

Environmental and Social Report Måløv 2002

It takes good ideas and determination for a company such as ours to live up to its environmental and social responsibility. We had lots of both in 2002, as we think that our results show.



Novo Nordisk Park in Måløv

Novo Nordisk Park is situated on the outskirts of Måløv in Copenhagen County in a scenic area with a fantastic outlook on the surrounding countryside. The site occupies 450,000 m² and may be used, in accordance with local planning, for administration and light production, including pharmaceutical finished goods production, laboratories and warehouses.





The surrounding areas consist of other industry and agriculture. The distance to the nearest housing is about 500 m.

Novo Nordisk Park in Måløv is undergoing rapid development. In 2002 we opened a new multi-storey warehouse for tablets, commissioned a new laboratory finger (C6), and expanded building C1 with a collection and packing area for the product Vagifem®. We are still in the process of adding a brand new wing to one of our buildings, which from autumn 2003 will house offices and laboratories. This means that we are jointly responsible for many people's work lives, and we have to manage relations with many different external parties.

BOTH RESEARCH AND PRODUCTION The main activities in Novo Nordisk Park are research in and development of new pharmaceutical products, the production of tablets for hormone replacement therapy, and packing of products for clinical trials for the whole of Novo Nordisk.

The bulk of Novo Nordisk's hormone tablet production is carried out at the plant in Måløv. The Production area produces the hormone tablets, and fills and packs the finished products. The Research & Development area has several laboratories and animal housing. The site also has a pilot plant for developing new pharmaceutical products. Added to this are various support functions

such as a canteen, workshops, a central boiler plant and administration.

Novo Nordisk Park employs 932 people split between salaried employees and hourly-paid workers. There are 273 hourly-paid workers. Salaried employees consist of engineers, biologists, chemists, pharmacists, laboratory assistants, pharmacologists, technicians and similar professional groups.

RESOURCES AND ENVIRONMENTAL IMPACT

The main resource consumption is water and energy, raw materials (lactose and maize starch) for the production of hormone tablets, and packaging materials in the form of plastic, paper and cardboard.

Novo Nordisk Park's main environmental impacts are from hormone-containing waste in the form of solid waste and wastewater from the production of tablets. This waste is sent for destruction at Kommunekemi in Nyborg.

ENVIRONMENTAL MANAGEMENT Our management systems take account of all the main aspects of our activities, including social and environmental issues. The Production area was environmentally certified according to ISO 14001 in 2002.

The activities at the site are also approved and regulated by several environmental approvals and a wastewater permit, which set limits for our impact on the surrounding environment.

Contact

Flemming Feddersen
Vice President
ff@novonordisk.com
+45 4443 4469

A tough but good year for Site Måløv

Måløv's tablet production in 2002 was marked by increased production and supplies to our customers and by the work on achieving environmental certification according to ISO 14001. It was a busy year. As well as the two major tasks mentioned above, we ran in new plants in the packing plant and worked on other projects to make us better at taking care of the environment – and the employees better at taking care of themselves in their work.

Flemming Feddersen, vice president



In spite of – or perhaps due to – the busyness, we achieved all the environmental targets that we set for 2002, with the exception of a 2% reduction in solid waste compared to 2001. We are especially proud of our major reduction in the consumption of water and energy per produced unit.

Here and in the remainder of this report we discuss the issues and activities that, in our opinion, best show how we at Novo Nordisk in Måløv worked on environmental and social responsibility in 2002. We are proud of our efforts and plan to continue in the same vein in the coming years.

Novo Nordisk has an environmental policy that obliges us to prevent pollution and continuously improve our environmental services. We ensure this by carrying out environmental analyses of all new initiatives and by setting targets relating to the company's major environmental issues. In 2002, one of our targets was that our Environmental Management System should be certified according to ISO 14001.

DEMANDING BUT REWARDING CERTIFICATION We spent a lot of energy in 2002 preparing for certification according to the environmental standard ISO 14001. This was the year's main activity apart from actual production, control and supply. A large number of people were involved in the work, and the whole site was trained. Selected groups with responsibility for an area that is essential for compliance with the system's requirements were given special training.

Our environmental coordinator and our environmental group of representatives from the various departments led the way in the certification work. The environmental group took care of the mapping and setting up of the actual system, and also took charge of training both generally and by department. They also arranged a theme week on the environment in August. The environmental project also extended outside the company with a poster competition organised for pupils at local schools. This gave us an environmental poster to create awareness of the environmental work among all employees that will be affected by implementation of the Environmental Management System.

