

Sustainability Report 2002

Global health remains more a promise than a reality. As a world leader in diabetes care, we believe we can play an important role in helping people with diabetes around the world achieve greater access to health.



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Take action!

To shape the future, we must learn from our past. So why don't we? Twenty years ago, we saw the emerging AIDS epidemic and now we witness the devastating consequences of not dealing with the issue in time. Today, we see the pandemic growth of diabetes. I urge that we do not just read the statistics, but that we begin to really understand what they mean.

There is a clear link from the CEOs at the World Economic Forum to the NGOs of the World Summit on Sustainable Development in Johannesburg, from the long-awaited decision of today's political leaders to enlarge the European Union and to the future generation's vision of a society based on trust, transparency, shared values and partnerships. What unites these events is that they have been driven by a wish for a more sustainable future.

If we are to begin to make this vision come true, business, too, has a role to play. We can generate wealth that can improve quality of life, and not jeopardise the planet. I believe that corporations – big and small – can bring into play their collective creativity and expertise to help solve issues of social injustice and inequality. Two things keep us focused: our commitment to make a difference and our pursuit of a profitable and sustainable business.

Commitment, action and shared visions – that, to me, is the investment each of us must make to shape sustainable development. Indifference is no longer an option. Against a backdrop of uncertainty and erosion of trust in business and governments there is all the more reason for making an effort to demonstrate long-term investment and unfaltering dedication. We must trust that there is a better future for all, and we must take action to make it happen.

In our vision of sustainability, corporate commitment is aligned with personal values. To meet the world's immense social and environmental challenges, each of us needs to step on to the scene. More than doing good, we want to do well. Doing well takes a long-term commitment and a willingness to invest in the future. More than ever, it is time to take action.

In this past year, not only our company's values were put to a test. So was our ability to deliver a healthy return on investment to our shareholders. Sales were lower than expected in the first quarter of the year, a suspension of the clinical trials of a new diabetes medicine and other adverse events put increased pressure on the company's performance and ability to deliver. Yet, we have not compromised our values, nor our commitment to integrating the Triple Bottom Line as our way of doing business.

Defeating diabetes is not just a business proposition – diabetes is a huge individual and societal problem, the consequences of which the world's leaders are only beginning to understand. As a company we deal with the rapidly growing epidemic of diabetes. We cannot solve the enormous problems of hunger, we cannot overcome illiteracy, or provide housing, sanitation or decently paid work to everyone. But what we can do is to ac-



knowledge these factors and identify where and how we can make a difference. In our efforts to help provide better health-care, whether in rich countries or in the developing world, we believe that we can make a very significant contribution.

We also believe that it is possible to balance business concerns with those of our stakeholders. In Novo Nordisk we have chosen to frame this as the Triple Bottom Line – social and environmental responsibility and economic viability. Building on our performance, programmes in place and people commitment, our next challenge is to embed this approach fully in the way we do business. That is our focus for the future. With backing from the Board of Directors through to the shop-floor management, more than 18,000 committed Novo Nordisk employees will help put our values into actions.

The path to sustainability isn't smooth, and our destination is not just around the corner. Still, we see no other way. Let's walk it together.

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 our company's social, environmental and economic performance.

About the report

This *Sustainability Report* is part of Novo Nordisk's annual reporting in the calendar year 2002. Issued together with the *Annual Financial Report* and the *Annual Review* in February 2003, it accounts for Novo Nordisk's performance against targets, strategies, activities and new targets regarding social, environmental, ethical and socio-economic issues that affect our company's future business performance.

The report has been prepared in accordance with the Global Reporting Initiative's (GRI) *2002 Sustainability Reporting Guidelines* and the AA1000 Framework. The underlying data set has been verified according to the AA1000S Assurance Standard. Together, these international reporting frameworks are useful tools to guide the identification, evaluation and presentation of key issues for the report. Cross-references to the GRI are available in the internet version. Further, Novo Nordisk is a signatory to the ICC Business Charter for Sustainable Development and the UN Global Compact. To the best of our knowledge the report provides a balanced and reasonable presentation of Novo Nordisk's contribution to sustainable development for 2002.

COMPLETENESS As a pharmaceutical company with global reach, Novo Nordisk is engaged in a range of activities to support sustainable development. All of these are founded in the company's corporate governance framework. The report aims to capture the organisation's 'footprint' in terms of social, environmental and economic impacts on society. Hence, we account for our performance in relation to targets, major achievements and key issues. It does not provide a full coverage of all our activities.

The scope of the report is Novo Nordisk A/S. Environmental data cover the significant part of the organisation, ie all production sites, except for the small site in Tianjin, the environmental impact of which we deem insignificant. Social data cover

all employees. Economic data are quoted from the *Annual Financial Report* and cover the Novo Nordisk Group. Engagements in joint ventures and contract licensees are not included in the report scope, but key suppliers have been evaluated on their social and environmental performance. Since the last report was published in March 2002, Novo Nordisk has gained full ownership of a production facility in Brazil, Biobrás. Data for Biobrás are included in the social and the economic data, while environmental data will be included in the 2003 report.

Accounting principles and the full data set can be found in the internet version. In 2002, there have been no significant restatements, and there have been no significant changes in the measurement methods applied to key economic, environmental and social data in 2002.

MATERIALITY Key issues are identified through ongoing stakeholder engagement and addressed by programmes or action plans with clear and measurable targets. Stretch targets are set to guide the long-term efforts in strategic areas, such as global access to health. The issues presented in the report are deemed to have a significant impact on the company's future business performance and may support stakeholders in their decision-making.

RESPONSIVENESS This report is reaching out to a wide range of stakeholders, each with their specific needs and interests. To most of our stakeholders, however, the report is but a single element of our interaction and communication. It reflects how we have addressed stakeholder concerns and interests in dealing with the dilemmas and issues. Stakeholder dialogue is an invaluable part of our efforts, and we encourage readers to give us feedback to this report.

ACCESSIBILITY Contact details are provided with individual articles for readers' ease of access to discuss the issues. The *Sustainability Report* is available in English and Danish, in an internet version, and as site reports for our major production facilities in local languages (also available in English on the internet).

ASSURANCE PRINCIPLES To ensure the accuracy, completeness and reliability of our *Sustainability Report*, Novo Nordisk performs various internal controls of procedures applied and data gathered. The statement on page 58 explains how the assurance provider has assessed this report and our systems, structures and processes that deliver the relevant information and underpin our performance, following the guidance provided in the AA1000S Assurance Standard.

Novo Nordisk's annual reporting



Novo Nordisk's annual reporting at corporate level consists of three complementary publications. The *Annual Review* is a summary of 2002's financial results, activities and events, including feature and news articles. The *Annual Financial Report* is the full set of accounts and notes from the Novo Nordisk Group and its parent company Novo Nordisk A/S. The *Sustainability Report* accounts for Novo Nordisk's performance against targets, strategies, activities and new targets regarding social, environmental, ethical and socio-economic issues that affect our company's future business performance.

→ For more information, visit the internet version of this report at www.novonordisk.com/sustainability

Novo Nordisk in brief

As a world leader in diabetes care, Novo Nordisk has a clear business rationale for its commitment to sustainable development. Effective prevention, diagnosis and treatment improves the health of people with diabetes, and in a socio-economic context positively impacts the wealth in society.

Novo Nordisk is a focused healthcare company. With an insulin market share of 47%, measured in volume, and the broadest diabetes product portfolio in the industry, including the most advanced products within the area of insulin delivery systems, Novo Nordisk is a world leader in diabetes care.

Our worldwide market share in diabetes care, measured in value, is 7% in the US, 34% in Europe and 25% in Japan. In addition, Novo Nordisk has a leading position within such areas as haemostasis management, growth hormone therapy and hormone replacement therapy.

Our production is based on biotechnology; fermentation is the basis of our pharmaceuticals, using genetically modified microorganisms.

Novo Nordisk is the twelfth largest company in Denmark, measured by turnover, and number two in terms of profitability. With a net turnover in 2002 of DKK 25 billion, and profits of DKK 4 billion, it compares well with leading pharmaceutical companies. Measured on turnover Novo Nordisk is number 28 among the world's pharmaceutical companies.

PRODUCT PORTFOLIO Diabetes care constitutes 70% of turnover. Insulin, insulin analogues and devices for injection represent the majority of sales in diabetes care. The rest is made up of NovoNorm® (Prandin® in the US) and Glucoformin® (a generic version of metformin), both oral treatments for people with type 2 diabetes.

In 2002, NovoMix® 30 FlexPen® was launched in Europe, the US and Australia designed especially for people with type 2 diabetes starting insulin therapy. Other products include NovoRapid®, a rapid-acting insulin analogue, InDuo®, the world's first combined blood glucose monitoring and insulin-dosing system, and the injection devices InnoLet®, Innovo® and NovoPen® Junior designed for different groups of insulin users.

In 2002 a number of significant late-stage projects reached important milestones: insulin detemir (NN304), a long-acting insulin analogue for the treatment of type 1 and type 2 diabetes, was submitted for registration in the US and the EU and is currently ready for phase 3 trials in Japan. AERx®iDMS (NN1998), a pulmonary insulin delivery system, developed jointly with Aradigm Corporation, initiated phase 3 development.

