

Environmental and Social Report Chartres 2003



# Novo Nordisk in Chartres

**We acknowledge our social and environmental responsibility as a large employer in the area and a contributor of income in the local community. The ongoing expansion of our operations will be conducted with due consideration for people and the environment.**

**N**ovo Nordisk's site in France is located three kilometres from the centre of the city of Chartres in an industrial area. The site covers an area of 40,257 m<sup>2</sup> and at the end of 2003 there were 503 employees. The site has strong links with the local community. We were one of the first employers in Chartres and rank among the top five employers in the city measured by number of employees. The Chartres site specialises in the production of 3.0 ml Penfill® insulin cartridges. In 2003 we extended our activities and started production of FlexPen® – a new device for insulin injection. The production plant dates back to 1961, and was expanded in 1998 and again in 2003.

Today, production comprises the formulation, filling and packaging of insulin products based on insulin crystals produced by Novo Nordisk in Denmark. In addition to production, other activities performed on the site include logistics, quality control and assurance, maintenance, and general support. The products are exported to ten European countries. Products for the French market are distributed directly from the Chartres site, and since January 2002 this distribution has been outsourced to an external company specialising in this kind of activity.

Water, energy, human insulin crystals and preservatives are used in the formulation of the insulin product, and packaging materials are used in filling and packaging the products. In addition, cleaning agents and disinfectants are used for cleaning and sterilisation of the production area. The main environmen-

tal impacts from our production and processes relate to wastewater and solid waste. Wastewater, which has a low content of pollutants, is discharged into the public sewage system. Non-hazardous solid wastes are now incinerated in accordance with new French regulations, while hazardous solid wastes are sent for controlled destruction, also in accordance with French regulations.

In order to ensure consistency between the strategic focus of Novo Nordisk and operational practice at all levels of the organisation, we use a management practice called the Balanced Scorecard. This forms the basis for our target-setting within four main areas: customers & society; finance; business processes; and people & organisation. Social and environmental aspects have also been integrated into the Scorecard. Furthermore, in September 2003 we were certified in accordance with the ISO 14001 Environmental Management System. The activities on the site are regulated by environmental permits issued and controlled by the Direction Régionale de l'Industrie de la Recherche et de l'Environnement (DRIRE) and the District de Chartres.

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Novo Nordisk Pharmaceutique SA in Chartres is a dynamic workplace with more than 500 committed employees. In the coming years we will be expanding our operations to meet the market needs for our insulin products.



# A busy year with many activities

**A keyword to summarise our activities in 2003 is efficiency. We started production of FlexPen® and took on about a hundred new employees to cope with the increase in our production activities. In addition, we obtained certification in accordance with the ISO 14001 environmental standard – a process that involved all employees.**

In June 2003 we opened a brand new assembly and packaging line for FlexPen®. Prior to this we had worked persistently to ensure that we had the right resources in place, and we are proud to say that the whole process ran according to schedule. During the planning process we worked closely with Novo Nordisk in Hillerød, Denmark, and with the suppliers of the new equipment. Novo Nordisk in Hillerød already had a FlexPen® line, and many of our employees spent time in Denmark learning from the experiences of their Danish colleagues. Employees from Novo Nordisk in Hillerød have also visited the site here in Chartres. 20 of our employees visited our supplier Mikron in Switzerland.

### **Integrating new employees**

The expansion of our activities has led to a 26% increase in the number of employees at the site. In 2003 we took on about a hundred new employees, ranging from operators to engineers. We feel that we have a strong corporate culture in Novo Nordisk in Chartres, and in order to maintain and encourage this it is crucial that the process of integrating new employees runs smoothly and simply. One of our targets for 2003 was therefore to implement an integration plan for new employees. All new employees have been enrolled in a training programme on which, among other things, they are introduced to the Novo Nordisk Way of Management, which outlines the values of the company. When setting up the new FlexPen® line, we ensured that we had a mixture of old and new employees on the line to avoid any divisions among these employee groups.

