

Sustainability Report 2003

Novo Nordisk A/S

Sustainability Report 2003

What does
being there
mean to you?

Shanthala Shamarao and her mother live in India. Shanthala has type 1 diabetes.

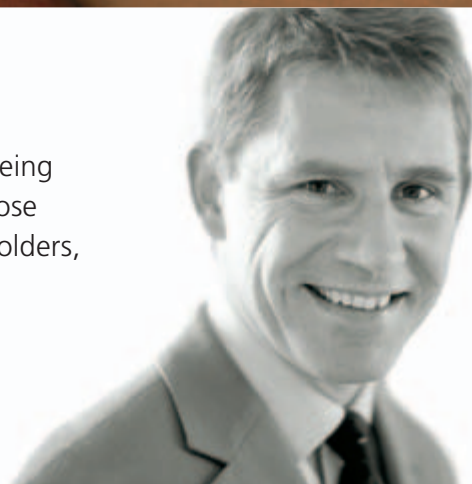




To me being there means...

“To me, Novo Nordisk’s promise of being there is about being responsible, committed and accountable. To people whose healthcare needs we serve, to employees, to our shareholders, and to society at large.”

Lars Rebien Sørensen, president and CEO, Novo Nordisk





Lars Rebien Sørensen, president and CEO, and Mads Øvlisen, chairman of the Board of Directors.

Welcome letter

Continuing focus on operational excellence

The corporate world, and with that Novo Nordisk, faces many challenges these years, several of which are specifically related to the pharmaceutical industry. Can corporations be trusted? Public trust is of paramount importance for corporations, and especially pharmaceutical companies, who rely on public acceptance to be able to innovate and to operate.

Whom do corporations serve? Not so many years ago, we would have said “the shareholders”, without hesitation. But increasingly business enterprises are recognising commitments to several other stakeholders – such as customers, employees, societies at large – in addition to shareholders. In order to serve the long-term interest of stakeholders, companies must regard it as a core part of their business to assume a wider responsibility and consider broadly the wide range of factors which may impact its ability to generate returns over long periods of time.

To reflect this broader view, which for several years has guided the way Novo Nordisk conducts its business, at this year’s Annual General Meeting the Board of Directors will ask our shareholders to amend the company’s Articles of Association. After this change, the articles will specify that the company besides its financial purpose will strive to achieve its objectives in an environmentally and socially responsible way. This is the Novo Nordisk way of doing business.

Good governance is not just a fashionable topic, but a continuous process which seeks to align the way companies are controlled and managed with the ever changing societal conditions and expectations. In fact it is never a job done – it is continuous hard work. In 2003 we strengthened our risk management system, we continued our work on board self-evaluation and

developed a new long-term share-based incentive programme for executives to replace the existing share option-based scheme which will be presented at the Annual General Meeting.

For Novo Nordisk – and for other research-based companies – innovation is our biggest challenge: the ability to consistently generate new pharmaceuticals that meet significant medical needs and hence warrant the investment of capital and efforts, as well as justifying the application of break-through technologies and animal testing.

Our focus over the last few years has been on operational excellence. This has led to a strengthening of our business operations, manufacturing, staff and quality functions – and an overhaul of the way we conduct our research and development activities.

We are – as the first insulin supplier – close to having a full insulin analogue portfolio. Our innovative insulin analogues will offer superior glucose control and convenience to people with diabetes. The insulin market thus changes from a generic market to a market of value-adding proprietary insulin.

Our search for new and improved oral therapies for type 2 diabetes continues. And we believe we have an important research pipeline in this field. However, general disappointments within research into oral antidiabetic drugs have only further strengthened the importance of insulin as the ultimate drug for treating diabetes.

We have gained new knowledge about the potential use of NovoSeven® in critical life- or limb-threatening bleeds. In particular the confirmation from phase 2 clinical studies that NovoSeven® does reduce the need for blood transfusions in connection with traumatic injuries was highly promising and en-

couraging. Furthermore, we have taken the first steps to build a portfolio of new biopharmaceutical drugs within the areas of inflammation and cancer which hold promise for the longer term.

We have strengthened our market position, especially as a result of the roll-out of our rapid-acting (NovoRapid®/NovoLog®) and our dual-acting insulin analogue preparations (NovoMix® 30/NovoLog® Mix 70/30). In particular our business in the US has developed nicely, and enabled us to make further investments both in our US organisation, in local manufacturing and also in expanded clinical development activities for this – the world's biggest – market for pharmaceuticals.

We have consolidated our European organisation with its headquarters in Switzerland, and we are accelerating our expansion in the developing part of the world.

Throughout 2003, we have tightly managed our cost base, by improving operational efficiency without sacrificing medium- to long-term growth opportunities. This has only been possible through an impressive effort, creativity and dedication from staff throughout our company. Measurement of working climate indicates that this has been accomplished without affecting employee morale. In fact morale is at an all-time high! This tells something about the quality of Novo Nordisk people.

Our financial performance in 2003 was, considering the adverse currency environment, satisfactory. We saw significant growth in operating profit in local currencies, but the weak invoicing currencies, particularly the US dollar and Japanese yen, reduced growth rates based on Danish kroner results significantly. Our hedging practices retained earnings short term – but it is clear that the current currency environment is very challenging for European-based companies if it persists longer term.

We are very pleased to note that the shareholders, who have loyally supported the company in 2003, were rewarded with an appreciation of Novo Nordisk's share price.

On the cover of this report we asked the question "What does being there mean to you?" Being there is our promise, and in this publication we have given examples of what being there means to Novo Nordisk. We value all our stakeholders' opinions and so invite readers to tell us what this means to you. E-mail your thoughts and ideas to beingthere@novonordisk.com.



Mads Øvlisen, chairman of the Board of Directors
Lars Rebien Sørensen, president and CEO

This report is prepared in accordance with GRI's 2002 Sustainability Reporting Guidelines. It represents a balanced and reasonable presentation of the company's social, environmental and economic performance.

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A list of contact persons for each of the topics presented here is available on the internet at novonordisk.com/sustainability/contact_us.

About Novo Nordisk

We will be the world's leading diabetes care company. Our aspiration is to defeat diabetes by finding better methods of diabetes prevention, detection and treatment. We will work actively to promote collaboration between all parties in the healthcare system in order to achieve our common goals.

Novo Nordisk is a healthcare company and a world leader in diabetes care. The company has the broadest diabetes product portfolio in the industry, including the most advanced products within the

area of insulin delivery systems. In addition, Novo Nordisk has a leading position within areas such as haemostasis management, growth hormone therapy and hormone replacement therapy. Novo Nordisk manufactures and markets pharmaceutical products and services that make a significant difference to patients, the medical profession and society.

Novo Nordisk has a strong background in diabetes care, with more than 80 years' experience in this area. It began in 1922 when August Krogh, Danish Nobel laureate in physiology, and his wife Marie, who had type 2 diabetes, visited

the Canadian researchers Frederick Banting and Charles Best. Banting and Best had begun extracting insulin from the pancreas of cows the previous year. The Kroghs returned home and the following year August Krogh set up a company in Denmark called Nordisk Insulinlaboratorium that began producing insulin for the treatment of diabetes. In 1925 two former employees, the brothers Harald and Thorvald Pedersen, formed a competing insulin company of their own, Novo Terapeutisk Laboratorium. In 1989, the two Danish companies joined forces to become Novo Nordisk A/S.

NOVO NORDISK IN THE WORLD

19,241 employees
in 69 countries

With headquarters in Denmark, Novo Nordisk employs 19,241 people, has affiliates or offices in 69 countries, and markets its products in 179 countries. About two thirds of the workforce is in Denmark. While 99% of sales are outside Denmark, most of the production is located at sites in Denmark. The remaining production sites are in China, Brazil, France, Japan, South Africa and the US.

Our worldwide market share in diabetes care is 17%. Market expansion is strongest in the US, Asia and South America, where the number of people with



diabetes is growing at an alarming rate. In 2003, a new facility was built in China, and expansion of production began in France, the US and Brazil. With a net turnover in 2003 of DKK 27 billion and

profits of DKK 5 billion, our performance compares well with the industry. Novo Nordisk is ranked number 26 among the world's pharmaceutical companies, measured by sales.

Performance highlights

		2003	2002	2001	2000
Financial					
Net turnover	DKK million	26,541	25,187	23,776	20,811
Operating profit margin	%	24.1	23.7	23.6	23.1
Growth in operating profit	%	6.8	6.5	16.6	36.5
Return on invested capital (ROIC)	%	19.1	20.1	23.1	22.0
Cash to earnings (three-year average)	%	32.0	34.9	56.4	66.5
Environmental					
Water consumption	1,000 m ³	2,621	2,044	1,790	1,429
Energy consumption	1,000 GJ	2,299	2,083	1,838	1,732
EPI for water ¹⁾		110	116	102	110
EPI for energy ¹⁾		124	115	114	111
Social					
Number of employees		19,241	18,372	16,693	13,752
Employee turnover rate	%	7.1	6.4	7.7	10.6
Frequency of occupational injuries ²⁾	Per million working hours	5.4	8.9	8.2	8.4
Frequency of occupational illnesses ²⁾	Per million working hours	1.1	1.1	2.2	1.7

1) The EPI relates the scale of production to the consumption of resources. The index value shows development from previous year. Hence, performance over index 100 is a positive trend.

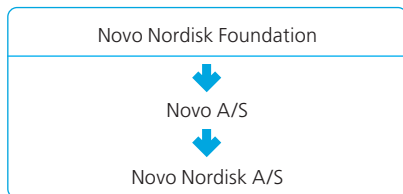
2) 2002–2003 figures cover all employees, whereas figures for 2000–2001 comprise only employees in Denmark and employees at production sites outside Denmark.

OWNERSHIP STRUCTURE

In support of sustainable growth

Novo Nordisk's ownership is split between holders of A shares and B shares. A shares are held by Novo A/S, the holding company, fully owned by the Novo Nordisk Foundation and established in 1999 to manage the foundation's assets and to actively invest in life science businesses. The Novo Nordisk Foundation is a privately owned self-governing institution. Its objectives are to provide a stable basis for the commercial and research activities undertaken by the companies in the Novo Group and to support scientific, humanitarian and social purposes. The majority of its grants go to medical and scientific projects.

Novo A/S owns 26.7% of the shares and controls 70.4% of the votes in Novo Nordisk. Novo Nordisk's B shares are listed on the stock exchanges in Copenhagen and London. Its ADRs are listed on the New York Stock Exchange under the symbol 'NVO'. For more information, visit novonordisk.com.



PRODUCT PORTFOLIO

Focused on diabetes care

Novo Nordisk has focused its activities on four areas: diabetes care, haemostasis management (NovoSeven®), growth disorders (Norditropin® SimpleXx®) and hormone replacement therapy (Activelle®, Vagifem® and Novofem®).

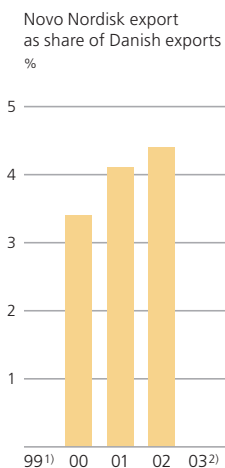
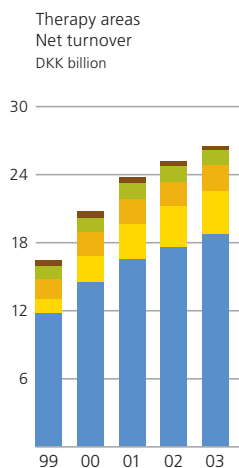
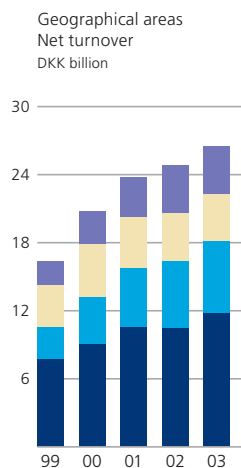
Diabetes care is by far the largest area, accounting for 71% of total revenues. Within this area, the strategy is to offer the best insulin preparations and injection devices – enabling people with diabetes to obtain the best possible blood sugar control in the most convenient way.

Novo Nordisk produces a range of human insulins and insulin analogues, including NovoMix® 30 FlexPen®, a prefilled injection pen with dual-release insulin analogue. For type 2 diabetes Novo Nordisk produces NovoNorm® (Prandin® in the US), an oral medication. For a complete overview of products and product pipeline, see the *Annual Review* or visit novonordisk.com/investors.

CORPORATE GOVERNANCE

The Novo Nordisk Way of Management

Novo Nordisk's Vision sets out our direction for the future. It expresses what we strive for, what we work for, how we will work, and how we are guided by our values, striving to find the right balance between compassion and competitiveness. Our Vision is part of the Novo Nordisk Way of Management – the set of guiding principles for how we do things. It is our culture and our identity, our history and our future. The Triple Bottom Line is our business approach through which we can link strategic objectives to environmental, social, and bioethical considerations for the benefit of society. For more information, visit novonordisk.com/about_us.



Geographical areas

- Europe
- North America
- Japan & Oceania
- International Operations

Therapy areas

- Diabetes care
- Biopharmaceuticals:*
 - Haemostasis management (NovoSeven®)
 - Growth hormone therapy
 - Hormone replacement therapy
 - Other

■ Novo Nordisk export value

1) No separate data prior to demerger.
2) Danish export value not available at time of print.

Executive summary

This report accounts for Novo Nordisk’s approach to doing business – for performance, progress, positions and strategic initiatives as well as for the key issues and the dilemmas we face as a pharmaceutical company and as a corporate global citizen.

Being there is our promise. This report shows how we hold ourselves accountable to stakeholders and strive to report in a transparent way. It covers the issues that we deem to be material to our future business and which – to the best of our knowledge – are material to our stakeholders’ assessment of the company. With the aim of capturing the organisation’s ‘footprint’ in terms of social, environmental and economic impacts on society and the natural environment, the report accounts for Novo Nordisk’s performance and activities during 2003.

Taking responsibility

To Novo Nordisk, being a responsible business is about balancing concerns for people, environment and society. This commitment to the Triple Bottom Line is anchored in our corporate governance framework. Our Vision sets the direction. As a leader in diabetes care, our vision of sustainability is intricately linked to our core business goal: defeating diabetes, helping to achieve health for all people with diabetes.

Acting on our commitments

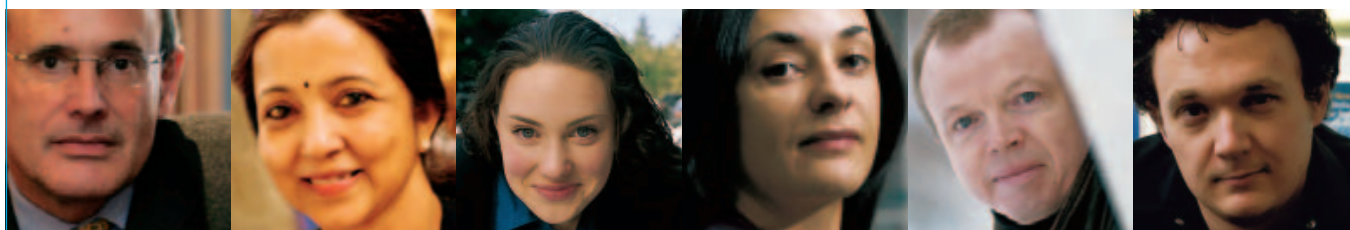
This year, we have chosen to focus on access to health. Helping to ensure health for all is a challenge that our industry has a particular responsibility for addressing. Recognising the correlation between health on the one hand, and wealth creation, democratic developments, eco-balance and social equity on the other, it also links directly into the United Nations Millennium Development Goals.

Accounting for our performance

Accuracy, completeness and reliability of information provided in this report are ensured through internal control measures and independent assurance. The report has been prepared in accordance with the Global Reporting Initiative’s (GRI’s) 2002 Sustainability Reporting Guidelines and the AA1000 Framework. The information provided and the underlying data set have been assured according to the AA1000 Assurance Standard. For more information, visit

novonordisk.com/sustainability/sustainability_report_2003.

Dealing with dilemmas



As in previous years, we have invited stakeholders to help us address the dilemmas we are facing. We ask their opinion as well as their advice on how to resolve the issues. By framing these dilemmas, we can learn how to respond to stakeholder concerns and how to develop our business in tune with society’s expectations and needs. The learnings gained in this process help inform business decisions and frame new initiatives.

How can we make public–private partnerships succeed and still ensure the independence and integrity of the contribution each partner brings to the table?
See page 19.

How can we justify dedicating scarce economic resources to diabetes care and yet recognise that there are other life-threatening epidemics in the world?
See page 29.

How can we be focused on investing in the health of society and yet not compromise the need to invest in the global environment?
See page 47.

How can we help empower people to take more responsibility for their health and yet respect their personal integrity?
See page 23.

How can we encourage investors to challenge conventional measures of long-term performance and yet maintain comparable reporting standards?
See page 35.

How can we continue to report on all issues that are considered material to diverse stakeholder needs and yet maintain a readable and manageable report format?
See page 57.

Major achievements in 2003

Our set of 20 top-level indicators helps track performance over time (see pages 16–17). They relate to six strategic areas: living our values, access to health, our employees, our use of animals, eco-efficiency and compliance, and economic contribution. The indicators were defined through consultations with stakeholders, while methods of measuring and targets are set by Novo Nordisk's management.

Living our values

- We can now account for suppliers' and licence manufacturers' performance on basic labour rights and environmental management. We evaluated suppliers covering 31% of the total value of purchasing in Novo Nordisk. From 2004 the programme will expand to other business areas and will include audits.
- Novo Nordisk joined the Business Leaders Initiative on Human Rights (BLIHR), a three-year programme to better define the role of business in human rights, considering the UN Norms.

Access to health

- To find new approaches to managing diabetes and other chronic diseases and come across effectively on the public agenda, Novo Nordisk has teamed up with the University of Oxford and the World Health Organization (WHO) to create Oxford Vision 2020.
- In a partnership with the UK National Health Service and the University of Oxford, Novo Nordisk established the Oxford Centre for Diabetes, Endocrinology and Metabolism, which combines basic and clinical research with patient care and medical training.
- At the Second International DAWN Summit (Diabetes Attitudes, Wishes and Needs), 150 delegates from 31 countries issued a 'call to action', to take into account the psychosocial impact of diabetes.
- Under Novo Nordisk's National Diabetes Programme, which assists governments in implementing strategies for improved diabetes care, affiliates around the world have launched more than 130 initiatives. The programme is backed by new tools, such as the *National Diabetes Programmes Toolbox*, the *Diabetes Atlas* and the *Guide for Diabetes Guidelines* developed in partnership with the International Diabetes Federation (IDF).

- Novo Nordisk, the WHO and the IDF drafted a Declaration of Africa on Diabetes, with a commitment to prepare an action plan. Following our model for sustainable diabetes care in developing countries, a case study on Tanzania illustrates how results can be achieved through collective efforts. A network of diabetes clinics in conjunction with projects sponsored by the World Diabetes Foundation helps provide education, awareness and treatment.
- The best possible pricing scheme for Least Developed Countries was offered in the 49 LDCs and 16 chose to purchase insulin under this scheme.
- A comparative study of diabetes treatment in Denmark and Bangladesh proves a strong argument for the need to invest in better diabetes care in societies, whether rich or poor.

Our employees

- To support the internationalisation of Novo Nordisk and to better reflect the increasing diversity in societies, all business units are engaged in the equal opportunities programme. 89% of the targets defined in local action plans were met. The focus is on women in management, integration of ethnic minorities in Denmark, and non-discrimination throughout the employee lifecycle.
- Health and safety data now cover the entire organisation. Through a focus on prevention, the frequency of occupational injuries continues to decrease; in 2003 the rate was 5.4 as compared to 8.9 in 2002.
- The TakeAction! programme was launched to provide employees with a formal opportunity to initiate individual or team activities to contribute to sustainable development. It includes fundraising activities, sponsorships and volunteer work at a diabetes centre in Tanzania.

Our use of animals

- In collaboration with the Danish Animal Welfare Society, Novo Nordisk has built a new state-of-the-art facility for rodents and a new rabbit facility, designed to encourage natural behaviour and minimise stress.

Eco-efficiency and compliance

- A five-year Environmental Strategy identifies eight focus areas, the most challenging being climate change. With the first stage of ISO 14001 now implemented, systematic management and data collection support new, innovative approaches.
- The eco-productivity index for water was 110 and for energy 124, both well above target.
- Environmental Management Accounting helps to assess costs and investments and to calculate the extent to which benefits to the environment also have a positive impact in monetary terms. Cases indicate potentials for savings.

Economic contribution

- Our financial performance was satisfactory, considering the adverse currency environment, with significant growth in operating profit in local currencies. Novo Nordisk created approximately 800 full-time positions, mainly outside Europe.
- Examining the interactions between the company and our key economic stakeholders, the economic stakeholder model helps us to better understand Novo Nordisk's local and global impacts on society.

Awards and recognitions

- During the year, Novo Nordisk has received 18 awards and recognitions for our sustainability approach and for our reporting. A list is available at novonordisk.com/sustainability/honours.

Taking responsibility

Defeating diabetes is our aspiration. It is more than a business proposition – it is the main driver for our contribution to sustainable development. Taking responsibility is about understanding how to improve the quality of life for people with diabetes and others whose healthcare needs we serve.

In a world where unequal access to resources is widening the poverty gap and offsetting the fragile ecological balance of our planet, there is an urgent need for business to define its role. Novo Nordisk is committed to pursuing its business goals as a profitable enterprise in a way that is socially and environmentally responsible. As a subscriber to the United Nations Global Compact, we share its values and are responding to the Secretary-General's leadership challenge: harnessing the potential of markets and business leadership by putting values into action.

Recognising that good health is a driver of economic growth, the pharmaceutical industry not only has a particular responsibility to help provide health for all. It also has a unique opportunity to build a sustainable business while at the same time contributing to sustainable development in a global perspective. Today, Novo Nordisk is a world leader in diabetes care. We believe that this is a strong platform from which we can build on our reputation as a responsible corporate citizen.

The Triple Bottom Line reflects an integrated understanding of business performance in which social, environmental and economic bottom lines are interrelated. Seeking to ensure business performance that is socially responsible, environmentally sound and economically viable is how we work. This business principle serves two purposes: to generate long-term profitability and to earn our societal licence to operate and innovate.

One core activity in our strategy for sustainable development is building relationships with key stakeholders in the global, in-

ternational and local communities of which Novo Nordisk is a part. We engage with stakeholders to reconcile dilemmas and find common ground for more sustainable solutions. We monitor issues and spot trends that may affect our future business. We drive and embed long-term thinking and the Triple Bottom Line mindset throughout the company. And we publicly account for the company's performance and positions.

Novo Nordisk's Triple Bottom Line approach is anchored in the company's corporate governance framework and its fundamental business principles, the Novo Nordisk Way of Management. The constant focus on integrating social and environmental responsibility, human rights issues, and ethical business principles has helped embed this mindset in the organisation. The end goal is for all decision processes in the company to balance these perspectives with commercial objectives. That is what employees are encouraged to do, and they are supported by the management principles and the corporate values. This is no easy task, however, as it often entails weighing long-term gains against short-term results. However, Novo Nordisk believes that to be profitable in the long term, stakeholder concerns must be taken into account. This is how we pursue opportunities and also how we manage risks.

Looking at global trends and the key macro drivers for our business, we have developed two alternative scenarios for the future: progress and change. Integrating scenario planning into our strategic forecasting will help determine how future business models for the pharmaceutical industry might look.

A vision of health for all

Science alone will not provide global health. We urgently need new approaches to put chronic diseases effectively on the agenda in the public debate and among key decision-makers across sectors. This is a huge task that will require partnerships, innovation and long-term commitment.

The debate kicked off in December 2003 at the two-day conference Oxford Vision 2020, a collaboration initiated by Novo Nordisk, the University of Oxford and the World Health Organization (WHO). The event brought together more than 70 leading health thinkers, activists and decision-makers with the goal of increasing the collective impact to bring a halt to the pandemic growth predicted for diabetes and other chronic diseases.

A consensus-building process

Oxford Vision 2020 is a three-year process of consensus building and developing recommendations for a new and comprehensive global approach to preventing and controlling chronic diseases, including diabetes. The initiative will therefore assist the WHO in the development of its new strategy to combat chronic diseases.

At the first conference, held at Magdalen College in Oxford, UK, participants defined the issues and discussed which levers for change need to be pushed in order to advance the complex agenda. Novo Nordisk's CEO, Lars Rebien Sørensen, explained how the company is exploring the ramifications of the immense healthcare challenges of the coming decades and the possible pressures on the traditional pharmaceutical business model.

A series of similar strategic meetings will be arranged and we will continue the work between meetings to create a joint blueprint for action in accordance with the WHO strategy. The aim is that this entire vision process will enable us to step into a new era in dealing with diabetes and chronic diseases.