We estimate that the ISO certification will mean that in future we will save resources, and that we will have lower energy and water consumption. Our waste handling has already become more efficient. We hope to generate less waste – and generally less consumption of resources per produced unit. We will also take a special look at the possibility of sending more waste for recycling. The ISO certification helps us to achieve this by creating focus on a number of areas.

NEW DESIGN AND BUILDING BENEFIT THE ENVIRONMENT

A new dispenser design for one of our products will in future have a beneficial effect on the environment because each dispenser uses less plastic. In all this will give savings in our plastic costs – both as raw materials and waste.

We also opened our new multi-storey warehouse for tablets. The warehouse is beneficial to the environment due to less goods traffic. Previously we had had three storage hotels off-site, but with the on-site warehouse far fewer vehicles are transporting goods to us. So as well as the benefits for the environment, we are also saving time and money.

We have not received any complaints about the plant's work, and we have observed all the requirements imposed on us by the authorities.

AN END TO WEEKEND WORK During the year, we abolished weekend shifts in the Vagifem® collecting and packing section as a result of the fact that we completed the running in of new plants. It is the impression of management that this has been a positive thing for most of the employees affected by the change.

However, running in new plants is also a strain on employees. Since experienced personnel are required for the task, you cannot simply take on more employees to do the work. This means that the employees in Production have less time on average to produce for the market, and that most things have to be done a little quicker until the new plants contribute to production.

INCREASED HEALTH & SAFETY AWARENESS In 2002 we had 15 occupational injuries – which we are not pleased with. Fortunately, the injuries we had were not serious, but we still think that this is an area where we can improve. The health & safety group, which comprises representatives from all areas of Production, organised a health & safety week in December – along the same lines as our environment week in August. These activities are discussed in more detail on pages 9 and 13.

EVALUATING OUR SUPPLIERS 2002 was a year in which we really focused on evaluating the environmental and social performance of our suppliers. Our target for the year was to evaluate 90% of our main raw material suppliers. With just a few exceptions, the evaluation produced satisfactory results. In 2003 we will continue working on the remainder of our suppliers to ensure that they are meeting our requirements.

CLAMPDOWN ON COSTS MEANS FEWER ACTIVITIES In a year when Novo Nordisk had to clamp down on costs, we had to cancel a number of activities, including a massage scheme, basically all external training activities, trips, celebration of successes, and our family day. Management feels that the employees generally showed a great understanding for the need to watch our spending. Perhaps because at the same time they could see that this meant that we did not need to lay off any of our employees. And this too is a form of social responsibility.

SCHOOL ADOPTION DRAWS ATTENTION We received a lot of attention in connection with the school adoption scheme that we are running with Ballerup Municipality. In May we held a press conference together with the then participants – the municipality, Siemens and Novo Nordisk. We invited the other companies in Ballerup and a large section of the Danish press to a press conference in the Town Hall – and this produced a number of positive mentions.

FUTURE FOCUS AREAS Following the certification of our new Environmental Management System in 2002, in 2003 we will be especially aware of implementing the system fully and maintaining procedures, etc. To put it another way, this will involve making the system part of our everyday life.

In the social area, we will especially be working in future on two of Novo Nordisk's focus areas, namely equal opportunities, and a programme called TakeAction!, which is about making a simultaneous effort in environmental/social responsibility and finance an integrated and balanced part of everyone's work.

A safe and accommodating workplace

In 2002 we achieved many things in the social area. Some of the social activities were certainly worse off than in other years because Novo Nordisk as a whole had to be especially aware of controlling costs in what was a difficult year. Nevertheless, we still had many good, exciting activities and results to discuss – especially in the area of health & safety. We also achieved all the targets that we had set for 2002.





During 2002, we discovered that the area of health & safety really needed more attention than before. We therefore held a health & safety week. This is described on page 9. We began to issue a monthly electronic newsletter on health & safety in Måløv, which is sent out to all employees. We also agreed that new employees should in future meet their health & safety representative at the start of their employment. In 2002 there were 15 occupational injuries resulting in more than one day's absence from work.

We have worked on the indoor climate in the office section and one of our main buildings, renovating the ventilation systems. They were originally designed so that the ventilation from the canteen was too close to the intake of a number of offices, which gave various odour nuisances. This has now been modified and we have fitted new filters in the system.

We are also steadily working towards achieving the target of having implemented 80% of all the action points in the action plans for the workplace assessments by July 2003.