### **General focus on productivity and efficiency**

In 2003 Novo Nordisk Product Supply introduced a new programme that will be rolled out in 2004. The programme is called cLEAN and is a Novo Nordisk version of the LEAN philosophy. As the name implies, LEAN aims to trim production processes by cutting out unnecessary activity and wasted time. It is

not the intention to lay off employees or to cut corners on quality, but rather to do more with the same resources. Employees play a key role in this process since they are the drivers of change. In order to prepare for the cLEAN programme, in 2003 we began measuring the efficiency of our filling lines. We initiated a benchmark survey to compare our efficiency level with filling lines in other parts of the organisation. The next step will be to evaluate the data that we have collected and to introduce changes on the basis of this evaluation. However, we have already run a pilot project in the FlexPen® assembly line to increase production efficiency. Each team of operators has been expanded with a 'feeder'. By raising the level of technical competence in the teams, we aim to create closer integration at the first level of maintenance. So far we have had positive results, but the programme will be thoroughly evaluated in 2004 before we decide whether or not to replicate this model in other parts of production.

### **Environmental actions**

Novo Nordisk's environmental policy obliges us to prevent pollution and continuously improve our environmental performance. We ensure this by carrying out environmental mapping of all new activities, and by setting targets relating to the company's main environmental issues. In 2003 one of our targets was to obtain ISO 14001 certification of our Environmental Management System. In September we obtained this certification as a result of a tremendous effort by all our employees.

The process of implementing ISO 14001 began in 2001. In 2003 we strived to ensure that all our employees were actively involved since one of the key aims of the system is to increase environmental awareness among employees. Employees should be individually conscious of their environmental impacts, be familiar with our environmental policy, be inspired to come up with ideas for environmental improvements, and know where to turn if they have ideas.



Eric Drapé, Senior Vice President.

The whole ISO process was driven by our environmental team, which was responsible for the preparations involving mapping major environmental issues, drawing up instructions, setting up the environmental system itself, and organising environmental training for employees. We ensure through the ISO 14001 certification that we are observing our environmental policy and securing ongoing improvements in a systematic fashion.

#### **Achieving targets for 2003**

We are proud to say that we achieved nearly all our social and environmental targets for 2003. One of the corporate social targets – to inform employees concerning DAWN (*Diabetes Attitudes Wishes and Needs*) – was withdrawn and was not therefore achieved. On the environmental side, we achieved all nine targets. In 2004 we will continue our work to achieve the target of analysing and drawing up an action plan for existing breaches of regulatory limit values by installing a cooling unit and a neutralisation tank as part of the NNPSA1 expansion. This should enable us to prevent breaches of temperature limits.

#### **Meeting market needs**

Another important event in 2003 was approval of the huge site expansion, which will begin next year. The 130-million-euro addition to the existing plant is expected to be completed in 2006 and is a step in the company's long-term strategy to boost market supplies around the world. The World Health Organization estimates that the number of people with diabetes will rise to 370 million by 2030, nearly double the current figure of 177 million. The expansion will thus enable us to meet future mar-

ket needs. When it is complete, we expect to have 400 new employees, which will nearly double the current number. By 2006 we will be the largest finished goods production unit in Novo Nordisk globally.

During the planning process we have enjoyed close collaboration with the local authorities. They have played a key role in the planned relocation of four neighbouring companies to facilitate our expansion process. We realise that we are an important asset to the municipality in Chartres, and realise that this could lead to our plans being favoured over those of other companies. However, it is important to stress that the relocation negotiations have been balanced to accommodate the needs of all parties involved.

#### **Visit from the Minister for Health**

Our expansion project gained national publicity when the French Minister for Health, Jean-François Mattei, attended a ceremony at the site to mark the official start of the expansion project. His presence alone drew the attention of the French media since Novo Nordisk was the first pharmaceutical industry that the minister visited during his 16 months in the post. Mattei, who has a background as a medical doctor treating people with diabetes, gave an engaging speech emphasising the importance of modern diabetes products. He further praised Novo Nordisk's innovative spirit and dedication to the Triple Bottom Line. Following the event, many employees stated that they were proud to work for a company that makes such a difference to people with diabetes.

# Integrating employees and developing competences

**On the social side, 2003 was characterised by a boom in the number of employees at the site. The two main focus areas were to ensure fair integration of new employees and to develop the competences of all our employees. After all, employees are one of our most important resources.**

**N**ovo Nordisk in Chartres is considered to be a good, stable workplace, and we have no problems attracting and retaining the best employees. The employee turnover rate remains low at 2.2%. In order to have a qualified workforce, we need to seek employees at a national level. Novo Nordisk is building an ever stronger brand in France. We are becoming more well known and have a good reputation. This means that we are receiving an increasing number of applications from qualified people who are willing to move to Chartres to work for our organisation.