Through this focus on diabetes we may pave a way of thinking about creative solutions to chronic disease management that will have implications not only for people with diabetes but also cardiovascular diseases, obesity, hypertension and certain cancers – all of which share lifestyle risks with type 2 diabetes.

Scenarios of alternative futures

At Novo Nordisk, we are focusing our thinking around two contrasting scenarios about how society and healthcare will evolve. Since we cannot confidently predict the future, scenarios are useful frameworks that provide a structure for asking "what if?" and helping determine how best to navigate successfully in different possible environments.

The first scenario, progress, assumes the continuation of scientific breakthroughs and new medicines but does not necessarily provide for the equitable distribution of the benefits of those innovations.

The second scenario is about what we have chosen to call utopian change. This scenario recognises that while science and technology have worked miracles, they have not adequately addressed determinants of health and illness such as inequality, political instability and poverty. Resolving these global dilemmas and their many associated ills will require a fundamental transformation in the way we think about them and the way we use science and technology. At the very least, they call for new approaches and new ideas.

The two scenarios represent two fundamental views: one where the present way of doing business in healthcare remains intact and the other where empowered consumers take action to form coalitions strong enough to deal with the huge healthcare and social challenges across sectors and geography. Yet both are about moving away from 'sick care' and taking the more progressive view on 'health care'. We would like to see the best of both scenarios materialise. Breakthrough medications would be highly beneficial to all, and the visionary nature of the second scenario is well in line with the aspirations of our company to defeat diabetes. Working with our partners in the Oxford Vision 2020 initiative, we will use the scenarios to help chart a path to a more equitable and healthy future.



Professor John Bell opened the Oxford Vision 2020 conference, urging for changed priorities to address the huge economic and human costs of chronic diseases.

Commitment in context

Good corporate governance relies on two factors: a Board of Directors consisting of highly competent members, and the implementation of supportive management systems. The Novo Nordisk Way of Management is the framework for how we do business as a values-based company.

The commitment to sustainable development is anchored in the Novo Nordisk Way of Management. It weaves a connecting thread through the organisation. From Vision to action, from objectives to Balanced Scorecard targets, from Fundamentals to facilitations, and from Policies to business conduct.

Internally, as well as to external stakeholders, this governance framework defines our commitments and puts them into context. From our aspiration to defeat diabetes and to our endeavour to find the right balance between compassion and competitiveness, our Vision, the Charter and the Policies serve as guides. Frequently consulted and often quoted, these are the words with which new Novo Nordisk employees first become acquainted. We hold ourselves accountable to our core values – accountable, ambitious, responsible, engaged with stakeholders, open and honest, and ready for change.

Good corporate governance

Novo Nordisk is in general in compliance with the codes of good corporate governance designated by stock exchanges in Copenhagen, New York and London, where Novo Nordisk is listed.

In response to increasing public focus on corporate governance, the US Congress adopted the Sarbanes-Oxley Act in 2002. It focuses on financial reporting, internal control, auditing and corporate governance. In 2003, the US Securities and

Exchange Commission finalised a wave of detailed rulemaking under the Act. As a company listed on the New York Stock Exchange, Novo Nordisk has implemented or is in the process of implementing the necessary procedures in administrative routines, financial reporting and auditing to comply with these rules.

Novo Nordisk remains committed to the principles of good corporate governance such as transparency, accountability, openness, integrity and responsibility in our operations. For Novo Nordisk's compliance with these codes, see pages 55–57 of the *Annual Financial Report* and visit novonordisk.com/about_us.

Committed to the Triple Bottom Line

The Novo Nordisk Way of Management explicitly refers to the Triple Bottom Line – social, environmental and financial responsibility – as the company's underlying business principle. Explicit mention is made of the fact that Novo Nordisk subscribes to the International Chamber of Commerce's Business Charter for Sustainable Development, the United Nations Convention on Biological Diversity and the United Nations Universal Declaration of Human Rights. Moreover, Novo Nordisk is a signatory to the United Nations Global Compact.

Amendment of Articles of Association

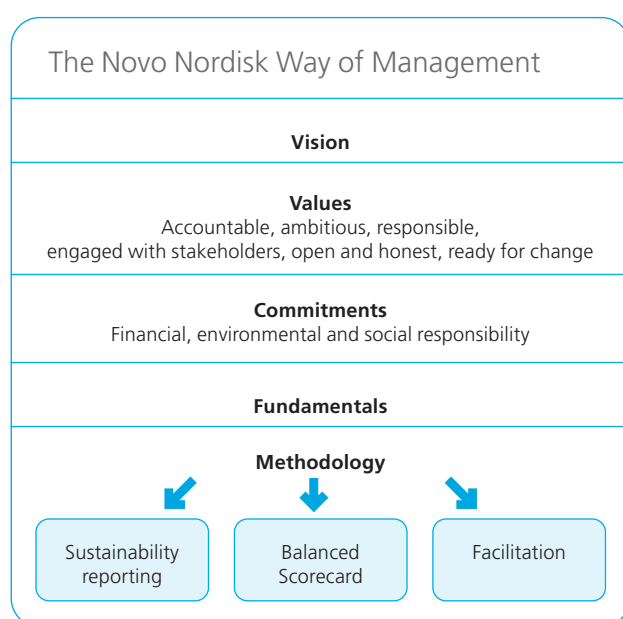
In order to serve the long-term interest of the shareholders, at the Annual General Meeting in March 2004 the Board of Directors will propose an amendment to the company's Articles of Association to specify that the company will "strive to conduct its activities in a financially, environmentally and socially responsible way".

Made-to-measure

While we value the principles of good corporate governance, we also recognise that systems, procedures and policies do not in themselves guarantee performance to the highest standards, whether they are legal or ethical, global or company-specific. That is why the Novo Nordisk Way of Management has built-in follow-up methods that provide systematic and validated documentation of performance to our values-based management system.

Firstly, the Balanced Scorecard is employed as the management tool for embedding and cascading corporate goals throughout the organisation. It is well integrated into all core business processes and linked to the annual strategic planning process as well as long-term scenarios planning. The Balanced Scorecard outlines the key priorities for Novo Nordisk in a short-term perspective; targets for sustainable development are tied to the Balanced Scorecard at corporate and business unit levels.

Secondly, the annual reporting accounts for performance against targets, strategies, activities and new targets. Novo Nordisk's annual reporting consists of the *Annual Financial*



The Novo Nordisk Way of Management serves as the solid footing from which innovative ideas can take off. Its immediate strengths lie in its consistency, coherence and systematic follow-up methods. To people working at Novo Nordisk, it simply is the way we do things.

Report, the Annual Review and the Sustainability Report, all of which are approved by the Board of Directors and Executive Management. The Annual Financial Report is based on Danish GAAP with reconciliation to US GAAP; as of January 2004 the company will apply International Financial Reporting Standards (IFRS). The Sustainability Report is prepared in accordance with the Global Reporting Initiative's (GRI's) 2002 Sustainability Reporting Guidelines, the AA1000 Framework and the United Nations Global Compact. Read more on page 56.

Thirdly, facilitations, a unique set-up in the holding company, measure the company's governance performance at unit level, facilitate organisational learning and help align projects with business targets. The facilitators, a global team of people with long-standing managerial experience and expertise in the business, evaluate how well the practices and understanding of the Novo Nordisk Way of Management, including our commitment to the Triple Bottom Line, are embedded in the line. This involves review of documentation, interviews with management and employees, sometimes also external stakeholders, and analyses of relevant business processes. Hence, facilitations serve as a 'health check' of the Triple Bottom Line approach. On average, each unit is facilitated every three to four years. Twice a year, a consolidated report is presented to Executive Management, giving a status on compliance and listing agreed action plans and recommendations.

Organisational development

Organisational Audits are annual assessments, commissioned by the Board of Directors and Executive Management, of how the current and planned development of the organisation supports the achievement of short- and long-term business objectives. This process, which is conducted at senior management level, includes an assessment of 'Linking business and organisation' and succession management, and takes a retrospective as well as a forward-looking perspective. A consolidated report is submitted to Executive Management, and – as an innovation in 2003 – the CEO and the chairman of the Board, respectively,

act as challengers in the process prior to sign-off by the Board of Directors.

An annual self-assessment procedure has been formalised to improve the performance of the Board of Directors and Executive Management. The process evaluates whether each member of the Board and Executive Management participates actively in the Board discussions and contributes with independent judgement, and whether the environment supports open discussion at Board meetings. The Board continuously assesses, formally once a year, the performance of each executive. The chairman also conducts an annual interview with each executive.

Control and audits

The Board of Directors has overall responsibility for Novo Nordisk's systems of internal control. The company has an internal audit function, Group Internal Audit, which provides independent, objective assurance on the internal control environment. The function also helps Novo Nordisk accomplish its objectives by bringing a systematic, disciplined approach to the evaluation and improvement of the risk management, control and governance processes.

In order to ensure its independence from Executive Management, Group Internal Audit reports quarterly to the Board chairmanship.

In line with the current requirement for listed Danish companies, two independent auditing firms are elected by the Annual General Meeting and act in the interest of the shareholders and the public in general. The auditors report significant findings directly to the Board at Board meetings and via the audit book. For more information, see pages 55–57 of the Annual Financial Report.

The independent assurance of the Sustainability Report is conducted by another auditing firm. Their assurance statement (see page 58) is supplemented by a letter to the management with recommendations for improved performance. It is published at novonordisk.com/sustainability/performance.

In respect of integrity

Business ethics is an example of how principles are applied in practice. The Novo Nordisk Way of Management spells out the standards of business conduct for employees and management: "Our values are expressed in all our actions" and "Decency is what counts". The values specifically addressing business ethics are 'accountable', 'responsible', and 'open and honest'. In addition, one of the eleven Fundamentals says that "Every manager must establish and maintain procedures in the unit for living up to relevant laws, regulations and

group commitments". Needless to say, the company's Legal Policy states that "In Novo Nordisk we will conduct our business in compliance with the letter and spirit of all laws and regulations governing the activities of the company. This means that we will comply with laws and regulations in all jurisdictions".

The two independent functions, Facilitations and Group Internal Audit (GIA), systematically review operations at unit level. In the event of suspected fraudulent activities within the organisation, GIA assists Executive Management and

the Board of Directors and notifies of the results.

In light of the increasing focus on business ethics in the pharmaceutical industry, we are reviewing these issues. To be able to respond better to stakeholders' concerns on these issues, we have engaged Transparency International to help identify the areas that – from a business ethics point of view – are most critical to Novo Nordisk as a pharmaceutical company.

Building a sustainable business

Making sustainability thinking part of everyday business practice offers new opportunities. Sustainability-driven decisions not only have a societal impact that can be measured – throughout the value system business benefits and potential financial impact can be identified.

Operational excellence is about becoming more efficient in our business operations – from manufacturing to staff and quality functions – and about being innovative in our approaches. This is also a key driver for our sustainability-driven initiatives. On the path towards sustainability the challenge is to find ways to deliver more value – socially, environmentally and economically – than the value of the resources we use to make and sell our products.

That is why the key priorities for Novo Nordisk’s contribution to sustainable development are included in the corporate Balanced Scorecard: ensuring sound environmental, social and bioethical performance, improving collaboration with key stakeholders in diabetes care worldwide, and embedding social responsibility.

Novo Nordisk’s sustainability-driven initiatives benefit our business as well as society. The business benefits may be measured as potential financial impact. Stakeholder trust, reputation, risk management, employee motivation and customer loyalty are factors which, though not yet measured in financial terms, support the business case for Novo Nordisk’s Triple Bottom Line approach to doing business. While the financial impact of our sustainability strategy is not the main motivator for our approach, the examples provided here illustrate how

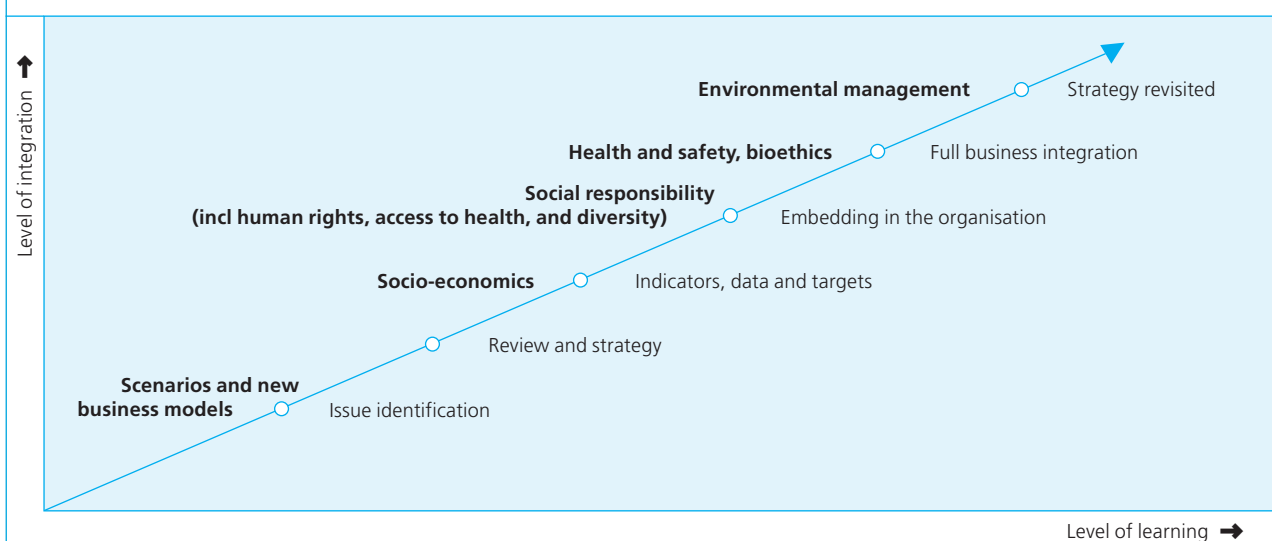
this way of thinking and making decisions impacts on many facets of our business.

The strategic framework

Novo Nordisk’s Triple Bottom Line approach rests on a three-tiered strategic framework. Firstly, the corporate governance framework ensures action and consistently tracked performance against long-term as well as short-term targets to ensure compliance with international standards and company commitments. Secondly, stakeholder engagement activities enable us to be attentive to current and emerging concerns. And thirdly, follow-up procedures ensure full integration in the business and independently reviewed assessment of our corporate conduct.

We aspire to become a model of sustainable business, to be a preferred business partner, and to build on our understanding of the people whose healthcare needs we serve in order to innovate our products and services. Sharing with stakeholders how we chart our desired future, we believe that we can work together to make it happen. Several examples of partnerships and stakeholder engagement activities are given in this report; more can be found in the internet version at novonordisk.com/sustainability/partnerships.

The Novo Nordisk learning curve



The Novo Nordisk learning curve reflects how issues related to sustainable development are being integrated in our business. Stakeholder engagement is key to identifying the relevant issues and helps shape our way of dealing with them. For each issue, indicators are identified to track performance, once our response has been defined. Scenarios and new business models were introduced in 2003. At the other end of the continuum, we have revisited our Environmental Strategy, while social responsibility – particularly our responses to access to health and diversity in the workplace – and socio-economics have matured.

Sustainability practices at work

The performance indicators we have selected for the six strategic areas serve as a measure of how well we are doing in the efforts to build a sustainable business which balances concerns for society and the environment with economic growth. They are also a measure of the potential benefits to society. Showing, in turn, the potential financial impact of the company's sustainability strategy is a particular challenge and relies on the ability to measure the value of intangible assets, such as reputation, innovation, brand and knowledge. These assets are not easy to measure in monetary terms, but significantly influence a company's cost level and market value. Listed below are these building blocks of a business case for sustainable development as we see it.

Sustainability-driven initiatives	Business benefits	Potential financial impact	Potential benefits to society
Global health programmes	Raised awareness	Cost efficiency	Healthier populations through higher awareness, earlier diagnosis and improved treatment
Employee health and safety	Customer satisfaction and loyalty	Employee retention cost	Improved healthcare
Equal opportunities and diversity	New knowledge	Productivity benefits	Greater access to products and healthcare
People development	Ability to meet different customer needs	Insurance costs	Improved access to diabetes treatment in developing countries
TakeAction!	Production efficiency and waste reduction	Market share	Greater social equity
Supplier evaluation programme	Employee health and well-being	Market value	Improved products
Environmental management	Employee satisfaction and motivation	Product development	Reduced environmental impacts
CO ₂ reduction strategy	Innovation	Sustainability/brand premium	Reduced pressure on non-renewable resources
Health economics studies	Attraction of new employees	Shareholder value	Improved raw material efficiency
Socio-economic analyses	Good governance	Capital costs	Employment
Bioethics management	Strategic management capacity	Access to new markets	Animal welfare
Animal welfare programmes	Improved management tools	Developing markets	Financial contributions to national economies
Stakeholder engagement and accountability	Balanced decision-making		Skills and knowledge-building in national economies
Relations with SRI investors	Due diligence		Contribution to scientific understanding
Scenario planning	Risk management		Knowledge-building and improvements in supply chain
Knowledge management	Investor interest		Corporate and national growth
	Improved reputation		Corporate accountability
	Stakeholder trust		New partnerships
	Compliance with environmental regulation		
	Sharing better practices		

Novo Nordisk's Triple Bottom Line Strategy

The sustainability-driven initiatives are orchestrated by Stakeholder Relations, which drives, challenges and monitors the Triple Bottom Line Strategy in Novo Nordisk and helps the line implement new activities to pursue sustainable business goals. This strategy serves as a platform for organisational learning and innovation. It rests on six key processes:

- Monitoring issues and spotting trends that may affect our future business.
- Engaging with stakeholders to reconcile dilemmas and find common ground for more sustainable solutions.
- Building relationships with key stakeholders in the global and local communities of which Novo Nordisk is a part.
- Driving and embedding long-term thinking and the Triple Bottom Line mindset throughout the company.
- Accounting for the company's performance and conveying Novo Nordisk's positions, objectives and goals to audiences with an interest in the company.
- Translating and integrating the Triple Bottom Line approach into all business processes to obtain sustainable competitive advantages in the marketplace.

Measuring our economic footprint

Novo Nordisk contributes to socio-economic welfare by securing and creating employment, by developing the competences of its employees and by making products and offering services that provide better health for people with diabetes and others whose healthcare needs we serve.

We examine the interactions between the company and our key economic stakeholders to better understand Novo Nordisk's impacts on the local and global society. Our approach builds on the principles developed by the Global Reporting Initiative. The model and the cash value distribution on the opposite page illustrate the relationships between Novo Nordisk and our economic stakeholders: customers, suppliers, employees, investors, and the public sector, and their roles as economic drivers in society. Novo Nordisk activities locally and globally serve as an engine of growth in the economy by boosting local supply chains, investing and developing a new skills base. Salaries and supplier income spent locally or paid as tax multiply through the local community. Direct impacts refer to a company's direct contribution to wealth creation, such as employment. Indirect impacts describe the impact of a company's operations and investment in new facilities on the economic activities and performance of others.

To show the indirect impact of Novo Nordisk in Denmark (2002), we have estimated the indirect employment created by Novo Nordisk production and consumption by Novo Nordisk employees in Denmark. The indirect effects are estimated by using the production multiplier for the pharmaceutical industry and the consumption multiplier from Statistics Denmark. 18,471 indirect jobs were created by Novo Nordisk. The value of these jobs in terms of salary is DKK 3.9 billion and DKK 1.5 billion in income taxes (see table below).

Local and global impact

To demonstrate the impact that we have locally and globally, we report on key indicators of economic and geographical impact (see charts on page 60).

Measured by turnover, Novo Nordisk is the twelfth largest Danish company. Most production facilities, 61% of full-time employees and 91% of tangible assets are in Denmark. From 2002 to 2003 our turnover grew by 5%. 99% of sales are outside Denmark: 43% in Europe, 24% in North America, 16% in Japan & Oceania, and 16% in International Operations. 44% of the cash from customers goes to suppliers, who are primarily located in Denmark. The full-time employee base grew by 4% from 2002 to 2003, primarily in International Operations (9%), followed by North America (7%), and Japan & Oceania (7%).

Effects (2002)	Number of jobs	Job income DKK billion	Income tax DKK billion
Direct	11,104	4.3	1.9
Indirect due to production	15,546	3.3	1.5
Indirect due to consumption	2,925	0.6	
Total	29,575	8.2	3.4

61% of cash added value was remuneration, mainly in the developed world, particularly Denmark. In 2003, total corporate taxes constituted 9.5% of our turnover. In Denmark 13% are paid as local taxes and 87% as state taxes. Most investors are Danish (62%), North American (24%) or British (11%). An estimated 70% of our employees own a total of 1% of the shares.

Level of investment A measure of the company's future economic capacity and development. In 2003, Novo Nordisk invested DKK 2.3 billion in new production facilities in Denmark, Brazil and France, down from DKK 4 billion in 2002.

Value of knowledge All the skills, expertise and competences of the employees of Novo Nordisk benefit individuals as well as society.

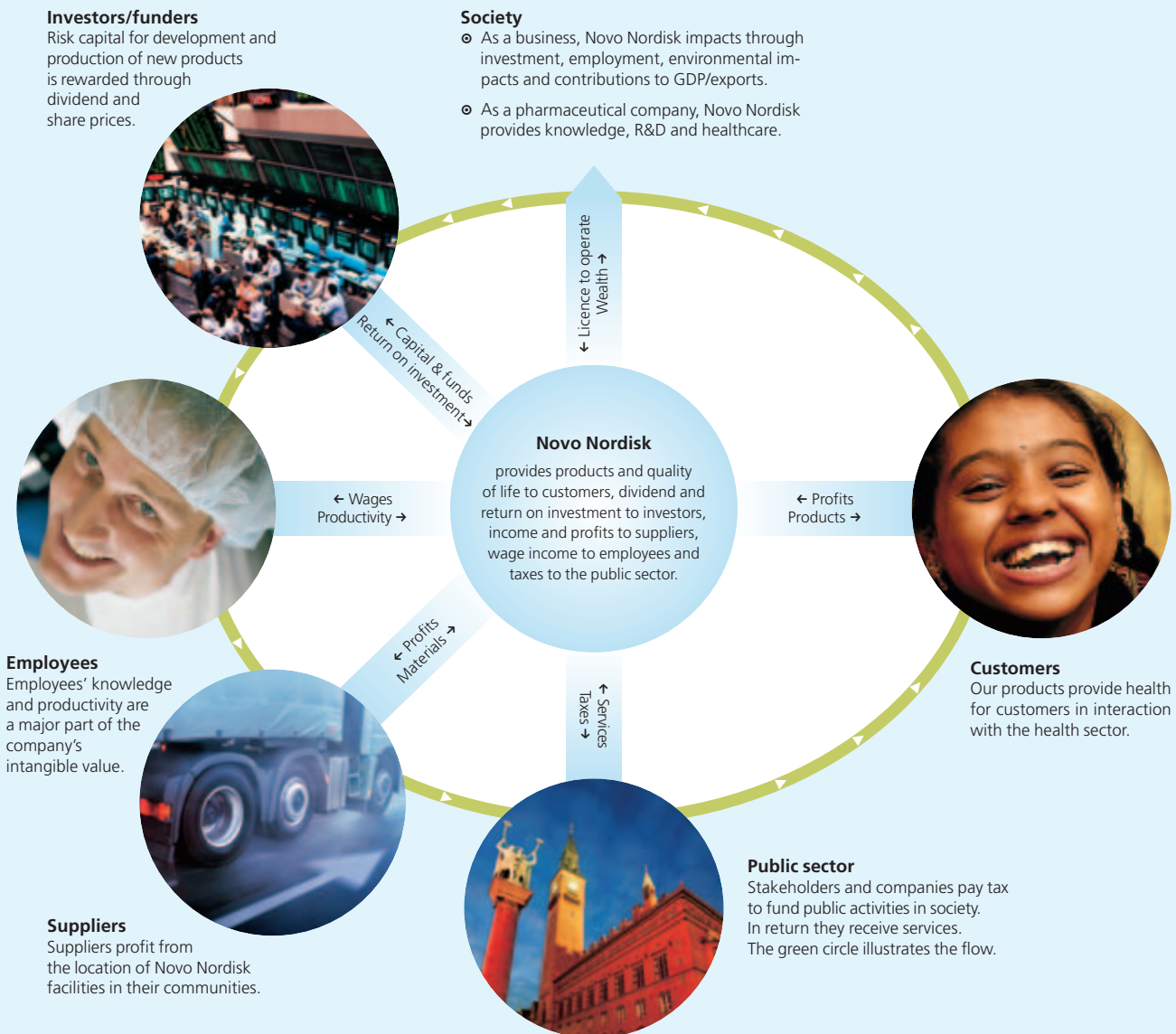
Expenditure on research and development An important capacity builder for society and source of the innovation that will create future wealth for Novo Nordisk. The wage share of R&D (36%) is an indication of the company's impact as a capacity builder in a community. The expenditure on R&D constitutes 16% of the net turnover. This share has remained fairly constant at 16–17% in the period between 1999 and 2003.