SHIFT WORK WITH A HUMAN FACE In 2002 we abolished the fixed weekend shift in the Vagifem® collecting and packing section. This was something that we had set as a target for 2002. For most employees this has meant better work-

ing conditions. In other departments we still have three shifts from Monday to Friday involving around 180 employees.

In general, we always make sure that we allow for a few special work cases. This may be employees who are alone with their children, or who are advised by their doctor, for age or other reasons, to avoid three-shift work. In cases where this is for a limited number of years, we have made room in our shift rosters for helping these employees to remain in the job market without damaging their health and to the benefit of their personal situation.

LESS MONOTONOUS REPETITIVE WORK For 2002 we had promised ourselves that we would have special focus on the monotonous repetitive work of visual inspection in the filling process – the final remaining area which involves this type of work.

The products that are checked manually are the rejected products from the filling line. They are rejected mechanically by the vision system that checks the individual products and are then re-checked manually to verify that they are indeed defective.

The key to minimising the monotonous repetitive work is thus to make the mechanical inspection better so that the need for manual inspec- →

Social targets 2003

All units in Måløv will contribute to achieving the following corporate targets:

80% of all employees should discuss the findings from DAWN, HERS or other relevant studies with patients.

80% of all managers should score 3.0 or more in eVoice on questions related to 'winning culture'. All managers with a score below 3.0 should take action to improve in this area.

The 2003 targets for increasing equal opportunities should be set and 80% of these targets achieved.

Units with an unwanted employee turnover of more than 10% should reduce their turnover to a maximum of 10% by the end of 2003.

tion is reduced. New filling machines have much better mechanical inspection, and out of our five machines for filling one is from 2002. In the long term, we expect that this will reduce the amount of monotonous repetitive work. However, we still need to wait at least a year before we can see the results since in 2002 we had a lot of running in and validation, which necessitated increased inspections.

WORK ON EQUAL OPPORTUNITIES In 2002, a common target for the whole of Novo Nordisk was to work to ensure equal opportunities. For the whole of Måløv we had a target to work towards taking on more qualified employees from minority backgrounds in the professionals group, but Novo Nordisk's general hiring freeze made this impossible. What we were able to do is to put in writing that we need to be extra aware of minority groups in our recruitment – so that in the recruitment phases we make no personal distinctions. This reminder has been issued to those who take on employees. At the same time, we have made employees aware of the fact that there is a Novo Nordisk ombudsman to whom complaints can be addressed if someone feels that they have been discriminated against or unfairly treated. However, this is the final resort – any problems should first be taken up with local management.

NUMEROUS EXTERNAL AND INTERNAL EVENTS A target for the site in 2002 was that we should hold a minimum of two internal and two external events to create awareness of the work at Novo Nordisk Måløv. We succeeded in this. We held a press conference with the municipality on the school adoption scheme in which we participate, and an 'open site' event for universities and educational establishments. The internal events were an environment week and a health & safety week.

In order to achieve the corporate target that "all employees should meet a customer in 2002", Hormone Replacement

Therapy (HRT) developed a small 'roadshow' with which we visited Danish production sites: Måløv itself, Kalundborg, Hillerød, Gentofte and Bagsværd. A clinical expert explained the menopause, possible problems and possible forms of treatment. Two or three users of HRT products told their stories, and Novo Nordisk's HRT products and the market situation were presented. We received lots of good feedback on the events.

GOOD COOPERATION WITH BALLERUP MUNICIPALITY

We work a lot with the municipality in our involvement in the local community – especially in our participation in the municipal school adoption scheme. Within this scheme, in 2002 we said goodbye to the class with which we were linked for the previous three years and began cooperation with a new year 8 class at Hedegaard School. So far, the class' pupils have been on a tour of Novo Nordisk, and the management has visited the class to hear about its projects.

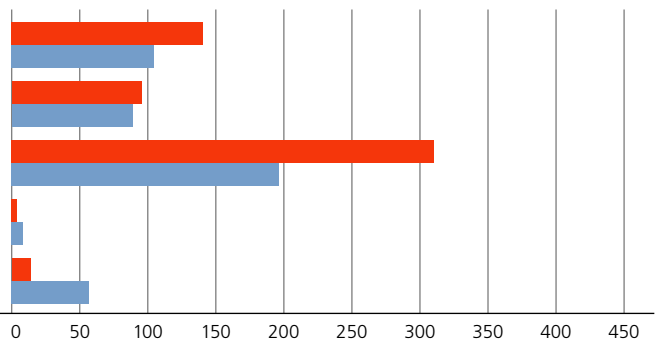
In 2002 we also sponsored another of the municipality's school projects to the tune of 10,000 Danish kroner. The municipality's schools are taking part in a technology project called First Lego League, and our contribution is going towards the final event at which the participating classes will compete for the best and most creative solutions to the task that has been set.

