Nordkalk

ENVIRONMENTAL REPORT 2005

NORDKALK NUMBER ONE IN NORTHERN EUROPE

Nordkalk is the leading manufacturer of limestone-based products in Northern Europe. It extracts limestone from its own deposits and processes it into crushed and ground limestone, enriched calcite, and quick and slaked lime. Nordkalk's range of products also includes dolomite and wollastonite.

Nordkalk products are used in the paper, steel and building industries and also in environmental care and agriculture. Lime appears in all facets of our everyday lives, perhaps most obviously in the countryside when the time comes to lime the fields. Lime reduces the acidity of the soil. It is also used to neutralise the acidity of watercourses and forests. Limestone-based products clean the flue gases from coal-fired power stations. They are also used to regulate the acidity of our drinking water and clean our waste water.

Industry - the largest user

Nordkalk's largest group of customers is industry, which accounts for more than 80 per cent of Nordkalk's sales. The papermaking industry uses crushed limestone and quicklime for filling and coating purposes. Large quantities of minerals are used in high-quality papers, in particular, to improve surface characteristics; they make the paper more opaque, whiter and give it the desired surface properties.

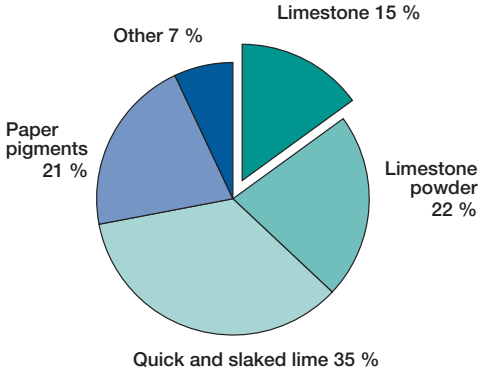
The manufacture of steel calls for lime to remove impurities at different stages of the production process. In the sugar industry lime is used to remove impurities from the beet juice.

Limestone-based products are also needed in the production of cement, concrete, bricks, wallboard, mortars and levelling compounds. Building materials form one of the oldest uses for limestone products, and the building materials industry is today Nordkalk's next largest single customer after the paper industry.

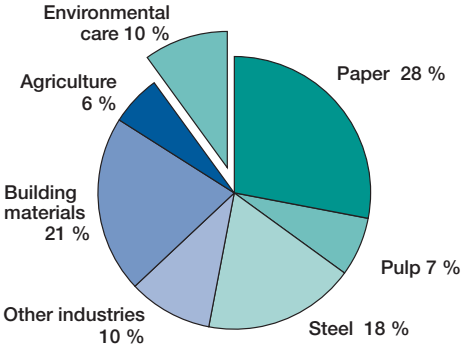
Lime is also used in the manufacture of glass and paints. Dolomite is an important raw material for making fertilisers, and wollastonite is used to manufacture special plastics and ceramics.

In road and ground engineering lime is used to stabilise the soil. Lime can help to stop subsidence and improve bearing properties. The asphalt used for surfacing roads also contains limestone powder.

Principal products as a percentage of total sales



Sales by customer segment as a percentage of total sales



THE MAIN PRINCIPLES OF NORDKALK'S ENVIRONMENTAL POLICY

Values and aims

- sustainable development
- compliance with environmental legislation and regulations
- identification of environmental impact of operations
- to provide information about development, measures taken and results
- environmental training for Nordkalk's personnel

Continuous improvement is a part of strategic and annual planning

- environmental impact taken into account when developing products, processes and services
- environmental plans for each unit cover environmental aspects, aims and measures together with the investment required
- environmental work is monitored and evaluated on a regular basis
- Nordkalk's environmental policy is reviewed and updated whenever necessary, distributed to the personnel and is also available to Nordkalk's stakeholders

SUSTAINABLE DEVELOPMENT IS NORDKALK'S GOAL

In 1995 Nordkalk set up an environmental and quality department. The department's task was defined as creating and maintaining an environmental programme for Nordkalk in collaboration with Nordkalk's line organisations. The environmental programme supports Nordkalk's endeavours to achieve sustainable development, which means taking the environmental impact of its operations into account when drawing up the goals for its activities. Environmental plans form an important part of the annual strategic planning process, and Nordkalk's operations are subject to regular monitoring. Responsibility for matters concerning production lies with the divisional managers.