Novo Nordisk is carrying out a clinical expansion programme aimed at regulatory filing of new indications for NovoSeven®, originally developed for people with haemophilia who cannot be treated with traditional medication. If successful, this project can position NovoSeven® as the world's first general haemostatic agent. In 2002, NovoSeven® accounted for 14% of turnover.

Human growth hormone products are marketed by Novo Nordisk under the names Norditropin® SimpleXx® and Norditropin®. In hormone replacement therapy (HRT) our products include Activelle®, Vagifem® and Novofem®.

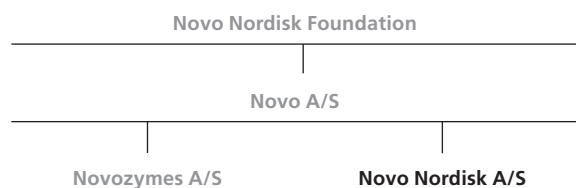
Novo Nordisk A/S



Headquartered in Denmark, Novo Nordisk is represented in 68 countries and markets its products in 179 countries. While 99% of sales are outside of Denmark, most of the production is located at plants in Denmark. The remaining production sites are in the US, France, Japan, China, South Africa and Brazil. Of the total workforce of more than 18,000 people, nearly two-thirds live and work in Denmark.

Novo Nordisk's ownership is split between A shares and B shares. A shares are held by Novo A/S, the holding company of the Novo Group, fully owned by the Novo Nordisk Foundation and established to manage the foundation's assets and to actively invest in life science businesses. Novo A/S owns 26.7% of the shares and 69.8% of the votes. B shares are quoted on the stock exchanges in Copenhagen and London, and on the New York Stock Exchange as American Depositary Receipts (ADRs). Novo Nordisk shares are the most traded in the Danish index of leading industries, KFX.

Novozymes A/S is a sister company that is separately listed on the Copenhagen Stock Exchange. The two companies share a set of values, the Charter for companies in the Novo Group, and a common corporate governance system.



Executive summary

This report is an account of how the Triple Bottom Line approach is implemented in Novo Nordisk. It explains how we put our values into action. It deals with some of the dilemmas we face in the global community. And it presents our views on how we will develop our business to be well prepared for future challenges.

For a business to be successful, delivering healthy returns is fundamental. However, the vision of a more sustainable development implies a broader view. For more than a decade, Novo Nordisk has been pursuing this vision – framed as the Triple Bottom Line approach to doing business. It helps define how our company interacts with its key stakeholders – shareholders, people with diabetes and others whose healthcare needs we serve, healthcare professionals, employees, suppliers, local communities, NGOs, governments and public authorities and others affected by, or affecting, our company.

ADDRESSING THE GLOBAL CHALLENGES We have identified three strategic themes our company needs to address:

- ◉ Globalisation, sustainable development and corporate governance.
- ◉ Industry's changing role and widening responsibilities.
- ◉ Stakeholders' demands for transparency, dialogue and accountability.

Events on the international scene during 2002 have accentuated attention to these issues, with increased pressure on pharmaceutical businesses, a highly competitive market and uneasy financial markets responding to the prospects of recession and international conflicts.

We have taken an active part in debates on these issues. Novo Nordisk attended major events such as the World Economic Forum in New York and the World Summit on Sustainable Development in Johannesburg. We have participated in debates, conferences and meetings in many different forums to learn from others and present our views.

Within Novo Nordisk's business area, the pandemic growth in the number of people with diabetes, notably in the developing

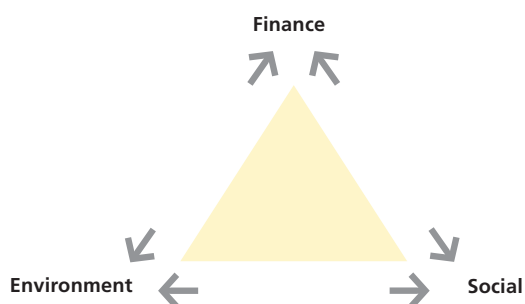
world, poses a huge challenge, and one which calls for concerted action. Engaging in partnerships, a core element in Novo Nordisk's overall business approach, will be one way to be able to respond.

STRATEGIC DILEMMAS Corporate accountability relies on the ability to document and demonstrate in deeds how intentions are put into practice. It also draws on mutual trust and transparency. We acknowledge that a willingness to deal with dilemmas helps build trust. This is where the Novo Nordisk Values, the backbone of our core management system, serve as guiding principles. In a complex business environment, we often find ourselves facing dilemmas, where the right choice is not always the obvious one. There may well be other views of equal value. Informed decision-making requires that different, and often opposing, views are reconciled.

In this report, we have invited representatives of views we have met in our dealings during the year to present how they see the key issues developing. We have asked them to comment on the dilemmas our company needs to deal with, now and in future:

- ◉ How can we ensure diligent observance of risk management, and yet nurture a spirit of innovation that encourages pursuit of promising opportunities?
- ◉ How can we improve access to diabetes care by making our products more affordable in developing countries, and yet sustain a profitable business?
- ◉ How can we respect others' cultural beliefs and positions on a sensitive issue such as stem cell research, and yet maintain a competitive edge in the quest to defeat diabetes?
- ◉ How can we justify to shareholders that investing in non-material assets, such as environmental management, is good business, and yet not see it reflected in share prices?

The Triple Bottom Line



Balancing the Triple Bottom Line is about considering each of these elements when making business decisions. In this report, we present Novo Nordisk's strategic approach and corporate initiatives during 2002, which will help shape our future business.

Financially and economically viable regarding:

- ◉ Corporate growth
- ◉ Investors
- ◉ National growth

Environmentally sound regarding:

- ◉ Environment
- ◉ Animal welfare
- ◉ Bioethics

Socially responsible towards:

- ◉ Employees
- ◉ People whose healthcare needs we serve
- ◉ Local communities and the global community

MAJOR ACHIEVEMENTS IN 2002 In this report we aim to cover those environmental, social and economic issues that are perceived to affect our future business performance. Hence, we strive to provide our stakeholders with information which we deem material to their assessment of our company. As in 2001, the internet version of the report is structured according to the Sustainability Reporting Guidelines and compares our performance against these parameters.

- ◉ **Living the Triple Bottom Line in China** Novo Nordisk's investments in education and awareness of diabetes in China exemplify how social responsibility is embedded in the company's business approach. The case from China may well serve as a model for other developing countries.
- ◉ **Access to health** In 2002, the LEAD initiative – Leadership in Education and Access to Diabetes care – began to lay the groundwork for funding projects in developing countries. We now build on our model for sustainable diabetes care in developing countries to help establish national healthcare capacity through our National Diabetes Programme (NDP). In 34 countries, plans were made for such programmes.
- ◉ **DAWN findings** The findings of the DAWN study (Diabetes Attitudes, Wishes and Needs) were shared with healthcare professionals and policymakers at the first Oxford International Diabetes Summit in April 2002.
- ◉ **New diabetes data** The World Health Organization has published updated figures for diabetes across the world. Novo Nordisk was instrumental in this process of defining data and participated in the work group.
- ◉ **Embedding social responsibility** In 2002, we have put particular attention on the integration of social responsibility and human rights issues in the core business processes. Towards our employees, five focus areas frame the People Strategy, and all targets for 2002 were accomplished. A series of toolkits were developed to support these. One focus area is promoting equal opportunities. All business areas have formulated their individual action plans to help remove barriers to equal opportunities and create an open organisational culture.
- ◉ **Social responsibility in the supply chain** In 2002, 90% of our key suppliers have been evaluated on their environmental and social responsibility, based on a self-assessment questionnaire and dialogue with our purchasers.
- ◉ **Animal welfare** In 2002 we introduced a policy of internal ethical review of all animal experiments. Also, progress has been made on housing standards, with new prototypes for

rabbits in place and other improvements, achieved in a partnership with the Danish Animal Welfare Society.

- ◉ **Environmental management** With increases in eco-productivity of 16 percentage points for water and 15 percentage points for energy, the medium-range targets for 'producing more with less' are likely to be achieved, if not exceeded. The implementation of our new Environmental Management System, with the first seven ISO14001 certifications obtained, is instrumental in that it brings about increased awareness and participation among employees. As part of this, target-setting has shifted to a bottom-up process, involving nearly 4,000 employees in a training programme.
- ◉ **Compliance** Significant improvements were achieved in 2002, particularly with respect to breaches of regulatory limits and complaints. There were no significant adverse events.
- ◉ **Economic impact analyses** Building on the assessment of our company's 'economic footprint', developed in 2001, we use the Global Reporting Initiative as a framework for analysing the cash value distribution to economic stakeholders. A case study from Denmark assesses the benefits of diabetes care, calculated as gained patient lives, improved quality of life and in monetary terms as productivity gains.
- ◉ **Awards and recognitions** During the year, Novo Nordisk has received a number of awards and recognitions for our reporting and for our work to drive the Triple Bottom Line approach in business. A list is available on the internet.

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

1) EPI is an eco-productivity index that 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) Per million working hours.

Embedding and implementing the Triple Bottom Line

Increasingly, sustainability is perceived by international business leaders as having more to do with opportunities than with avoiding costs, managing risks and compliance. Innovation and long-term profitability are the opportunities associated with the Triple Bottom Line approach Novo Nordisk has been pursuing for more than a decade.