Contribution to society Our turnover in 2001 accounted for 1.8% measured as a share of GDP in Denmark, rising to 1.9% in 2002. In 2002 our economic contribution to overall economic wealth for society through value added was 0.8% of GDP, 4.4% of Danish exports and 0.5% of Danish employment. In 2003 Novo Nordisk accounts for 5% of Danish corporate taxes and an estimated 0.5% of Danish employment. Our employees accounted for 0.6% of total Danish personal income taxes (60% state and 40% local taxes).

Socio-economic impact at global level Our contribution to society through the value of our products and services in terms of improved health. Health economics is one method we use to measure this impact (see pages 30–31). Novo Nordisk has been making substantial investments in Latin America, where there is a large and growing market in diabetes care products. In 2002, the company acquired Brazilian insulin producer Biobrás for USD 31.4 million. In 2003, Novo Nordisk announced its intention to invest more than USD 200 million in extending the Biobrás insulin production facility in Montes Claros, Brazil. The facility will supply export markets around the world and create some 500 direct jobs in the region. The project will begin in the first half of 2004, with production starting in 2007. This investment will not only lead to a tenfold increase in Novo Nordisk's current production capacity in Latin America and the Caribbean, but will bring to Brazil know-how on biotechnology and pharmaceutical production.

Novo Nordisk's economic stakeholder model

This model illustrates Novo Nordisk and its economic stakeholders and the interactions that drive economic growth in society. When, for instance, investors provide risk capital so that Novo Nordisk can develop new products, it will benefit customers, employees and suppliers. For customers, in turn, the products from Novo Nordisk improve their ability to contribute to society. When employees, suppliers and investors spend their income to buy things, make savings or investments, they too contribute to wealth generation in society. And in their capacity as citizens in the local and global community, all economic actors pay taxes to the public sector in return for services.



Cash value distribution (2003)

		DKK million	Cash received	Cash added value
Customers	a: Cash received for products and services	26,544	100%	
Suppliers	b: Cash payments for materials, facilities and services ¹⁾	11,634	44%	
Company cash	Cash added value (a minus b)	14,910		100%
Employees	c: Remuneration	9,086	34%	61%
Investors/funders	d: Dividend and interest payments	2,568	10%	17%
Public sector	e: Taxes	1,804	7%	12%
Management	f: Future growth	1,452	5%	10%

¹⁾ Cash payments outside Novo Nordisk. The figure includes cash received from licence fees, realised exchange rate gains and interest income.

Indicators of Triple Bottom Line performance

Strategic areas	Indicators
Living our values	
 <p>Two indicators show how we live up to the company's values, as perceived by employees. This is measured as part of the annual climate survey, eVoice. The questions are developed through a process of internal consultation. Questions on issues that need special attention are mandatory. See the article on page 36. One indicator shows follow-up on the facilitation process and is described on pages 10–11.</p>	<p>Average of respondents' answers as to whether social and environmental issues are important for the future of the company.</p> <p>Average of respondents' answers as to whether management demonstrates in words and action that they live up to our Values.</p> <p>% of fulfilment of action points planned arising from facilitations of the Novo Nordisk Way of Management and Values.</p>
Access to health	
 <p>Global access to health is a key issue for pharmaceutical companies. Two indicators measure progress on the best possible pricing scheme in Least Developed Countries (LDCs). See the articles on pages 20–29.</p>	<p>Number of LDCs where Novo Nordisk operates.</p> <p>Number of LDCs which have chosen to buy insulin under the best possible pricing scheme.</p>
Our employees	
 <p>Four indicators measure standards of health and safety in the workplace, employee development and equal opportunities. See the articles on pages 36–39.</p>	<p>Frequency of occupational injuries.</p> <p>Employee turnover rate.</p> <p>Average of respondents' answers as to whether their work gives them an opportunity to use and develop their competences/skills.</p> <p>Average of respondents' answers as to whether people from diverse backgrounds have equal opportunities (eg in terms of hiring, promotion and training) at Novo Nordisk, regardless of gender, race, ways of thinking etc.</p>
Our use of animals	
 <p>Two indicators track efforts to reduce the number of experimental animals and improve their welfare. In this area we have worked closely with the Danish Animal Welfare Society. See the article on pages 54–55.</p>	<p>% of animal test types removed from external and internal specification.</p> <p>Housing conditions for experimental animals, considering the needs of the animals.</p>
Eco-efficiency and compliance	
 <p>Two environmental indicators, eco-productivity indices (EPIs), are based on eco-efficiency thinking and reflect internationally adopted views. Full compliance with local laws and regulations is a company policy and is the third indicator. The fourth is certification of our production facilities to ISO 14001, which is instrumental to that end. See the articles on pages 44–51.</p>	<p>Annual improvement in water efficiency.</p> <p>Annual improvement in energy efficiency.</p> <p>Compliance.</p> <p>ISO 14001 implementation.</p>
Economic contribution	
 <p>Five financial measures for reporting to shareholders and the financial markets serve as indicators for economic contribution. They indicate elements of our contribution to society and other stakeholder groups who benefit economically from our activities. Our 'economic footprint' is presented on pages 14–15.</p>	<p>Operating profit margin.</p> <p>Growth in operating profit.</p> <p>Total taxes as % of turnover (corporation tax in profit and loss/net turnover).</p> <p>Return on invested capital (ROIC).</p> <p>Cash to earnings (three-year average).</p>

Impacts	2003	2002	2001	Targets 2004–2007	Comments
Integration of sustainable development in all decisions ¹⁾ .	4.0	4.1	4.3	≥ 3.5	Employees' responses are satisfactory. This is put into perspective by the extremely high follow-up rate to action points after facilitation.
Integration of corporate values in all decisions ¹⁾ .	3.5	3.5	3.6	≥ 3.5	
Corrective actions on values following facilitations.	99%	95%	90%	80%	
Access to essential medicines.	30	30	N/A	Best possible pricing scheme in all LDCs.	Closer follow-up on local offices' sales to LDC countries and realised purchase prices will be in place as of 2004.
Affordability of essential medicines.	16	19	N/A	Best possible pricing scheme in all LDCs.	
Increased quality of life for employees, improved work flow and productivity, and less absence due to illness.	5.4	8.9	8.2	Continuous decrease.	The significant decrease in the number of occupational injuries is due to a focus on prevention. Employee turnover rate is at a satisfactory level. Employees' perceptions of development opportunities and of equal opportunities are satisfactory. Both areas continue to be key priorities in 2004.
Influx and outflux of knowledge.	7.1	6.4	7.7	Reduction of turnover.	
Increased competence level for employees and increased competence capital in the company ¹⁾ .	3.7	3.7	3.8	≥ 3.5	
Increased diversity in the workplace ¹⁾ .	3.7	3.8	3.9	≥ 3.5	
Reduction and replacement of experimental animals.	73%	64%	18%	Total removal of animal test types for biological product control by 2004.	Remaining test types expected to be removed in 2004. A new state-of-the-art facility for rodents and a new rabbit facility constructed in 2003.
Improved welfare of experimental animals.	New facilities in use	New housing standards	Housing prototypes	Full implementation of new Novo Nordisk standards for optimal housing.	
Water use efficiency.	10%	16%	2%	5%	Water and energy use efficiency are both well above target. Breaches of regulatory limit values is due to continuous measurements and a focus on wastewater management. No significant impact on the environment recorded. Target for ISO 14001 implementation met.
Energy use efficiency.	24%	15%	14%	4%	
Compliance with regulatory requirements.	105	30 ²⁾	68	Zero breaches.	
Accidental releases.	20	12 ³⁾	5	Zero accidental releases.	
Pollution prevention through decreased use of raw materials, water and energy and decreased environmental impact per produced unit ⁴⁾ .	6 facilities	6 facilities	System described	ISO 14001 certification of all production facilities worldwide by 2003. Another two to be certified by 2007.	
Contribution to company efficiency, growth and investors' economic capacity.	24.1%	23.7%	23.6%	25% ⁵⁾	The financial performance was significantly negatively impacted by the decrease in the major invoicing currencies versus Danish kroner. The underlying performance against the financial targets remains solid and reflects a better than expected operational performance. Lower than expected investments had a positive impact on both return on invested capital and cash to earnings ratio.
Contribution to company growth and investors' economic capacity.	6.8%	6.5%	16.6%	15% per year ⁵⁾	
Contribution to national economic capacity.	9.5%	8.8%	9.1%		
Efficiency of invested capital, contribution to asset base, and investors' economic capacity.	19.1%	20.1%	23.1%	25% per year ⁵⁾	
Contribution to the company's degree of freedom in terms of available cash funds (resources).	32.0%	34.9%	56.4%	60% ⁵⁾	

1) All answers to eVoice questions are now reported as an average (scale of 1 to 5; 5 is most positive score). The survey population varies from one year to another.
2) One breach has been added for Chartres in 2002 as a result of continuous measurements.

3) Two accidental releases were registered for Hillerød after publication of the 2002 report. These are now included.
4) In addition, two support functions have been certified in 2003.
5) Long-term growth target (three-year average).

Acting on our commitments

Being responsible is a value deeply rooted in the company's history. Acting on our commitments is about translating the corporate vision and management principles into daily business practice, working with a multitude of stakeholders.

To people at Novo Nordisk 'making a difference' has a very real meaning. Our promise of being there for people with diabetes and others whose healthcare needs we serve is what helps us stay focused. While we use the statistics to raise awareness of the impending diabetes pandemic, understanding the person behind the disease is the key to tackling the situation effectively. That is why Novo Nordisk employees are invited to meet a patient to learn what it is like to live with diabetes, haemophilia or growth disorders, and to see things from that perspective.

Stakeholder trust is essential. Novo Nordisk wishes to be perceived as the preferred partner in leading the fight against diabetes and as a responsible pharmaceutical company – by healthcare professionals and their patients, and by shareholders, current and prospective employees and in the eyes of the public.

As a leading pharmaceutical company, we have a role in creating public awareness of the issues that need to be addressed and facilitating informed decision-making. As a global business, we must assess our economic impact on the societies of which we are part, in order to maximise positive contributions and minimise negative impacts. To remain an employer of choice, we value our people and we must nurture their strengths and develop their competences. As a corporate citizen we must act responsibly and behave ethically with integrity and respect towards business partners, people, animals and the environment.

Novo Nordisk has a long tradition for being present in developing countries. Following the priorities set by the World Health Organization, our global health programmes are now multiplying through our international network of affiliates. In this way, we contribute to more sustainable healthcare solutions with a particular focus on those people who do not currently have access to good care.

This proactive approach is well appreciated by investors and analysts who take a long-term view on investment returns. This group of socially responsible investors scrutinises policies and practices in order to determine the company's ability to manage the business risks. Responding readily to what they see as material issues facilitates the dialogue and furthers transparency.

Leadership development, diversity management and empowerment are key elements of Novo Nordisk's People Strategy. It is driven by management commitment and supported by programmes which engage employees. In parallel, a bottom-up approach encourages local initiatives and helps embed this broader business mindset throughout the organisation.

Supply chain management in Novo Nordisk includes evaluation and audits of suppliers from an environmental as well as a social perspective. This approach serves two purposes: risk management and extending corporate responsibility throughout the supply chain.



Dilemma

How can we make public–private partnerships succeed and still ensure the independence and integrity of the contribution each partner brings to the table?

Partnerships between the public and private sectors are more essential than ever to alleviate the world's global health burden. But too many of them fail. That is because most of these collaborations are vertical; that is, they come into a country, set up a programme, and leave. There is no sustainability in an approach that does not leave behind a foundation for local intervention and local capacity building. It is not that the partners don't come to the table with good intentions, but they too often fail to see that a quick fix is not going to address the complexity of a growing health crisis like diabetes.

Many partnerships are designed around a false dichotomy: whether an intervention should be about prevention or treatment. The question is not treatment versus prevention, but treatment plus prevention. Only comprehensive approaches which cover the entire spectrum of interventions have a chance of controlling a health problem in a community. We have learned from HIV/AIDS that it is necessary to provide treatment in a community if you wish to build the necessary trust for them to undertake prevention.

The World Health Organization (WHO) clearly depends on public–private partnerships to achieve its goals. The task we face is too huge for any one organisation to tackle single-handedly. But at the same time, we have to retain an arm's length

distance from the private partners around the table. We don't have any direct relationships with private companies, but work with organisations and foundations such as the International Diabetes Federation and the World Diabetes Foundation, in which private companies and their interests may be represented. The rules of the game are written so that there is no conflict of interest. It is as important for industry as it is for the WHO that we retain our independence in any partnership in which we are engaged. Done well, public–private partnerships need not threaten the integrity of either partner; in the best of circumstances, they enhance it.

In a world in which healthcare systems are failing people with chronic diseases, we need a new paradigm in which patients with chronic conditions like diabetes become their own healthcare providers, with healthcare professionals playing a supporting role. This patient-centred healthcare model will depend more than ever on partnerships. It is important that we get it right.

Rafael Bengoa

Rafael Bengoa is director of the Department of Management of Non-communicable Diseases at the WHO. His main focus of expertise is in the comprehensive management of chronic conditions.

A strategy for global health

Proper treatment of diabetes is an investment in health that will pay off not just for people with diabetes, but also in a wider societal perspective. Radical innovation is much in demand to bring a halt to the alarming upward curve of diabetes prevalence. Part of the solution is likely to be found through partnerships across sectors and inventive approaches.

We believe that Novo Nordisk can play a leading role in helping people with diabetes around the world achieve greater access to health. We recognise that provision of medicine alone does not solve the problems. Insulin therapy and improved care are part of the solution – but so is an understanding of the person behind the disease, improved education and greater awareness.

Pursuing our goal of defeating diabetes, we are teaming up with partners who share our concern and who can contribute to making more sustainable solutions. We wish to be recognised as the preferred partner in leading the fight against diabetes worldwide and as a responsible pharmaceutical company. That is why Novo Nordisk has invested in setting up the Oxford Centre for Diabetes, Endocrinology and Metabolism. Its purpose is to develop future healthcare models for chronic diseases, including prevention models. We have also teamed up with the University of Oxford and the World Health Organization (WHO) in creating the Oxford Vision 2020 process.

A model approach

Novo Nordisk has chosen to build its strategy for improved access to diabetes care on WHO's four priorities for access to health. The strategy is implemented in close collaboration between our regional offices and affiliates in 69 countries. Via this global/local approach, we can multiply efforts by bringing our collective resources into play. In order to measure impacts sys-

tematically, targets are defined and tracked via the corporate Balanced Scorecard.

Learning from people with diabetes, the DAWN (Diabetes Attitudes, Wishes and Needs) programme illustrates how the stakeholder approach enables us to focus on the person behind the disease. This understanding supports development of new products and services. Also, the DAWN findings highlight the importance of raising awareness and knowledge through education and constant learning about the psychosocial side-effects of diabetes.

Novo Nordisk is working with ministries of health, patient organisations, healthcare providers and experts in the fields of economics, epidemiology and other related disciplines. The National Diabetes Programme – in both the developed and developing worlds – provides many examples of how this strategy is implemented in the countries where we are active.

To make treatment affordable, Novo Nordisk has adopted a best possible pricing scheme. It allows Least Developed Countries (LDCs) to purchase insulin at a price not to exceed 20% of the average price in the industrialised countries.

Even at significantly reduced prices, the availability of insulin cannot in itself provide treatment for the poorest people. That is why additional funding is required. In 2001, Novo Nordisk established the World Diabetes Foundation (WDF) to help meet the needs of these people. In some cases Novo Nordisk and the WDF are working together to build synergies, such as when building an infrastructure for diabetes care in Tanzania.

The diabetes pandemic



Today, diabetes is recognised as a pandemic. According to data from the International Diabetes Federation, 194 million of the adult population around the world have diabetes, and the projected figures indicate this will double within a generation. Added to the fact that the majority of these people are not currently receiving proper treatment and care, or even diagnosed, the social and economic impacts are huge. Aging populations in the North and the population growth in the South accelerate the prevalence of diabetes, as do sedentary lifestyles and unhealthy diets.

Strategies for access to health

Novo Nordisk has built its strategy for improved access to diabetes care on WHO's recommendations.

WHO priorities	Novo Nordisk response
Development of national healthcare strategies	→ National Diabetes Programme and DAWN
Building national healthcare capacity	→
Best possible pricing	→ Best possible pricing scheme in LDCs
Additional funding	→ World Diabetes Foundation



At OCDEM both clinical care and science are integrated in one centre. Patients, researchers, educators and administrative staff enjoy the open atmosphere. From the left: In the foot clinic, Alistair Haynes is having his feet examined and fitted with an Aircast. Professor David Matthews, chairman of OCDEM, in the atrium, which is surrounded by clinical, research and teaching wings. Nicholas Henderson and his fellow patients in the ward, which has 26 in-patient beds.

The quest for the cure

The Oxford Centre for Diabetes, Endocrinology and Metabolism (OCDEM) gives diabetes research a much-needed boost. Its aim is to develop a new, patient-centred model of chronic disease care that integrates non-medical intervention in behaviour, diet and exercise into a lifelong contract between the patient, the healthcare team, government and industry.

Aspirating to realise the vision of radically improved diabetes care demands improved methods of prevention and treatment as well as major advancements in science. To that end Novo Nordisk invested GBP 4 million to establish OCDEM, which was inaugurated in September 2003. This investment was matched by a GBP 4.2 million grant from the UK National Health Service and another similar grant from the University of Oxford.

The centre brings together under one roof basic and clinical research, patient care and medical training, making the centre the first of its kind in Europe.

OCDEM's vision is to find a cure for diabetes by 2015. "Why do we think we can cure diabetes by 2015? In part because we know that type 2 diabetes deteriorates because of failure of the beta cell. New knowledge both of the genetic predisposition and of the pathophysiology of failure suggests that we should be able to find specific agents to prevent this decline in function. We are undertaking research in OCDEM on many aspects of beta cell failure. This research ranges from basic science to clinical investigations of promising therapeutic compounds," says Professor David Matthews, chairman of OCDEM.

An academic powerhouse

The centre employs 70 scientists and associated staff organised in 12 teams and covering topics such as the causes of beta cell failure, the effect of fat on health and trials of new agents. A clinical research unit manages the studies while a staff of 50 doctors, nurses, dieticians and support staff take care of more than 15,000 patients a year.

"I see OCDEM as an academic powerhouse where people can meet and exchange ideas, as we have already begun to do in a series of meetings called The Oxford Dialogues. This multi-pronged approach helps break down the barriers between industry, government and academia and is the only way to find solutions to such a complex condition as diabetes," says Matthews.

Closing the research gap

In establishing the OCDEM centre, Novo Nordisk made yet another contribution to its long-standing support of diabetes research in Europe, which suffers from a 20:1 disparity in public funding compared to the US. To help close this gap, in 2000 Novo Nordisk contributed USD 4.5 million over three years to a USD 10.5 million European Diabetes Research Programme dedicated to research into both type 1 and type 2 diabetes.

In 2003, Novo Nordisk made a commitment for continued research into diabetes in partnership with the European Foundation for the Study of Diabetes (EFSD) and is contributing EUR 250,000 per year over three years in support of a new EUR 2.2 million programme for research into type 1 diabetes. Such contributions make Novo Nordisk one of the largest private-sector funders of diabetes research in Europe.

The aim of all these programmes is to bring about new discoveries and help achieve far-reaching advances in diabetes research, including improved understanding of genetics, disease processes, pathophysiology and treatment for the benefit of people with diabetes.

DAWN: a holistic approach to diabetes care

The Novo Nordisk Diabetes Attitudes, Wishes and Needs (DAWN) programme is based on a holistic approach to diabetes care in which the psychosocial aspects of diabetes are as important as the physical dimensions. Looking at the full spectrum of people's needs paves the way for better management of diabetes and prevention of long-term complications of the disease.

The DAWN programme began with a ground-breaking study in 2001 which found that many people with diabetes suffer from depression and have psychological difficulties adapting to the treatment they need to undertake each day. More than half of the people with diabetes worldwide risk severe long-term complications due to inadequate support for coping with and managing their diabetes.

DAWN is part of an ongoing effort by Novo Nordisk and our partners to encourage the move towards a more holistic approach to diabetes care based on five key areas (see box). Addressing the psychological gap in diabetes care is not something one company or organisation can accomplish single-handedly. Therefore the DAWN programme is based on building close relationships among key stakeholders in the diabetes field and a long-term commitment to improving diabetes care.

A call to action

In November 2003 Novo Nordisk convened the Second International DAWN Summit in London in which some 150 decision-makers, healthcare professionals and people with diabetes from 31 countries issued a 'call to action', stating that diabetes care across the world must change to take into account the huge psychological impact of diabetes.

Many of the summit participants have already put the call to action into practice. In addition, Novo Nordisk affiliates and our partners have initiated many national activities. In Poland and India, nationwide activities based on DAWN are already changing the approach to diabetes care. Activities are being started in

more than 10 other countries to address the psychosocial barriers to better self-management and improved quality of life.

DAWN is integrated in other aspects of our business too. We consider the psychological burden of living with diabetes when developing our products and devices. In addition, we set and achieved a target that 80% of Novo Nordisk employees in relevant business areas were to meet a person with diabetes to talk about the DAWN findings. By the end of 2003, 6,745 employees (88%) had done so.

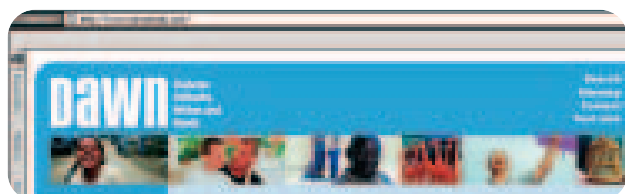
In our quest to pursue the most promising ways of preventing and treating diabetes and improving the quality of life of people with diabetes, the psychosocial aspects of diabetes will continue to shape our approach.



At the DAWN Summit, delegates issued a 'call to action' to focus on the psychosocial aspects of diabetes.

DAWN

The DAWN programme is based on the largest global survey of the psychosocial aspects of diabetes to date, involving more than 5,000 people with diabetes and 3,800 healthcare professionals in 13 countries. It is a global Novo Nordisk initiative in collaboration with the International Diabetes Federation and an expert advisory panel. For more information, visit dawnstudy.com.



DAWN is part of an ongoing effort by Novo Nordisk and our partners to encourage the move towards a more holistic approach to diabetes care based on five key areas. We will:

- enhance communication between people with diabetes and healthcare professionals
- promote communication and coordination between healthcare professionals
- promote active self-management
- reduce barriers to effective therapy
- enable better psychological care for people with diabetes.



Dilemma

How can we help empower people to take more responsibility for their health and yet respect their personal integrity?

With a chronic disorder like diabetes, positive outcomes are achieved only when patients and families, community support and healthcare teams are informed, motivated, prepared and working together. Asking people to take more responsibility for their diabetes does not mean we are not doing our jobs; it means we are doing our jobs better.

With diabetes, self-care is so important. Successful outcomes very much depend on whether the patients can make the necessary changes to their lifestyle, such as a better diet and more exercise. Numerous studies have shown that patients with chronic conditions who are involved with their care decisions and management have better outcomes than those who are not. The healthcare professional still plays a very important role in helping people with diabetes accomplish the very difficult task of modifying their behaviour.

I think it is part of our responsibility as healthcare professionals to encourage our patients to take better care of themselves. There is still a great deal of support necessary from diabetes educators, nurses and doctors. We can support them with the right information, teach practical skills and suggest diet modification and exercise. Most importantly, we can give them a sense of self-confidence that they can do the job of taking care of their diabetes better than any doctor or nurse can.

This emphasis on patient-centred care means that we have to stay in constant touch with the patients, in the form of frequent visits as well as follow-up mails and telephone calls. On every occasion, we take the opportunity to focus on motivation, education and promoting self-care.

One thing we can do better is to listen more. In my daily work, I face poverty, language barriers and lack of physician time, but I still feel that emotional issues such as depression are an important part of the picture. Very often I come across patients refusing to take insulin, for instance, due to misinformation or fear of what it means. When they meet with diabetes educators like ourselves, they need to feel comfortable telling us about their problems. And that's where listening comes in.

In India we have a unique opportunity as well as an obligation to create a new kind of healthcare system for chronic conditions that places patients at the centre but with the supporting healthcare team right by their side.

Shobhana Ramachandran

Shobhana Ramachandran, Ph.D. is a nurse and has been a diabetes educator at the Diabetes Research Centre & M.V. Hospital for Diabetes, the WHO Collaborating Centre for Research, Education & Training in Diabetes in Chennai, India, for the past 20 years.