The effects of Nordkalk's operations are monitored and evaluated on a continuous basis in accordance with the Nordkalk Group's environmental policy. This report provides an account of how Nordkalk's operations affect the environment together with the measures that have been taken or are planned to reduce the adverse environmental impact of all our operations.

Nordkalk endeavours to develop its products and production methods so as to minimise effects on the environment. Careful and diverse monitoring leads to increased awareness of environmental risks. It also makes it possible to continuously improve, as laid down in Nordkalk's environmental policy; commitment to this policy is an inseparable part of managing the organisation's environmental matters. All Nordkalk's production plants in Finland and its entire operations in Sweden have been awarded ISO 14001 environmental certificates.

The Nordkalk intranet has an environment page with information about the environment. The aim of the page is to heighten awareness among the personnel of environmental issues and their responsibility and to inspire as many as possible to take part in environmental work.

In addition to the measures taken to protect the environment during production, Nordkalk also offers advice on environmental impact of liming to its customers. When drawing up contracts with entrepreneurs and sub-contractors Nordkalk now requires an assurance that the requirements of its environmental policy will also be met. The sub-contractors are checked regularly in this connection by means of environmental audits.

Nordkalk operates at various locations around the Baltic Sea, and the company tries actively to reduce its emissions and effluents all the time. Nordkalk is involved in many research and development projects that aim to improve the state of the environment. The recycling of carbon dioxide and disposal of it is just an example of how Nordkalk works with several Finnish research institutions in this respect. Another is the liming of the Alinenjärvi lake system at Nokia to improve the quality of the water. Nordkalk also participates in the Pro Saaristomeri (Pro Archipelago Sea) project. This was started in 1999 by the Southwest Finland Environmental Centre, the Regional Council for Southwest Finland and the SW Finland Employment and Economic centre; its aim is to improve the quality of the archipelago seawater.

At Louhi, for example, Nordkalk cooperates with the South Savo Environmental Centre, the town of Savonlinna and nearby local authorities in a project designed to improve the oxygen balance in the upper course of Enovesi, which forms part of the Saimaa Lake system. Since 1977 Sweden has carried out the world's largest environmental liming project of watercourses. Nordkalk has been closely involved in developing the project and also takes an active part in it. In April 2005 Nordkalk sold its environmental liming operations to the newly established Movab AB but continues to retain a 19.5 per cent shareholding in it.

Nordkalk participates in a number of projects associated with water treatment and composting. The Ravinnesampo project conducted by Finland's Environmental Administration studied whether present methods and equipment for treating waste water in sparsely populated areas can meet the demands set by the decree that came into force on 1.1.2004. The results of the study were published in February 2005. The effectiveness of Nordkalk Filtra P pulp in removing phosphorus was studied as part of the project and the results proved to be very efficient.

Nordkalk was also involved in the Isku Itämeren puolesta ("A Blow for the Baltic") campaign in summer 2005. The campaign stressed the importance of cleaning waste water in sparsely populated areas, informed the public of the present state of the Baltic Sea and demonstrated how each of us can help affect it. Nordkalk is also involved in the Agenda waste-water project in Finland Proper and in the waste-water project coordinated by the University of Jyväskylä. Waste water from villages was one of the topics discussed by the Vertti section of the "Tyyne ja Vertti" project, in which Nordkalk also participates.

More efficient composting with the help of Nordkalk's Velox product was studied over the years 2001-2004 in collaboration with the Universities of Jyväskylä and Helsinki and Finland's State Technical Research Centre as part of the Tehokomp project. The final report from the project was completed in summer 2005. The product was used in the section that studied the effect of adding different substances to promote composting and reducing odours. Nordkalk Velox proved to exert a positive effect on the composting process. Its effect was reflected in more rapid stabilisation at the late-maturing stage and in reducing obnoxious odours.

ENVIRONMENTAL IMPACT

Nordkalk extracts and refines limestone at 26 different locations in Finland, Sweden, Estonia, Poland and Russia. Some of Nordkalk's production plants are situated in towns and built-up areas, which means that the surroundings place great demands on operations. The most disturbing aspects of Nordkalk's operations are noise, vibration and dust. Other disadvantages in conjunction with extraction include surplus stone and various secondary materials from the production processes.