VOLUNTARY WORKING CLIMATE SURVEY We had a target of carrying out a working climate survey among the employees in Tablet Production as prescribed by the general Novo Nordisk policies. However, for 2002 it was decided centrally that the working climate survey would not be obligatory, and so it was at the discretion of the areas themselves whether they would carry it out. In 2002 we performed a working climate survey for around 70 employees, and this showed that we need to continue our focus on stress and personal development.

Our employees	2000	2001	2002
Total number of employees	847	924	932
Total number of employees	738	788	798
Number of part-time employees	109	136	134
Average age distribution (years)	39.1	38.9	40.2
Average years of service	7.5	7.4	8.2
Employee turnover (%)	7.5	6.6	5.1

Occupational injuries	2000	2001	2002
Frequency of occupational injuries	5.9	7	10
Number of lost-time injuries	8	11	15

Gender representation		2001	2002
Administration	female	139	143
	male	111	107
Production		87	93
		70	79
Research & Development		316	315
		201	195
Senior management (VP)*		1	3
		8	9
Management (Manager)*		17	16
		51	60



* The figures for senior management and management are also included in the totals for the other employee categories.

HEALTH & SAFETY

Theme week provides focus on safety

The idea behind a week focusing on health & safety was to create more awareness of health & safety work. It was organised by the Health & Safety Group, which comprises representatives from the various areas of Tablet Production.

Leading up to the week we carried out a survey to find out what our colleagues knew about health & safety and what information was lacking. Based on the results of the survey we planned the week, which came to revolve around communication and information on health & safety work.

A person visited all teams and talked about health & safety in order to send out a clear signal that the subject has high priority from management. Employees came up with a number of good suggestions for improvements which can and will be implemented at a later time.

We focused in particular on occupational injuries – how they can be prevented and what employees should do if they are involved in an accident. It is important, for example, that employees report all occupational injuries and near-misses – both major and minor so that we can continually work on improving. We also discussed, among other things, ergonomy.

The Health & Safety Group has received a lot of positive feedback on the event.

BATTLE

The fight against animal hair allergy

In 2002, Pharmacology Management, which is one of the site's departments outside Tablet Production, made further efforts for protecting employees from developing animal hair allergy. In the main, this led to two new initiatives:

Changes have been made to the access conditions for the laboratories, which are situated on three floors of the building where Pharmacology Management is housed. Previously it was possible to go straight in and access all floors. The entrance to the 1st floor has now been blocked, and a new lock has been built in on the 1st floor so that all employees can perform the necessary change of footwear and clothing.



A group of employees that had offices near to the laboratories has been moved out of the area so that they are not exposed to animal hair. They are now located in a place where conditions would have been far from ideal – namely a section of the building's arcade. However, through some unconventional partitioning we succeeded in creating a reasonable working environment that can cleverly function until everyone moves into the newly furnished building in autumn 2003.

In 2001 seven employees developed an animal hair allergy (albeit split among employees from Måløv, Bagsværd and Gentofte). All seven are still employed at Novo Nordisk, although they now perform tasks not involving contact with animals and/or are being retrained by agreement with their line managers.

SAFETY

Joint efforts in Development

Pharmaceutical Development (PD) is working with new small molecules that are unknown substances, so we are doing everything to take care of ourselves and avoid exposure.



However, an external inspection in 2001 made us aware that our workplace instructions and hazard labelling could be better. We have therefore tackled this problem. We appointed a working group, and last year we had new instructions and standardised guidelines for much of the work. We have now defined how we want to hazard-label our equipment and products.

By having representatives from all laboratories in the group we ensured that the processes that we use when working with new substances have been examined in all areas, from when they come through the door to the laboratory. We also discussed how the processes 'fit in with' legislation. To a large extent this has been a question of sharing individual employees' knowledge by putting instructions in writing in the form of workplace instructions and hazard-labelling both for the whole unit (PD) and for the individual departments. We have now therefore written down how to work with various substances and what to be aware of.

PD includes a pilot plant that has a specific environmental approval from Ballerup Municipality and Copenhagen County, and the inspection in 2002 produced no comments.