National Diabetes Programme: partnership in action

In the fight against chronic diseases, such as diabetes, the World Health Organization (WHO) is calling for national strategies: activities to improve the prevention, care and control of the disease. Novo Nordisk's response is the National Diabetes Programme. Its aim is to promote collaboration between all parties in healthcare in order to improve the care and quality of life of people with diabetes.



Clockwise from the left: Raisa Britanova has type 2 diabetes and was examined at the Novo Nordisk-sponsored mobile diabetes centre in Russia. Raisa is 49 years old. She was diagnosed with diabetes at age 34 and 11 years later started insulin treatment. A diabetes team at M.S. Ramaiah Hospital in Bangalore, India, discuss treatment follow-up with a woman with diabetes. At the diabetes school at the Yekaterinburg Hospital in Russia, patients learn how to live with their diabetes.

Assisting in the development of national diabetes programmes is one of the main building blocks in Novo Nordisk's efforts to get diabetes on the public health agenda and drive earlier diagnosis and earlier treatment, creating a better quality of life for people with diabetes. We think this approach can make a real difference to their health and well-being. And because it is about building long-term relationships with key stakeholders and about offering solutions, not just products, it also offers Novo Nordisk the opportunity to build a long-term sustainable business advantage as a leader in diabetes care.

Novo Nordisk launched its National Diabetes Programme (NDP) in 2000 as a systematic approach to improving diabetes care throughout the world. Most of our 69 affiliates have par-

ticipated in workshops that give them the tools to work closely with partners in this integrated approach to diabetes.

We have developed the book *National Diabetes Programmes Toolbox* to give practical guidance to affiliates and their partners. At international level, Novo Nordisk works closely with the International Diabetes Federation (IDF) on its national diabetes programme and in the development and sponsorship of specific tools such as the *Diabetes Atlas* and the *Guide for Diabetes Guidelines*.

Matching national needs

In Russia, in partnership with the Ministry of Health and key opinion leaders, Novo Nordisk sponsors a mobile scientific and research diabetes centre. It brings leading diabetes specialists

to various regions of Russia to monitor how widespread diabetes and its late-stage complications are in the country. Each expedition takes four weeks and is preceded by an introduction for local healthcare professionals. When the project is completed in 2005, more than 10,000 people will have passed through its doors and received thorough examination. Moreover, the body of data – including metabolic control and late-stage complications – from those people is leading to a national patient register.

At national level, Novo Nordisk affiliates around the world are putting the tools of the NDP into action. More than 130 activities have been combined into a best practice database for inspiration and learning. In the developed world, the NDP is focused on developing strategies to enhance diabetes care. This includes raising awareness among people with diabetes and the general public, educating healthcare professionals, highlighting the economic burden of diabetes, establishing clinical care guidelines and improving early diagnosis of type 2 diabetes.

At Novo Nordisk in the US, part of the NDP focus is on raising awareness among minority populations for whom diabetes is a particularly serious health risk compared to the US population as a whole. In 2003 Novo Nordisk sponsored a 20-minute TV programme about diabetes aimed at the Hispanic population and shown during Diabetes Month in four major American cities with large Hispanic populations. The programme was endorsed by the American Academy of Clinical Endocrinologists (AACE) and was accompanied by a booklet on diabetes distributed to AACE members at their annual meeting. It won an Emmy for Outstanding Achievement for Informational Programming for the Chicago/Midwest region. In 2004 Novo Nordisk and the American College of Physicians are teaming up to do a similar programme for African Americans to be broadcast during National Black History Month in February.

Improved care in the developing world

While the developed countries often have a foundation on which to build better diabetes care, that is not always the case in the developing world. That is why Novo Nordisk has paid special attention to developing a model for improving the treatment of diabetes in the poorest countries. The NDP initiatives in these countries are illustrated in the case study on Tanzania (see pages 26–27).

Under the NDP, Novo Nordisk is focused on bringing about improved diabetes care in eight developing countries: China, India, Bangladesh, Costa Rica, El Salvador, Malaysia, Tanzania and Zambia. Each of these programmes is built on partnerships, where Novo Nordisk bases its priorities for action on the needs expressed by local experts and where all efforts should be sustainable – that is, the country can continue the activity independently in the long term. In order to ensure this kind of approach, contracts are signed in each country indicating the expected milestones and follow-up actions.

In China, the local affiliate is working with local associations of healthcare professionals, the Ministry of Health and the World Diabetes Foundation, an independent foundation set up by Novo Nordisk in 2001 to improve diabetes care in the poorest countries, to implement an ambitious diabetes action plan.

This includes establishing 31 centres of excellence covering 311 cities, each with a population of half a million or more, over the next five years.

Training doctors and nurses

In India, the Novo Nordisk Education Foundation is working closely with the Indian Council of Medical Research and the WHO Collaborating Centre in Chennai to formulate a National Diabetes Control Programme (NDCP). The NDCP aims to focus the attention of policy-makers and other stakeholders on problems related to diabetes in India, and serves as a framework for state governments in establishing diabetes clinics and prevention centres. In parallel with the ongoing work on the NDCP, several workshops aimed at raising awareness among all stakeholders will be organised over the next two years.

Education of healthcare professionals, particularly about diabetes foot complications, is the focus of the NDP programme in Malaysia. In Costa Rica, the level of healthcare is higher compared to much of the rest of the developing world, in that people with diabetes receive insulin free of charge. However, many do not take insulin on a daily basis due to lack of education and awareness about the need for daily treatment for this chronic disease. Therefore, in Costa Rica, efforts are focused on improving awareness and education of people with diabetes.

In El Salvador, the approach is to help strengthen the national patient organisation as well as upgrading the diabetes centre in the capital and trying to engage with the government to implement a national diabetes strategy. In Bangladesh, the focus is on establishing a diabetes foot clinic at a leading hospital, and educating and training physicians through a distance-learning programme in collaboration with experts from the UK.

Declaration of Africa on Diabetes

In May 2003, representatives of 15 countries, the WHO, the IDF and Novo Nordisk met in Zanzibar, Tanzania, to discuss how to increase awareness of diabetes among African health policy-makers. The result was the draft Declaration of Africa on Diabetes, a document that includes an analysis of the diabetes situation, a commitment to addressing the problem and an action plan.

Similar declarations, such as the Western Pacific Declaration on Diabetes and the Declaration of the Americas on Diabetes, have shown that such initiatives typically increase awareness of diabetes and lead governments and other major stakeholders to take major steps to address the diabetes pandemic.

In Zambia, for example, we are striving to improve diabetes care by working with the Ministry of Health to develop a national diabetes programme and providing funding and staff resources for workshops. We are also supporting the national diabetes association in establishing a diabetes clinic at the national hospital. This clinic will serve as the primary information centre for people with diabetes as well as a centre for training healthcare professionals and diabetes educators.

Through the NDP, Novo Nordisk seeks to assist key diabetes stakeholders in building a sustainable infrastructure, boosting standards of diabetes care, and ultimately improving the quality of life for people with diabetes. If we succeed, we will be one step closer to realising our vision.

Sustainable diabetes care in the developing world

In the developing world, the soaring diabetes pandemic requires partnerships on many fronts, including awareness and education, accessibility of care, local champions, government support and sufficient economic resources.

Having analysed the conditions for diabetes care in a number of developing countries, Novo Nordisk has developed a model for sustainable diabetes care in the developing world, with partnership as the most crucial element. As a company committed to bringing better diabetes care to this part of the world, we are just one player in a complex scenario that demands the coordinated resources of so many others, including patient organisations, ministries of health, healthcare professionals and private foundations that can help provide some of the desperately needed resources.

The partnership only succeeds if each party is willing to listen and learn from the other. In Novo Nordisk's case we take our cue on where to place our priorities from the needs expressed by the people in the country who work most closely with dia-



The diabetes centre at Muhimbili National Hospital was established partly with funds raised by Novo Nordisk employees.

betes and who are in a position to influence diabetes care. We also consider it important for all partners to sign a contract that describes a concrete plan of action, with milestones and follow-up measures. This helps ensure that the seeds that are planted for better diabetes care in a developing country are able to flourish without long-term dependence on outside resources.

This model is being put to practice in eight countries; Tanzania is one of them. In this impoverished sub-Saharan African country, the estimated 350,000 Tanzanians with diabetes receive little or no care, and there are many more who are not even aware they have diabetes. This is due to many factors, including lack of awareness and education, a shortage of trained healthcare professionals and healthcare facilities, and insufficient economic resources to treat everyone who needs care.

Timely treatment

This is a situation that Dr Kaushik Ramaiya, a diabetologist and general secretary of the Tanzania Diabetes Association, has

lived with in his 20 years of working with diabetes. Too often, says Dr Ramaiya, people first learn they have diabetes when they come to the hospital with serious complications such as blindness or a foot ulcer.

With the help of partners, Dr Ramaiya and his colleagues in Tanzania are now trying to change the situation for the better. A network of diabetes clinics is being established nationwide. In Dar es Salaam these are funded by Novo Nordisk and in the districts by the World Diabetes Foundation.

Diabetes centre of excellence

The Ministry of Health in Tanzania is providing doctors and nurses to staff the diabetes clinics at the national and regional hospitals, while Novo Nordisk is giving training and education to the healthcare professionals. A key element of the new healthcare infrastructure for diabetes treatment in Tanzania is the centre at Muhimbili National Hospital in Dar es Salaam. Opened in March 2003, the centre is staffed by three nurses and several diabetes specialists working in rotation. It will serve as a centre of excellence in Tanzania, eventually incorporating a medical laboratory, a foot clinic and a diabetes information centre that trains doctors, nurses and people with diabetes from around the country.

With the establishment of the regional diabetes clinics in 2004, the centre at Muhimbili National Hospital can serve as a national referral centre and focus on treating people with complications and newly diagnosed patients. Once all the clinics are in place, Dr Ramaiya estimates that some 100,000 people with diabetes in Tanzania will have access to better treatment. The cost of treatment in the clinics is made affordable for most people with diabetes, while the very poorest receive subsidised treatment through the Tanzania Diabetes Association.

A sustainable solution

Novo Nordisk has a partnership agreement to help run the diabetes centre at Muhimbili National Hospital until the end of 2005. At that point, it is hoped that the Tanzanians will be able to run it themselves as a truly sustainable solution.

For Dr Ramaiya, that is a solution that now seems within grasp. "Thanks to these regional clinics and the doctors and nurses being trained to staff them, as the clinics are being set up people will now be able to get the medicine, treatment and continuous monitoring they need. They are more motivated to take better care of themselves. This will go a long way towards reducing complications. Now we face the major task of informing citizens about the need to prevent and treat diabetes. We have a long way to go, but we're making progress."

The sustainable diabetes care model in developing countries put into practice in Tanzania

Drivers		Drivers in Tanzania	
Local champions		Prof Andrew Swai and Dr Kaushik Ramaiya of the Tanzania Diabetes Association (TDA) are organising and coordinating diabetes treatment strategy and clinics.	
Government political will		The Ministry of Health (MOH) provides political support for diabetes care as well as the basic infrastructure for the diabetes clinics, which are located in public hospitals.	
Economic resources		The MOH is providing doctors and nurses for the diabetes clinics. Novo Nordisk, through the National Diabetes Programme and employee fundraising, and the World Diabetes Foundation (WDF) help fund activities.	
Diabetes awareness and education		Diabetes awareness and education in Tanzania	
Awareness of burden of diabetes		The TDA is advocating the inclusion of diabetes on the list of national health priorities. Novo Nordisk is providing data and expertise to help the TDA prepare documents for discussions with the authorities. TDA has opened new chapters throughout Tanzania with the help of Novo Nordisk's administrative and logistical support.	
National plan and strategies		The MOH is considering the development of a national diabetes plan. Novo Nordisk is helping the country with this via its National Diabetes Programme.	
Public education programmes for people with diabetes		Modest programmes for educating people with diabetes have started at the national diabetes centre at Muhimbili National Hospital.	
Clinical practice guidelines		An African task force has been set up by the International Diabetes Federation (IDF) to develop guidelines for diabetes treatment in sub-Saharan Africa that will be ready in Q1 2004. This project is being funded by the WDF.	
Professional continuing medical education programmes		The IDF African task force, funded by the WDF, is developing educational materials to train diabetes educators and other healthcare professionals in sub-Saharan Africa that will be ready in Q2 2004. In Tanzania, Novo Nordisk funds education sessions for doctors and nurses held every three months. About 200 healthcare professionals are expected to be trained by the end of 2004.	
Infrastructure		Infrastructure in Tanzania	
Accessibility of diabetes care facilities		Establishment of one national diabetes centre and 19 clinics at regional and municipal hospitals. Novo Nordisk supplies standard equipment for five clinics, which became operational in 2003. The 15 clinics funded by the WDF will become operational in 2004. Novo Nordisk also provides expert and technical assistance for planning, organising and managing the diabetes clinics.	
Accessibility of medicine and equipment		Novo Nordisk supplies standard equipment for diabetes clinics. Medicine is limited due to pervasive poverty. The TDA is subsidising medicine for the poorest people with diabetes.	

The World Diabetes Foundation



WORLD **DIABETES** FOUNDATION

Novo Nordisk established the World Diabetes Foundation (WDF) in 2001 with an endowment of DKK 500 million to be spent over a ten-year period. This initiative aims to address the need for additional funding, which is one of the WHO's four priorities for improving ac-

cess to healthcare. The WDF is dedicated to supporting prevention and treatment of diabetes in developing countries. It acts as a catalyst to build relations among stakeholders, such as governments, diabetes organisations, hospitals and authorities. In this way, the WDF aims to ensure continued existence of initiatives after the completion of projects it has funded. It is governed independently of Novo Nordisk by a five-member Board of Directors. See WDF's annual review at worlddiabetesfoundation.org.

The WDF focuses on:

- awareness of diabetes
- prevention of diabetes and its complications
- education and training of patients and healthcare professionals
- improvement of access to essential medicines in diabetes
- enhancement of detection, treatment and monitoring of diabetes.

More affordable insulin

Improving access to diabetes care in the developing world is not simply a matter of medicines. Affordability of essential drugs is certainly an important part of the solution. Novo Nordisk has for decades offered insulin products at substantially reduced prices to countries in the developing world, and our best possible pricing scheme for the 49 Least Developed Countries is a continuation of this tradition.

Since 2001, we have offered our insulin products to the public health systems in the 49 Least Developed Countries (LDCs), as defined by the United Nations, at prices not to exceed 20% of the average price in the industrialised countries of North America, Europe and Japan. This allows us to maintain overall profitability while still achieving the goal of more affordable pricing. The majority of the LDCs in Africa have been receiving animal insulin at or below the reduced price. Recently, the conversion to human insulin has been encouraged and letters have been sent to all affected countries explaining that human insulin in vials will be made available to them at the LDC price.

Reaching out

In 2003, 16 of the LDCs chose to buy insulin under the best possible pricing scheme. The volume of insulin purchased by these countries does not reflect actual needs, but is mostly dependent on financial and budget constraints.

Novo Nordisk operates in 30 of the LDCs. In all but one of them (Bangladesh) Novo Nordisk does not have its own affiliate in the country but operates through a local distributor. We will of course offer affordable pricing to any LDC country that chooses to purchase insulin products from us.

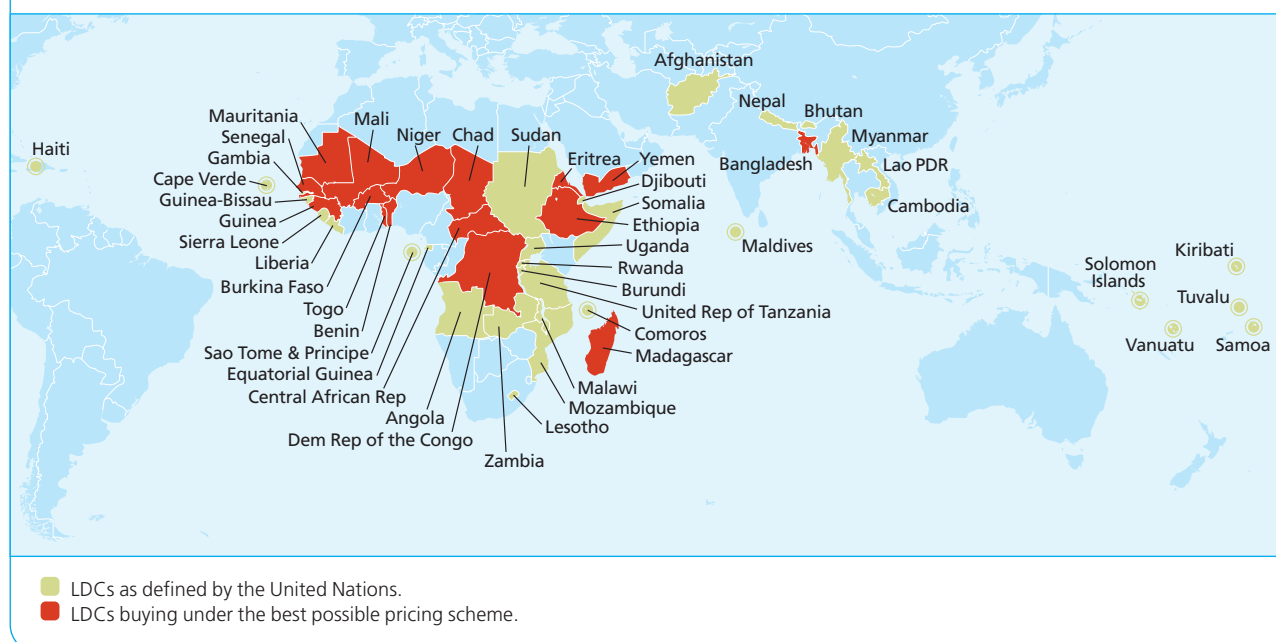
However, we have found that people with diabetes in these countries are often unlikely to benefit directly from reduced prices. While our products may be supplied to the distributor at the LDC price, this price is routinely marked up by governments, through import duties and domestic taxes, or by wholesalers and hospitals for additional profit. One exception is Senegal, where the state prohibits the marking up of insulin prices so that the benefit of reduced pricing can be passed directly on to the patient.

Access to benefits

Initiating a best possible pricing scheme for the developing world presents a dilemma. We want to see patients benefit directly from the lower prices, but pharmaceutical companies have limited influence over the way in which the prices of their products are marked up along the distribution chain. We will continue to work with patient organisations, governments, wholesalers and hospitals to encourage them to eliminate or reduce mark-up or taxes.

We also encourage the establishment of state tender systems in these countries, whereby a bid is submitted in response to a request for tender from the government. This may help to discourage price mark-ups in the distribution chain.

Best possible pricing to Least Developed Countries





Dilemma

How can we justify dedicating scarce economic resources to diabetes care and yet recognise that there are other life-threatening epidemics in the world?

Diabetes is and will continue to be a major issue in the world economy, in global politics and at the humanitarian level. I think it is very reasonable to prioritise diabetes as it is one of the four leading causes of death due to chronic disease worldwide, after cardiovascular disease, cancer and chronic respiratory disease. Diabetes may not be a communicable disease, but it is a worldwide epidemic that is growing and will continue to affect more and more people. Diabetes is a health crisis that societies should face sooner rather than later.

Everyone in the world is going to be somehow affected by diabetes; a family member, a friend or a colleague may have diabetes. And even if people do not know anyone directly affected by diabetes, I think everyone should be able to understand the value of the life of another human being and the importance of keeping people alive and healthy.

The only way we are going to get people to understand why diabetes needs their advocacy is through education. I believe education is so important for people with diabetes, for families of people with diabetes, for the general public and for policy-makers who hold the future of public healthcare in their hands. Education is also the role of companies; they should do more than simply sell their products because treating diabetes is about so much more than simply taking insulin or a pill. It is also

about getting the right psychological support. I remember getting my diagnosis of type 1 diabetes at age seven, sitting on the hospital bed and wondering, "Why did this happen to me? What did I do wrong?" It is so easy to feel angry and depressed and to give up on yourself. That is why I believe so passionately in educating, supporting and mentoring each other. Soon after my diagnosis I met another young girl with diabetes and she, like so many others, taught me how to make something positive out of a negative situation.

It makes sense that the role of educator should be held by young people like me. We are the voices of the next generation. Some day we will be the politicians and we will be the scientists and we will be the parents raising children. If we have been properly educated about what makes a society truly healthy, then we will be in a position to implement lasting change.

Clare Rosenfeld

Clare Rosenfeld is a 17-year-old high school student who lives in Eugene, Oregon, US, and has had type 1 diabetes since the age of seven. At age 12 she defined and created The National Youth Advocacy Program for the American Diabetes Association and served as its first national youth advocate. In 2002, she founded the International Diabetes Youth Advocacy Group which currently has over 200 volunteers from 28 countries, with the mission of raising awareness about diabetes.

Investments in health

Health is a key driver of economic development. Poverty creates poor health and poor health leads to poverty. Yet the role of health in economic growth is greatly undervalued, according to the World Health Organization (WHO). Countries with the lowest levels of health and education have more difficulty in achieving sustained growth. A new study compares treatment in Bangladesh and Denmark.

Poor control of diabetes translates into lost lives, lost quality of life and lost national productive capacity. Proper treatment, including early detection, prevention and treatment of diabetes and its complications, means that people with diabetes can live an almost normal life and reduces the risk of disabilities and premature death. But proper treatment of diabetes is far from universal, particularly in the developing world, and leads to spiralling healthcare costs.

Since understanding the economic burden of diabetes is the first step towards doing something about it, Novo Nordisk is working with the University of Aarhus and the University of Southern Denmark to examine more closely the economic impact on society of diabetes and its treatment. We began by looking at the economic impact in Denmark and in 2003 extended the study to Bangladesh.

In both countries, it was shown that increased production value and additional years of life more than outweighed the investment in improved treatment (see table on the opposite page). When these additional years were adjusted for quality of life, the gains were even more significant. In other words, not only do more people survive under an improved or ideal scenario of diabetes treatment; they survive in a much better state of health so that they can enjoy a full quality of life.

Denmark: modest investment, large gains

In 2002, we began by looking at the cost of treating type 1 diabetes in Denmark over one year (2001), concluding that the availability of insulin has resulted in a gain of 15,703 additional years of life or a gain of 13,816 quality-adjusted life-years, and DKK 2.3 billion in increased production value, compared to 1,041 life-years in a scenario in which no insulin was available.

In 2003, looking at the treatment of type 2 diabetes in Denmark, we found that 136,047 people currently have type 2 diabetes. The study showed that if more patients with type 2 diabetes were offered insulin treatment and more patients in need were put on tablet treatment, significant gains in longevity and quality of life could be achieved: an additional 11% gain of 15,453 years of life with significantly improved quality of life. While costs for medical treatment would increase, the total healthcare costs, in particular hospitalisation costs, could be reduced. Improved diabetes care at almost half the total costs could result in a potential gain of more than 40% in production value. The reduction in total costs is primarily caused by lower nursing costs, as there would be fewer people with complications. In the long term, our study estimates that if perfect treatment were available, the costs of treating complications

could be eliminated. This would also reduce healthcare costs by as much as 50% if no excess mortality or morbidity existed.

Bangladesh: many barriers to optimal treatment

Changing the state of diabetes care in Bangladesh, as elsewhere in the developing world, is a challenge to all players in the healthcare sector. Barriers to effective treatment of diabetes in both the developed and the developing world include lack of awareness and education about the seriousness of diabetes and the optimal way to treat it. In the developing world, however, the problem is exacerbated by lack of economic resources and inadequate healthcare infrastructure.

The presence of these barriers was clear in our study of Bangladesh. Because the current state of diabetes care in the country is poor, the benefits of greater investment in diabetes care were particularly striking. In an improved scenario, assuming free access to the current level of diabetes care for the estimated 3 million people who currently have type 2 diabetes in Bangladesh, the number of years of life would double to 5.8 million and the production value almost triple. Achieving these gains for all people with diabetes would require 7–8 times the current investment in diabetes care in Bangladesh.

The WHO has estimated that each five-year improvement in life expectancy is associated with an increase in economic growth of about 0.3–0.5% a year, other growth factors being equal. Our study estimates that after a 20-year period the production value could be at least 6–10% higher than today as a consequence of the gains in the improved diabetes care scenario. Obviously, Bangladesh is not able to accomplish this alone. According to the United Nations Development Programme (UNDP), about 83% of the population lives on less than USD 2 a day. We estimate that only 10% of the population have an income that enables them to afford healthcare and medication. An additional 13% (primarily living in the urban areas) are able to visit free clinics. Thus, only 23% have access to relevant healthcare.

We believe the private sector has a role to play in addressing the problems of access to adequate diabetes care in the developing world. We have made a start in Bangladesh – recognising that it is only a modest beginning – by funding the establishment of a diabetes foot clinic at a leading hospital, which is operated by the Diabetes Association of Bangladesh. This is part of the company's National Diabetes Programme. Foot problems are a common complication of diabetes and Bangladesh did not previously have a foot care clinic. In many studies, prevention of diabetes complications has been shown to be beneficial in terms of patient quality of life and cost effectiveness. In addi-

tion, we are educating and training several hundred doctors in Bangladesh who are not specialists in diabetes through a distance-learning programme in collaboration with experts from the UK.