Sustainability is a moving target and as we move up the learning curve, new issues emerge on the agenda. This learning process builds on interaction with key stakeholders and a set of fundamental business principles we have chosen to call the Novo Nordisk Way of Management. It provides the governance framework for putting our values into action.

In 2002, the focus has been on embedding and implementing the Triple Bottom Line approach in the organisation, moving towards higher integration of particularly social responsibility and human rights issues in the core business processes. The ultimate goal is that all decision processes in the company strive to balance an economic, social and environmental perspective.

On the journey towards sustainability, strategic objectives are translated into operational targets. These objectives are worked into the corporate planning process as well as into the business plans of individual business units. We define medium-range and short-term targets that are integrated in the annual Balanced Scorecards. In 2001 we developed a set of Triple Bottom Line indicators to help measure progress, and this year new indicators on access to health have been included.

A long-term profitable business can only be sustainable if the demands from stakeholders are taken into account. Novo Nordisk engages in dialogue and partnerships with a wide range of key stakeholders, and we see many benefits to this approach.

Good corporate governance applies to sustainability issues as well. Novo Nordisk's commitment to sustainable development

is strongly anchored in the company's strategic foundation and management structures. The Novo Nordisk Way of Management explicitly refers to the commitment to integrate the ICC Business Charter for Sustainable Development, the UN Convention on Biological Diversity and the UN Universal Declaration of Human Rights. In 2001, Novo Nordisk also became a signatory to the UN Global Compact.

While the pursuit of opportunities is fundamental, so is consideration of the risk perspective. Hence, risk management is the other side of the coin in our Triple Bottom Line approach. A wide array of risk factors associated with social, environmental or economic impacts are systematically addressed at board and executive level. Risks that are considered material to our future business performance are included in our quarterly and annual reporting to the public.

The World Summit on Sustainable Development in Johannesburg brought attention to a number of critical factors for successfully addressing the global challenges for business in the community: corporate accountability, robust public/private partnerships, stakeholder engagement to build trust and transparency, a paradigm shift in governance structures, and sustainability initiatives as investments for long-term profitability.

Through our consistent Triple Bottom Line approach, we believe that our company is well-positioned to use these factors as building blocks on which we will shape our future. The case study from Novo Nordisk's commitment in China serves as an example.

Following up on targets

The Novo Nordisk Way of Management sets out a commitment to continuous improvements of the company's social, environmental and economic performance. Against this governance framework, targets are set to provide direction and impetus for moving forward.

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Novo Nordisk's strategy for sustainable development rests on a three-tiered approach. First, the corporate governance structure defines our commitments. Second, the stakeholder engagement approach enables us to stay attuned to emerging issues and concerns. And third, target-setting and systematic follow-up procedures help ensure continuous improvement and exchange of better practices in the organisation.

The pursuit of the overall objective to balance social, environmental and economic concerns in every business decision made translates into both corporate and individual targets. These, in turn, are applied as a management tool, linking directly into Novo Nordisk's Balanced Scorecard. Each year, short-term targets are defined in the corporate Balanced Scorecard, and subsequently carried over into relevant units' individual scorecards. For each target, a responsible manager is identified, and through inclusion in Balanced Scorecards at corporate and unit levels, internal procedures are in place to secure systematic follow-up and reporting.

From strategic objectives to business goals



In the areas of bioethics, environment, health and safety, and social responsibility, the strategic objectives are built into the annual Balanced Scorecard targets for relevant units. At production sites, for example, targets for reduction of water and energy use reflect the strategic objective to improve eco-productivity. The People Strategy, in turn, and its specific targets apply to all organisational units.

MEASURING PROGRESS The table overleaf provides the status of progress against our targets by the end of 2002. Page numbers after targets refer to the articles presenting the issue in context.

The 28 targets for the company's social and environmental performance were defined as part of the annual Balanced Scorecard process in 2001. They reflect what we have identified as the key Triple Bottom Line issues for Novo Nordisk as a global healthcare company in the short- and medium-term timeframe.

Of the targets that were to be met by the end of 2002, 14 have been met, and three have been re-defined:

- A mandatory climate survey, eVoice 2001, was conducted to assess how employees think about the company, their job and their development opportunities. The goal was to follow up on the findings through mandatory surveys. However, it was later decided that conducting the eVoice in 2002 was not to be mandatory. In 2003 there will again be a company-wide climate survey.
- All affiliates were to make a plan in 2002 on assisting in the development and implementation of a national diabetes strategy in their country. In the course of 2002, due to budget cuts, one of the workshops for affiliates was cancelled. Instead, money was allocated to a workshop in the US. A programme is in place by January 2003.
- The deadline for reporting on lorry transport of a number of raw materials has been extended from 2002 to 2003 as it has been a greater task than anticipated to report in full on all transports.

Financial targets are defined for the long term. A detailed status on the company's financial performance is found in the *Annual Financial Report*.

Target	Status	
Social responsibility (pages 22–37)		
2002	Each executive vice president and senior vice president to establish a plan with targets for their organisation to address equal opportunities issues in 2002, p 30	+++
2002	90% of key raw material suppliers and a range of key suppliers in service and engineering to be evaluated on environmental and social performance by the end of 2002, p 33	+++
2002–2003	All licence productions to be evaluated on environmental and social performance by the end of 2003, p 33	++
2002–2005	Full implementation of an environmental and social evaluation system for suppliers as well as appropriate management systems in place by the end of 2005, p 33	++
2001–2002	Investigate how Novo Nordisk can improve the health of people in the organisation, p 32	+++
2002	Develop a sustainable business model in 2002 for helping people with diabetes in poor countries to gain access to diabetes care, p 24	+++
2002	All affiliates to make a plan in 2002 to assess how they can assist in the development and implementation of national diabetes strategies, p 25	+
2002	Communicate findings in 2002 of the DAWN study at workshops and conferences, and engage in a dialogue with the involved parties on how to improve the quality of diabetes care, p 26	+++
2002	Collect background information from each production unit and country on factors that have relevance to the number of accidents reported, p 32	+++
2002	Set a baseline for global H&S indicators by 2002, p 32	+++
2002	Follow up in 2002 on the results of eVoice 2001 through mandatory climate surveys	+
2002	80% of all employees to have a dialogue with patients – ie meet with and have an opportunity to ask questions – in 2002, p 26	+++
2002	80% of all units which had an employee turnover of more than 10% in 2001 to reduce their unwanted turnover in 2002 by 20%, p 28	+++
2002	Exit interviews to be conducted with 80% of people who leave Novo Nordisk (voluntarily or involuntarily) in 2002	+++
2002	90% of all managers with direct reports to establish one business goal related to how they will develop their people	+++
2002	90% of all vice presidents, senior vice presidents and general managers to identify one team target with a related reward/recognition by 30 March 2002	+++
2002	80% of this group to evaluate the team target before 1 December 2002	+++
Environmental responsibility (pages 38–47)		
2002–2005	Increase the eco-productivity index for water by an annual average of 5% by 2005, p 42	++
2002–2005	Increase the eco-productivity index for energy by an annual average of 4% by 2005, p 42	++
2002–2004	Zero breaches of regulatory limits and accidental releases by 2005, p 46	++
2001–2002	Further involve employees in the implementation of ISO 14001 globally, p 44	+++
2002–2003	ISO 14001 certification of all production sites worldwide by 2003, p 44	++
2002	Evaluate and report on lorry transport of raw materials to and products from production sites outside Denmark in the evaluation procedure and environmental reporting in 2002, p 43	+
2002–2005	Report on lorry transport of intermediary and final products from Danish sites to affiliates and customers in 2005, p 43	++
2002–2005	Report on transport by ship and by air in 2005, p 43	++
2002–2004	Contribute to the total removal of animal tests for biological product control by 2004, p 34	++
2002–2005	Establish and fully implement new Novo Nordisk standards for optimal housing in consideration of the needs of the animals we use by 2005, p 35	++
2002–2005	Develop and implement improved measures and standards in relation to animal experimentation at external contractors such as CROs by 2005, p 34	++

- +++ Achieved
- ++ On track
- + Target redefined

Indicators of Triple Bottom Line performance

A set of top-level indicators helps us measure progress towards sustainable development. Defined through our ongoing consultations with stakeholders, these indicators help establish a fact-based platform that can inform decision-making.

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In 2001 we identified a set of Triple Bottom Line indicators to serve two purposes. First, they provide stakeholders with a general overview of our company's performance over time in key areas and offer the opportunity to compare with other companies' performance. Second, they are applied as a management tool, as a way to measure progress against targets in our Balanced Scorecard. The twenty indicators, listed overleaf, are an expression of Novo Nordisk's performance in those areas where our company is considered to have a significant impact on the environment, people and societies.

TRANSPARENCY AND INCLUSIVITY In defining these indicators we have consulted relevant stakeholder groups to ensure that we properly address their concerns. We also learn from our engagement in international forums. Further, we build on the GRI framework for performance indicators. To facilitate comparisons over time and across sectors, we have chosen to use ratios wherever possible.