### Integration process

In 2003 we spent a lot of time and energy ensuring successful integration of our new employees. The increasing number of newcomers has made us realise the importance of a systematised integration process – a target that we fully achieved in 2003. We have produced a CD-ROM offering a general introduction to Novo Nordisk. The CD-ROM is used in our induction course, on which employees are made aware of the history of the company and introduced to the values described in the Novo Nordisk Way of Management, our quality system, our environmental and social approach etc. The employees are also shown around the site in order to gain a full appreciation of what we do. Subsequently they receive technical training specifically related to their jobs.

### Ambition sheet

In order to continue to attract and retain the best employees, we found it necessary to improve our performance in certain areas. For this reason, in 2003 we worked out a development

support strategy divided into four important areas that we need to focus on in the future: Initiative, Communication, Transversal culture and Competences. It is our overall ambition to be the preferred site for large-scale production of the new generations of diabetes products and disposable devices – and the four areas are intended to help us achieve this ambition. Firstly, we need to develop the responsibility and initiative of each and every employee at the site. A specific example of this area is the above-mentioned cLEAN project, which will roll out in 2004. Secondly, we realised that even though we have enjoyed many successes in the past, we have not succeeded in communicating these – whether internally or externally. To that effect, we have created a head of communications position at Chartres to drive the communication process forward.

Communication is especially important in the context of the changes that we will be facing in years to come. All employees will experience changes in their daily lives due to the expansion – and for them to feel secure in their jobs, it is absolutely vital that they are continuously updated on the activities taking place around them. Thirdly, we will be strengthening the partnerships and teamwork between different employee groups on site and in other units of the Group. The fourth and final focus area is development of the skills and competences of our employees.

### Training – preparing for the expansion

With the recruitment of about a hundred new employees, our training efforts have to a large extent focused on the mandatory training of these employees. However, we acknowledge that further training and development of employees is vital if we

want to stay competitive in the future. Not only because employees expect to develop in their jobs, but also because we need an increasingly well qualified workforce to match the expansion of the site. As in the rest of Novo Nordisk, we have annual development interviews with employees at which we discuss the employees' needs for further training.

We are currently in the process of carrying out competence mapping to identify which skills we need to develop among employees. The mapping will continue next year, but we have already identified a need to strengthen management and leadership skills. This is why we are planning to develop an internal 'management path', which will focus in particular on developing employees' abilities to handle the changes related to the site's expansion.

### Health & safety

The health & safety work at our site is coordinated by the Health, Safety and Work Conditions Committee, which comprises staff representatives, a doctor, the company nurse, the site manager, and the safety manager. The committee meets whenever it is deemed necessary (but at least four times a year), looks at all injuries and hazards, and determines how to improve health & safety on the site.

In 2003 we recorded 11 injuries with absence from work. We are proud to say that the injury count has been very low in the last few years. We believe that this indicates the high quality of our safety training. This is a particularly good result considering that we have experienced a significant increase in the number of employees.

### Health campaign

In accordance with French law, we have had a full-time nurse on the site since late 2001. Her presence not only allows us to launch new health-related initiatives, but also to continuously follow up on existing programmes. Employees see her for a yearly health-check and know that she is available if they need support or guidance in health-related matters. Furthermore,

she is committed to improving work ergonomics, and is also the driving force behind the anti-tobacco campaign that was launched in 2002. She distributes nicotine patches and provides emotional and physical support to employees who want to quit smoking. The anti-tobacco campaign is just one element in our health awareness programme. In 2003 we focused in particular on nutrition. As a world leader in diabetes care, we feel that it is important to raise awareness concerning healthy eating and lifestyle among our employees in order to prevent type 2 diabetes. As we operate in shifts around the clock seven days a week, our employees work staggered hours – and not always during the opening hours of the canteen. The company nurse arranges smaller sessions at which she explains healthy nutrition and offers advice on what the body needs to function if an employee has to work throughout the night.

She has also contributed to the programme aiming to introduce more healthy food to the canteen.