Such initiatives can at least begin to make a difference to the economic burden of diabetes in Bangladesh, but the task is huge. The study shows that the costs to Bangladesh of lost production value are enormous. Our study estimates that some 40% of people with diabetes in Bangladesh are not able to support themselves productively because of complications related to their diabetes. But the lack of diabetes treatment also affects the productivity of people working in the informal sector, who represent an estimated 45% of the Bangladesh economy. The formal sector is based on monetary flows and people working for wage income, but a large part of consumption comes from

production in the informal sector based on a barter economy and household production such as subsistence farming and care-giving, trading and small-scale production, and is therefore not registered as GDP. Nursing of people in poor physical health is typically done informally by family members, who therefore cannot work to support their family.

Health economics studies are necessary for policy-makers to understand the importance of creating healthcare systems that better meet the needs of people with diabetes and thus avoid a high economic cost to society. In our view, the results of our study present a strong argument for the need to invest in better diabetes care in societies, both rich and poor. Novo Nordisk will continue to examine the role of health and economic development in order to better understand the most effective ways to treat and eventually prevent diabetes worldwide.

Costs and benefits of alternative scenarios ¹⁾ (2001)		Worst scenario (A)	Current scenario (B)	Improved scenario (C)	Gain (+) Loss (-) (B)-(A)	Gain (+) Loss (-) (C)-(B)
Type 1 diabetes in Denmark						
Healthcare costs	DKK million	11	426	427	-415	-1
Non-healthcare costs (nursing)	DKK million	219	688	438	-469	250
Patients' and relatives' lost income	DKK million	3	98	90	-95	8
Patient life-years		1,041	16,744	17,286	15,703	542
Quality-adjusted life-years		677	14,493	15,534	13,816	1,041
Production value (income from working)	DKK million	0	2,311	2,626	2,311	315
Type 2 diabetes in Denmark						
Healthcare costs	DKK million	N/A	2,241	2,243	N/A	-2
Non-healthcare costs (nursing)	DKK million	N/A	9,152	3,738	N/A	5,414
Patients' and relatives' lost income	DKK million	N/A	505	533	N/A	-28
Patient life-years		N/A	136,047	151,500	N/A	15,453
Quality-adjusted life-years		N/A	112,748	137,172	N/A	24,424
Production value (income from working)	DKK million	N/A	10,296	14,757	N/A	4,461
Type 1 diabetes in Bangladesh²⁾						
Healthcare costs	DKK million	11	27	367	-16	-340
Non-healthcare costs (informal nursing)	DKK million	18	18	17	0	1
Patients' and relatives' lost income	DKK million	0	1	8	-1	-7
Patient life-years		5,533	8,557	35,768	3,024	27,211
Quality-adjusted life-years		3,597	6,394	31,561	2,797	25,167
Production value (income from working)	DKK million	0	26	256	26	230
Type 2 diabetes in Bangladesh²⁾						
Healthcare costs	DKK million	0	1,765	13,360	-1,765	-11,595
Non-healthcare costs (informal nursing)	DKK million	3,779	3,982	4,766	-203	-784
Patients' and relatives' lost income	DKK million	444	504	925	-60	-421
Patient life-years		2,584,017	3,019,487	5,849,760	435,470	2,830,273
Quality-adjusted life-years		1,976,773	2,360,110	4,912,431	383,337	2,552,321
Production value (income from working)	DKK million	14,851	18,725	46,038	3,874	27,313

1) Scenario definitions: A = No insulin available. B = Current national healthcare. C = Improved national healthcare.
2) The figures for Bangladesh are converted to Power Purchasing Parity at Danish price levels (DKK PPP).

The benefits are described as patient life-years, quality-adjusted life-years and gains in production value. The costs are healthcare costs related to hospitalisation and non-healthcare costs (nursing and disability appliances for the patient, housing and childcare), and foregone time converted to lost income due to absence from work during treatment both for patients and caregivers. An ideal scenario is also estimated in the study (not shown here), based on perfect treatment and compliance or a cure. This shows the upper limit to what is the maximum achievable in terms of socio-economic gains. The socio-economic analysis for Denmark and Bangladesh was based on modelling the relevant healthcare system using model data, clinical knowledge of medical experts, the Danish patient register (DRG), and national and international estimates of the diabetes population. The results were discussed by a critical board of experts within medicine and economics and subsequently verified using public registers and adjusted on the basis of real Danish patient population data from the County of Aarhus for the calendar year 2001. Modelling the Bangladesh case was a challenge because hardly any collated data were available. Epidemiological and population data from the WHO and the IDF have been used and verified using data from the Birdem medical clinic in Bangladesh. Further ad-hoc enquiries, studies available from various parts of the healthcare sector, socio-economic studies and studies from India have also been used.

Knowledge and learning

Operating in an environment of many – and often diverging – stakeholder interests, Novo Nordisk relies on the collaborative knowledge of employees in order to anticipate and respond to stakeholders' demands. The dynamics of the knowledge economy offer unprecedented challenges and opportunities for corporate executives around the world. Achieving leadership requires a fundamental understanding of customer needs, a skilled labour force, enabling technologies and effective processes.



CUSTOMERS

Learning from customers

Each unit and every employee must know how they create value for their customers. This is one of the Fundamentals of the Novo Nordisk Way of Management. To encourage this, a corporate programme invites employees to meet and engage in a dialogue with a patient within one of Novo Nordisk's four therapy areas.

We strive to exceed customer expectations by continuously improving our products and services. Product quality is a critical parameter for achieving customer satisfaction, and quality issues and documentation will be subject to increasing attention from both customers and regulatory authorities.

A Customer Satisfaction Study has been carried out every two years since

1999 in order to better understand and meet our customers' needs. It is carried out in seven of Novo Nordisk's largest markets and evaluates the satisfaction levels of diabetes specialists, general practitioners, diabetes nurses and insulin-dependent patients on a wide range of parameters, including company image and patient support and services.

Performance is measured against customer expectations and benchmarked against competitors. The resulting analysis is used to identify and prioritise areas for quality improvement. On this basis, action plans to improve customer satisfaction are drawn up and implemented in all relevant markets. Progress is then measured in the next study round. This cyclical process ensures that our products and services meet changing customer needs and expectations. Measures of customer satisfaction are built

into relevant units' Balanced Scorecards and individuals' performance appraisals.

Feedback from customers in the form of complaints helps identify potential product improvements, and is of great value in increasing customer satisfaction with Novo Nordisk's products and services. By learning from complaints, we have achieved measurable improvements in product quality and ideas for new products. Novo Nordisk has well-established standard operating procedures for customer complaints. These are handled by the Customer Complaint Centre, which examines all received complaints. When the problem has been investigated, a reply is given to the customer via the local affiliate. If the complaint points to a general quality issue, it is passed on to the relevant Product Committee.

EMPLOYEES

Developing competences

Employee development is another measure of how knowledge is accumulated and utilised. See the article 'Developing leadership capacity' on page 36.

Increased use of information technologies requires general upgrade of employees' basic knowledge and PC user skills. To address this need, a development programme targeting the 3,200 hourly paid workers at production sites in Denmark was set up. Employees in Product Supply are offered extended PC user training in a partnership arrangement: the company provides the employee with a personal computer during the course and pays for the training, while the students invest their time. The course is conducted after work in English in collaboration with a business school. 2,200 employees joined the programme in the first phase. By the end of 2003, 700 of them (32%) had passed their exams. More than 90% of the students are expected to complete the programme on schedule. The next round of admissions begins in January 2005.

Novo Nordisk's total annual training costs per employee are at a level of about DKK 7,500. This figure, which covers direct costs of formal training, has been slightly decreasing over the past few years. Several factors may explain this trend. We are therefore working to find new and better ways to monitor performance in this area with an aim to match needs with investments and outcomes.



Research laboratory at Novo Nordisk.

PROCESSES

Reinvigorating a quality mindset

Novo Nordisk is committed to pursuing high quality standards. In the pharmaceutical industry today, quality is a competitive advantage. A Quality Mindset project, launched in 2002, aims to identify and implement activities to embed this way of thinking. It promotes behaviour that can bring Novo Nordisk beyond compliance and ensure a high level of quality in everything we do.

As of 2004, a new Fundamental has been adopted: "Everyone must continuously improve the quality of their work." A separate module on Quality Mindset will be added to the eVoice employee survey to enhance awareness and track performance.

PROCESSES

Patents – a measure of innovation

Novo Nordisk will secure the strongest possible protection for those inventions which will maintain and improve the competitiveness of Novo Nordisk.

Because of the huge risk – expenses, resource allocation and time – involved in researching and developing new medicines, it is absolutely vital that effective intellectual property protection enables inventors to recoup their investment. Since pharmaceuticals can easily be copied, the current business models are based on the incentive inherent in these principles for investing in R&D and clinical research. Without it, many inventions would never have been brought to market and patients would be without essential medicines.

We primarily protect inventions relating to products, pharmaceutical formulations, manufacturing processes, medical indications and delivery devices. Human insulin as such is not patent protected, but the new insulin analogues are.

Benchmarking Novo Nordisk's patent activity is one way of measuring Novo Nordisk's relative level of innovation and the company's relative ability to produce assets through which it can derive value.

A benchmark study in 2003 concluded that Novo Nordisk has the highest level of patent activity and productivity compared to its peer group. Patent activity is measured by the number of published patent applications under the Patent Cooperative Treaty (PCT) in 1997–2002.

This is also the case when measuring just the most valuable patents in the period. Average R&D expenses per PCT patent application at Novo Nordisk are USD 4.9 million, well below the peer-group average of USD 10.6 million.

Patent families

	2003	2002	2001	2000
Number of active patent families to date	701	654	590	526
New patent families (first filing)	140	114	107	85

The increase in the number of patents reflects a revised patent strategy, which boosts patenting of processes, formulations and new medical indications. The number of active patent families covers new inventions, less regular pruning – ie weeding out patents of low value – of the patent portfolio. The number of new patent families is a measure of inventive activity in the company's R&D organisation.

Profitable long-term investments

Many investors are concerned about how companies balance long-term issues management with shorter-term performance. Non-financial assets are deemed to be of increasing importance in their assessment of share value, and particular attention is being paid to ethical business conduct and corporate responsibility.

Several surveys indicate that there is a positive correlation between social and environmental risk management and long-term market value. Moreover, there appears to be a stronger business case for proactive responses by companies – both in terms of reputation and risk management, market development and societal licence to operate. Increasingly, corporate reputation is a factor in making investment decisions – and is often found to be more important than market value and economic performance.

Solid financial performance

Careful management of costs and improved operational efficiency have been undertaken without sacrificing medium- to long-term growth opportunities. For Novo Nordisk's shareholders, this has resulted in an appreciation of the share price to 241 at the beginning of 2004, up from 205 at the end of 2002.

Novo Nordisk is increasingly commended by investors and analysts for the company's leadership in terms of sustainability and financial strength. For example, in their assessment of the pharmaceutical industry, Henderson Global Investors singled out Novo Nordisk as one of five sector leaders. In their report, *Fulfilling its Potential*, Henderson proposes five priorities for the industry in addressing proactively the new sustainability, responsibility and ethics agenda. These include embedding corporate responsibility in governance systems and demonstrating leadership in addressing global health disparities.

Dialogue prevails

There is a clear trend towards more dialogue between businesses and their shareholders on these issues and also more dialogue on what the issues are and how to address them. For instance, companies are encouraged to include in their annual

reports areas such as risk identification, risk/opportunities management and compliance with international and national regulations.

Novo Nordisk is addressing these concerns and proactively communicating with the financial community. We met with 25 institutional investors in the Nordic capitals to present the company's strategy for becoming a sustainable business.

To better meet investor demands for information on the company's non-financial and often long-term performance, Novo Nordisk reports on sustainability-driven initiatives in its quarterly statements. As of 2003, the *Annual Financial Report* includes a separate environmental and social discussion.

In 2003 Novo Nordisk responded to all questionnaires received from investors and rating agencies. Most frequently, questions are asked about corporate governance, environmental management and social responsibility, including employee health and safety. These questions are a good measure of investor concerns, and supplement the personal dialogue in investor conference calls and at roadshows.

Managing and reporting on risks

In 2003 Novo Nordisk established a consolidated risk reporting system, in which key risks are monitored and reported through line management to Executive Management and Board level. Five high-level risk areas have been identified: corporate ethics and human resources, development of new drugs, manufacturing and quality, competition, and security, litigation and financial risks. From 2004, the risk assessment and rating will be part of the Balanced Scorecard in all business areas and will be integrated in the strategic planning process. See the article 'Risk management' on pages 8–9 in the *Annual Financial Report*.

Indices and ratings

Socially Responsible Investment (SRI) combines the investors' traditional financial objective with a commitment to social and environmental responsibility. It has evolved from primarily involving negative screening to positive screening, index ranking and active influencing. By using these criteria to identify best-in-class companies, the aim is to balance shareholder and stakeholder value. Institutional investors are the major players, followed by individual investors.

Novo Nordisk is included in the Dow

Jones Sustainability World Indexes (DJSI World) and in the European Dow Jones STOXX Sustainability Indexes (DJSI STOXX). In the DJSI World, Novo Nordisk tops the pharmaceuticals industry group.

Novo Nordisk is also included in the FTSE4Good Index, E. Capital Partners' Ethical Index Global, Nordic Sustainability Index and the Folksam Climate Index. For a list of ratings and indexes for which Novo Nordisk has been selected, see novonordisk.com/sustainability.





Dilemma

How can we encourage investors to challenge conventional measures of long-term performance and yet maintain comparable reporting standards?

The public-health crisis in emerging markets represents a major threat to globalisation. This is primarily a challenge to governments to do much more. But in this context, investors need assurance that the companies we own are proactively addressing the crisis in order to protect long-term shareholder value. Models of pharmaceutical companies' long-term growth, and the extent to which they incorporate global public-health issues, are therefore increasingly relevant.

The health of emerging markets is important as it is linked to corporate reputation, future predictions of growth and new market development. If public criticism of the sector's response to global health concerns continues, this could affect its licence to operate and undermine its ability to protect its innovation through the international patent regime. So improving access to medicines in poorer parts of the world is very much a business risk/opportunity issue, albeit one involving several players. This does not make pharmaceutical companies solely responsible for social development; it simply requires that they act in their own long-term self-interest. There can be a synergy between the needs of the poor and the needs of the industry – and huge benefits. Companies that build the capability to provide drugs to poor communities could, in the long term, expand revenues, earn acceptable returns on investment and

build a competitive advantage. As investors, it is obviously important to us that pharmaceutical companies maintain overall profitability. But the mainstream financial community is still struggling in its attempts to find appropriate tools and models to measure the importance of emerging markets to future business. Emerging markets have for too long been seen by investors as a risk, rather than an opportunity. The difficulties relating to measurement have meant that access in emerging markets has been easy for the investment community to ignore.

In response to this, the Pharmaceutical Shareowners Group Framework of Best Practice was developed to allow investors to assess these non-conventional aspects of performance. It covers areas such as public-private partnerships, political influence, R&D into emerging market diseases, market development and pricing. It therefore provides a structure which will allow management to illustrate systemised continuous-improvement approaches to responding to the issue of global health.

Jo Allen

Jo Allen is chair of the Pharmaceutical Shareowners Group and an analyst in the Responsible Shareholding Unit of the Co-operative Insurance Society, a UK mutual insurance company. She has specialised in socially responsible investment and corporate governance for over 12 years.

Developing leadership capacity

In a competitive labour market, values are increasingly a determining factor for the ability to attract and retain talented people. Employee surveys indicate that our vision and values are an advantage. But sustaining leadership requires consistent efforts to invest in people development.

Being an attractive and challenging workplace with equal opportunities to thrive with the organisation is essential to Novo Nordisk's long-term performance. It is also a measure for our social responsibility as an employer. That is why the People Strategy is an integrated part of Novo Nordisk's Business Strategy and aligned with the Novo Nordisk Way of Management. It evolves around five focus areas: customer relations, attraction and retention of the best people, development of people, winning culture and embedding social responsibility. All of these are included in the Balanced Scorecard, aligned from corporate level to individual units. In 2003 all corporate people targets were met. To allow for differing employment conditions in various parts of the world, the business areas now determine their specific targets.

Living the values

The annual employee survey, eVoice, consists of more than 100 questions, of which currently 30 are mandatory. It is a tool to assess the working climate, and particular attention is given to measuring how well the Novo Nordisk Way of Management is perceived to be translated into daily business practice. Each unit reviews its own data and takes action on low performance scores. At Novo Nordisk, 'living the values' is one of the ten core global leadership competences and a key indicator of performance. In the eVoice survey all employees are asked to indicate – on a scale of 1–5 – to what extent they find that their management in words and actions live up to the Novo Nordisk Values. In 2003, the average of respondents' answers to that question was 3.5.

An annual company-wide organisational audit assesses how well individual business units are equipped to meet short- and long-term business objectives. Developing people skills to match future needs is vital. This includes identifying successors for key positions. In the 2003 eVoice survey, the question "In my work unit we have identified the competences/skills we will need in 2–3 years", the average score was 3.0 – up from 2.9 in 2002.

This low score is due to the fact that while most units have satisfactory development plans for all employees, these plans often have a rather short-term scope. To address the need for improvement and to better meet the company's long-term competence needs, all business areas are now systematically undertaking competence gap analyses as part of their organisational audit.

A training programme for managers

In Product Supply, comprising production facilities worldwide, it is a particular challenge to keep up with high growth, lean manufacturing and continuous quality improvement. There is a need to train and develop people at all levels, and particular focus is on succession management. A comprehensive programme, called the Supply Manager Academy, is an example of

how this is being addressed. Under this programme, department managers are enrolled for two years, with a total of 30 days of training. Each participant gets performance feedback throughout and must pass an exam after completion of each of the six modules. When the programme is completed in 2007, 125 current managers and 75 potential or new managers, will have completed the course. What makes this programme unique is not only its scope and level of ambition, but also the commitment and active participation by the management in Product Supply. It follows Novo Nordisk's global leadership training format – managing people, managing strategy and the business, and enhancing personal impact. Hence, for instance modules on performance management improve the participants' skills at setting direction, mobilising people and communicating effectively.

Values as attraction factor

Changing demographics, an expected skills shortage, and changing employee expectations are stretching companies' ability to attract and retain talented people. We believe our commitment to sustainable development gives us an advantage in a competitive labour market. Several studies show the importance of alignment between corporate and personal values. As a values-based company, this is likely to have a positive financial impact for Novo Nordisk; a relatively low employee turnover translated into saved costs of losing and recruiting people.

Internationally, Novo Nordisk, being a relatively small company, cannot compete on the size of its workforce. Rather, we aim to compete on the quality of our employees and the corporate values. Locally, the company engages with business schools and universities to identify qualified candidates.

In 2003, for the second year in a row, Novo Nordisk was ranked the number one preferred employer among young professionals and business, engineering and science graduates in a survey by the international consulting firm Universum Communications. 85% associated Novo Nordisk with a good reputation, and 53% named high ethical standards as one of the three most important characteristics that they associate with the company.

Sustainability approach as retention factor

When Novo Nordisk employees were asked in the 2003 eVoice survey how they feel about the vision and the values of the company, three out of four consider Novo Nordisk's results within the social and environmental area to be important for the future of the company, and the average score was 4.0 – one of the top scores among the 100 survey questions. To many Novo Nordisk employees the corporate values and the Triple Bottom Line approach contribute to their job satisfaction and support their decision to remain with the company.

A healthier working environment

The Health and Safety Policy at Novo Nordisk was strengthened in 2003 by requiring the entire organisation to set targets for improving the working environment. The focus on prevention has borne fruit; the number of occupational injuries has dropped significantly.

While the Health and Safety Policy has long stated that Novo Nordisk will “set high standards and continuously improve health and safety performance as a natural part of our social responsibility”, target-setting now adds more muscle to the policy. The overall long-term target is “a continuous decrease in the frequency of occupational injuries”. Each affiliate is responsible for setting its own targets based on its own needs while the entire organisation is expected to meet the long-term target. In 2003 the focus on prevention has borne fruit; the number of occupational injuries has dropped significantly.

Focus on prevention

The long-term target focuses on prevention by requiring that at least six incidents/near-misses are recorded for each occupational injury with absence. This means that employees are encouraged to report incidents, such as improperly functioning machinery or unsafe conditions, so that problems can be resolved.

In 2003, we met our target of collecting health and safety

data for the entire organisation. The data will serve as a base for sharing better practices and for establishing a common approach to the future development of health and safety work.

Working Environment Award

In 2003, a Novo Nordisk Working Environment Award was introduced to highlight the focus on the working environment and to motivate additional efforts in this area. In 2003 the award winner was the diabetes pharmaceutical production site in Bagsværd, Denmark, chosen because of its enthusiastic, systematic and focused approach to improving the working environment. This site had the highest frequency of occupational injuries among the production sites, but their efforts to allow more time, attention and careful analysis of potential health and safety problems led to a reduction in occupational injuries at the site.

Thanks to our new target-setting, coupled with our continued high standards for the working environment, we expect to see other good examples in coming years.

Systematic health and safety work	<p>Responsibility and objectives The responsibility for H&S in the line organisation is well defined and supported by the Novo Nordisk Way of Management.</p> <p>Working methodically The entire organisation protects employees according to national legislation, but in many instances has extended the scope of its work beyond local rules. Workplace assessment is used in all the production and R&D areas, and there is a methodical approach to promoting a healthy working environment.</p> <p>Compulsory information about health and safety for new employees The mandatory employee introduction programme covers health and safety. In departments with specific risks, employees receive special training and instruction.</p>	<p>○</p> <p>●</p> <p>○</p>
Health and safety organisation	<p>Employee participation Employees are involved in H&S issues. The type of involvement varies, depending on culture and local legislation.</p> <p>Management of health and safety The H&S organisation is kept informed, and consulted on relevant issues. Regular meetings are held to discuss issues.</p>	<p>○</p> <p>○</p>
Health and safety competence	<p>Access The H&S organisation has access to services and competences. These services, such as access to medical professionals and health screenings, are available to all employees.</p>	<p>○</p>
Authorities	<p>Violations of health and safety regulations There have been no violations during 2003.</p>	<p>●</p>

● Standard achieved in all areas.

○ Room for further improvement in some areas.

Health and safety performance		2003	2002	2001	2000
Frequency of occupational injuries ¹⁾	Per million working hours	5.4	8.9	8.2	8.4
Frequency of occupational illnesses ¹⁾	Per million working hours	1.1	1.1	2.2	1.7
Fatal occupational accidents ²⁾	Number	0	–	–	–

1) 2002–2003 figures cover all employees, whereas figures for 2000–2001 comprise only employees in Denmark and employees at production sites outside Denmark.

2) Not previously reported but now included to improve reporting.

Opportunities in diversity

The world today is a dynamic blend of different cultures, backgrounds and perspectives. This diversity is reflected in every aspect of our business, from employees and customers to markets and products. As an international company with a strong emphasis on innovation and social responsibility, Novo Nordisk is working to ensure equal opportunities and diversity in the organisation – not only because it is the right thing to do, but because it makes good business sense.

Diversity in the workplace is important to Novo Nordisk because it allows us to better understand customer needs, attract and retain talented people, and operate more effectively in an international business environment. Diversity fosters an international mindset that heightens our ability to work cross-culturally and expand into new markets. It also gives us a better understanding of the society in which we operate.

A diversity component is now included in management training in Novo Nordisk, and employees involved in recruitment also undergo diversity training. This is part of the company's Equal Opportunities and Diversity Strategy. The objective of the strategy is to strengthen Novo Nordisk's position for sustained international growth by reinforcing the organisation's ability to benefit from the opportunities of increasingly diverse societies.

For the next few years, the strategy will be targeted at three main areas: increasing the number of women in managerial positions, increasing the employment of ethnic minorities in Denmark and raising awareness of the importance of complying with legislation on non-discrimination throughout the employee lifecycle. Since January 2002 every business area has been working with its own action plan to promote equal opportunities and diversity. In 2003, 89% of the targets defined in equal opportunity action plans were met.

Diversity in the US

At Novo Nordisk Pharmaceuticals, Inc in Princeton, New Jersey, the plan has already had concrete results that benefit the organisation as well as the business. Part of its vision is to have a workforce that reflects the diversity of the community. Thanks in part to an expanded recruitment base that reaches out to minority job sites and job fairs, the percentage of minorities among new hires increased from 14% in 2002 to 32% in 2003, an increase of 18 percentage points.

"Diversity is a critical part of our business," says Martin Soeters, president of Novo Nordisk in Princeton. "By proactively creating an environment of inclusion and respect for individual perspectives, we will improve problem solving and innovation, and achieve superior business results."