Nordkalk uses hydroelectricity at almost all of its facilities. An agreement on this was signed in 2005.

Production processes

Limestone is extracted from the bedrock in either quarries or underground mines. The stone is then transported for rough handling and sorting, after which it goes on to be processed further elsewhere. These operations cause vibration, noise and dust. Quarrying results in very obvious changes in the landscape. Nordkalk's extraction processes result not only in the limestone that is actually used by Nordkalk, but also considerable amounts of surplus stone. To some extent this can be crushed and used as gravel. Ground water seeps by way of fissures in the bedrock into the mines, and surface water collects in the quarries. This may affect the level of the ground water in the area.

Carbonate products, i.e. calcium carbonate ($CaCO_3$), consist of crushed, ground or sieved limestone. The grinding of the limestone is a dry process so that dust formation poses a major environmental problem in plants where this is done. The dust emissions are kept to a minimum by passing them through filters.

The different uses for these products include soil improvement, cleaning flue gases at coal-fired power plants and raising the alkaline level in water. It is also commonly used in animal feeds and as filler in asphalt, paper and plastics.

Nordkalk flotates calcite and wollastonite from the raw stone extracted from the mine at Lappeenranta. The processed calcite is then further refined to make paper pigments by Nordkalk's daughter company Suomen Karbonaatti Oy. In the refining process the water used is in a largely closed system. If necessary, water can be siphoned from the basins under controlled conditions into a nearby river.

Quicklime (CaO) is produced by heating crushed and sorted limestone to a temperature of some 1100^{0}C in either a rotary or shaft kiln. Quicklime is grainy or floury in appearance. It is sifted into different fractions or ground to a fine flour. Flue gases from the process contain oxides of nitrogen (NO_x), carbon dioxide (CO_2) and varying amounts of sulphur dioxide (SO_2). The manufacturing process also releases dust into the air and in order to reduce this the emissions are passed through an electric or textile filter. The filter has to be extremely sensitive.

The products are used in the manufacture of iron and steel, for processing sulphite ores, for pulp making, ground stabilisation, for manufacturing paper pigments and cleaning water, etc. Coal-fired power plants and refuse incinerators use slaked lime, which they produce from quicklime to clean flue gases.

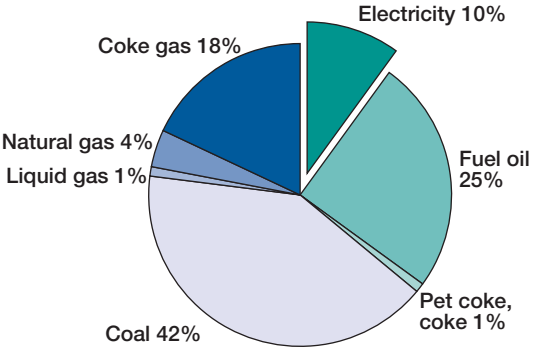
Slaked lime is made by adding water to quicklime. The calcium dioxide reacts with the water to produce calcium hydroxide ($Ca(OH)_2$), slaked lime, which is a dry, powder-like flour, light in colour. The process of slaking lime releases heat and steam. Efficient dust removal, however, means that the quantity of particles discharged into the atmosphere is negligible. Slaked lime is used by local authorities and industry in water purification plants, for cleaning flue gases and by the building materials industry.

Energy consumption

The process of crushing, grinding and sifting carbonate products consumes electricity. Moreover, liquid gas or fuel oil is used for drying carbonate products. The specific consumption of energy in 2005 was 0.26 GJ per tonne of produced carbonate product. Energy analyses have identified potential ways of saving energy in the manufacture of carbonate products.

The process of burning lime requires high temperatures. Calcination of the limestone takes place in lime kilns at a temperature of about 1100^{o}C. The heat is derived from coal, fuel oil, coke gas, natural gas, pet coke or coke. Coke gas is a by-product from the steel-making industry and can be used as a fuel in the lime kilns if they are situated in the immediate vicinity of a steel mill. Using other fuels to replace coal and oil in the lime industry poses a problem. The impurities in the fuels may permeate the lime products, the purity demands for which are extremely strict. Moreover, the thermal values for most renewable fuels are in general low so that the quantities of fuel required

Sources of energy used within the Nordkalk Group



increase and necessitate major changes in the processes. The specific energy used in the production of quicklime has dropped since the end of the 1990's, and in 2005 it was 5.5 GJ per tonne of lime.