LIVING OUR VALUES Three indicators show how we live up to the company's values, as perceived by employees. In 2001 this was measured in a mandatory company-wide climate survey, eVoice. The questions were developed through a process of internal consultation. For 2002, however, conducting the survey has not been mandatory, which is why there are no comparable data on these two parameters.

The facilitation process and the systematic follow-up are described on page 13.

ACCESS TO HEALTH Global access to health is a key issue for pharmaceutical companies. Having set up a programme in 2001, we have selected two new indicators to measure progress on the LEAD initiative to offer best possible pricing in Least Developed Countries.

The programmes under the LEAD initiative are presented on pages 24–25.

OUR EMPLOYEES Four indicators measure standards of health and safety in the workplace, employee development and equal opportunities.

A status on our work with health and safety is presented on page 32, while our People Strategy and its focus areas are described on pages 28–31.

OUR USE OF ANIMALS Two key indicators are selected to track efforts to reduce the number of

animals used for testing and improve housing conditions. In this area we have worked closely with the Danish Animal Welfare Society.

Progress regarding animal welfare is reported on pages 34–35.

ECO-EFFICIENCY AND COMPLIANCE Our two high-level environmental indicators are based on eco-efficiency thinking. Decoupling economic growth from environmental impact reflects internationally adopted views. Full compliance with local laws and regulations is part of our policies. Certification of our production sites according to the ISO14001 standard will be instrumental to that end.

Progress has been achieved in all areas and is discussed in detail on pages 42–46.

ECONOMIC CONTRIBUTION There is still a challenge in developing meaningful and useful indicators for measuring performance in new areas. One of these is socio-economics. We are striving to develop economic, rather than purely financial, indicators, which can help qualify decisions regarding the welfare of people or the environment. At present, we have chosen five financial measures for reporting to shareholders and the financial markets. Some of these indicate elements of our contribution to society and other stakeholder groups who benefit economically from our activities.

We have attempted to measure our 'economic footprint'. The results are presented on pages 50–53.

SETTING NEW TARGETS To guide our future direction, we set specific, measurable medium-range targets, listed overleaf. Short-term targets and milestones accompany the relevant articles.

Indicator	Impact	2002	2001	Target
Living our values				
% of employees who agree or strongly agree that social and environmental issues are important for the future of the company.	Implementation of considerations regarding sustainable development in all decisions.	N/A	85%	Follow-up through mandatory surveys.
% of employees who feel that management demonstrates in words and action that they live up to the Novo Nordisk Values.	Implementation of considerations regarding sustainable development in all decisions.	N/A	53%	Follow-up through mandatory surveys.
% of fulfilment of action points planned for 2002 arising from facilitations of the Novo Nordisk Way of Management and values.	Implementation of considerations regarding sustainable development in all decisions.	95%	90%	Follow-up through facilitations.
Access to health				
Number of Least Developed Countries (LDCs) where Novo Nordisk operates, p 25.	Access to essential medicines.	30	N/A	'Best possible pricing' scheme offered in all LDCs.
Number of LDCs which have chosen to buy insulin under the 'best possible pricing' scheme, p 25.	Affordability of essential medicines.	19	N/A	'Best possible pricing' scheme offered in all LDCs.
Our employees				
Frequency of occupational injuries, p 32.	Increased quality of life for employees, improved work flow and productivity, and saved sick leave for company.	8.9	8.2	
Employee turnover rate, p 59.	Influx and outflux of knowledge.	6.4	7.7	Reduction of unwanted turnover.
% of employees who agree or strongly agree that their work gives them an opportunity to use and develop their competences/skills.	Increased competence level for employees and increased competence capital in company.	N/A	65%	Follow-up through mandatory surveys.
% of employees who agree or strongly agree that men and women have equal opportunities at Novo Nordisk (divided M/F).	Increased gender diversity in the workplace.	N/A	M: 73% F: 60%	Follow-up through mandatory surveys.
Our use of animals				
Number of animal tests removed from external and internal specification.	Animal welfare.	4 animal tests for biological product control removed; one remains. <i>In vitro</i> cell assay validated.	Animal testing removed for the product control of 24 selected codes.	Contribute to the total removal of animal tests for biological product control by 2004.
Housing conditions for experimental animals considering the needs of the animals, p 35.	Animal welfare.	New housing standards fully implemented (partially for rabbits).	New prototypes developed and evaluated.	Full implementation of new Novo Nordisk standards for optimal housing.
Eco-efficiency and compliance				
Water EPI, p 42.	Water use efficiency.	16%	2%	5%
Energy EPI, p 42.	Energy use efficiency.	15%	14%	4%
Compliance, p 46.	Compliance with regulatory requirements.	29 breaches; 10 accidental releases.	68 breaches; 5 accidental releases.	Zero breaches and accidental releases.
ISO 14001, p 44.	Pollution prevention through decreased use of raw materials, water and energy and decreased environmental impact per produced unit.	6 production sites certified. Training of 4,000 employees. Distribution of environmental video to all managers.	Cross-functional ISO 14001 procedures and instructions in place.	ISO 14001 certification of all production sites worldwide by 2003.
Economic contribution				
Operating profit margin, p 5.	Contribution to company efficiency, growth and investors' economic capacity.	23.7%	23.6%	25% ¹⁾
Growth in operating profit (2001–2002), p 5.	Contribution to company growth and investors' economic capacity.	6.5%	16.6%	15% per year ¹⁾
Total taxes as % of turnover (corporation tax in profit and loss/net turnover), p 52.	Contribution to national economic capacity.	8.8%	9.1%	
Return on invested capital (ROIC), p 5.	Efficiency of invested capital, contribution to asset base, and investors' economic capacity.	20.1%	23.1%	25% per year ¹⁾
Cash to earnings (3-year average), p 5.	Contribution to the company's degree of freedom in terms of available cash funds (resources).	34.9%	56.4%	60% ¹⁾

1) Long-term growth target.

Guided by values

Novo Nordisk's corporate governance framework integrates the commitment to sustainable development from board level through to operational units and individual employees. It provides a robust framework for a management system where in a two-way process strategic objectives, targets and key performance indicators are defined, monitored and evaluated.

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Novo Nordisk's strategy for sustainable development is founded on the Values, Commitments and Fundamentals expressed in the Novo Nordisk Way of Management, which consists of three elements: our Vision, the Charter and our Policies. Our commitment to the Triple Bottom Line means that we will ensure social and environmental responsibility as well as financial viability.

The Novo Nordisk Way of Management explicitly refers to the Triple Bottom Line, including the commitment to the ICC Business Charter for Sustainable Development, the United Nations Convention on Biological Diversity and the United Nations Universal Declaration of Human Rights. More recently, Novo Nordisk has also become a signatory to the UN Global Compact.

Furthermore, the targets for social responsibility, bioethics and environmental performance, and collaboration with key stakeholders in the diabetes care world, are included in the corporate Balanced Scorecard. Hence, these issues are channelled down the organisation in relevant departments. As a consequence, a number of individuals in Novo Nordisk have personal targets related to social, bioethical and environmental issues.

TRANSLATING THE VISION It is the job of every single employee to translate the Vision, the Charter and the Policies into action. However, a

particular responsibility for keeping the company's actions attuned to stakeholders' demands lies with the Board of Directors, Executive Management and cross-organisational committees. Three committees, each chaired by a member of Executive Management, have specific responsibilities for sustainable development:

- The Environment and Bioethics Committee
- The Social and Industrial Relations Committee
- The Health Policy Committee

These committees' tasks are to identify issues, establish and revise policies, and devise strategies, targets and action plans within their specific areas. Triple Bottom Line issues are reviewed twice a year at the Board of Directors' meetings.

For many years, Novo Nordisk has applied principles of good corporate governance that support our business and offer stakeholder value. These are embedded in the entire culture that strives to establish and maintain good governance at all levels of the organisation.

Novo Nordisk is organised under Danish law as a public limited liability company. As such we have a two-tier board structure consisting of the Board of Directors and Executive Management. The Board of Directors monitors the performance and participates in defining the strategy of the company, its management and organisation on behalf of the

The Novo Nordisk Way of Management

Vision

We will be the world's leading diabetes care company.
We will offer products and services in other areas where we can make a difference.
We will achieve competitive business results.
A job here is never just a job.
Our values are expressed in all our actions.
Our history tells us, it can be done.

The Charter

The Charter describes our Values, Commitments to the Triple Bottom Line, Fundamentals and Methodology – our basic management principles. The full text can be found on the Novo Nordisk corporate website.

Policies

Our Vision expresses the company's key business objectives and guides a set of policies on bioethics, communication, engineering, environment, finance, health and safety, information technology, legal, patents, people, purchasing, quality, regulatory and risk management.

shareholders. It has nine members, of whom shareholders at the annual general meeting have elected six, while three have been elected by and among Novo Nordisk employees in Denmark. Executive Management has responsibility for the company's daily operations. The two bodies are separate, and no one serves as a member of both.

For a more detailed overview of the principles regarding organisational structure, responsibilities of board members, remuneration and annual assessment of the Board of Directors and Executive Management, risk management, internal control and independent audit, see the *Annual Financial Report*, pages 6–7.