### Engaging with educational institutions

Novo Nordisk has a long history of engaging in dialogue with universities and other educational institutions. At Novo Nordisk in Chartres we enjoy close collaboration with the city's technical school, with some of its students working for us as trainees. We also receive trainees from the University of Pharmacy in Paris, where we are represented on some selection panels. We also participate in selection interviews for advanced postgraduate students. Even though Novo Nordisk is building a strong brand in France, we are still relatively unknown in the educational community. We are striving to become more visible in this community as a means of attracting future employees.

### Social targets 2004

- ◊ Define an individual development plan for management.
- ◊ Survey the causes of occupational injuries and implement measures to reduce the number of such injuries.
- ◊ Improve communication of the company culture and awareness of it.

## Social data

Our employees	1999	2000	2001	2002	2003	Development in % 2002-2003
Total number of employees	198	210	318	398	<b>503</b>	26
Number of full-time employees	194	201	305	337	<b>425</b>	26
Number of part-time employees	4	9	13	61	<b>78</b>	28
Average age distribution (years)	35.7	35.8	34.3	34.2	<b>33.9</b>	-1
Average years of service	6.4	6.8	5.1	4.8	<b>4.5</b>	-6
Rate of employee turnover (%)	6.4	5.8	3.4	2.6	<b>2.2</b>	
Job functions and gender representation	Number of employees				<b>2003</b>	
Administration	19				74%	26%
Production	309				65%	35%
Quality	74				80%	20%
Logistics	22				32%	68%
Technical services and IT	70				4%	96%
Of which, number of employees in executive management	9				44%	56%
Occupational injuries	1999	2000	2001	2002	<b>2003</b>	Development in % 2002-2003
Frequency of occupational injuries	2.9	8.9	27.5	12.6	<b>13.7</b>	9
Number of occupational injuries with absence	1	3	14	8	<b>11</b>	38

External voice: Jean-Pierre Gorges, Mayor of Chartres



### Novo Nordisk – an important asset for Chartres in terms of economic and social development

“Novo Nordisk is one of the biggest companies in Chartres and over the years has become renowned not only inside the city walls but also outside, attracting skilled employees from all over France. Novo Nordisk thus contributes to creating a diverse workforce in Chartres, which is an important element in ensuring a well balanced population.

“Furthermore, the increasing number of employees employed by Novo Nordisk is of course adding economic value to the local community. Compared to many other companies these days, Novo Nordisk provides a stable workforce for em-

ployees as it has a very low employee turnover. This is reassuring for the local economy.

“The rapid expansion of the plant that has taken place during the last decade has economic spin-offs for other companies in Chartres because Novo Nordisk has used local labour and materials for the construction work on the new buildings.

“For a local community, it is important that large companies located in the area are environmentally and socially responsible. Not only in relation to pollution etc, but also in terms of how their employees perceive the company. Sustainable de-

velopment has become a modern buzzword that many companies tend to use, but few tend to live by. Novo Nordisk is different because the company has a long history of living sustainable development in practice. The company takes all three dimensions into account when doing business: economic viability, social responsibility and environmental care. It is clear that Novo Nordisk is perceived as a good workplace by the employees who work there. And when they spread this message to those around them, it is not only beneficial for the company, but also for the local community in which the company operates.”

#### INTERNAL NEWSLETTER

### Getting to know people with diabetes

Since June 2002 we have been publishing the internal newsletter *La Lettre du Site de Chartres*, which gives both old and new employees an overview of the activities at the site. The newsletter is a great success and is seen as a good channel to communicate issues that interest the employees. When in 2003 the site arranged a 'meet the patient' session at which employees met people with diabetes to learn about the reality of living with the condition, it made a great impression on the vast majority of them. The newsletter chose to follow up on this event by publishing a series of articles that presented different perspectives on diabetes. Interviewees included a diabetes professor, medical employees from the organisation, and a teenager with diabetes. The newsletter has an editorial committee with employee representation that decides on the contents of each edition.



#### SPONSORSHIPS

### Active employees and physical well-being

We aim to direct our local sponsorship towards health-related activities since this ties in well with our overall strategy to promote healthy living. For one year

we are sponsoring a local girls' basketball team. We also co-sponsored three of our own brave employees who joined a weeklong 'adventure raid' (orienteering, mountain biking, kayaking etc) organised at national level. It was a tough competition and the three women finished 21st out of 73 teams. Not bad at all!