Nordkalk's emissions of carbon dioxide emanate from its consumption of energy but carbon dioxide is also released into the atmosphere during the actual process of making quicklime. Carbon dioxide is released from calcium carbonate under the influence of heat and the final product is calcium oxide, quicklime. Theoretical calculations indicate that about a third of the carbon dioxide produced by Nordkalk comes from the fuel used and the rest from the raw material. Quicklime is an irreplaceable raw material for both environmental and industrial purposes. In some of the processes employed by Nordkalk's customers, such as the manufacture of PCC used for paper pigments, for example, carbon dioxide released when the lime is burnt is reintroduced into the product when recarbonisation occurs.

Energy-saving agreement

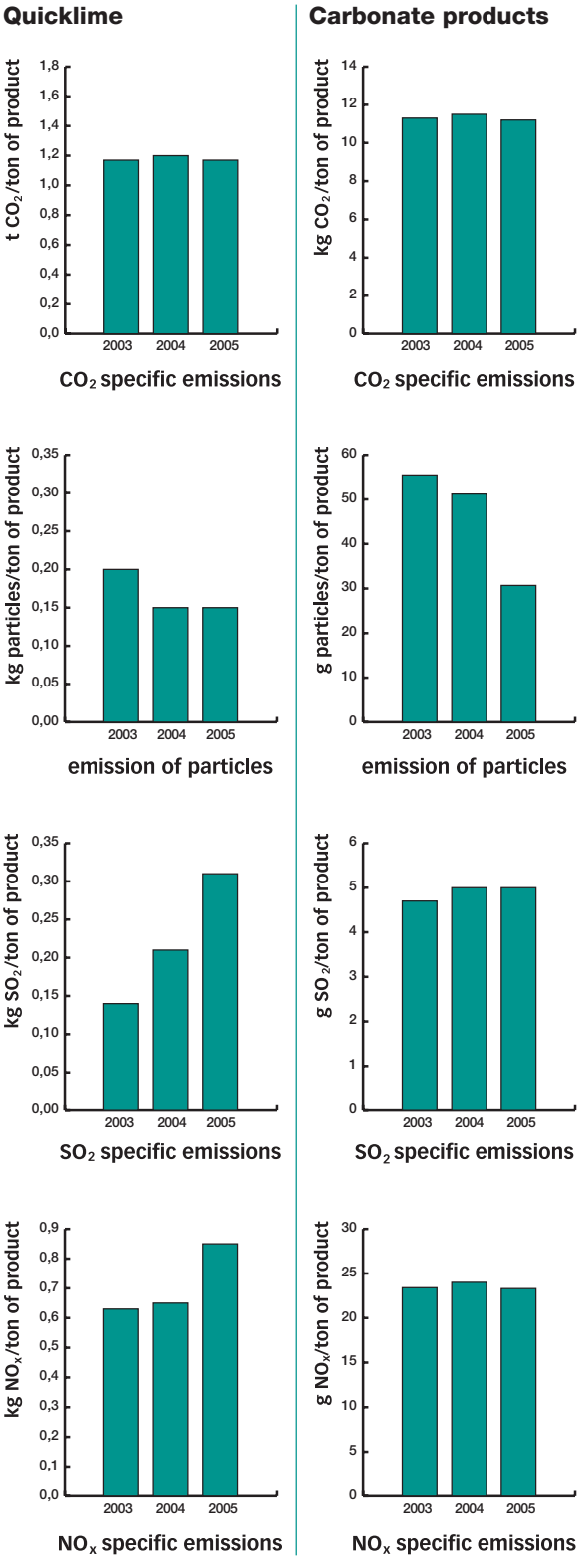
Nordkalk has continued the industrial energy-saving agreement in Finland concluded in the year 2000 until 2007. The aim of this is to study ways in which energy consumption can be reduced at all Nordkalk's locations, especially in its production processes, by carrying out analyses with the help of a special energy consultancy. As a result of the analyses locations have drawn up a plan for more efficient energy-saving measures in which attention focuses on operating methods that affect energy consumption. An example of the most important measures that have been put into practice to save energy is the way in which waste heat from the lime kilns is recovered. This heat is then fed into the local district heating system or used in Nordkalk's own production.