METHODS TO FOLLOW UP Three methods are employed to measure and evaluate our performance against the Triple Bottom Line. First, the Balanced Scorecard enables the embedding of the Triple Bottom Line approach in the organisation. From the corporate scorecard, key strategic objectives are carried into the scorecards of business areas, through to senior vice president level.

Second, the annual sustainability report provides an account of our performance on the Triple Bottom Line, and is assured by independent external experts. Third, the team of facilitators are setting particular focus on environmental, bioethical and human rights issues as part of their regular organisational audits and facilitations.

FACILITATIONS The facilitator function is a unique set-up in the Novo Group, organisationally residing with Novo A/S, the holding company, to ensure independence of the business. Its initial objective was to provide insight into the performance of the company worldwide and to facilitate organisational learning – held up against the Charter. More recently, the facilitators' role has evolved to include more process-oriented areas, helping to align projects with business targets.

The team of facilitators is a global, virtual team

of 16 experienced men and women with an international background, recruited from managerial or expert positions within the Novo Group. Hence, the facilitators' work not only puts management practices under scrutiny; it also helps share better practices.

On average, each organisational unit is facilitated every four years. During facilitation, employees are interviewed on how they perceive the quality of their daily management and how it reflects the Novo Nordisk Fundamentals. This method offers a high degree of validity to the analysis and helps ensure that all significant aspects are considered. The recommendations are brought forward in a written report with action points for the management to improve the unit's work. Subsequently, the facilitators follow up on action points and compliance is high; 95% of action points planned for 2002 were fulfilled.

STAKEHOLDER RELATIONS In spring 2002, Stakeholder Relations was made a corporate management responsibility, headed by Lise Kingo reporting to Lars Rebién Sørensen, president and chief executive officer of Novo Nordisk. By incorporating Stakeholder Relations into the Executive Management of the company Novo Nordisk demonstrates its strong commitment to sustainable development as part of its strategic business agenda.

Stakeholder Relations drives, challenges and monitors the Triple Bottom Line strategy in Novo Nordisk and helps the business implement new activities. Its task is to keep the company alert to new trends in sustainable development that may affect the company's future business performance, and to help management understand and manage the new, complex business agenda. Hence, interaction with key opinion leaders and other critical stakeholders is among the unit's main activities as are developing practices and reporting and communicating on Triple Bottom Line issues.

The Novo Nordisk learning curve



The Novo Nordisk learning curve reflects the process of addressing issues – beginning with the initial impulse from stakeholders – to framing our response, and, as we learn, to fully integrate this into business processes. For example, environment and health and safety issues are well integrated in the business, whereas assessing the socio-economic impacts of our activities as part of decision-making is an emerging issue with which we are still coming to grips. For each key issue, we have identified indicators that will help provide reliable and quantifiable data upon which stakeholders can base their assessment.

Addressing global trends

Fuelled by demands raised in the public debate on the back of several corporate downfalls, there has been a healthy debate on how companies must hold themselves accountable to their stakeholders and how, in turn, their managements will need to have better systems in place to ensure good corporate governance.

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In 2002, numerous reports of corporate malpractice at some of the world's prominent companies brought the general confidence in business to an all-time low and sparked an intense debate about corporate governance. Regulators in the US rushed to implement new accounting and governance legislation that brought governance issues, transparency and accountability to the corporate board and management agendas around the world.

GOOD CORPORATE GOVERNANCE Novo Nordisk's business is supported by good corporate governance, and the current debate confirms to us that our approach over many years is solid. It is a dynamic approach, which builds on continuous evaluation and adjustments when appropriate. Novo Nordisk is in general in compliance with the codes of good corporate governance designated by the stock exchanges in Copenhagen, New York and London, where Novo Nordisk is listed. Our approach towards these codes is described in the *Annual Financial Report*. These principles include risk management.

RISK MANAGEMENT Novo Nordisk has processes to identify, assess and manage business risks. The major risks of not achieving the company's business objectives have been linked into our Balanced Scorecard for regular reporting to management.

In 2002, Novo Nordisk established a process to standardise and optimise the company's risk management system. This has resulted in an improved reporting structure.

Executive Management has responsibility for conducting the ongoing risk management process including risk identification, risk assessment and evaluation of risk probability within their areas of responsibility.

PROACTIVELY ADDRESSING TRENDS A range of activities keep the company alert to emerging issues and enable us to better manage opportunities as they emerge. One such activity is the Novo Group Academy that was established in 2001 to support the governance efforts in Novo Nordisk and other Novo Group companies. The Academy introduces forefront trends in markets, culture, politics and knowledge to the Boards of Directors

and management teams, and provides a space to reflect on global business and societal issues. The Academy held two one-day symposia in 2002 on the themes of corporate governance and – in lack of a more precise term – non-financial risks.

TRENDSPOTTING The symposia are backed by the *Trendspotter* journal, presenting leading thoughts on the theme. It is produced in dialogue with a virtual network of 'trendspotters', mostly external experts. Systematic issues monitoring is shared in a bi-weekly management update, a series of topical briefing papers and formal issues assessments expressed in risk matrices used by management committees.

SCENARIOS In 2002, we initiated a cross-organisational programme to explore how the future may evolve and affect our business. One aim is to strengthen the organisation's ability to spot and interpret early signals of change in society and the marketplace. Early in 2003, a set of signposts – indicators of the emerging future – will be defined and monitored as part of 'trendspotting' activities.

DIALOGUE FORUM The 'Novo Nordisk Stakeholder Dialogue Forum' is a key element in our sustainability activities. We invite experts to share their knowledge and discuss complex topics, where Novo Nordisk needs to learn.

In 2002, Dialogue Forum hosted a one-day roundtable discussion on socially responsible investing, SRI. Representatives from rating organisations, index providers and ethical screening organisations provided a better understanding of their approach towards healthcare companies and major SRI trends.

The dilemmas of stem cell research were the theme of another roundtable, where ethical, societal and medical aspects were discussed. The meeting was part of our preparations for the hearing on stem cell research in the Danish parliament and the following debate on revising current Danish legislation.



DILEMMA

How can we ensure diligent observance of risk management, and yet nurture a spirit of innovation that encourages pursuit of promising opportunities?

It is not always easy to detect hidden risks. Enron, WorldCom and Marconi passed the 'corporate governance tick list', but for certain, the art of governance means more than just checking boxes. It depends on the balance, composition, alertness, intelligence, creativity and quality of communication of its corporate management.

Good housekeeping and monitoring are essential. But what really produces prosperity is people, teamwork, leadership, enterprise, experience and skills. There is no single formula to weld these together, and it is dangerous to encourage the belief that rules and regulations about structure will deliver success.

However, a balance between taking entrepreneurial risks and risk avoidance is needed. The best is to ensure that danger is averted ahead of time, but management must also be able to react promptly to unexpected events such as global, political and social crises or pre-emptive strikes by competitors.

Every company has its particular risks, both financial and non-financial. The personalities and styles of the individuals in charge will determine the company's approach to risk – as to opportunities. They will each have their strengths and blind spots. Recognising that makes it easier to know what questions to ask and how to provide checks and balances.

The key to good risk management is the knowledge, experience and wisdom to ask the right questions at the right time. The greater the trust among decision-makers, the more effective they work. Particularly with unexpected risk, management has to operate creatively, effectively and at speed. This may mean having to tackle problems in a variety of ways and at minimum notice.

Lynn McGregor, Convivium, UK

Lynn McGregor is a recognised leader in the field of corporate governance and executive leadership. She is the founder of the UK-based consulting firm Convivium and serves on the editorial advisory board of the international journal, Corporate Governance. She was one of the speakers at the Novo Group Academy in December 2002.

From dialogue to partnerships

The rationale for Novo Nordisk's stakeholder engagement is very simple. We must earn stakeholders' trust to run a successful business. By meeting stakeholders – whether on their turf, at Novo Nordisk or in the public domain – with an open mind we pursue our business interests while balancing concerns for the community of which we are part. Partnerships are a vital ingredient in this approach.

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Collaboration rather than confrontation is an innate attitude on which Novo Nordisk bases its business conduct. Novo Nordisk has been systematically engaging with stakeholders for decades now. We see many benefits to engaging with doctors, nurses, patients, NGOs, neighbours, governmental regulators and other key stakeholders. Not only are they vital to helping us build trust and understanding of a variety of important issues, but by involving stakeholders in the decision-making processes, decisions are better founded, and solutions more likely to succeed.

Increasingly, we move from dialogue to partnerships built on mutual respect and trust. It takes both time and commitment to build successful partnerships, with clear and transparent rules of engagement. Yet, once established, a partnership is a way to exploit opportunities and together bear risks and responsibilities on the way towards shared goals. And its proof of success is that its outcome benefits society, our business and that of our partners.

As a healthcare company Novo Nordisk engages in activities where our values and principles are

put to the test almost every day. As companies are increasingly expected to take a position and act on societal matters, we need to stay tuned to the 'hot issues' on the global agenda and contribute to the debate. Proactive stakeholder dialogue facilitates a mutual improvement of understanding of difficult issues. In this two-way learning process, we have the opportunity to exchange opinions or receive advice from stakeholders who often consider the issues and dilemmas we face from a different perspective than ours. Consequently, we are continuously challenged to do better.