#### WELFARE ADVISER

### Listening to employees' personal problems

In late 2002 we hired an external welfare adviser, who visits the site once a month to talk to employees about their personal problems. The initiative is greatly appreciated by the employees and we have already identified areas for improvement.



#### WORLD DIABETES DAY

### Biking from France to Denmark

Since 2000 it has been a tradition throughout Novo Nordisk to celebrate 14 November, World Diabetes Day, and employees from all over the world take part in activities to promote healthy living. In 2003, five employees from the Danish production site in Kalundborg

cycled 1,600 km from Chartres to their home site in Denmark. The purpose of the trip was to raise awareness of diabetes.

In Chartres we celebrated the day by offering a special healthy meal for lunch. The restaurant was decorated with posters providing information on what to eat to prevent type 2 diabetes, and leaflets on diabetes were made available to the employees.

# Implementing the Environmental Management System

**In 2003 we achieved our main environmental target of having our Environmental Management System certified according to ISO 14001. It was a long process that involved all of our employees.**

The purpose of environmental management is to create a basis for ongoing improvements and to reduce environmental impacts. The process has been enthusiastically driven by our environmental team, who have worked hard to prepare and execute the implementation. They have mapped all environmental impacts, trained employees, identified possibilities for improvement, and drawn up instructions for working procedures.

In 2003 we conducted three management reviews to ensure that the process is running as planned – which we are proud to say it is. We plan to conduct two further management reviews in 2004.

### **Employee awareness is important**

Even though we had prepared for the implementation in the previous two years, it was not until 2003 that we actively involved all employees in the process. It has been a challenge to win the commitment of the employees as the environmental culture came to the fore with the implementation of the ISO 14001 certification. All employees were trained in the summer and we were pleased to note a gradual increase in their motivation and commitment. When we arranged voluntary 'environment days', 80% of the employees participated. On these occasions we discussed the site's environmental statement and implementation of the ISO 14001 standard. We also invited employees to sign a guest book to show their commitment to this voluntary approach. We have found that many employees

now transfer the environmental mindset to their private lives. Selective waste sorting is already a reality in many towns in the region. Moreover, several community sites are available for people to take along certain types of waste (glass, plastic, paper etc).

We believe that it is crucial to obtain employee support for the Environmental Management System since it is they who are closest to the environmental aspects and can influence them through their daily work. In the same way, it is the employees who can come up with ideas for improvements. And they do just that – we have already received numerous suggestions for environmental improvements in our idea box, some of which have already been implemented, while others are in the process of being evaluated.

Our employees have proposed a wide range of ideas, including:

- Installation of a drum with a retention tank for recovery of used oils.
- Launch of a study on the installation of occupancy detectors to reduce lighting times in certain areas of the site.
- Printing of INS and SOP documentation on both sides.

### **Focus on waste**

In 2003 we had a specific focus on waste management. A waste sorting method has now been implemented that will improve sorting of aerosol cans and potentially infectious medical waste (waste generated by the nursery and first aid stations). Although we have been working on waste management for a →



It is by involving employees in the management of our environmental impacts that we achieve our desired high level of performance. Our ISO 14001-certified Environmental Management System ensures focus on pollution prevention and continuous improvement.



→ number of years, it was not until the implementation of ISO 14001 that the approach was systematised. As the new FlexPen® line brings about an increase in plastic waste, we have decided to modify our waste storage area in 2004. The three Common Industrial Waste (CIW) containers have been replaced by a compactor to handle our growing volumes of CIW and reduce the workload of our supplier. Cardboard has been sorted on site for several years, and we are considering the implementation of a paper sorting system in 2004.

### Strong increase in resource consumption

In general the consumption of resources increased from 2002 to 2003 due to a substantial increase in production. With the planned expansion of our production activities, we estimate that water consumption will increase significantly. Due to a very hot summer in 2003, the authorities are specifically focusing on water resources and have asked us to come up with an action plan to minimise this increase. As part of our sustainable development strategy, we are continuously striving to minimise our consumption of resources per produced unit, and have of course agreed to investigate the issue further. At the beginning of 2004 we will submit to the DRIRE a technical/economic study of a plan to reduce our water consumption. For processing reasons, we discharge water for injection to the sewage system at a temperature of about 80°C. We plan to recover this water, cool it down, and redirect it to our cooling towers. We have two objectives:

- To reduce water consumption.
- To lower the temperature of our wastewater.