Emissions trading in 2005

The first period of emissions trading started on 1.12005 with trading covering the years 2005-2007. Nordkalk's lime burning operations in Finland, Sweden and Estonia are subject to the provisions of the emissions directive. All emissions of carbon dioxide produced in the course of burning lime are monitored and reported to the authorities in accordance with emissions legislation. The carbon dioxide produced as a result of burning lime originates from the carbonate in the limestone and the fuel required for burning. Fuel accounts for about a third of the emissions of CO_2.

Nordkalk has received the necessary permits and rights from the authorities for burning lime. The rights awarded were, however, less than what was applied for but, on the other hand, the prolonged labour dispute in the Finnish papermaking industry meant that production of lime had to be cut during the months May-June. The decreased production of lime led to fewer emissions of carbon dioxide, in consequence of which Nordkalk was able to sell part of its rights for 2005. Part of the emissions rights have been carried over to the latter part of the period.

SPECIFIC EMISSIONS IN AIR



The figures are based on measurements and calculations for Nordkalk's facilities in Finland and Sweden. The uneven demand for lime affected emissions of NO_x for the burning of lime and changes in the fuel mix for emissions of SO_2. The figures for particles released are for individual measuring points; this is reflected in the reduced figures for the production of carbonate.

ENVIRONMENTAL PRODUCTS

Nordkalk products are also used in environmental care. Different kinds of limestone-based materials can be used to prevent and remedy environmental problems. Sales of products for the environment account for 10 per cent of Nordkalk's total sales. Lime products play an important role in water treatment and cleaning flue gases. The percentage of total sales of environmental products accounted for by water treatment amounted to 60 and by flue-gas cleaning to about 40. New products and applications for environmental care are being developed all the time.

Carbonate products, together with both quicklime and slaked lime are used to purify drinking water and clean waste water. Lime products are used to regulate the pH value, alkalinity and hardness of drinking water to prevent and reduce corrosion in the distribution network or consumers' equipment. In waste-water treatment Nordkalk's products are used to regulate the pH value and alkalinity of the effluent so that it can be treated at the sewage plant. They also make it possible to efficiently remove nitrogen so that the eutrophying burden of waste water in watercourses is reduced. The sludges resulting from the treatment of waste water can be made more hygienic with the aid of quicklime, in other words, lime-stabilised. Nordkalk Velox is a product for more efficient composting of sludges and other wastes and for combating unpleasant odours. Nordkalk Velox can also be used to neutralise obnoxious smells from waste water.

Nordkalk Filtra P filter pulp improves the treatment of waste water in sparsely populated areas. It effectively removes from waste water in small water-treatment plants and ground filters the phosphorous that has an eutrophying effect on watercourses. Nordkalk's latest product in this range, Sauna Seppo, launched in 2005, contains Nordkalk Filtra P filter pulp to remove phosphorous from the washing water at summer cottages.

The discharge of eutrophying nutrients into watercourses can be prevented by liming arable land. Different kinds of ground limestone products help to reduce the acidity of the soil. In this way plants are able to make greater use of the nutrients and the amounts of nutrients washed into watercourses from fields is reduced.

In addition to eutrophication a further problem in watercourses is acidification. Liming individual watercourses is a method for returning the quality of the water of acidic watercourses to what it was before acidification took place. Usually liming is carried out with the help of nature's own remedy, namely finely ground limestone. Air pollution is the most common cause of acidification in watercourses.

Burning fossil fuels to generate energy results in the release of flue gases. These contain sulphur dioxide and other nitric oxides. In the atmosphere sulphur dioxide reacts with moisture in the air to form sulphuric acid. The rain that then falls on the ground is acidic and harmful to plant and animal life. In acidic soil plants are unable to make use of the nutrients they need, and fish cannot live in lakes that are too acidic. The flue gases from power stations can be effectively cleaned with limestone powder, quicklime or slaked lime before they enter the chimneys. Emissions of sulphur dioxide can be reduced by even more than 90 per cent. The chlorine and fluorine emissions from waste incinerators can also be reduced with the aid of limestone-based products. Limestone products are also used to cut the levels of these in flue gases. In some plants the emissions are scrubbed with water and the resultant acid water is then neutralised with limestone powder and/or slaked lime.