Management has also worked on updating Pharmaceutical Development's policies for i.a. human resources, and in this regard we have added a section on equal opportunities in accordance with Novo Nordisk's policies in the area.

OPEN SITE

Event for young professionals

Site Måløv is not so well known as a workplace for young professionals. We would like to change this. Each year a group of employees is therefore arranging an 'open site' event for students with relevant specialisms from the Royal Danish School of Pharmacy, the Royal Veterinary and Agricultural University and the Technical University of Denmark.

In 2002 we had 40–45 participants in this event. They were introduced to the site and to the work of the various departments, shown round the site, and talked to an employee in small groups. We had a good response to the event with many e-mails from participants who describe the day as good and exciting.

A year dominated by environmental certification

The environmental work at Måløv in 2002 was dominated by the ISO 14001 certification that we had set as a target for achieving before the end of the year. And we succeeded. We also achieved other concrete improvements in our consumption of resources so that we are impacting the environment even less per unit that we produce.





We achieved all the environmental targets that we set for 2002 – except one, and there were special reasons for this. We will be discussing these and much more in this section. There is good reason to be pleased with and proud of our work in the environmental area.

EMPLOYEES INVOLVED The work towards ISO 14001 certification involved all employees on the site. Everyone has been given 2–3 hours' training in the systems that have been set up and that now and in future will guide our environmental work. This means that the employees have heard about our environmental targets and what we want to do to achieve them. Everyone has read and been given guidance in the environmental instructions that are relevant for them and their daily work. Everyone has seen the poster that has hung over the whole site to create awareness of the work. The environment week in August – with theme days on water, energy and waste – has also helped to challenge employees in 'green' thinking.

Some of our cooperation partners have also been given training, although not as in-depth as received by our employees. One example is the employees from Novo Nordisk Service-partner (NNS) who are responsible for our waste handling. They have been given an overview of our Environmental Management System according to ISO 14001, and we have made local agreements that oblige them to handle our various types of waste so that we comply with legislation and regulations.

In connection with setting up the system, we have introduced a suggestions box and an environment board where environmental information is posted. This might be environmental pol-

icy, targets, specific activities and other relevant environmental information. The suggestions box is regularly emptied and suggestions are either processed and, where applicable, implemented locally or – if it is not possible to process them locally – taken up at the annual 'management evaluation', which is a fixed activity in the ISO 14001 Environmental Management System.

A small group of employees has driven the work on environmental certification. This has commonly been known as the 'environmental group', and has been managed/coordinated by the environmental coordinator for Novo Nordisk in Måløv. The group has had a representative from each department, and most members of the group have been trained as environmental auditors in 2002. They were also responsible for the environment week, which produced a lot of positive feedback from the rest of the employees.

CONCRETE IMPROVEMENTS IN WATER AND ENERGY The main consumption of resources in the production of hormone tablets is water and energy. In 2002 we succeeded in limiting our consumption of water more than usual. The main reason for this was that we examined our 'hidden installations', i.e. pipes, etc., located within walls. This was a project that we had begun when we calculated our water consumption for 2001 and felt that it was higher than our activities required. On examining these hidden installations we found a number of places with leaks. Once these were repaired, we increased our utilisation of water by 38% per produced unit compared to 2001. We are very pleased with this. The target for 2002 was →

Environmental targets 2003

100% collection of hormone-containing wastewater from buildings B2 and C2.

Reduce energy consumption in Tablet Production by 3% per cleared unit compared to 2002.

Reduce water consumption in Tablet Production by 5% per cleared unit compared to 2002.

Reduce hormone waste from buildings C1, C2 and C3 by 2% per produced unit compared to 2002.

Identify at least one new source for waste sorting in Tablet Production.

an improvement of 5%, so we far exceeded this.

Our total consumption of energy rose slightly in 2002, but in compensation the productivity per consumed energy unit rose by a full 30% compared to 2001. Part of this improvement resulted from more precise measurements, but we also optimised some of our supply systems and installed light sensors in various places in the buildings.

During 2002 we also worked on a project to reduce ventilation, but it is too early to discuss the results of this work. The reduced ventilation means that it runs on half-power at certain times of the day and in areas where employees are not working. This involves e.g. the administrative area and parts of production at the weekend.

LESS LORRY TRANSPORT Before we had the multi-storey warehouse, we had three different storage hotels off-site. In order to ensure that we brought in the correct goods, one of our employees drove out to select the goods, which were then driven to the plant. Thus we impacted the environment both in transporting goods by lorry from the haulier's to the storage hotel to the plant, and in transporting our own employees. All this transport has been abolished with the new multi-storey warehouse on-site. So we are saving time and money – and environmental impact from the transport.