Total water consumption in 2003 amounted to 139,000 m<sup>3</sup>, which was a 26% increase compared to 2002. However, production increased even more than this and so we achieved a 3% increase in productivity per consumed unit of water, thus achieving our target for 2003.

The target for energy in 2003 was to increase productivity by 5% per consumed energy unit, and we achieved our energy EPI (Eco-Productivity Index). At the same time, energy consumption rose from 121,000 GJ in 2002 to 128,000 GJ in 2003.

As a result of the planned expansion of our activities, we will be running a number of tests in production and validating new equipment. This consumes large amounts of energy and water that will not result in products. We therefore plan to evaluate the water and energy consumption generated by these testing and validation activities, which will not be taken into account when calculating our EPIs.

### Cooperating with different stakeholders

In our environmental work we cooperate with a number of internal and external stakeholders in order to share experiences and learn from each other. In 2003 we entered into a partnership with various companies in Chartres in the Chamber of Commerce and Industry network – a forum where corporations meet to discuss environmental issues. This resulted in seven meetings in 2003, all of which gave rise to lively debates on issues such as:

- Waste sorting.
- The integrated SEQ system.

- Implementation of the ISO 14001 standard.
- Appointment of a consultant for safety issues related to the transport of chemicals.

We also work closely with one of our suppliers, SITA, which handles a large proportion of our waste. Due to the specific focus on waste in 2003 and 2004, we will be strengthening our partnership with this company. Internally in Novo Nordisk we are a member of the EnviroNet network. We were one of the last sites to be certified according to ISO 14001, and it has therefore been an advantage to be able to learn from environmental coordinators who are more advanced in the implementation process than us. Chartres is one of four sites in Product Supply that participates in the Steering Committee. We benefit from the different topics discussed:

- Internal and external audits.
- Follow-up on projects related to Novo Nordisk's environmental objectives.
- Follow-up on documentation changes.
- Publication of a newsletter.
- Presentation of the actions carried out by the different sites since the last meeting.

We have also enjoyed close dialogue with the national and local authorities that have granted authorisation for the expansion of the plant.

### Wastewater

The wastewater from the site is composed of process wastewater from cleaning activities and wastewater from laboratories. The wastewater passes through our neutralisation tank before discharge into the public sewage system. It is then treated in the municipal wastewater treatment plant, which is a biological plant with nitrification and denitrification. Afterwards, the treated wastewater is discharged to the Eure river. The discharged wastewater complies with regulatory limits. Our monitoring programme to document compliance with regulatory limit values covers wastewater and includes continuous measurements of pH and temperature as well as analysis of weekly samples for COD, N-total, P-total and suspended solids.

In 2002 and 2003 we performed detailed analyses to find out why we are measuring deviations in temperature and pH in our wastewater. We are currently planning to build a neutralisation tank in our filling unit NNPSA1. We expect to carry out this work in 2004.

Our amount of wastewater increased from 83,000 m<sup>3</sup> in 2002 to 104,000 m<sup>3</sup> in 2003 due to increased production.

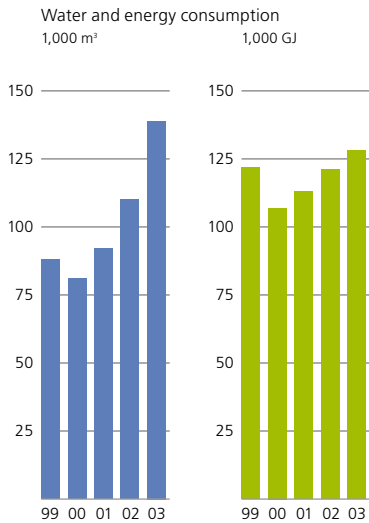
Other wastewater produced by the site comprises sanitary wastewater and rainwater from areas impervious to water.