ENVIRONMENTAL IMPROVEMENT 2005

In the year 2005 Nordkalk invested 1.1 million euros altogether in environment measures. The production plants constantly update and improve their operations in accordance with Nordkalk's environmental policy. The most important projects are to reduce dust emissions and noise and to make more efficient use of stone and fuel. Nordkalk also regularly improves its monitoring and controlling routines.

The environmental management system has achieved many improvements, in handling hazardous waste and sorting refuse, for example. Finding more efficient uses for surplus stone and minimising the need to store it constitute one of the most important aims of the environmental programme for Nordkalk's mines and quarries.

Nordkalk published an updated version of its environmental report for the Ihalainen plant in Lappeenranta. It includes environmental perspectives for the whole of the industrial site, where Nordkalk operates together with other companies.

Dust

Reducing dust emissions is one of the most important environmental measures in Nordkalk's operations, and efforts to cut the amounts of dust released are being continuously improved. By scattered dust emissions is meant that fine particles are released into the air, principally from loading bays and storage sites and the wheels of vehicles. Better traffic arrangements and regularly cleaned open areas at Nordkalk's different industrial sites can reduce the amount of dust released.

Many of Nordkalk's plants have asphalted their roads and yards, increased wetting, built noise barriers and planted trees. As far as possible water from the company's own mines or quarries is used for wetting dusty areas and roads. The effects of the measures taken are monitored, and the majority of the plants measure the dust fall-out at their location regularly. The measurements taken at Sipoo, for example, show that the amount of dust in the air at the plant has been reduced to a quarter of what it was in the early 1980's.

In Lappeenranta a new dust filter has been acquired for the lime conveyor belt. At Vimpeli dust emissions have been reduced by installing two particle filters on the production silos and one raw materials silo. In addition, vacuum equipment to remove dust has been installed in the renovated storage and loading bay. Wetting measures in conjunction with the crushing of surplus stone have been stepped up in order to reduce dust more efficiently.

At Siikainen fluidising in the production silo has been modernised as a precautionary measure to prevent dust formation. During the fluidising process air is pumped into the silo so that the silo is emptied smoothly and under controlled conditions.

Noise and vibration

Nordkalk's plants make continuous improvements in efforts to cut the noise from machines and other equipment. Another important consideration is to update work routines so that exposure of both workers and the environment to noise can be reduced. Measurements of noise levels in recent years have shown that the situation has improved markedly.

Renewing the crushing machinery at Miedzianka in Poland has considerably reduced the amount of noise. At Köping the building of a noise barrier has now been completed.

Nordkalk's quarries are situated near residential areas, and this has to be taken into account when planning and carrying out blasting. In 2006 Nordkalk will study the amount of vibration affecting homes situated in the vicinity of the Pargas quarry. On the basis of the results changes in blasting methods will be considered in order to reduce the amount of vibration.

Water

The state of both ground and surface water is subject to continuous monitoring. Analyses carried out at Lappeenranta, for example, indicate that the water released into watercourses from the industrial site consists mainly of rainwater and is of good quality. Nordkalk also monitors the state of ground water. There are some twenty measuring points within the Lappeenranta industrial site. The measurements show that the water is of good quality. The level of the ground water has not dropped even though mining continues at increasingly lower levels.

The Miedzianka plant in Poland supplies ground water to nearby households and the Tytyri plant in Finland supplies ground water to the local waterworks.

Suomen Karbonaatti Oy in Lappeenranta discharges a large proportion of its process water into the sedimentation basins of the flotation plant. In 2005 a new basin came on stream into which is discharged the mineral-rich slurry from the refining process. The slurry is then pumped into a second basin from where water is recovered and recycled into the process.

At Vampula the sedimentation basin has been deepened to extend the time in which the water remains in the basin and so reduce the amount of solids discharged into the Matkus River.