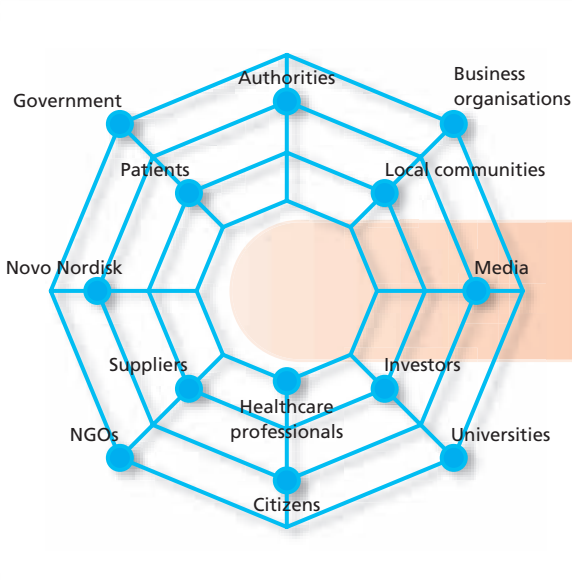
Reporting is just one element of our stakeholder engagement. In itself, presenting performance, positions, strategies and new targets – as we do in our annual corporate and site reports – does not affect the nature of relationships with key stakeholders. However, it supports our goal of being transparent by improving access to information about our company, and we use it actively as an invitation to dialogue. The internet version of the report offers opportunities to seek more information of particular interest to individual stakeholders, such as detailed performance data.

Novo Nordisk's approach

In today's complex society, Novo Nordisk's world view is but one among many different perspectives. Our stakeholder engagement is founded in a reflective understanding of others' positions and motives. Relations with stakeholders are not static, but depend on the nature of the relationship.

The multi-stakeholder approach helps Novo Nordisk align with different views and focus on the issues that are central to earn our societal licence to operate and innovate.

Stakeholders



Examples of our stakeholder engagement

- Meetings with neighbours to reduce environmental impacts at production sites, p 46
- Evaluating suppliers' social and environmental performance, p 33
- Personal meetings between employees and patients, p 28
- Partnerships with NGOs on animal welfare, p 34
- Memberships of business organisations to promote sustainable development, p 40
- Raising public debate on stem cell research and the need for revised legislation, p 35
- Putting diabetes on the agenda in the European Parliament, p 29

JOHANNESBURG SUMMIT The World Summit on Sustainable Development (WSSD) 2002 was a test of business commitment to make real changes. While many businesses have adopted more sustainable practices and become more transparent, many stakeholders remain sceptical and express little trust in business. To address these issues, Novo Nordisk initiated and co-hosted a workshop at the WSSD with Deloitte Touche Tohmatsu and the University of Cambridge. Delegates from business, the NGO community, governments and the public sector were invited to contribute to the debate.

The well-attended workshop addressed questions such as “What challenges does the sustainability agenda pose for the corporate world – what are the dilemmas associated with trust building, transparency, inclusiveness and assurance?” What emerged clearly from the discussions is that the need to build trust between business, government and NGOs demands new approaches on all sides. In the panel discussion, Lise Kingo, executive vice president of Novo Nordisk, stressed the need for a constructive interaction with stakeholders. “Trust is gained by a willingness to deal with dilemmas,” she said, referring to the need for a paradigm shift in businesses’ approach to sustainability, in which multi-stakeholder dialogue and partnerships are key ingredients.

→ For more information, visit www.novonordisk.com/sustainability

THE YEAR OF YOUNG EUROPEANS Political indifference, particularly among young people, is a huge challenge to democracy. In Europe, the enlargement of the European Union has accentuated a debate on the future of Europe and the role of governments and institutions vis-à-vis their constituencies.

Novo Nordisk has taken up the commitment to engage young people in shaping our future. We need to understand their views, learn from their thinking – and earn their trust. Bridging Europe is a pan-European initiative launched in 2001 by the World Economic Forum and the Danish thinktank Mandag Morgen. Novo Nordisk is a co-founder and main sponsor of the programme. Its ultimate objective is to help shape a

sustainable Europe through multi-stakeholder engagement.

A host of activities, including an interactive website, building a web community of 1,000 young Europeans from 33 countries, serve to mobilise young Europeans. At the World Economic Forum’s summit in Salzburg in 2002, their vision for Europe was presented: get the basics of Europe and European institutions right and put them into real practice – then build an elaborate political architecture. Their Europe is one where citizens feel a sense of community, have shared political values and have trustworthy institutions.

→ For more information, visit www.bridgingeurope.com

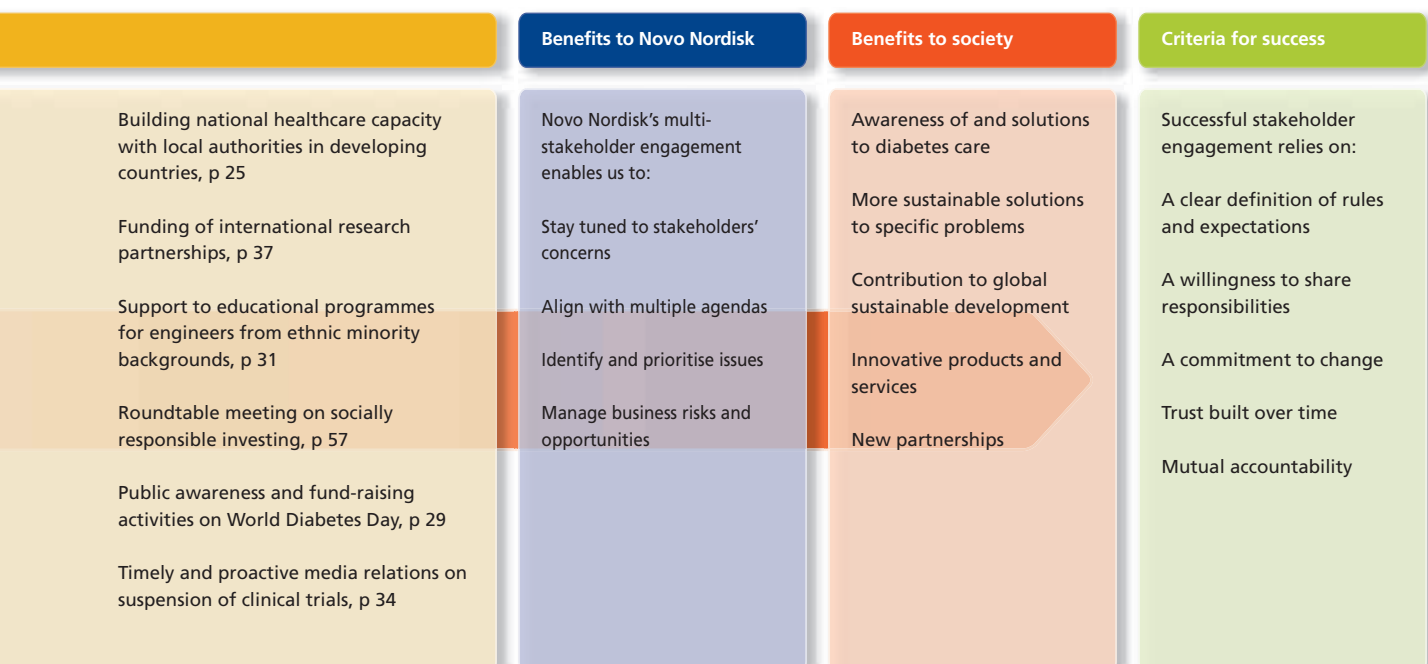
NORDIC PARTNERSHIP While many actors are putting a great deal of effort into making sustainability a reality, global divides keep widening, making the target as distant as ever. Through partnerships, we can help change direction, identify and harness opportunities and navigate confidently.

The Nordic Partnership, of which Novo Nordisk is a co-founder and main sponsor, builds on the best of Nordic values: democracy, transparency and openness. As a Worldwide Fund for Nature-led initiative, supported by the Danish thinktank Mandag Morgen together with 17 companies based in the Nordic countries, it aims to integrate sustainability into core business.

The partnership presented its report on members’ experience and recommendations for a business case for sustainable development at the WSSD. The initiative was well received as an example of better practice in committed partnerships.

The partnership members have signed up to a manifesto which is a commitment to form strong multi-stakeholder partnerships to work towards sustainable development, to call on others to create changes in market regulation to reward sustainable business practice, to raise awareness and to encourage governments, media and NGOs to stimulate and educate the public.

→ For more information, visit www.nordicpartnership.org





Living the Triple Bottom Line in China

China is one of the fastest-growing developing countries and with its 1.3 billion people, it is the most populous. Despite poverty in rural areas, a growing urban middle class is being increasingly affected by diseases such as type 2 diabetes, driven by factors such as a sedentary lifestyle and diets high in saturated fat and refined carbohydrates. Increased life expectancy also has an impact, as type 2 diabetes most often occurs in older people. In fact, China, along with India and many developing countries, are the areas in which type 2 diabetes is increasing the most rapidly. Some 30 to 40 million people in China are estimated to have type 2 diabetes.

