Oyj's environmental reporting.

### Considerations and limitations

Data concerning environmental aspects and performance are subject to inherent limitations given their nature and the methods used for determining, calculating and estimating such data. Kemira Oyj has set out such limitations to the

completeness of the data in the Environmental Report. It is important to view the performance data in the context of the explanatory information provided by Kemira Oyj.

To obtain a thorough understanding of the financial results and financial position of Kemira Oyj, the Kemira Oyj's audited Financial Statements for the year ended 31 December 2008 should be consulted.

### Work undertaken and conclusions

We reviewed the reliability of the Environmental Report 2008 based on reviews of:

- the systems and processes used to generate, aggregate and report these data and information;
- internal documentation
- the data reported by reporting organizations to corporate level, in material respects;
- the calculations made at corporate level; and
- the data validation processes at corporate level.

To gain a deeper understanding on the information presented in the Environmental Report and related reporting processes, we have also

- discussed with the key people responsible for environmental reporting; and
- conducted site visits to reporting organizations in Helsingborg, Sweden, and Bradford, the United Kingdom.

Based on our work described above, nothing has come to our attention that causes us to believe that the information presented in the Environmental Report 2008, based on the abovementioned criteria, is not fairly stated in all material respects.

Helsinki, 24 February 2009  
KPMG OY AB

Pekka Pajamo  
Authorized Public Accountant

Nina Killström  
Corporate Responsibility Advisor

[www.kemira.com](http://www.kemira.com)

On our website's Responsibility section you can find information concerning environment and safety as well as our contact persons in environmental issues.



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**Kemira Oyj**

Porkkalankatu 3  
P.O. BOX 330  
FI-00101 Helsinki, Finland

Tel. +358 10 8611  
Fax +358 10862 1119

E-mail: [firstname.lastname@kemira.com](mailto:firstname.lastname@kemira.com)  
[www.kemira.com](http://www.kemira.com)

Domicile Helsinki, VAT NO FI0109823-0