### Solid waste

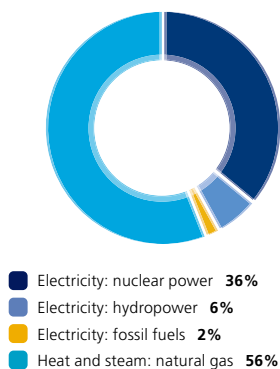
Solid waste from production and related activities comprises non-hazardous waste such as cardboard, paper, plastic and glass, and hazardous waste such as chemicals and bacteriological/infectious waste.

Cardboard used in the packaging of goods delivered to the site is recycled by the company SITA.

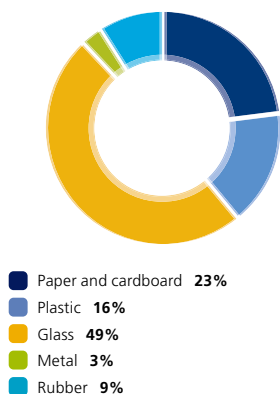
Chemical waste generated by the Quality Control (QC) →



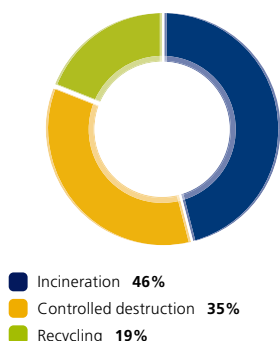
Breakdown of energy sources 2003



Breakdown of packaging materials 2003



Waste disposal 2003



**ENVIRONMENTAL TRAINING**

The waste game, a winning concept

We realised early on how important it is to conduct environmental training in a way that employees find relevant and inspiring. This is why we have introduced a 'waste game' as part of the mandatory training. Employees are given a number of cards depicting different sorts of waste related to our production. They then have to categorise the cards and indicate how each specific type of waste should be managed.

**COMMUNICATION**

Environment on the intranet

We have a section on our internal website dedicated to the environment. To follow up on training, it is important that employees have easy access to information. This is also where we communicate the ideas for environmental improvements that we receive from employees – and announce whether they have been implemented.

**ISO 14001**

Continuously improving our efforts

It is our goal to have an Environmental Management System that is not only beneficial for the environment but also for our financial bottom line. Our overall ambition is that the environmental savings identified as part of ISO 14001 are able to balance the cost of implementing and maintaining the ISO 14001 certification.

The implementation of the certification raised employee awareness of the environmental challenges related to a continuous improvement approach.

We hope that every employee will become actively involved in this approach, and thus generate environmental improvements.



80% of employees have participated voluntarily in our 'environment days'. On this occasion we discussed the site's environmental declaration and implementation of the ISO 14001 standard.



The members of the environment group (from the left): Céline Coulongeat, Xavier Eon, Carole Lambert and Ludovic Boireau.

→ department during analyses is collected in suitable drums and sent to Labo Services for controlled destruction. Bacteriological waste generated by the QC (microbiology) department is collected in suitable boxes and sent to the company ARCANTE for incineration.

Our total amount of solid waste increased from 367 tons in 2002 to 535 tons in 2003 due to increased production.

#### **Air emissions and noise**

Air emissions from the site comprise carbon dioxide, sulphur dioxide and nitrogen oxides from the generation of heat and steam on site, from the burning of natural gas, and from external production of electricity.

The main sources of external noise are four cooling towers situated outside our buildings. In 2003 we carried out a noise study, which showed that we are below the regulatory limit values in all areas.

#### **Accidental releases and nuisances**

The most likely accidental releases would be from the filling of storage tanks for acid (hydrochloric acid) and base (sodium hydroxide). In the event of a chemical release, we can use retention tanks, a sectional valve in the rainwater system and a pol-

lution control kit to block pollutant. We did not have any accidental releases in 2003.

Activities on the site do not cause any nuisances for our neighbours. The nearest neighbours are other companies located around 50 metres from the site, and the nearest residential neighbours are located around 200 metres from the site. As in previous years, we did not receive any complaints in 2003.

#### **Environmental targets 2004**

- ◊ Wastewater: install a cooler in NNPSA1.
- ◊ EPI for water 100 and EPI for energy 105.
- ◊ Secure the stock of acid/sulphur in NNPSA2.
- ◊ Carry out a study on the introduction of paper sorting.
- ◊ Start up an assessment of impacts related to transport.