It is no coincidence, therefore, that 'Building Cross-Cultural Awareness and Leveraging Differences' was the topic of the affiliate's Leadership Summit in 2003. As of January 2004, it will be mandatory for all managers to participate in diversity training. Previously, this training has been voluntary.

Reaching out to customers

Diversity is an important element of the customer focus, as it allows the organisation to be more attuned to meet the needs of



Novo Nordisk employees from around the world. Clockwise from the left: Zhang Ying, China; Melvin Oscar Dsouza, India; Vanessa Bell, the US; and Karsten Madsen, Denmark.

targeted customer segments, such as the Hispanic community. In one example, Novo Nordisk is working with the National Council of La Raza to fund and pilot Hispanic community-based diabetes education. It is also conducting medical education programmes for primary-care physicians in areas with a high Hispanic population. A Hispanic toolkit for nurse educators for use in patient education has been piloted in two locations with positive results.

"As our regional, national and international markets become increasingly diverse, our workforce must also reflect this world," says Mike Dwyer, vice president, Diabetes Sales, and executive team sponsor for the Diversity Task Force. "It makes us stronger, smarter and more innovative – we can appreciate different perspectives that reflect society and our business. Embracing diversity and embedding it in our culture is therefore critical to our continued success."

Making a long-term investment

Elsewhere in Novo Nordisk, a similar emphasis on diversity and equal opportunities is becoming apparent. In the long term we expect this will achieve a significantly more diverse organisation. At our affiliate Novo Nordisk Engineering (NNE) in Denmark, the focus is on attracting more women engineers and achieving greater gender diversity in general. A women's

task force is meeting regularly with NNE's executive management to ensure that changes do occur. With a scarcity of highly qualified engineers, NNE has a lot to gain by casting its recruitment net wide, including a more diverse talent pool and a better position for conducting business on an international scale.

Ethnic minorities in Denmark

At the production site in Kalundborg, an initiative to promote the integration of ethnic minorities into the workforce has resulted in a programme to train candidates from ethnic minority backgrounds to qualify as operators. The programme combines a period of education with on-the-job training. Of the eight individuals who enrolled in the first education/training course in 2003, six have been hired. Another 13 people enrolled in a second course in 2003, and eight of these are expected to be hired during 2004.

"We want to attract and retain qualified employees. That means extending the pool of potential employees to ensure that we use all of the available resources in our increasingly diverse society," says Per Valstorp, senior vice president, Product Supply.

Non-discrimination in India

In International Operations, Novo Nordisk works with equal opportunities in a way that is sensitive to the local society and culture while still working towards the goal of equal opportunities and diversity. "Working in India, equal opportunities is a live issue. We have one billion people in 29 states, speaking many languages and dialects and belonging to all the major religions. The challenge is to ensure that no discrimination occurs based on language, caste, religion, region or gender," says Sanjeev Shishoo, managing director of Novo Nordisk in India. All managers are clearly informed of this policy. Another goal is to in-

crease the number of women employees through a progressive culture and supportive environment.

Addressing barriers to women in management

In 2003 we asked the US-based consultancy group Catalyst to help us improve our understanding of how we can encourage more women to seek managerial positions.

In their analysis of women in managerial positions in Denmark, Catalyst found that the strong emphasis on values in the organisation is important and that equal opportunities for women are widely endorsed. We have a large pool of talented women and a good gender diversity at most levels compared to other leading pharmaceutical companies, even though the senior levels compare less favourably.

The findings pointed to three areas to be addressed in order to overcome barriers. First, promoting a mindset among both men and women that values women as equal partners and leaders. Second, developing women leaders through multiple means, and making this a strategic leadership development priority. And third, enhancing the ability of both men and women to manage their work-life balance.

Job portal for disabled people

Novo Nordisk is among a group of Danish companies and organisations working with the Danish Council of Organisations of Disabled People to create the country's first information and job portal designed specifically for the disabled. It will serve both as a job bank and as an information resource for employers about the necessary requirements for employing disabled people.

We will measure the results of our diversity efforts through a yearly evaluation of action plans, employee surveys and employee statistics.

Representation of immigrants/descendants of immigrants (%)	2003	2002	2001
Immigrants/descendants of immigrants at Novo Nordisk in Denmark ¹⁾	5.9	5.9	5.6
LDC representation ²⁾	2.1	1.8	1.5
Immigrants/descendants of immigrants at management levels at Novo Nordisk in Denmark ¹⁾	6.0	6.7	6.4 ⁴⁾
LDC representation ²⁾	0.8	0.8	0.9 ⁴⁾
Immigrants/descendants of immigrants in the Danish population ³⁾	7.9	7.6	7.3
LDC representation ²⁾	4.6	3.9	3.9

1) These figures are the only obtainable approximation to ethnicity allowed by Danish law.

2) Least Developed Countries; United Nations definition.

3) Population group 15–65 years of age.

4) An error was found and corrected in previously reported data for 2001.

Novo Nordisk's management in Denmark (as at 31 December 2003)	Total	Men	Women
CEO/executive vice presidents	6	5	1
Senior vice presidents	11	10	1
Vice presidents/senior principal scientists	190	149	41
Managers/principal scientists	866	608	258

Employees taking action

For the spirit of sustainable development to truly take hold in an organisation, it must be embedded in the daily working lives of each and every employee. This is the only way to ensure that the Triple Bottom Line is supported through every layer of the business. That is the intention behind the TakeAction! employee programme.

The TakeAction! programme was launched in January 2003 to provide employees of Novo Nordisk with a formal opportunity to initiate individual or team activities in the name of sustainable development. While Novo Nordisk employees have a long history of contributing to worthy causes in their local communities and around the world, TakeAction! provides a way to channel the energies of the many employees who wish to join together to take positive steps towards a more sustainable future.

The launch of the programme has been greeted enthusiast-

ically, with activities taking place all over the world, including bikeathons or walkathons to raise money for people with diabetes or other healthcare needs. In one walkathon, employees of the South African affiliate raised USD 4,800 to establish a diabetes clinic in one of the outlying areas in the Gauteng Province.

Every initiative that helps embed sustainability into the organisation counts. This includes, for example, employees participating in World Diabetes Day events, exercising with colleagues as a way to stay healthy and help prevent the onset of



Switzerland: At a run, employees measured blood sugar and informed about diabetes.



Australia: On Daffodil Day employees raised funds for the National Cancer Council.



Germany: On World Haemophilia Day employees raised funds for children with haemophilia.



These employees have all worked three weeks as volunteers at the diabetes centre at Muhimbili National Hospital in Dar es Salaam, Tanzania. During 2003, 11 employees volunteered at the centre.



Ukraine: Employees raised awareness by distributing leaflets about diabetes.



India: Employees from the IT department donated used computers to poor children.

type 2 diabetes, reducing paper consumption, and car pooling to save on CO₂ emissions. Employees working in Denmark are offered the opportunity to sponsor two different diabetes programmes via automatic donations from their pay cheques. In 2003, the employees raised DKK 53,300 for children with diabetes in Bangladesh and DKK 31,480 for people with diabetes in El Salvador. A list of ideas for ways to take action is being generated by employees and is available on the internal TakeAction! website, which serves as a place for employees to share experiences and inspiration. An annual TakeAction! Award has been established. In 2003 the Award was presented to employees in Ukraine for their public awareness campaign 'Beware of diabetes'.

Making a difference in Tanzania

As part of TakeAction! Novo Nordisk employees can also apply to participate in a three-week programme working at the diabetes centre at Muhimbili National Hospital in Dar es Salaam, which was funded partly by Novo Nordisk employees. (For more information, see pages 26–27).

The programme in Tanzania has attracted a great deal of interest among employees. Volunteers at the centre during 2003 contributed in various ways, including training nurses and doctors, setting up IT and accounting systems, and assisting in the laboratory. The employees keep a diary of their experiences, which is published on the TakeAction! website. Returning volunteers also share their experiences with colleagues.

Lisbeth Vestergaard Jacobsen, who works in Clinical Pharmacology, came to the centre to train clinic staff. They helped her make the most of her very limited time.

"They were very interested in getting new information. They gave me good feedback, explaining how I could improve my training for other professionals. All I had to do was open my eyes and ears."

Zeeshan Rab, one of the first volunteers in the programme, told a group of Novo Nordisk managers during a presentation after his return from Tanzania that "It has been an awakening. It makes you realise that the problems of our daily life aren't really problems. It's a matter of changing your priorities".



Denmark: Employees collected 9 tons of clothes and toys for a diabetes centre in Tanzania.



Russia: Employees donated baby food, toys and clothing to a local children's home.



China: 75 employees and their families planted more than 100 trees in Miyun county, Beijing.



Austria: Cycling to the top of Grossglockner, employees raised funds for diabetes care in India.



Canada: At an auction employees raised funds for people with haemophilia.



South Africa: Employees arranged a walkathon to raise funds for a local diabetes clinic.



Denmark: At a bazaar employees raised funds for a diabetes clinic in Vietnam.



Argentina: Employees invited members of the haemophilia community to share experiences.



US: Employees donated clothes, school supplies and bags to children in the local community.

Responsibility in the supply chain

In seeking to promote social responsibility and good environmental performance throughout our business we work with our suppliers and contractors to support human rights standards and sound environmental practices in our supply chain. In 2004, we will include auditing of their performance.

For the first time we can now account for our suppliers' and licence manufacturers' performance on basic labour rights and environmental management. The programme to promote social and environmental responsibility in our supply chain, which began in 2001, requires suppliers to complete a self-evaluation questionnaire. For production materials, social and environmental issues account for one third of the total rating of a supplier or licensee, which also includes quality and commercial aspects.

Commitment counts

Our commitments to the United Nations Universal Declaration of Human Rights, the United Nations Global Compact and the International Chamber of Commerce's (ICC's) Business Charter for Sustainable Development form the basis for our programme. We also believe that this process will help us identify violations of human rights or sound environmental management among our suppliers, which could eventually represent a risk to our company if not properly addressed.

Accounting for suppliers' performance

So far we have evaluated the social and environmental performance of suppliers of production materials, services, office equipment and engineering work, as well as our licence manufacturers, covering 31% of the total value of purchasing in Novo Nordisk. The target for 2003 was to cover 90% of suppliers in these groups that could be characterised as having a high business impact, being manufacturers of substances or using environmentally hazardous processes, or industries or companies located in countries known for human rights violations. However, we only managed to evaluate 69%.

The results show that most unsatisfactory answers to our questionnaire are related to environmental management rather than human rights. This could be due to the location of our suppliers (see map). Although human rights violations also take place in Europe, the basic labour rights are usually in place due to controlled regulation or a long tradition of union affiliation at factories. However, some companies seem to be unsure about how to manage their environmental impacts.

All companies have received feedback from us and, in case of unsatisfactory conditions, have been asked for an action plan to improve performance. Only minor violations were found.

Full implementation by 2005

Our production facility in Brazil prepared its programme on supplier evaluation in 2003 and the first results will be available in 2004. This means that all Novo Nordisk production facilities worldwide are now operating with the same programme to evaluate their suppliers on social and environmental issues.

In 2004, we will also address R&D suppliers and partners,

marketing and sales affiliates, and should then, by 2005, have reached our target of full implementation, namely that all major areas of purchase will be covered by the programme.

Audits

Quality audits are a very important part of a pharmaceutical company's operations. In 2004, social and environmental audits of suppliers will be added to our assurance system. We carried out four pilot audits in Serbia, Brazil, the UK and India in 2003. The social and environmental audits will be carried out by our internal auditors, who will be trained for the new task. Suppliers and licence manufacturers will be audited against the issues in our questionnaire, which they are familiar with through the yearly evaluations.

Making it daily business

The programme has been integrated into daily business using the Balanced Scorecard, where the overall target is cascaded down the organisation to the relevant functions. Furthermore, social and environmental evaluation of suppliers and licence manufacturers will be included in our Quality Management System. Purchasers participate in one or two annual updates and training sessions, at which they discuss difficult issues, and new trends or changes are presented.

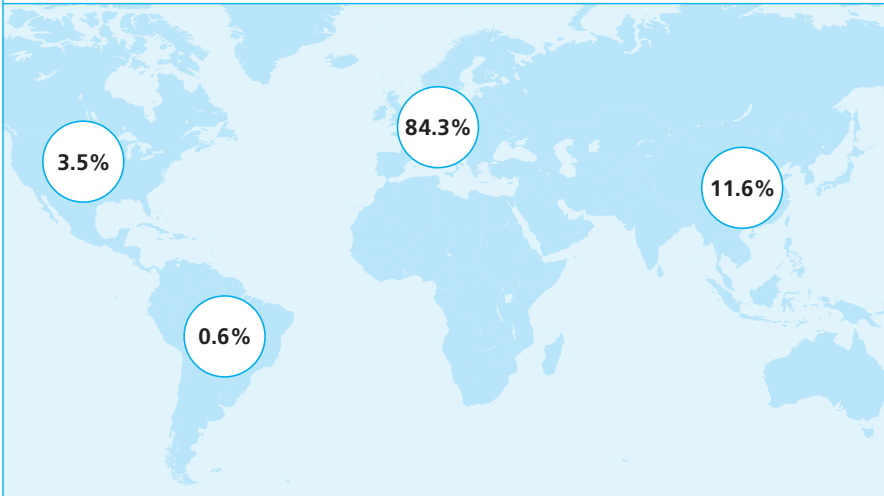
Reaching beyond the first tier

87.8% of our suppliers are situated in Europe and North America, and 12.2% in Asia, mainly in Japan. Given this situation, we believe that the best way for Novo Nordisk to promote good labour standards and sound environmental management beyond the first tier of suppliers, is to help our suppliers do the same. As part of this approach we will be launching a website in 2004, open to everybody, but providing a special service to our suppliers, who will be able to access our concepts and tools. Other companies that are starting to work with their suppliers on social and environmental issues may also find the website useful.

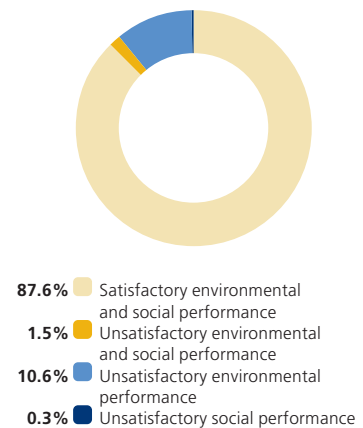
What do suppliers think?

It is important for us to know what suppliers think about the programme and whether it has had any impact. We asked suppliers in 2003 and the results were very encouraging. The programme has apparently had a positive impact on how many suppliers operate internally; of the 44% who didn't think so, the majority (79%) replied that their standards were already adequate. Not least, the programme has had a noteworthy impact on how 39% of suppliers operate with their suppliers. This supports our strategy of working with our suppliers on these issues to reach beyond the first tier.

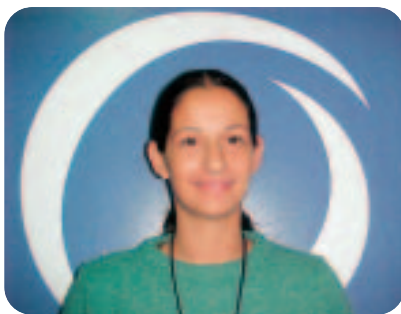
Geographical distribution of suppliers



Performance 2003



In dialogue with suppliers



CUSTOMER SERVICE

Claudia Cordera
Forma vitrum, Mexico

Forma vitrum is a supplier of glass for Penfill® production. Forma vitrum de México, S.A. de C.V. has been evaluated on social and environmental issues since the programme began in 2002.

“In the beginning we were surprised to be asked such questions by a customer. They are dealing with issues which we are usually asked about by authorities, not customers. Getting the information to complete the questionnaire involved looking into local legislation and translating this information, not only into English, but also to make it fit the questions in the questionnaire.

“After the team from Novo Nordisk visited us, we took some steps to improve the working environment, for instance with regard to minimising the temperature and noise inside the production areas. We also started working on our ISO 14001 environmental management system. As part of this we now pose questions to our own suppliers regarding risk and datasheets for solvents and waste handling etc.

“So far we have not requested social performance data from our suppliers, since these are audited by the government authorities.

“We would like to get summary information about what Novo Nordisk is doing to address these issues. We know that we are working in different business areas and have different processes, but we could use the information for inspiration, and as guidance as to where they would like us to develop further.

“Having replied to this questionnaire and been rated satisfactorily by Novo Nordisk may prove to be an asset for us and provide added value in a competitive situation. When you take care of the company as a whole, eg your employees, you get better results; it helps improve the quality of our products and the relationships with our customers.”

What do suppliers think?

	Yes	No			
Novo Nordisk's evaluation of social and environmental issues has had a positive impact on the way we operate:					
☉ internally	56%	44%			
☉ with our own suppliers	39%	61%			
Scale of 1-5: 1 = Completely disagree 5 = Completely agree	1	2	3	4	5
We have a good dialogue with the contact person at Novo Nordisk	0%	1%	8%	39%	52%
Novo Nordisk takes a balanced view on financial, quality, social and environmental issues	0%	4%	12%	42%	42%
It was easy to provide the necessary information for Novo Nordisk	2%	10%	33%	37%	17%

The survey was undertaken by an external agency and the results returned to Novo Nordisk anonymously. Suppliers who had received our self-evaluation questionnaire were invited to participate via e-mail. The response rate was 61%, giving a final sample of 138 suppliers and licence manufacturers.

Meeting the environmental challenge

In light of the global environmental problems and our growing international operations, we have taken the opportunity to revisit our Environmental Strategy. We believe that global environmental problems are a shared responsibility between industry, government and civil society.

We have successfully completed the first stage of our ISO 14001 implementation; 12 production facilities worldwide and two support functions are now covered by the ISO 14001-certified Environmental Management System. In the process, around 7,000 employees have received training. We have decided to extend the certification to cover our production facility in Koriyama, Japan, and the newly acquired facility in Montes Claros, Brazil. This is expected to be completed in four years.

The systematic efforts to reduce environmental impacts will be supported by our five-year Environmental Strategy, launched in 2003. It addresses the environmental issues and highlights the challenges we believe are key to ensuring the future success of our business, striving at the same time for a balance with the global ecosystem. For more than a decade we have been pursuing a sustainability approach, striving to balance environmental, social and economic perspectives in decision processes.

Since our first Environmental Policy was formed in 1975, we have remained committed to continuous improvement. This ap-

proach rests on our obligations to meet international standards.

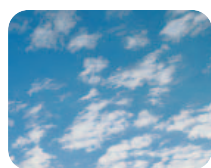
The revised strategy is the result of an evolutionary approach. It relates environmental trends to our business and outlines eight focus areas, each with a set of individual strategic goals and projects (see below).

Taking a long-term perspective, the most challenging areas for Novo Nordisk to further sustainable development are climate change initiatives, use of natural resources and management of pollution.

Strategy in action

We place particular focus on decreasing the negative environmental impacts of our products and processes right from the R&D stage. For example, in order to improve systematic environmental considerations in these processes, we have developed a new checklist, which is used to evaluate projects at development milestones. This checklist considers the input to and output from production in terms of energy, water and materials, and the emissions to air, land and water from specific processes. The procedure is simple, yet the level of ambition is

Novo Nordisk's Environmental Strategy – focus areas 2003–2008



Climate change initiatives

We are developing a corporate CO₂ strategy based on the Kyoto Protocol aim of achieving absolute reductions in CO₂ emissions. This involves:

- analysing emission reduction potential and the associated costs of existing technical solutions
- exploring opportunities within technological shifts leading to lower emissions
- identifying barriers which hinder and incentives which promote reductions of CO₂ emissions
- developing new climate indicators and improving our framework for setting, monitoring and managing economically viable targets.



Use of natural resources

Our overall goal is to move in the direction of dematerialising our production, 'producing more with less'. This involves:

- improving systematic environmental considerations in R&D processes
- further developing our tools for economic assessment of and accounting for environmental costs and investments
- developing our existing procedures for environmentally sound planning of new facilities
- continuing eco-productivity improvements
- developing environmental assessment elements in our supply chain management.



Management of pollution

ISO 14001 environmental management systems and systems for data collection and reporting form the foundation for our initiatives in this area. Moving forward we will focus on:

- a corporate strategy for proactive waste management, including targets for increased recycling and reduction of hazardous, solid and liquid wastes
- promoting logistic improvements and strategic use of environmental data for transport of raw materials, waste, internal transport and distribution of finished goods
- improving general performance of relevant management and reporting systems.



Ozone-depleting substances

Acting on the well-documented detrimental effect of ozone-depleting substances, we have worked to reduce our impact in this area. During the strategy period we will:

- intensify our efforts through a corporate plan to phase out the remaining ozone-depleting substances ahead of legislative demands.

high; in the long term we have set ourselves the goal of moving in the direction of dematerialising our production. Or in plain language: producing more with less.

We also identify and continuously monitor the environmental impact of our devices and packaging. We are always looking for ways to develop devices that are easier and more convenient and, for some people, prefilled insulin devices are the preferred option. As we are also concerned about the environmental impact of these devices, which are typically disposed of on a weekly basis, we have been undertaking lifecycle assessments of our prefilled devices. The results show that the production of one plastic prefilled pen, FlexPen®, consumes no more than three quarters of the energy it takes to make a plastic bag.

When incinerated, the plastic materials used for prefilled devices and needles degrade into carbon dioxide, water and heat. The carbon dioxide contributes to global warming but if the energy is recovered in the incineration process, it can be used for district heating or electricity and thereby replace the use of other fossil fuels. There are no toxic substances in the devices.

In 2003 we decided to establish an Environmental Device & Packaging Group, the task of which is to ensure integration of environmental considerations in our strategies for devices and packaging. It also responds to requests regarding environmental aspects of devices and packaging, and is responsible for clear and proactive communication on these issues. For more information, visit novonordisk.com/sustainability.

Another key part of our strategy is to increase our focus on the economic impact of our environmental performance. This is done by applying Environmental Management Accounting

principles. How we do this is illustrated by cases on page 51. Analysing environmental improvements that are both environmentally and economically viable exemplifies our Triple Bottom Line approach. In so doing we are sending a strong signal, both to external stakeholders and internally, that increased awareness of the environmental impact of our operations and investments not only benefits the planet, but also our business.

Continuous improvement

The process of meeting our environmental goals is ensured by the Environment & Bioethics Committee, the corporate External Environment department, which reports to the committee, and by the International Environmental Network. The internal stakeholders are represented in a network comprising environmental coordinators and members of the environmental working groups from throughout the organisation. The network meets twice a year and drives the efforts to raise environmental awareness and share better practices. In addition, cross-organisational teams from all areas of the business are working to combine their expertise to identify where we can minimise negative environmental impact, while also balancing the financial and social bottom lines.

We will continue to make active and strategic use of open and honest stakeholder dialogue involving employees, suppliers, NGOs, customers, businesses, authorities, investors, experts, opinion leaders and others with a relevant interest. That is the essence of shared responsibility – and in our view the only route to success in overcoming environmental challenges.



Land use and biodiversity

For decades we have had guidelines for establishing new facilities and for our use of land. The aim is to minimise our environmental impact worldwide. To promote this, we will:

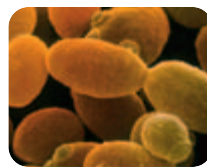
- integrate biodiversity and on-site conservation considerations in our Green Area Policy
- subsequently review our procedures for area maintenance
- consider using biodiversity as an indicator of our environmental impact.



Environmental legislation

The framing of our Environmental Policy in 1975 was a proactive initiative in anticipation of the development of the first global environmental declarations, and regional and national legislation. Since then we have participated actively in the public debate on new relevant environmental issues or legislation. In the development and internationalisation of our business, we will:

- apply consistent standards worldwide and consider legal compliance a minimum requirement.



Gene technology

We believe gene technology and genetically modified organisms (GMOs) can help solve many of today's health issues and allow us to provide products in sufficient quantity or quality. Yet we recognise that use of this technology causes concerns to some people. In developing our current approach, we will:

- develop new production strains without antibiotic resistance genes whenever technically possible and practically feasible
- contribute to public debate, eg via our participation in the European Federation of Biotechnology.



Stakeholder engagement

Our engagement includes discussions of relevant issues with a wide range of stakeholders when addressing and reporting on environmental responsibility. These include employees, neighbours, authorities, customers, suppliers and licensees, NGOs, researchers and investors. To further develop our current approach, we will:

- increasingly move from engaging in dialogue to establishing partnerships
- continually optimise the function of our International Environmental Network to match the needs of our company.

Climate change on the agenda

As a large energy consumer in Denmark, and an expanding international enterprise, Novo Nordisk has to take the next step from eco-efficiency to a CO₂ focus. A new company-wide strategy is backed by local initiatives, engaging employees to take action for a better global environment.