Another small blow in reducing environmental impact from transport should come from the extension of our company bicycle scheme. We now have 20 bicycles at Måløv Station (10 more than in 2001). Every day they are used by employees to get from the station to the site, and it is our hope that this will encourage more employees to take the train instead of the car to and from work.

REDUCING RAW MATERIAL CONSUMPTION

The main raw materials in Tablet Production are hormone, lactose and maize starch. If we consider raw materials in terms of how environmentally harmful they are, plastic components for tablet dispensers and plastic, paper and cardboard for packing the products are the major items on the raw materials account sheet because they generate lots of waste. Hormone is also important in relation to the environment, and so we are taking control of wastewater and air emissions.

We have an economic and an environmental interest in limiting the amount of plastic waste, and we are doing this by optimising our injection moulds and by working with our suppliers towards improved plastic quality. We will continue to use plastic for packaging – but we can get better at minimising the waste. Part of the effort involves replacing the parts in our injection moulding tools fairly often to prevent them breaking down or otherwise becoming damaged since they affect the amount of waste. The cooperation with suppliers involves making the forms as precise as possible, but also, in connection with the manu-

facture of new tools, testing whether we can design the machine so as to reduce plastic consumption. This has led e.g. to us reducing the weight of the plastic components in one of the dispensers that we make by 15% without changing the product's qualities.

The running in of new plants often produces more waste raw materials in the form of plastic and foil – and we had a lot of instances of this last year, primarily on new packing lines. On the other hand, we are in the process of replacing one of our dispenser machines, and this will mean new savings in the consumption of plastic and foil. We had set ourselves the target of reducing solid waste from the buildings for tablet production by 2% compared to 2001. Instead, the quantity increased by 132%. Obviously we are not happy with this, although we know that it was due to the running in of new plants.

CERTIFICATION INCREASES WASTE SORTING

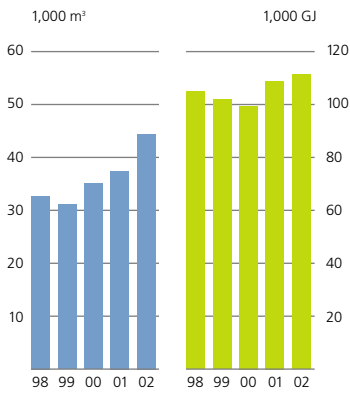
All waste from the site is stored, sorted, transported and disposed of in accordance with Ballerup Municipality's waste regulations. Non-recyclable waste is sent for incineration at I/S Vestforbrænding in Glostrup or for disposal at an approved landfill site if the waste is non-combustible. Hazardous waste such as chemical waste is sent for destruction at Kommunekemi in Nyborg.

As a direct consequence of implementing the ISO 14001 system, we are focusing more on waste sorting, which generally means that we sent more waste for recycling in 2002 than in previous years. As part of their general working processes, employees sort cardboard, paper and other combustibles, glass, plastic, hormone waste, etc. All containers are labelled to make it clear what should be done with the waste – both inside the buildings and the large collecting containers. Part of environmental management according to ISO 14001 is also to set targets for the individual areas. Here we set the target that we would have a maximum of five cases of mis-sorted waste, and during the year we recorded three such cases. We also set the target of finding two initiatives where further sorting of waste could have a beneficial effect on the environment. Previously we had taken many minor initiatives for recycling, i.a. beginning to sort individual types of material that we recycle either in connection with our own work or pass on to children's institutions that use them in their work. This may be e.g. cardboard and paper. We will be taking more major initiatives in 2003 – initiatives that we have hit upon as a result of our mapping of environmental impacts.

INSPECTION GIVES LESS HORMONE WASTE

We have worked on reducing the hormone waste from filling, i.e. spills, by 5% compared to 2001. Specifically, this meant minimising the number of rejected units after the tablets are filled into dispensers. One of the ways in which we have →

Water and energy consumption

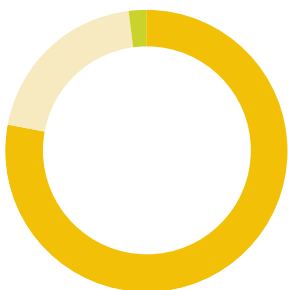


Breakdown of energy sources



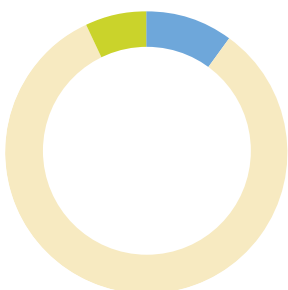
- Electricity: coal 16%
- Electricity: oil and oil 11%
- Electricity: natural gas 9%
- Electricity: biomass and waste 5%
- Heat and steam: natural gas 59%