## Environmental data for Novo Nordisk in Chartres 1999–2003

	Unit	1999	2000	2001	2002	2003
<b>Water</b>						
Drinking water	1,000 m <sup>3</sup>	88	81	92	110	139
<b>Energy</b>						
Energy (total)	1,000 GJ	123	108	113	121	128
External (electricity)	1,000 GJ	47	45	48	51	56
Internal (subtotal)	1,000 GJ	76	63	65	70	72
Fuel oil (light)	1,000 GJ	2	1	1	0	0
Natural gas	1,000 GJ	74	62	64	70	72
<b>Materials</b>						
Materials (total) <sup>1)</sup>	tons	314	455	670	645	919
Raw materials	tons	17	24	6	9	10
Packaging materials <sup>1)</sup>	tons	297	431	664	636	909
<b>Wastewater</b>						
Volume	1,000 m <sup>3</sup>	70	62	71	83	104
Suspended solids	tons	10	12	10	11	8
BOD	tons	–	4	3	4	3
COD	tons	12	13	12	20	12
Nitrogen	tons	1	1	1	1	1
Phosphorus	tons	1	1	1	2	1
<b>Waste</b>						
Waste (total)	tons	282	268	300	367	535
Incineration	tons	117	96	66	138	244
Landfill	tons	109	113	133	80	0
Controlled destruction	tons	10	9	51	103	189
Recycling (subtotal)	tons	46	50	50	46	102
Batteries and neons	tons	–	–	–	–	0.4
Electronic waste	tons	–	–	–	–	1
Metal	tons	0.9	1.0	0.4	0.6	13
Mineral oil	tons	0.4	0	0	0	0
Paper and cardboard	tons	32	39	43	32	51
Wood	tons	13	10	6.3	13.6	37
<b>Emissions to air</b>						
Ozone-depleting substances	kg	0	0	0	105	97
Carbon dioxide (CO <sub>2</sub> )	tons	5,898	5,052	5,355	4,605	4,806
Sulphur dioxide (SO <sub>2</sub> )	tons	11	8	11	2	2
Nitrogen oxides (NO <sub>x</sub> )	tons	11	9	7	6	6
<b>Environmental Impact Potentials</b>						
Global warming	tons CO <sub>2</sub> -eqv.	5,900	5,052	5,355	4,783	4,971
Ozone layer depletion	kg CFC <sub>11</sub> -eqv.	0	0	0	4	4
Acidification	tons SO <sub>2</sub> -eqv.	16	15	15	6	6
Eutrophication	tons NO <sub>3</sub> -eqv.	45	53	44	63	49
<b>Compliance</b>						
Breaches of regulatory limits <sup>2)</sup>		0	0	10	1	2
Regulatory limits with repeated breaches		0	0	2	0	0
Accidental releases		0	0	0	0	0
Complaints		0	0	0	0	0
<b>Stockpile of Ozone Layer Degrading Substances</b>						
CFC	kg	0	0	0	0	0
HCFC <sup>3)</sup>	kg	594	549	549	462	488
Halons	kg	0	0	0	0	0

1) Data for packaging materials has changed for 2002 due to a significant error in the weight factors for two items.

2) One breach has been added for Chartres in 2002 due to continuous measurements.

3) The figure for HCFC for 2002 has been amended as a result of a calculation error that was discovered in 2003.

Data in this report were included in the assurance engagement performed by Deloitte. The full Assurance Statement from Deloitte can be found on page 58 of Novo Nordisk's *Sustainability Report 2003*.

Novo Nordisk is an international biotechnological and pharmaceutical company. We offer a wide range of insulin products, as well as products for growth disorders, hormone replacement therapy and haemostatis management. We are headquartered in Bagsværd, Denmark, and have production facilities in Denmark, France, the US, Brazil, South Africa, Japan and China. We have around 19,000 employees and are part of the holding company Novo A/S, which is also headquartered in Bagsværd. We are committed to the integration of sustainable development into the management of our company. This is being done on the basis of the 'Charter' for companies in the Novo Group. The Charter sets out our Values, Commitments and Fundamentals, as well as the Novo Nordisk Way of Management, which includes the company's Vision and Policies. We aim to be sustainable not only financially but also in terms of social and environmental responsibility.



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