Cooling towers in Kalundborg. Most of the consumption of energy and the CO₂ emissions relate to supply plants, eg air compressors, pumps, ventilation and cooling, for our production processes. These areas are therefore highlighted in Novo Nordisk's CO₂ strategy.

Warming of the atmosphere, caused by the emission and accumulation of greenhouse gases (GHGs), is at risk of changing the global climate, and subsequently the conditions of life on earth. This not only presents a risk to humans, animals and ecosystems but to business as well, because an economy dependent on fossil fuels is not sustainable in the long term.

Regional and national climate strategies and international climate conventions expect business to deliver a significant part of the reductions in GHGs. Investors, too, increasingly expect companies to take action to address climate change. In the Carbon Disclosure Project, in which Novo Nordisk participates, 87 institutional investors representing assets in excess of USD 9 trillion requested the *Financial Times* 500 Global Index companies to disclose information related to GHG mitigation. These investors see growing financial risk related to climate change.

In 2003 we worked with internal and external stakeholders to define the main challenges on the climate change agenda

for Novo Nordisk. We are developing a proactive strategy for tackling climate change. We are covered by the EU directive for GHG emission allowance trading, which will take effect from 2005, and set absolute limits to the CO₂ emissions from some of our production facilities.

A global challenge

In recognition of the global need for absolute reductions of GHG emissions, we are currently preparing an action plan, which builds on our long history of successfully optimising energy efficiency. Our track record shows that even high efficiency gains of an average of 18% per year have not resulted in reductions in our overall CO₂ emissions. Achieving emission reductions is a particular challenge in light of the fact that we also have a corporate target to ensure the expansion and continual growth of our company.

For our production facilities these actions are likely to include an even greater emphasis than we have today on making processes more energy efficient, using more environmentally sound forms of energy, and reducing energy consumption in existing and new facilities. Our analysis points especially to utility facilities, such as cooling, ventilation and process air, as areas with a potential for significant reductions.

Meeting the challenge of reducing CO₂ emissions will require some technological shifts, which we are beginning to explore. One example is a pilot biogas installation at our largest production site in Kalundborg, Denmark. This pilot project has shown that a special treatment process can convert organic matter in wastewater to biogas to produce electricity and thus significantly reduce CO₂ emissions from fossil fuels. Moreover, the pilot project points to a cost-effective way of achieving additional wastewater treatment capacity, providing both an economic and an environmental case for making such a technological shift.

Innovative approaches

We also intend to emphasise energy considerations in research and development projects in a more focused way than previously. This is another example of how achieving emission reductions in the long term will require new approaches.

Besides technical solutions, our actions involve revisiting our environmental impact indicators. This exercise has helped us to develop a more sustainable business model and examine the adequacy of current incentive structures, the need for new people competences and a more holistic approach.

We are working with external stakeholders, including environmental NGOs, to develop and implement our CO₂ strategy. Together with partners, Novo Nordisk intends to do its part to address climate change, recognising that there are also opportunities in a fossil fuel-constrained world.



Dilemma

How can we be focused on investing in the health of society and yet not compromise the need to invest in the global environment?

To me, sustainable development is a stool with three legs: environment, health and economic wealth. If one of them is missing, or if they are not equal in length, you will fall over.

It is evident that a responsible business must have superior performance in all three dimensions at any time. Businesses must see themselves as actors in the global community; they not only generate wealth for their shareholders, but for society. Granted, that is a very complex task, but businesses have to understand how these factors interact and must take their part in dealing with the big issues.

Climate change, for instance, will affect conditions for life anywhere on our globe, for rich and for poor alike. Extreme weather conditions are just some of the indications we are already seeing of how the world's climate is changing. In addition, new scientific findings predict that by 2050 a million animals and plants may be extinct due to climate change. The industrial era of plentiful, inexpensive fossil fuels is behind us for good. We need global reductions in CO₂ emissions. Any business committed to sustainable development must frame a strategy for absolute CO₂ reductions in its activities, if it wants to be perceived as truly responsible.

The perspectives of the challenges ahead of us speak for themselves. Environmental considerations can no longer be

something that you recognise when times are good and profits are high. That is why the Kyoto Protocol is based on the assumption that wealth and environmental protection are not mutually exclusive – neither for states nor for companies.

In the light of this, the UN Millennium Development Goals provide a good framework for businesses as well as governments. Sustainable development may appear to some as a distant, utopian goal, but faced with the naked facts of more than a century of unsustainable practices, we hardly have any alternative to taking action now.

Health cannot and should not be seen in isolation from the natural environment. What is the value of getting access to diabetes care if you do not have safe drinking water or proper sanitation – or if your crops are being destroyed due to heat waves or floods? With more than a billion people currently living under conditions where they do not have safe drinking water, and two billion people without access to electricity, the correlation between environment and welfare becomes very real.

Lars Georg Jensen

Lars Georg Jensen is programme coordinator for global policy in the Danish chapter of the World Wide Fund for Nature (WWF) and an internationally recognised expert on climate policy.

Compliance and beyond

Our main environmental targets are focused on compliance with regulations and on optimising our eco-efficiency – produced units per unit of water and energy used. The positive trend of the past few years continued in 2003.

Since 2000, our eco-productivity has increased by a total of 28% for water and 53% for energy. We use eco-productivity indices (EPIs), which relate the scale of production to the consumption of resources. This assures us that we should be able to achieve, if not exceed, the targets of an annual average improvement of 5% in the EPI for water and 4% for energy by 2005.

Total water consumption for Novo Nordisk in 2003 amounted to 2,621,000 m³, an increase of 28% compared with 2002. Total energy consumption for Novo Nordisk in 2003 amounted to 2,299,000 GJ, an increase of 10% compared with 2002. However, total CO₂ emissions have increased by only 3% and the SO₂ emissions have declined by 3% compared with 2002. This is due to the fact that we are increasingly using energy from more environmentally friendly sources, such as renewable energy. 66% of the energy used by Novo Nordisk is supplied by external power stations, primarily as electricity and as steam or district heat. The remaining 34% comprises heat and steam produced by combustion plants at our production facilities. Heat and steam generated at our facilities are based on 97% natural and town gas, and 3% mineral oil.

For indicators such as emissions to air, wastewater, spent biomass, other waste and environmental impact potentials, see the table 'Key performance data' on page 59.

Full compliance is our goal

Full compliance with all environmental laws and regulations is a key part of our Environmental Management System. Breaches of regulatory limit values, regulatory limit values with repeated breaches, and accidental releases are indicators of performance. In addition, we report the number of complaints.

Breaches of regulatory limits

Environmental authorities stipulate conditions in the production approvals for our facilities, for instance regulatory limits for emissions of particular substances to the environment. We reg-

ularly monitor and document our compliance with environmental requirements. The number of breaches of regulatory limit values has increased from 30 in 2002 to 105 in 2003. This dramatic increase concerns breaches of limit values for pH and temperature of wastewater which is measured continuously. Technically, it has proven difficult to quickly neutralise the wastewater. Due to our focus on wastewater control, the breaches are recorded instantly and reported to the local authorities. None of the breaches have had any significant environmental impact. The work to solve these problems will continue in 2004.

Accidental releases

No accidental releases of genetically modified organisms (GMOs) were recorded in 2003. There were 20 other accidental releases. Of these, 15 were accidental releases of non-hazardous substances to soil (1), waste (1), air (1) or sewer (12); in all cases the environmental impact was negligible. There were five accidental releases of a cooling substance. All accidental releases are reported to the authorities and actions are taken to limit the environmental impact and avoid similar incidents.

Complaints

We received 11 complaints from neighbours and other stakeholders. Seven of these concerned noise and odour. Two complaints came from neighbours at our facility in North Carolina, US, who were concerned over the application of US EPA-approved wastewater sludge product to our land leased by a farmer. One complaint concerned improperly labelled and improperly closed containers with hazardous waste. No harm to the environment was observed; the issues were dealt with; and employees retrained. Finally, a complaint was made about inadequate sorting of plastic waste. The plastic is now being recycled. The site reports account for compliance and complaints at specific locations.

Eco-productivity indices (EPIs)	2003	2002	2001	2000
EPI for water	110	116	102	110
EPI for energy	124	115	114	111

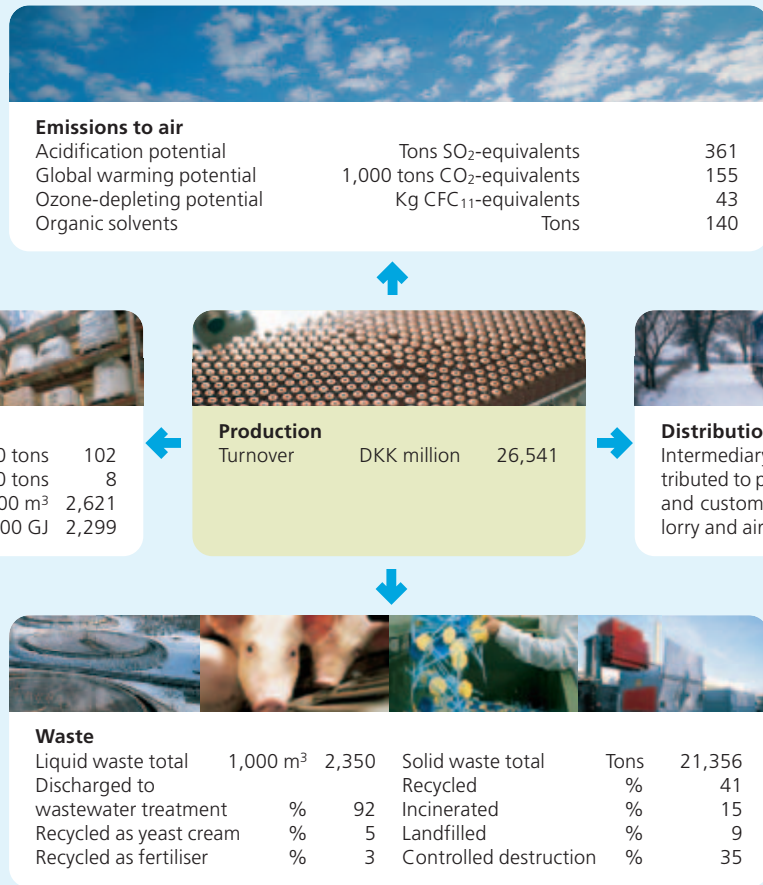
The EPI relates the scale of production to the consumption of resources. The index value shows development from previous year. Hence, performance over index 100 is a positive trend.

Compliance status	2003	2002	2001	2000
Breaches of regulatory limit values	105	30 ¹⁾	68	9
Regulatory limit values with repeated breaches	5	4	5	4
Accidental releases	20	12 ²⁾	5	2
Accidental releases of GMOs (genetically modified organisms)	0	0	0	0
Complaints	11	7	32	2

1) One breach has been added for Chartres in 2002 as a result of continuous measurements.

2) Two accidental releases were registered for Hillerød after publication of the 2002 report. These are now included.

Key indicators of environmental performance



Key environmental impacts in the value chain

<p>Research and development</p> <p>Research and development of pharmaceuticals and delivery devices:</p> <ul style="list-style-type: none"> ◉ Contained use of gene technology for research. ◉ Minor use of materials, water and energy. ◉ Discharge of wastewater. ◉ Minor disposal of solid waste. 	<p>Bulk production</p> <p>Fermentation, recovery and purification of active pharmaceutical ingredients:</p> <ul style="list-style-type: none"> ◉ Contained use of gene technology for production. ◉ Major use of materials, water and energy. ◉ Large-scale discharge of wastewater and other liquid wastes. ◉ Disposal of solid waste. ◉ Emission of solvents to air. 	<p>Finished goods production</p> <p>Production of delivery devices, formulation, filling and packaging of pharmaceuticals:</p> <ul style="list-style-type: none"> ◉ Use of materials, water and energy. ◉ Disposal of solid waste. ◉ Discharge of wastewater. 	<p>Distribution</p> <p>Shipping and transport of intermediary and final products:</p> <ul style="list-style-type: none"> ◉ Fuel for transport.

Our use of gene technology

Novo Nordisk uses gene technology and genetically modified organisms (GMOs) in biomedical research and the production of pharmaceuticals. We believe gene technology can help solve many of today's health issues and allow us to provide products in sufficient quantity or quality. Yet we recognise that use of this technology causes concerns. We take every precaution to ensure the safe use of GMOs. The GMOs we use for production are in the lowest risk category with no known risks to humans or the environment. All GMOs are handled under closed or contained conditions. The final products do not contain GMOs. We recognise the concern about the level of antibiotic resistance among microorganisms in the environment. Therefore, new production strains will be without antibiotic resistance genes whenever technically possible and practically feasible. No damage to human health or the environment has ever been recorded in our use of GMOs for research and production.

Accounting for the environment

Sound environmental management is good business. We have taken steps to further integrate this thinking in our organisation with the use of Environmental Management Accounting. This provides management with the information needed to make more sustainable business decisions – information that traditional financial and cost-accounting methods cannot provide.

Compared to 2002, environmental costs have grown by DKK 10.7 million. This is due to an increase in activities and production volumes. In 2003, environmental costs represented 1.9% of total production costs, which is comparable to the same level in 2002 (2.1%). Environmental investments of DKK 23 million in 2003 have increased by DKK 8.6 million compared to 2002. Environmental investments constituted 1% of gross investments, an increase of 0.6 percentage points compared to 2002. A significant reduction in gross investments from 2002 to 2003 also contributed to this increase. A large part of the increase is related to a DKK 6 million environmental investment in the new Insulin Bulk Plant in Kalundborg, Denmark in 2003. In 2002, environmental investments were not specified separately in the overall investment in this project.

Environmental Management Accounting

The ability to single out environmental investments in new projects is one of our goals in working with Environmental Management Accounting (EMA). Another aim is to assess environmental costs and calculate the extent to which environmental aspects also have an impact in monetary terms.

The EMA perspective allows managers to see the economic value of natural resources, and the business and financial value of good environmental performance. For example, initiatives to

reduce waste from a particular production process will also enhance efficiency and move towards a more sustainable production mode. In view of increasing prices, efficient use of resources is a sensible business strategy as well as beneficial to the environment. Any efficiency gain achieved in consumption of water and energy entails lower costs. But those gains might not actually show as decreased costs if the price increases at a higher rate, even though they do represent true savings. Had nothing been done, the price increase would have resulted in even higher costs. EMA is about showing the full environmental costs and benefits of alternative solutions in a transparent way.

EMA is also about challenging traditional thinking and showing how innovative solutions can be integrated in business decisions. We believe that documenting environmental business cases will increase awareness throughout the company that savings and better practice are still to be found in many places. It will also help us keep track of environmental costs and focus directly on where impact and effects are the greatest. This may change the immediate understanding of where the environmental costs are highest – traditionally supply of water and energy, and waste management. The implementation of EMA follows a pilot project in 2003 at our production facilities in Bagsværd and Hillerød, Denmark.

Environmental costs and investments		2003	2002	2001	2000
Environmental costs					
Operating costs ¹⁾	DKK million	12.1	9.5	9.3	12.3
Net cost of wastewater treatment at municipal plants	DKK million	12.0	8.4	10.7	10.1
Net cost of wastewater treatment at other plants	DKK million	44.6	43.3	33.8	N/A
Biomass management (including transport, treatment and capacity costs)	DKK million	10.5	7.6	4.8	19.8
Handling and disposal of solid waste	DKK million	27.3	24.8	27.8	23.1
Energy, SO ₂ and CO ₂ taxes (non-refundable)	DKK million	43.1	45.5	43.0	27.5
Remediation cost for polluted sites	DKK million	0.2	0	0.3	0.4
Total environmental costs	DKK million	149.8	139.1	129.7	93.2
Environmental costs as a share of total production costs	%	1.9	2.1	2.2	1.8
Environmental costs as a share of net turnover	%	0.6	0.6	0.5	0.4
Environmental costs as a share of operating income	%	2.3	2.3	2.3	1.9
Environmental investments					
Total environmental investments	DKK million	23.0	14.4	44.3	30.1
Environmental investments as a share of total investments in tangible assets	%	1.0	0.4	1.1	1.3

1) Environmental departments worldwide, environmental approvals, sampling and analysis of emissions and data management.

Business cases for environmental management

Novo Nordisk's sustainability approach adds value to the business. Our environmental performance is tracked and measured through Environmental Management Accounting (EMA). Here are some examples of how EMA works in practice. They demonstrate that when decisions are challenged from an environmental perspective, the benefits are tangible on both the environmental and the financial bottom lines. More information and additional business cases are provided in the individual site reports, available at novonordisk.com/sustainability/site_reports.

CASE

Higher yield – lower costs and CO₂ emissions in Kalundborg

In 2003, sucrose replaced glucose in a fermentation process in Kalundborg to yield higher production and save raw material costs. While the glucose had been imported, the sucrose is produced locally at a lower cost. Using a locally produced raw material avoids estimated emissions of 2,600 tons CO₂, due to less transport and less CO₂-intensive production of sucrose. Furthermore, as sucrose results in a higher yield per raw material input, we can obtain a more cost-efficient and environmentally sound process with 7% savings in water consumption, 2% in energy consumption and a significant reduction in wastewater pollution per produced unit.

In general, an increase in yield requires more cooling in the fermentation tanks. Earlier in the year, new cooling towers replaced old, worn-out towers. The environmental review conducted prior to the investment pointed to several ways to significantly increasing the cooling efficiency – getting more cooling per energy unit and emitted CO₂ – and a substantial

noise reduction. The savings in the operational costs are between DKK 1–2 million per year, depending on the level of production.

Efficiency gains can also be achieved by raising awareness and inspiring employees to use their knowledge and creativity. A good example is the cleaning of the cooling spirals in our fermentation tanks, fouled by organic growth from the surface water used for cooling. The idea came from a team of maintenance operatives in the department, who created a highly innovative cleaning device of foam rubber and brushes that can be used during production. The result is a considerable increase in the cooling effect, which increases production yield. After implementation, the cooling capacity can be maintained throughout the fermentation period, whereas previously it fell gradually to 40–50% of the initial level. The environmental benefit and financial value of this idea and investment are to be compared with the environmental impact avoided and the financial costs of establishing the equivalent increase in production capacity by means of new fermentation tanks and extra cooling capacity.



Jens G. Larsen and Keld Johnsen in Kalundborg with a novel cleaning device invented by employees to improve cooling efficiency in fermentation tanks resulting in major environmental and financial gains.



James Vick and Kevan McCance at the 'Vyleater' in Clayton which improves work processes and waste handling, and thus reduces disposal costs.

CASE

Hazardous waste reduction pays in Clayton

At the insulin production facility in Clayton, North Carolina, a new process for handling reject insulin vials and cartridges was introduced. It replaced a procedure that required cartridges and vials to be accumulated in 55-gallon steel drums and shipped off site for incineration. During the process, the entire drum, containing glass and liquid, was incinerated. These factors, combined with disposal costs based on weight, made this disposal method a poor choice both environmentally and financially. Total disposal costs in 2000 were over USD 100,000. With the new method, the insulin liquid is separated from the glass containers prior to disposal. After separation, the insulin liquid is accumulated in the drums for controlled disposal. The glass is recycled or landfilled. For an investment of less than USD 60,000, we achieve annual savings of USD 45,000 on hazardous waste disposal costs. The investment was recouped in 1.5 years.

Ethics in life sciences

Stakeholder trust in Novo Nordisk is earned through our responsible approach to doing business and the transparency with which we approach the issues of concern to our stakeholders. This is particularly valuable when dealing with one of the dilemmas most associated with the pharmaceutical industry: bioethics.



The Hagedorn Research Institute is at the forefront of stem-cell research in diabetes. Mattias Hansson is member of the international research team. In the picture he cultivates embryonic stem cells from mice.

We rely on the public's confidence that what we do to develop our business also serves the best interests of society. Life sciences offer many opportunities for developing therapies that can bring benefits to many people in need of better healthcare. However, we also recognise that the new biotechnologies pose a range of ethical dilemmas and raise questions to which no one yet knows the answers. We define bioethics as all ethical issues related to the use of life science technologies for the development and production of biotechnological and pharmaceutical products. This includes the ethical use of human materials, human volunteers and patients in clinical trials, and the use of experimental animals.

Use of human material

Novo Nordisk uses human material in the discovery and development of new drugs. It is of key importance that we are able to test drug compounds in human cells and tissues at different stages of drug discovery in order to rapidly select viable compounds and to estimate the safety before testing the compounds in humans. The use of human material also helps to reduce the use of experimental animals, a goal we describe in the

article 'Treating animals with respect' on pages 54–55. Human material is obtained from live donors or from deceased persons via donor banks or tissue biobanks, or from individuals participating in biomedical research projects via collaborating universities, hospitals and other non-profit organisations. We obtain our material from Denmark and several other countries. Public authorities and governments are now seeking to better regulate the use of biobanks and to address the transfer of human materials across borders, an area that is not yet well regulated. We support regulation of biobanks to protect donors, in particular the requirement to practise informed consent for use of the material.

Continuing the dialogue on stem cells

There are several ethical issues related to medical development that are of interest, and sometimes of concern, to our stakeholders. These include the international debate on stem-cell research and the use of human embryos in research. Novo Nordisk currently sees human stem-cell research with the potential for cell transplantation as the most promising approach to finding a cure for type 1 diabetes. We recognise that the source of some stem cells – the human embryo – is controver-

sial. That is why we maintain an open dialogue with stakeholders and have put forward our positions.

Novo Nordisk wants to extend its research on mouse embryonic stem cells to include human embryonic stem cells, in order to be able to move forward in its efforts to direct human embryonic stem cells into mature insulin-producing beta cells, which can be further developed for transplantation. We will only use human embryonic stem cells when it is not anticipated that the same scientific results can be obtained from the use of adult stem cells, and we will only work with human embryonic stem cells derived from spare embryos from IVF treatment that are obtained with freely given informed consent. Novo Nordisk does not support IVF treatment for women, or the creation of human embryos, solely for research purposes.

Elected politicians must be the ones to make decisions on what applications are acceptable and what ethical limitations should be applied to the use of new technologies, such as the use of human embryonic stem cells. However, great differences exist between European countries concerning the state of legislation and control of research into human stem cells, and this is a cause for concern. As a number of scientists are already investigating the properties of human stem cells, Novo Nordisk urges all countries to enact legislation to ensure that such research is properly regulated and controlled. Novo Nordisk finds cloning of human beings (reproductive cloning) unethical and supports initiatives aimed at a global ban.

Go-ahead for research purposes

In 2002, the Danish Parliament investigated the need for an ethical and political clarification on legislation regarding the use of human embryonic stem cells from surplus *in vitro*-fertilised embryos. Novo Nordisk supported the Parliament in examining the issue and offered our perspective to the discussion. In May 2003 the Parliament decided to allow research on human embryonic stem cells with the aim of obtaining new knowledge that will improve the chances of curing diseases in human beings.

According to Danish law, any application to use human embryonic stem cells for such purposes must undergo an ethical evaluation. We support this decision, and Novo Nordisk fully complies with its constraints, respecting ethical concerns. Novo Nordisk also supports initiatives to regulate stem-cell research at the EU level and is following this process closely and providing input.

The Danish decision paves the way for researchers to reach their goal of finding a cure for type 1 diabetes. Novo Nordisk is currently investing DKK 17 million in stem-cell research at the Hagedorn Research Institute in Denmark, the research facility owned by the company. The Hagedorn Research Institute is at the forefront of stem-cell research in diabetes, working closely both with the US National Institutes of Health (as part of the NIH-supported Beta Cell Biology Consortium) and the Juvenile Diabetes Research Foundation (as part of the JDRF Center for Beta Cell Therapy in Europe).

Clinical trials: a responsible approach

Novo Nordisk conducts clinical trials globally in order to test the safety and efficacy of new drugs before marketing.

Furthermore, Novo Nordisk sponsors clinical trials after approval to market a drug has been granted in order to gain more clinical knowledge and experience of these products.

We conduct clinical trials in Europe, Asia, including Japan, North America, South America and certain African countries. About 15% of the trials take place in the developing world. We recognise that clinical trials held in developing countries have prompted media debate over the ethical conduct of these trials. For Novo Nordisk, there is no ethical conflict over the way we conduct clinical trials in the developing world as opposed to the developed world. All persons enrolled in our trials are protected by the same rights, high ethical standards and regulations irrespective of which country they are in.

The clinical trials we sponsor are conducted according to the World Health Organization's Helsinki Declaration describing human rights for patients participating in clinical trials, the International Conference on Harmonisation (ICH) for current Good Clinical Practice (GCP), local regulatory guidelines and our own internal Standard Operating Procedures and Policy on Ethical Conduct of Clinical Trials. Trial activities only start after approval from an external local ethical committee, and no procedure involving a person undergoing clinical trials will take place before the person has given informed consent. Novo Nordisk personnel audit trial sites on a regular basis to ensure that these guidelines are met.