Breakdown of raw materials



- Plastic 78%
- Paper and cardboard 20%
- Wood and metal 2%

Waste disposal



- Incineration 10%
- Controlled destruction 83%
- Recycling 7%



CONTACT

Local schools make poster

In order to initiate the part of the work on the environment that involved all employees, the environmental group had the idea of having a poster made that could be put up around the site. The poster led to a fun contact with local schools when we decided to hold a competition for the pupils. They were asked to design a poster that said something about various themes such as 'saving water' and 'sorting waste'.

We got many good suggestions from this – but were in no doubt about which drawing should be used for our poster. Naturally there was a prize for the winner's class: a tour of the Experimentarium and of Tivoli.

CREATIVE

Lots of input during the environment week

Awareness of the environmental work is important if we are to succeed in achieving the positive results that we desire. In August, we therefore arranged an environment week which, as well as creating awareness of the work, would also contribute to greater environmental awareness in employees and provide information that would be used in connection with an imminent internal audit.

Throughout the week we had exhibitions in the canteen of environmentally sound care products from Matas, ecological goods from a major supermarket chain, and a selection of brochures on green consumption.

Every day at lunchtime the canteen was the centre for a new theme. The start of the week featured songs sung by a class from Måløv School, after which the first theme – energy – was introduced. We had hired an exercise bike from the electricity company NESA for measuring the electrical equipment's consumption, and diagrams of the site's electricity consumption were hung up. On Tuesday we had an environmental policy day, where former Danish Minister for Energy Svend Auken presented a current angle on the state of the environment. Wednesday was about waste, while on Thursday there was a presentation on water as a resource to the sound of a splashing fountain that had been set up for the day. One employee had written an environmental song that the environmental group sang with employees on Friday, which was also the day when the winner of the week's quiz was announced, after employees had spent the whole week answering questions on the environment,



all of which were relevant in the context of the audit.

Many employees have stated that the environmental work was really brought into focus and given impetus by this week. However, most important of all was that during the week and afterwards all the employees really took a stance on the environment and the work that is being done to achieve environmental certification. Delight was also expressed at the many fun ideas and surprise at the major efforts that the employees felt were put into the project.



sought to achieve this is by optimising the machines – the better the packaging that we produce, the fewer the problems that we have with the finished products. This is also a matter of vision systems, i.e. the cameras that check whether the product has the right tablets and the right dispenser. The better they function, the less waste. Both these factors were improved during the year since we implemented a new filling machine that gives fewer errors and thus less waste. The waste from filling fell from 9,720 kg in 2001 to 7,920 kg in 2002 – a reduction of 19%.

PLAN READY FOR SUBSTANCES IN COOLING SYSTEMS

Finally, we had set ourselves a target of drawing up a plan for how we can phase out the ozone-depleting substances in our cooling systems. We still have permission to use these substances (which are in a closed system and so do not affect the environment), but we wanted to have a plan for what we will do to get rid of the substances when the permit expires. We achieved this.

FURTHER WASTEWATER SECURING Wastewater from Måløv consists of water from cleaning in Tablet Production, the pilot plants, laboratories, animal housing, general sanitary wastewater and rainwater from outdoor areas impervious to water, i.e. roads and parking areas. Hormone-containing wastewater from the washing of production equipment is collected in a large tank system and sent for destruction at Kommunekemi in Nyborg. Other wastewater, i.e. not containing hormone, is generally not particularly polluted and is piped to Måløv Wastewater Treatment Plant, from where it is discharged into Værebros Stream.

In 2002 we introduced further safeguards against accidental releases of hormone-containing wastewater by setting up a collection tank in the building that houses the laboratories. For

the whole area we performed the statutory measurements without recording any excursions.

In 2002 we discharged 37,300 m³ of wastewater, an increase of 25% compared to 2001. 1,685 m³ of hormone-containing wastewater was collected and sent to Kommunekemi – 13% more than in 2001 when we had 1,497 m³. The increase in both cases was due to increased production.