With limited infrastructure for the care of chronic illnesses such as diabetes, the country is ill-equipped to deal with this epidemic, particularly in the face of continued rapid urbanisation. Lifestyle-driven diseases such as diabetes can take a greater toll in a country like China, where economic development, accompanied by unhealthy lifestyle changes, is occurring at a much faster rate than in other countries where the rate of diabetes has increased more gradually.

As part of our commitment to stem the tide of diabetes in the developing world, we have taken a Triple Bottom Line approach to tackling diabetes in China. The foundation for this work is the Novo Nordisk Way of Management, which includes the company's Vision, Values and commitment to the Triple Bottom Line, particularly social responsibility.

"We want to improve the conditions for people with diabetes in China and you can't do that by just peddling your product," says Thorkil Kastberg Christensen, president of Novo Nordisk China. "We think what we have accomplished in China so far can serve as a model for other developing countries. You must have a vision. You need to know what the barriers are and you must have a relentless urge to keep working at it, year after year,

to get the results. It is important to show a willingness to make an investment in China – and I'm not talking about bricks and mortar and other fixed assets, but an investment in people, so that you have a capable organisation to carry out this huge task. That kind of investment is more sustainable in the long run."

A GROWING PRESENCE IN CHINA Novo Nordisk has had an affiliate in China since 1994. The headquarters and R&D Centre are located in Beijing while the production plant for packaging and quality control of insulin is located in Tianjin. Liaison offices are located in Shanghai, Guangzhou, Wuhan, Shenyang and Hong Kong. Novo Nordisk employs over 300 people working in Sales, Marketing, Production, R&D, Regulatory, HR, IT, Finance and other administrative functions.

The R&D Centre in China, first established in October 1997, has evolved into a centre of excellence for Novo Nordisk in molecular biology and protein expression using microorganisms. Novo Nordisk is building a new, bigger packaging and quality control plant, slated to become operational in the first half of 2003. It will have the capacity to produce 20 million units per year. The plant supplies all insulin products and devices for China.



EDUCATION IS KEY We have found in our work in China that healthcare delivery varies considerably from place to place, depending on the available resources, training and interest in diabetes amongst doctors, and the patients' willingness to accept as well as their ability to pay for treatment. Yet there is emerging evidence that diabetes education, awareness and improving motivation for self-care enhance treatment, reduce complications and thus reduce the overall costs of diabetes to society. To this end, Novo Nordisk has designed an approach to diabetes care in China that takes into account the three keystones of sustainable development: it aims to be socially just, environmentally sound and economically viable. In meeting these goals, we engage with a wide variety of stakeholders and build our progress on meaningful partnerships with key people and institutions involved in the delivery of diabetes care in China.

A lack of education about diabetes results in low diagnosis rates. In China, the diagnosis rate for type 2 diabetes is about 10–15%, compared to, for example, 50% in Europe. In order to address this gap, Novo Nordisk China has introduced many programmes for educating medical professionals, among them the courses offered by the Steno Diabetes Center (see page 21).

In addition, the company organises annual medical congresses attended by some 500 top Chinese doctors each year in the diabetes field. In the past five years, we estimate that 35,000 doctors in China have been educated through various diabetes programmes sponsored by Novo Nordisk.

Nurse education programmes are also increasing. There is a growing recognition for the need for doctors and nurses to work together in teams.

TACKLING LACK OF AWARENESS Lack of awareness about diabetes among the general public is compounded by misunderstandings around, for instance, the use of insulin. Lack of education and awareness about diabetes is faced elsewhere in the world, but nowhere on the scale and significance of China, with its huge population.

In order to help eliminate those misunderstandings, educating the general public about diabetes is an important element of the Novo Nordisk approach in China. For instance, we have established 70 patient education centres in hospitals in 47 cities. These centres, each staffed by nurses, and doctors, serve approximately 50,000 patients each year through educational seminars. Novo Nordisk provides all patient education materials and supports annual nurse training. The goal is to encourage a greater degree of self-care for people with diabetes. This is a revolutionary concept in a country where just a decade ago it was unthinkable that such a centre would exist, or that a patient could inject himself or herself with insulin.

GETTING THE WORD OUT Other efforts by Novo Nordisk and partners to enhance public awareness about diabetes include:

- ◉ Funding the development of China's first Chinese-language diabetes information website aimed at both patients and healthcare providers. It has →

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received over 50,000 hits since it was established in October 2000. About 46 million people in China have access to the internet.

- ◉ Initiating the NovoCare Club for people with diabetes in July 2001 in order to meet their individual needs and serve them better. It had nearly 30,000 members at the end of 2002.
- ◉ Working with the media to spread the word about diabetes, resulting, in 2002 alone, in 22 television programmes and about 40 national radio programmes (reaching 600 million people) and about 160 print media mentions.
- ◉ Sponsoring over 100 free diagnosis clinics over the past five years, particularly in parks frequented by many people.
- ◉ Sponsoring 10 mobile clinics to reach communities without diabetes clinics.

REACHING DOCTORS AND PEOPLE WITH DIABETES What has the impact of these programmes been? A nurse at Beijing Insulin Diabetes Hospital says it has lessened the burden of her work, improved her professional skills and knowledge of diabetes and helped lift some of the pressure on the hospitals to perform multiple tasks. A doctor at the hospital says, "It is a win-win cooperation. The hospital and Novo Nordisk join together to promote the need for greater awareness and better treatment of diabetes among healthcare professionals in China. At the same time, the scientific updates sponsored by the company are a good way to keep abreast of latest developments."

The doctor also points to the importance of the cascading effect of such educational programmes: that health professionals in urban areas try to ensure that colleagues in more remote districts also benefit. As one way to address the problem, Novo Nordisk will launch in 2003 a physician residency programme in which 50 physicians from small hospitals in remote areas will spend three to six months in a diabetology residency programme in one of ten partner teaching hospitals.

A 60-year-old Chinese woman with type 2 diabetes, who is a member of the NovoCare Club, says that it has "helped me master more knowledge of diabetes than before. I can take the initiative to cooperate with my doctor for the treatment. I am now in good spirits and have better control of my blood sugar. After retirement, I am now staying at home to take care of my grandchild, so it's important that I feel well."

WORKING WITH CHINESE AUTHORITIES In order to increase the activity level of all education programmes on diabetes in China to a much higher level, the Chinese Ministry of Health launched, in collaboration with Novo Nordisk, the National Diabetes Management Project (NDMP). The NDMP aims to provide diabetes education and training to physicians and nurses and to establish models of diabetes care in hospitals and community health centres. This model will then be cascaded to all 311 county levels, cities and townships throughout China during the five-year project period. The project is co-funded by the World Diabetes Foundation.

Novo Nordisk's overall goal in China is to educate an ever increasing number of doctors, nurses, patients and members of the public. The ambition is to educate at least 20,000 doctors per year in 2003 and 2004. The collaboration with the Ministry of Health will greatly increase this number, as the ministry can utilise its infrastructure and administrative means.

EMPLOYEES LIVE THE TRIPLE BOTTOM LINE One of the keys in making Novo Nordisk's business in China an expression

of the company's commitment to sustainable development is how well its people support that ideal. Certainly, the company's policies support such a vision, but to what extent that vision is experienced by employees depends on leadership, training, self-motivation and finding the balance between compassion and competitiveness. These qualities do not seem to be lacking at Novo Nordisk in China. In fact, attracting and retaining employees does not appear to be a problem. The company receives about 3,000 job applications a year and has an employee turnover rate of less than 10%. This is considerably lower than the turnover rate in the pharmaceutical industry in China, which is between 30% and 40%.

"When you face the patients and they tell you that with your products they are having a healthy and happy life, you can feel the social responsibility in your daily work," says Shen Bo, senior product manager in the Marketing department at Novo Nordisk in China. "When doctors tell me that we are doing a good job educating patients and doctors, I feel motivated in my work."

Liu Qi, a public relations specialist with the company, says that living the Triple Bottom Line in her daily work is natural because "Novo Nordisk is a healthcare company. We don't provide cigarettes or chewing gum; we're providing products and services that help people suffer less from a disease, both physically and mentally. When I introduce my work to friends or relatives, and tell them I work for the best company in diabetes care in the world, they are always very interested. They tell me about people they know who have diabetes and whether I can tell them more about the disease. You become an ambassador for your company, even off the job."