We conduct our trials globally because we need to test our products in the populations where the product is going to be marketed. Indeed, the countries' regulatory authorities often require us to do this. Physicians in the developing countries also wish to be part of our trials from a desire to be involved in the front line of research. The not unlimited number of patients who are willing and suitable to be involved in clinical trials also requires us to expand our global recruitment base.

Informed consent

We ensure that the people participating in the trials are given detailed information, both verbally and in written form, about the purpose of the trial, and the potential risks and benefits of participation. This information is always given to patients in their native language. The patient and the investigator need to sign the informed consent form to document that this has happened. We take care to make sure that literacy, poverty or cultural barriers do not prevent a person's full understanding of the issues involved in participating in a clinical trial. A trial participant can withdraw at any time without providing a reason.

We also do not conduct a trial unless the investigator or physician has the necessary skills and competence to perform it. The investigators are paid to compensate for their time, and most often this money is paid into a research fund used for research purposes at the given hospital. GCP prohibits companies conducting clinical trials from paying patients directly for participation in a trial.

We will continue to adhere to the highest ethical standards regarding clinical trials, as well as the use of human material and the way in which we market and sell our products.



Treating animals with respect

Experiments on living animals are a necessary part of the discovery and development of new drugs but we acknowledge that such experiments are a source of concern. While we cannot replace all animal experiments in the foreseeable future, Novo Nordisk supports the principle of the three Rs: to reduce, refine and replace animal experiments.

Novo Nordisk uses many experimental animals and therefore has a responsibility to act with due respect for the animals by establishing and ensuring high ethical and welfare standards. We support transparency and openness about animal experimentation and will continue to report on our use of experimental animals.

Experiments on living animals should only be carried out when no suitable alternative methods are available, and efforts should be made to continue to improve animal welfare. In the spirit of the three Rs, Novo Nordisk has reduced the number of animals used in experiments by approximately 70% over the last decade.

It is expected that our use of experimental animals will continue to decline over the next decades as new emerging tech-

nologies will make it possible to obtain important information without the use of living animals. However, it is not yet possible to examine the complex interactions in a living organism solely by the use of eg cell cultures and tissues.

Close collaboration with stakeholders

We collaborate with a wide variety of stakeholders, including animal welfare and animal rights organisations. For many years we have collaborated with the Danish Animal Welfare Society, and have developed a common understanding of animal welfare issues. Together, we have identified ways to improve the welfare of animals at Novo Nordisk, with special attention to their housing, where the animals spend most of their time. We have also consulted a wide range of other experts in the animal welfare field to prompt new thinking and innovations.

Improved housing for animals

In 2003, we continued our efforts to improve housing standards for experimental animals used at Novo Nordisk. A new state-of-the-art facility for rodents and a new rabbit facility, both designed to encourage natural behaviour and minimise stress, were constructed on the basis of our collaboration with animal welfare experts and the Danish Animal Welfare Society. These facilities exceed the legal requirements for housing of experimental animals. This means that housing conditions which





The new state-of-the-art housing facilities for Novo Nordisk’s experimental animals encourage natural behaviour and minimise stress. The spacious new pen systems for dogs and rabbits allow the animals to socialise. The rabbit group housing is a pilot project. To their keepers, spending time with the animals is important and also improves the welfare of the animals.

reflect the social and behavioural needs of the animals have now been implemented for all the animal species at Novo Nordisk except for rabbits. All of the rabbits will be housed in the new pen system when the new facility is fully in use and biological product control in rabbits has been phased out. We are thereby on our way to meeting our target of establishing and fully implementing by 2005 new Novo Nordisk standards for optimal housing in consideration of the needs of the animals we use.

Ole Münster, director of the Danish Animal Welfare Society, says that while his organisation would prefer not to have any experiments on animals, “there is no doubt that we can see that the experimental animals used by Novo Nordisk are better off now than they were before these new housing standards were implemented”.

Lobbying for higher standards

We welcome the new Danish legislation on housing and care of experimental animals that will contribute to improved welfare for experimental animals. We have also been proactive in trying to positively influence the development of stricter animal welfare legislation both at national level and with the European Union and Council of Europe.

Training and socialisation of experimental animals, and proper training of employees handling the animals are essential to ensure the welfare of experimental animals. In 2003 we continued our work on training and socialisation of our dogs. For all

other species, initiatives have been taken to improve and extend species-specific training and socialisation to ensure the highest degree of welfare and well-being under normal housing and experimental situations. Our internal course on animal experimentation was further improved to meet new challenges in animal welfare and animal ethics.

We are on course to meet our target of contributing to the total removal of animal tests for biological product control by 2004. A cell-based assay has been developed and validated as an alternative to the glucagon bioassay in rabbits. The assay has been approved as an alternative to the rabbit test by the Danish authorities and will be implemented during 2004. Negotiations with the authorities to delete the bioidentity test in rabbits for insulin are taking place.

We have also set a target for developing and implementing improved measures and standards in relation to animal experimentation at external contractors such as contract research organisations (CROs) by 2005. In 2003, we tightened our procedures for animal experimentation and testing at CROs and updated our principles for use of experimental animals and our internal guideline for monitoring animal welfare at the CROs.

In a project with the Danish Centre for Bioethics, we have developed tools for assessing animal welfare, including the use of telemetry. The impact of animal housing conditions and refining the experimental procedures on animal welfare have been evaluated successfully using the methods developed.

Animals purchased ¹⁾	2003	2002	2001	2000
Novo Nordisk	33,286	36,182	43,968	48,328
CROs (contract research organisations)	9,583	11,946	11,908	13,184
Total	42,869	48,128	55,876	61,512
Change from previous year in %	-10.9	-13.9	-9.2	2.1

1) A list of types of animal purchased for experimentation is available at novonordisk.com/sustainability/data.

Accounting for our performance

Responsible action and statements of commitment have little meaning if the pledges do not reach out to all stakeholder groups. Making a real difference requires more than completing checklists and presenting data. To be truly valuable, reporting needs to represent a reflective view on the organisation and a balanced perspective on its impacts. Being accountable for our performance is about responding to stakeholder concerns in a transparent way.

With the aim of capturing the organisation's 'footprint' in terms of social, environmental and economic impacts on society and the natural environment, this report accounts for Novo Nordisk's performance and achievements in 2023. It focuses on corporate target-driven programmes. Examples of local initiatives illustrate how principles of sustainability are enacted throughout the organisation. The scope of the report is Novo Nordisk A/S. For details of our accounting principles, visit novonordisk.com/sustainability/performance.

In compliance with the voluntary standards to which Novo Nordisk is committed, we report on the key indicators we have defined through ongoing consultations with stakeholders, as well as the relevant set of performance indicators set out by the Global Reporting Initiative's (GRI's) 2022 Sustainability Reporting Guidelines. Moreover, as a signatory to the International Chamber of Commerce's (ICC's) Business Charter for Sustainable Development and the United Nations Global Compact, we report on Novo Nordisk's performance against their principles. The information provided and the data set have been assured according to the AA1000 Assurance Standard. Cross-references and the full data set are available in our data overview on the internet.

Looking back on performance during the year is but one aspect of sustainability reporting. While we recognise the importance of being able to measure performance against set targets,

we also aim to present to stakeholders our view on how well the company is positioned to meet future business challenges. That is why we include presentations of strategic initiatives and discussions of the social, environmental, ethical and socio-economic issues that may affect our company's performance in the future. In this way, we aim to establish a fact-based platform for informed decision-making.

The AA1000 Framework, which Novo Nordisk has been involved in developing, is a useful guide to reporting. It states that reporting must provide a complete, accurate, relevant and balanced picture of the organisation's approach to and impact on society. To the best of our knowledge, the report complies with these requirements.

The notion of materiality is currently being redefined in light of the fact that corporate reporting is being developed to better meet multiple expectations. Not only shareholders, but many other stakeholder groups who affect or are affected by the company's activities have a legitimate interest in being kept informed. From this perspective, materiality is about identifying information that, if omitted or misstated, would significantly misrepresent the organisation to its stakeholders, and thereby influence their conclusions, decisions and actions. Striving for transparency in reporting as well as in our decision-making, we hope that by presenting the issues we see as material to Novo Nordisk's future business we have also fairly reflected what matters to our stakeholders.



Dilemma

How can we continue to report on all issues that are considered material to diverse stakeholder needs and yet maintain a readable and manageable report format?

Companies face a dilemma in satisfying everyone's needs, including experts who ask for more and more information to be included in the report, and stakeholders who are becoming more aware of the information they require from a company. There is a need for transparency in the process that companies use to select information for a report. The company needs to say up front, "This is what we have included and this is why we have included it".

The problem with materiality in sustainability reporting is that it is still such a new concept. In order for it to mature, companies need to be transparent about materiality and about the challenges they face in deciding what is material and what is not. Stakeholders must be able to understand what is being reported on and why it is relevant for the company. Another way to develop the concept is for experts in the sustainability field to provide companies with frameworks for considering materiality.

At the same time, companies walk a tightrope in presenting all the information that is material to the company and yet still producing a readable report that is manageable in scope. What you don't want to lose is context. Companies are loading more and more information into their reports for a growing number of stakeholders. But in doing so, the reader may lose sight of

what the company actually does and what it produces, and this is counterproductive. People cannot judge the materiality of the information without context.

The key for me is to be able to see clearly what a company has decided to put in a report and why they haven't looked at other issues. When SustainAbility examines a report, we look at how a company identifies certain issues as important and what they see as their sustainability challenges.

Transparency is also enhanced by the level of assurance and verification of information. If a company is open to a very deep and rigorous assurance process, it indicates to me it is quite open to transparency. Assurance can inspire trust and confidence that a company has reported rigorously on all the material issues.

Nick Robinson

Nick Robinson is a member of the core team at SustainAbility. He co-authored the Trust Us report, a benchmark of sustainability reporting developed and conducted with the United Nations Environment Programme, and now leads the Engaging Stakeholders programme, of which Novo Nordisk is a member.

Independent assurance statement to Executive Management

We have performed an assurance engagement on the Novo Nordisk Sustainability Report 2003 ('the Report') and the underlying systems, structures and processes. These subject matters are the responsibility of Novo Nordisk's Executive Management, with whom the objective and terms of the engagement were agreed. We are responsible for expressing our conclusions based on the engagement.

We have based our approach on emerging best practice for independent assurance on sustainability reporting, including the AA1000 Assurance Standard (AA1000AS) issued by AccountAbility; and the International Standard on Assurance Engagements (ISAE 100), issued by the International Auditing and Assurance Standards Board.

This independent statement concludes our engagement. Our detailed recommendations for management as well as information on our independence are available in the internet version of the Report.

Conclusions with high level of assurance

On a test basis, we examined the evidence supporting conformity with criteria for the subject matters below. We performed such procedures as we deemed necessary and we believe that our examination provides a reasonable basis for our opinion. The subject matters are:

- The environmental information system CATCH at the corporate level as described on page 59 in the Report.
- The energy and water consumption data for 2003 presented in the Report and consolidated from production sites as described on page 59 in the Report.

In our opinion, in all material respects:

- CATCH is functioning as described, and the system ensures an appropriate data collection process at the corporate level.
- The data for energy and water consumption for 2003 are complete and accurately reported.

Conclusions with moderate level of assurance

On a test basis, we have gathered and evaluated evidence supporting the conformity with criteria for the subject matters below. This work included analytical procedures and interviews performed as necessary, but no substantial testing was undertaken. We believe that our work provides an appropriate basis for our conclusion. The subject matters are:

- Presentation of material sustainability management and performance information of Novo Nordisk in the Report and preparation of the Report in accordance with the GRI's 2002 Sustainability Reporting Guidelines. The materiality concept for sustainability reporting is emerging. Hence we refer users of the Report to the management assertion that "we hope that by presenting the issues we see as material to Novo Nordisk's future business we have also fairly reflected what matters to our stakeholders".
- Description in the Report of Novo Nordisk's response to the United Nations Global Compact principles and conditions.
- Systems, structures and processes in place for identifying, understanding and responding to material sustainability aspects, including views of stakeholders, as required in the Novo Nordisk Way of Management pertinent to the com-

pany's Triple Bottom Line approach, and as described in the Report.

- Procedures for collection and validation of other 2003 quantitative performance data of Novo Nordisk compiled from reporting units and reflected in the Report, as described in the Report.

In conclusion nothing has come to our attention that causes us not to believe that:

- Management has designed and applied effective systems, structures and processes to identify, understand and respond to material sustainability aspects, including views of stakeholders, affecting Novo Nordisk.
- The Report met its objective to provide a reasonably balanced representation of material sustainability management and performance information of Novo Nordisk and that the Report has been prepared in accordance with the GRI's 2002 Sustainability Reporting Guidelines.
- The Report addresses appropriately Novo Nordisk's response to the United Nations Global Compact principles and conditions.
- Other quantitative performance data for 2003 are compiled from reporting units and appropriately reflected in the Report by applying detailed data collection and validation procedures.

Commentary

Stakeholders would note that this Report is part of Novo Nordisk's annual reporting and is approved by the Board of Directors and Executive Management. This underpins the weight and priority given to business sustainability aspects by these two tiers of management. Compared to last year, another noticeable step was taken to make the structure and content of the Report even better illustrate business opportunities and risks driven by the sustainability agenda and by stakeholders' views and needs. With the first seven articles in 'Acting on our commitments' focusing on market opportunities; and the next 14 articles focusing on internal endeavours, the Report reflects how numerous complex sustainability areas are being managed by Novo Nordisk and maturing into business operations.

We recommend that Novo Nordisk establish indicators to measure and report progress in the National Diabetes Programme and other Global Health partnership initiatives. It would also be relevant to align reporting on business and societal benefits with the indicators of TBL performance.

Copenhagen, 5 February, 2004

Deloitte

Statsautoriseret Revisionsaktieselskab

Preben J. Sørensen
State Authorised Public Accountant

Key performance data

Financial			2003	2002	2001	2000
Profit and loss figures	Net turnover	DKK million	26,541	25,187	23,776	20,811
	Employee costs	DKK million	9,311	8,640	7,435	6,352
	Research and development costs	DKK million	4,193	4,139	3,970	3,390
	Operating profit	DKK million	6,384	5,979	5,614	4,816
	Profit before tax	DKK million	7,383	6,300	6,030	4,840
	Net profit	DKK million	4,858	4,095	3,865	3,087
Profit and loss key figures	Research and development costs	% of turnover	15.8	16.4	16.7	16.3
	Operating profit margin	%	24.1	23.7	23.6	23.1
	Net profit margin	%	18.3	16.3	16.3	14.8
	Effective tax rate	%	34.2	35.0	35.9	36.2
Balance figures	Cash and current asset investments	DKK million	3,090	1,738	3,062	3,845
	Short-term liabilities	DKK million	6,820	6,133	6,139	5,621
	Total assets	DKK million	34,394	31,496	28,905	24,920
Balance key figures	Equity ratio	%	73.3	72.8	69.7	68.1
	Return on invested capital (ROIC)	%	19.1	20.1	23.1	22.0
Share data	Earnings (net profit) per share	DKK	14.24	11.81	11.18	8.84
	Dividends per share	DKK	4.40	3.60	3.35	2.65
	Share capital (nominal) at year-end	DKK million	709	709	709	754
	Quoted price at year-end for B shares	DKK	241	205	342	285
Environmental						
Resources	Water consumption	1,000 m ³	2,621	2,044	1,790	1,429
	Energy consumption (direct/indirect supply)	1,000 GJ	2,299	2,083	1,838	1,732
	Raw materials and packaging materials	1,000 tons	110	93	88	76
Wastewater	Volume	1,000 m ³	2,169	1,714	1,424	1,121
	COD	Tons	1,187	971	830	723
	Nitrogen	Tons	122	111	86	63
	Phosphorus	Tons	21	17	15	11
By-products (biomass)	Volume	1,000 m ³	181	155	147	141
	Nitrogen	Tons	1,846	1,649	1,415	1,167
	Phosphorus	Tons	555	504	423	353
Waste	Waste (total)	Tons	21,356	12,935	14,866	10,551
	Non-hazardous waste	Tons	9,370	7,032	7,300	–
	Hazardous waste	Tons	11,986	5,903	7,566	–
	Recycling percentage of total waste	%	41	41	50	45
Emissions to air	Organic solvents	Tons	140	149	75	78
	Ozone-depleting substances	Kg	1,047	1,351	915	1,561
	CO ₂	1,000 tons	153	149	143	139
	SO ₂	Tons	158	162	245	270
	NO _x	Tons	291	283	251	272
Environmental Impact Potentials	Global warming	1,000 tons CO ₂ -eqv	155	152	145	142
	Ozone layer depletion	Kg CFC ₁₁ -eqv	43	83	41	153
	Acidification	Tons SO ₂ -eqv	361	360	421	460
	Eutrophication	Tons NO ₃ -eqv	1,598	1,417	1,291	1,040
Social						
Basic employee statistics	Number of employees ¹⁾		19,241	18,372	16,693	13,752
	Female	%	49.4	49.7	50.7	50.8
	Male	%	50.6	50.3	49.3	49.2
	Rate of absence ²⁾	%	3.1	2.7	3.8	4.0
	Employee turnover rate ²⁾	%	7.1	6.4	7.7	10.6
Health and safety	Frequency of occupational injuries ²⁾	Per million working hours	5.4	8.9	8.2	8.4
	Frequency of occupational illnesses ²⁾	Per million working hours	1.1	1.1	2.2	1.7
Training costs	Annual training per employee ³⁾	DKK	7,518	8,189	8,201	8,393

1) The number of employees is the headcount at the end of 2003 and equals 19,241. The full-time equivalent of this headcount equals 18,756.

2) 2002–2003 figures cover all employees, whereas figures for 2000–2001 comprise only employees in Denmark and employees at production sites outside Denmark.

3) The average spent on training costs is per employee based on headcount.

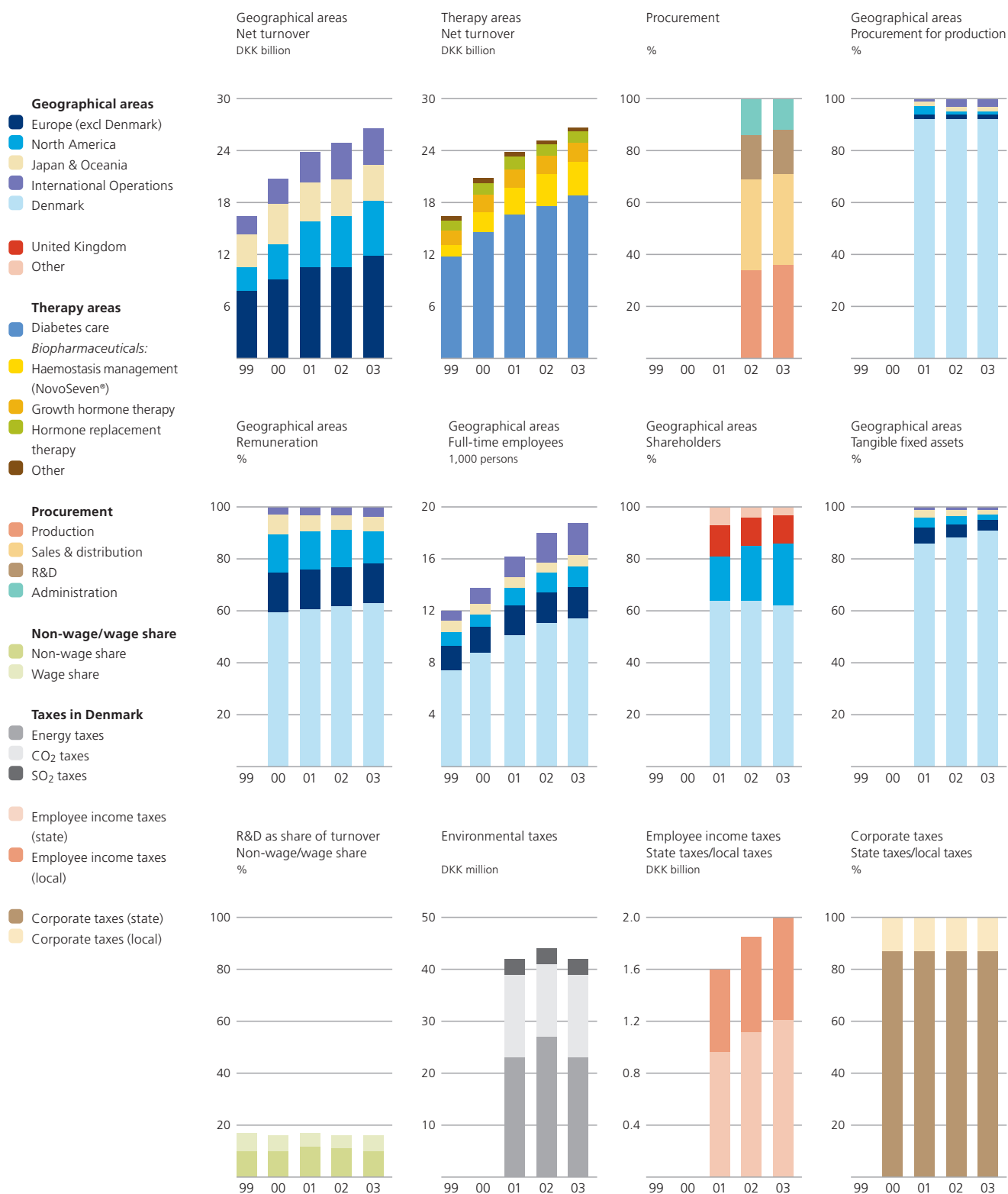
For the full data set and accounting principles, visit novonordisk.com/sustainability/data and novonordisk.com/sustainability/performance.

The CATCH environmental information system is part of the CATCH concept. Using a web tool, environmental data are submitted from 13 of the 14 production sites and transferred to a central data warehouse for further aggregation. The last site will be included in 2004. All environmental data except 'ozone-depleting substances' are managed through CATCH.

For more information on financial performance, see the *Annual Financial Report*.

Key indicators of economic performance

Our key economic indicators attempt to measure and report how Novo Nordisk contributes to financial wealth. Following the Global Reporting Initiative's (GRI's) 2002 Sustainability Reporting Guidelines, we present data on the geographical distribution of our production, sales and employment, and on investments, R&D and taxes paid.



Engaged with stakeholders

This report presents how we hold ourselves accountable to stakeholders and strive to report in a transparent way on all material issues. Through the report, we aim to capture the organisation's 'footprint' in terms of social, environmental and economic impacts on society. Stakeholder dialogue is an invaluable part of this effort. In the report, we have given examples of what being there means to Novo Nordisk. We hope that it may inspire stakeholders and readers to reflect on what it means to them. We value your review of the report and welcome any questions or comments you may have concerning the report or our company's performance. Please send your comments to beingthere@novonordisk.com.

For more information and the full data set, visit novonordisk.com/sustainability/sustainability_report_2003, where you can also order more copies of this or other reports from Novo Nordisk.

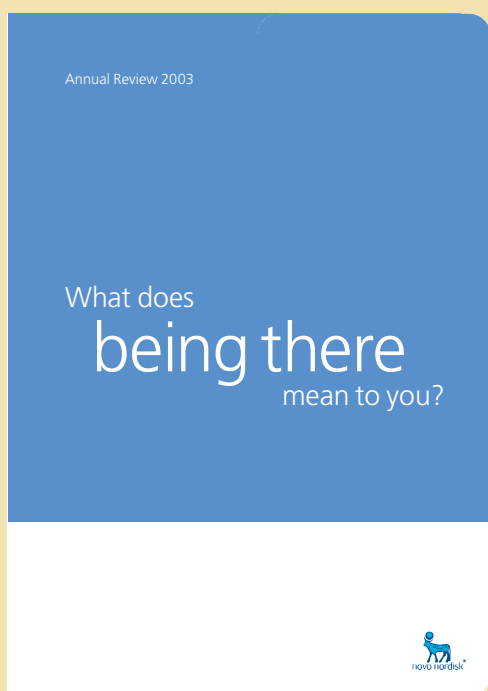
Reports for our major production sites are published in local languages and can be ordered from our website (English versions are available as pdf files): novonordisk.com/sustainability/site_reports.

Being there for society

"Corporate responsibility for Novo Nordisk is about caring for people and the world in which we live. We consider the impact of our business on the global society and the local community – and seek to contribute to a better environment, social development and economic growth. This is how we drive our business and how we invest in our future."

Lise Kingo, executive vice president, people, reputation and relations





The *Annual Review* is a summary of 2003's financial, environmental and social results, activities and events, including feature and news articles on significant topics. The *Annual Review* is available online at novonordisk.com/investors where a hard copy can also be ordered.



The *Annual Financial Report* is the full set of accounts and notes from the Novo Nordisk Group. To read the *Annual Financial Report* or the parent company accounts online, or to order a hard copy, visit novonordisk.com/investors.

Tell us what being there means to you. E-mail your thoughts and ideas to beingthere@novonordisk.com

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