District heating and energy

Waste heat from the lime kilns is used in local district heating systems and the amount supplied has increased in step with the amount of heat recovered. Corresponding amounts of heat at both Pargas and Lohja were previously produced by means of fuel oil. This added to the greenhouse effect because of the carbon dioxide released into the atmosphere. In Lappeenranta, too, waste heat from

the lime kiln is distributed to the local network and also exploited in the plant's own production processes. The situation this year was exceptional because of the labour dispute in Finland. Because of the stoppage resulting from the labour dispute the amount of heat that could be supplied to Lohja was nine per cent less than in 2004. The amount of energy consumed was greater than the previous year because of extra energy needed due to extra start-ups of the lime kilns.

A project that started in Lappeenranta in 2004 aimed at reducing the amount of coal used began to bear fruit. The amount of coal used per tonne of lime produced has fallen in two years by eight per cent.

At Köping in Sweden it has proved possible to increase the amount of heat recovered from the compressor shop by exchanging the compressor. The heat economy of the lime kiln has been improved by renewing the burner and insulation. The new burner will make it possible to use alternative fuels in the future. Changing the compressor at Landskrona has reduced consumption of electricity by a fifth.

Waste, secondary materials and landscaping

The annual quantity of surplus stone produced at Nordkalk's different extraction sites depends on geological factors and the way blasting is carried out. Nordkalk aims to reduce the stone that has to be stored and to blast in an environmentally friendly fashion. In Finland more than 70 per cent of the surplus stone produced is now sold for other purposes.

Exploitation of surplus stone at the Pargas quarry considerably exceeded goals in 2005. It was 71 per cent whereas the corresponding figure for 2004 was 56 per cent. At Vimpeli and Siikainen, too, the surplus stone is stored to be used later. The edge of the heap area on the Hanhijärvi side of the industrial site in Lappeenranta has been raised and landscaped. Underground parts of the Tytyri mine that are no longer used have become a significant storage area for power-station ash, for example.

The amount of non-specific branch waste from the Pargas quarry has been reduced to a half of what it was last year. A new agreement on handling waste has meant that monitoring the amount of waste and its handling is now more exact and more reliable.

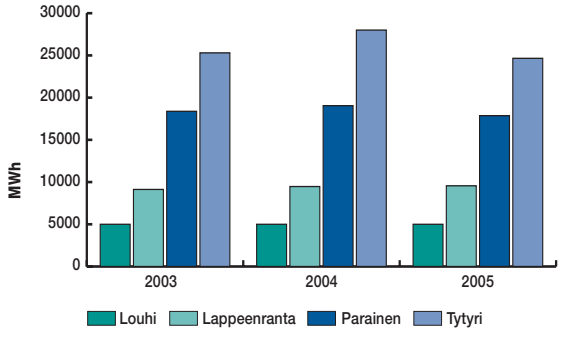
The handling of secondary products has been intensified, for example, the amount of mineral waste from the Pargas lime factory has fallen markedly as a result of its more efficient exploitation in collaboration with Finnsementti. The refuse tip for mineral waste at the Pargas quarry was closed in 2005. The planning and putting into practice of landscaping measures are under way in cooperation with the environmental authorities.

The sorting unit of the Lappeenranta mine has been modernised. New, more efficient machinery saves considerable quantities of raw material. Marked environmental improvements will include lower consumption of chemicals, reduced wear in the grinding bars and less of a burden on the sedimentation basins. A survey of different types of limestone is also in progress in Lappeenranta. The aim of the study is to find more efficient use of raw materials. A report is expected in 2006.

Environmental achievement of the year 2005

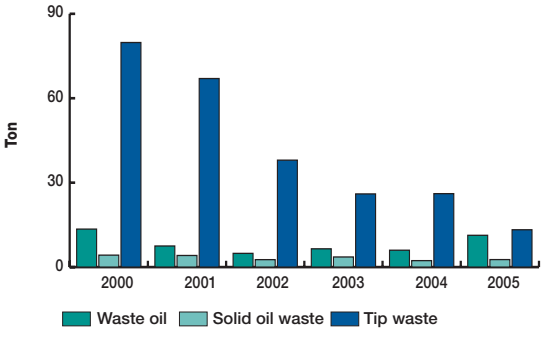
Nordkalk's internal award of merit for environmental achievement for 2005 went this time to the Lappeenranta lime plant for its energy-saving efforts. The factory succeeded in reducing its consumption of coal for burning lime by eight per cent in two years. As a result emissions of carbon dioxide have also fallen.