MINOR AIR EMISSIONS AND MINIMAL NOISE Air emissions from the site are generally minor and have little impact on the environment. All air discharges containing hormone dust pass through absolute filters before reaching the open air, and dust emissions are therefore minimal. There are also minor emissions of combustion gases from the gas heating system in the form of CO₂ and NO_x.

Through an environmental inspection, Ballerup Municipality has assessed that there is no need for measurements of external noise as there is no noise of any significance from our site.

COMPLIANCE WITH LEGISLATION AND NO COMPLAINTS

Again this year, we received no complaints about our activities. In order to show that we are observing the emission limits of our wastewater permit, six times a year we have to carry out measurements on our wastewater. In 2002 we had no breaches of regulatory limit values.

However, we did have one accidental release in 2002. This was a release of hormone dust via drying air, which was due to the fact that a HEPA filter came loose during the granulation process, meaning that lumps of granulate were deposited in part of the drying duct about 30-40 cm inside the duct, before the valve. The result of the tests that were carried out on the ventilation showed that there had been a minor, non-quantifiable release of hormone. We have established a new procedure for cleaning the filters.



Environmental data 1998–2002

	Unit	1998	1999	2000	2001	2002
Water						
Drinking water	1,000 m ³	32.7	31.2	35.2	37.4	44.4
Energy						
Energy (total)	1,000 GJ	104.9	102.0	99.5	108.8	111.5
External (subtotal)	1,000 GJ	37.0	40.7	41.3	42.8	46.5
Electricity	1,000 GJ	37.0	40.7	41.3	42.8	46.5
Internal (subtotal)	1,000 GJ	67.9	61.3	58.2	66.0	65.0
Gas (natural gas)	1,000 GJ	67.9	61.3	58.2	66.0	65.0
Materials						
Materials (total)	tons	914	761	922	959	1,135
Raw materials	tons	400	270	188	295	291
Packaging materials	tons	514	491	735	664	844
Wastewater						
Volume	1,000 m ³	26.4	25.3	29.3	29.8	37.3
Suspended solids	tons	10.1	4.5	7.0	9.3	7.3
BOD	tons	–	–	6	1.9	6.8
COD	tons	12	10	14	16	14
Nitrogen	tons	1.0	0.9	1.0	1.5	1.4
Phosphorus	tons	0.3	0.2	0.3	0.4	0.4
Other waste						
Other waste (total)	tons	964	1,592	1,902	1,860	2,167
Incineration	tons	115	114	165	166	220
Landfill	tons	5	3	4	2	5
Controlled destruction	tons	799	1,400	1,581	1,552	1,791
Recycling (subtotal)	tons	45	75	152	140	151
Chemical waste	tons	–	–	–	–	0.1
Construction waste	tons	0.2	0	0	0	0
Electronic equipment	tons	–	–	–	–	0.1
Glass	tons	0	0	0	0	0
Food	tons	12	11	10	9	11
Metal	tons	0	0	0	13	9
Paper & cardboard	tons	28	55	84	99	102
Plastic	tons	5	10	58	19	27
Wood	tons	–	–	–	–	1
Emissions to air						
Carbon dioxide (CO ₂)	1,000 tons	10	10	9	12	11
Sulphur dioxide (SO ₂)	tons	14	13	13	15	7
Nitrogen oxides (NO _x)	tons	23	18	18	11	15
Environmental Impact Potentials						
Global warming	1,000 tons CO ₂ -eqv.	9.5	9.5	9.4	11.5	11.4
Ozone layer depletion	kg CFC ₁₁ -eqv.	0	0	0	0	0
Acidification	tons SO ₂ -eqv.	30	26	26	22	17
Eutrophication	tons NO ₃ -eqv.	46	35	38	35	39
Compliance and complaints						
Breaches of regulatory limits		0	0	0	0	0
Regulatory limits with repeated breaches		0	0	0	0	0
Accidental releases		0	0	0	1	1
Complaints		0	0	0	0	0
Stockpile of Ozone Layer-degrading Substances						
CFC	kg	30	30	30	30	30
HCFC	kg	1,432	1,432	1,432	1,432	1,432



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 haemophilia. We are headquartered in Bagsværd and have production facilities in Denmark, France, the USA, Brazil, South Africa, Japan and China. We have around 18,000 employees worldwide 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. For more information, visit www.novonordisk.com/sustainability, where you can also download this report in English and Danish.

Novo Nordisk A/S
Novo Nordisk Park
2760 Måløv
Denmark

Tel. +45 4444 8888
Fax +45 4466 3939

www.novonordisk.com

CVR no. 24256790
P no. 1.007.676.146