Recovered heat



More and more of the waste heat produced at the lime plants in Finland is recovered. Unstable markets in the early summer and lower production of lime resulted in less heat being recovered.

Environmentally hazardous waste and tip waste for the years 2000-2005



The amount of waste from the Pargas quarry has fallen to a quarter over a period of five years. Longer servicing intervals have helped to reduce the amounts of waste oil.

EMISSIONS AND SECONDARY PRODUCTS

FINLAND		2003	2004	2005	
Emission in air	CO_2 (t)	677 084	715 166	655 003	
	particles (t)	200	211	204	
	SO_2 (t)	101	107	217	1)
	NOx (t)	381	406	595	
Emission in water	solid material (t)	19	20	13	2)
	BOD_7 ATU (t)	1	1	2	
Secondary products	filter dust (t)	53 409	54 352	51 791	
	* utilized (t)	29 551	26 194	26 921	
	slaking residue (t)	14 081	17 033	18 647	
	* utilized (t)	10 968	8 411	10 355	
	surplus stone (t	2 253 181	1 448 785	1 602 610	
	*utilized (t)	1 533 212	1 128 657	1 374 426	
	refining waste (t)	199 975	272 621	190 115	
	* utilized (t)	31 500	60 859	42 476	
	kiln waste (t)	11 496	14 067	17 270	
	* utilized (t)	987	5 587	111	
	* mine filling (t)	9 107	2 056	2 319	
Environmentally hazardous waste	oils+greases (t)	42	63	66	

SWEDEN		2003	2004	2005	
Emission in air	CO_2 (t)	459 763	448 118	572 673	
	particles (t)	113	35	41	3)
	SO_2 (t)	47	111	106	4)
	NOx (t)	290	288	312	
Secondary products	filter dust (t)	27 727	16 421	25 928	
	* utilized (t)	25 917	15 026	21 929	
	slaking residue (t)	1 319	1 332	1 560	
	* utilized (t)	1 319	1 332	450	
	surplus stone (t)	1 036 638	980 801	836 306	
	* utilized (t)	377 453	470 700	462 917	
	washing sludge (t)	26 000	28 000	36 000	
	kiln waste (t)	1 526	1 591	1 633	
Environmentally hazardous waste	oils+greases (m^3)	506	378	209	5)

ESTONIA		2003	2004	2005
Emission in air	CO_2 (t)	38 123	41 210	37 535
	particles (t)	321	299	305
	SO_2 (t)	2	2	1
	NOx (t)	29	30	30
Secondary products	filter dust (t)	2 100	1 600	1 856
	* utilized (t)	2 100	1 600	1 856
	kiln waste (t)	850	2 364	518
	surplus stone (t)	0	0	182 700
	* utilized (t)	0	0	14 300
Environmentally hazardous waste	oils+greases (m^3)	6	3	3

POLAND		2003	2004	2005	
Emission in air	CO_2 (t)	9082	10252	14 951	
	particles (t)	22	30	19	
	SO_2 (t)	8	6	9	
	NOx (t)	23	28	38	
Secondary products	surplus stone (t)	0	98928	123 361	
	*utilized (t)	225147	200000	262 237	
Environmentally hazardous waste	oils+greases (m^3)	23	19	20	6)

The figures given in the tables represent both measured and calculated values.
1. Result of changes in fuel mix
2. Ihalainen industrial complex, Lappeenranta
3. The filter at Köping (2004) has reduced particles discharged into the atmosphere
4. Fluctuations depend on variations in the sulphur content of the limestone and increased output
5. The figure includes waste oil from vessels docking at Storugns
6. The production plant in Russia was acquired only in 2005 and is not included the environmental report/tables


Luleå
Raahe
Verdal
Kokkola
Finland
Vimpeli
Seinäjoki
Kristinestad
Louhi
Sweden
Siikainen
Lappeenranta*
Norway
Orsa
Vampula
Tytyri
Sipoo
St. Petersburg
Pargas
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Lübeck
Szczecin
Poland
Grinding
Sales
Quarry
Kiln
Own harbour
Sławno
Miedzianka
Wolica
Germany
Cracow
* In addition, there are flotation plants for calcite and wollastonite and a factory service in Lappeenranta. Nordkalk's subsidiary Suomen Karbonaatti Oy is located in Lappeenranta.

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