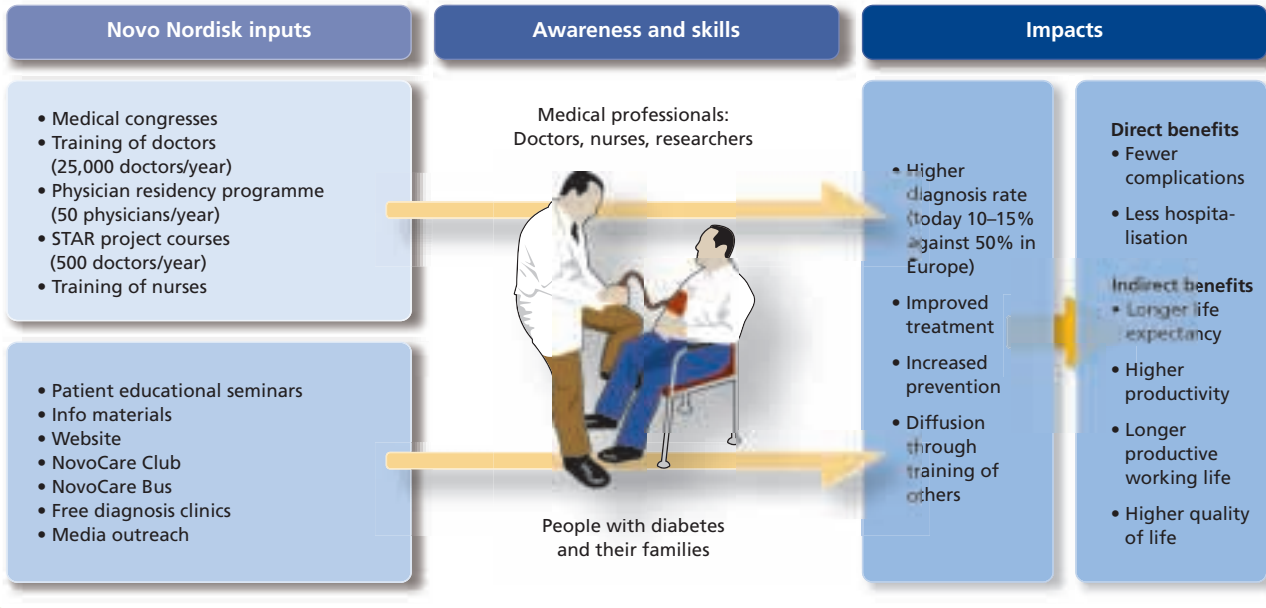
TRAINING OF EMPLOYEES: A SOCIAL INVESTMENT Most significantly, Novo Nordisk finds that one of the best ways to attract and retain the right people is to invest in their training. Each employee receives approximately 60 hours per year of training, which includes 16 hours of teambuilding, 36 hours of in-house training, and eight hours of training through external programmes. Every new employee attends a four-day induction course, and it is extended to 10 days for sales staff.

Some of the training programmes are specially designed for China while others are part of the company-wide offering. A series of courses is designed for specific jobs. The need for additional training is consistently analysed and follow-up sessions are held as necessary. An internal team for training people is also being developed in China.

The development of Novo Nordisk's employees in China is a social investment that has an impact on the local community. The training, upgrading of skills and education are a particularly meaningful contribution to the competence levels of a developing country. In the longer term, the education and training undertaken by Novo Nordisk employees in China increases their overall employability. Their know-how adds value to society when these employees assume positions in local companies.

For now, there is more than enough challenge for the employees of Novo Nordisk in China. "In China it is not yet possible to have a sustainable business model in which the health authorities alone support the infrastructure," says Thorkil Kastberg Christensen. "In time, the Ministry of Health may be able to take over the programmes we are sponsoring, but until then we believe that we are in a position to help, and improve diabetes care in China."

NOVO NORDISK'S SOCIAL INVESTMENTS IN CHINA



EDUCATING DOCTORS

STAR brings diabetes knowledge to China

In the past two years, some 800 doctors in China have learned more about diabetes through state-of-the-art courses organised by the Steno Diabetes Center (SDC) in Denmark in cooperation with Novo Nordisk in China. The aim is to update the knowledge of Chinese diabetologists with the latest information about the disease. The courses are part of the STAR project (Steno Training and Application of Resources), headed by Ebbe Eldrup, chief physician at the SDC. The SDC, owned by Novo Nordisk but part of the Danish public health system,

is a specialised hospital that links the treatment of diabetes with teaching, research and development.

The STAR project was initiated in 2000 and receives continuous annual funding from the Novo Nordisk Foundation, with the overall goal of contributing to increased knowledge about diabetes in developing countries. India is also a focus of STAR. In India, the courses in practical diabetology and clinical research methodology are offered, while in China, it was determined that health professionals would most benefit from courses that updated on the state-of-the-art in diabetes care. In 2001, courses were held in Beijing, Guangzhou and Shanghai, and in 2002, doctors in Dalian, Zengzhou,

Nanjing and Chengdu attended the update courses. About 100–130 doctors attend each course. The lectures are complemented by workshops and question-and-answer sessions.

These courses are extremely valuable in helping to improve diabetes care in China because the SDC has a very good reputation among diabetes experts in China, who play an important role in helping disseminate knowledge about diabetes. Compared to the total number of doctors in China, these courses address relatively few. It is, however, a joint target for the SDC and Novo Nordisk to work with the specialists to encourage cascading the knowledge to as many doctors as possible.



A CHINA IN TRANSITION

Still some way to go

2000–2001	China	OECD ¹⁾
Poverty (%)	19 ²⁾	4–17 ³⁾
Life expectancy at birth	71	78
Child mortality (1,000 live births)	32	6
Urban population (%)	38	79
Hospital beds per 1,000 capita	3 ⁴⁾	4–21
GDP growth (%)	7	3
Health expenditure (% of GDP)	5 ⁴⁾	7–14

1) US/Western Europe. Data from year 2000.

2) Population living at less than USD 1 a day. China's national poverty line is 5%.

3) Population below 50% of median income; range from Luxembourg to the US.

4) Data from year 2000.

Sources: *Diabetes Atlas 2000*, World Bank data and *UN Human Development Report 2002*.

Social responsibility as a business principle

Social responsibility for Novo Nordisk is about caring for people. This applies to our employees and the people whose healthcare needs we serve. It also considers the impact of our business on the global society and the local community. As such, social responsibility is more than a virtue – it is a business imperative. It is an investment in our future.





In our actions and decisions, we strive to act on our commitment as a corporate citizen. In this section, we present examples of how we translate social responsibility into practice. We highlight three important groups of stakeholders: people with diabetes, our employees, and the broad spectrum of civil society engaged in the debate on issues affecting our business.

In a global context, the most critical social issue in terms of our future business development is the 'right to health'. Our main responsibility is towards people with diabetes and other healthcare needs that our company serves. With our aspiration to defeat diabetes, we invest concerted efforts in improving education and access to diabetes care. We focus particularly on developing countries, where dramatic growth in the numbers of people with diabetes calls for urgent action. Our aim is to build our business on a model for sustainable diabetes care.

This focus on 'being there' reverberates throughout the organisation. Embedded in our employees' daily work is a sense of responsibility towards the people who depend on our products and towards other stakeholders.

Through a constant drive to improve the quality of our products – in terms of safety, efficacy, convenience and environment-friendliness – we make it easier to live with diabetes. Our understanding of people's needs for care builds on years of dialogue with healthcare professionals, patient organisations, governments as well as thousands of individuals with diabetes. The international DAWN study has added new dimensions, now being built into future care solutions.

To be an attractive workplace we make investments in health and safety, in training and people development. Fair remuneration, reward schemes and attractive benefits are part of our offering to employees. We have also set out to promote equal opportunities systematically, with mandatory action plans for each business area. This is done in recognition that diversity nurtures a healthy business development, and that a winning culture is about staying competitive through innovation. These are the basic ingredients of the Novo Nordisk People Strategy.

Social responsibility extends beyond the company's grounds. It reaches throughout the supply chain and to the global agenda of sustainable development. Public acceptance of genetic engineering, the ethics of clinical research, R&D priorities, and the use of animals for experimentation and testing are examples of critical social issues. As a pharmaceutical company we acknowledge that our activities are in areas where values and ethics are constantly tested.

At the core of these issues lies our fundamental approach to doing business. Underpinning every decision is the belief that our values must be expressed in all our actions. Business ethics are about decency and empathy.

We strive to find the right balance between compassion and competitiveness, the short and the long term, self and commitment to colleagues and society, work and family life. This is not an easy task, but rather a constant challenge. If we succeed, we have made our business case.

Concerted action on global health

Global health remains more a promise than a reality. As a leading diabetes care company, we believe we can play an important role in helping people with diabetes around the world achieve greater access to health.

We translate this vision into action with our LEAD initiative – Leadership in Education and Access to Diabetes care. In 2002, LEAD began to lay the groundwork for funding projects in various developing countries, all rooted in our business model for ensuring access to health in the developing world.

Today, nearly 177 million people around the world have diabetes. By 2030, the World Health Organization (WHO) expects the number of people with diabetes to rise to more than 370 million. Two-thirds of this alarming increase in diabetes will occur in developing countries, where prevalence rates are increasing rapidly among younger and productive populations. If nothing is done to check this disturbing trend, many poor countries that can least afford the heavy burden of diabetes and its late complications, will be left to bear the social and economic costs.

LEAD is modelled on the four priorities of WHO for improving access to healthcare in the developing countries.

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

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Target:

Eight partnership agreements under the World Partner Programme to be signed by the end of 2004.

NATIONAL DIABETES PROGRAMME

Building national health-care capacity

Without sufficient healthcare infrastructure, no country, particularly the poorer ones, can hope to overcome the rapid rise of diabetes. We believe that Novo Nordisk can play an important role in contributing to improving people's health over and above our primary role as a supplier of diabetes products and delivery systems.

To that effect, in 2000 we launched a National Diabetes Programme (NDP) to promote and enhance the development and implementation of such programmes through the Novo Nordisk global network of international affiliate companies. We want to enhance these programmes where they already exist, and support their development in countries without current plans, by working with healthcare professionals, patient organisations, government and other relevant stakeholders.

At the NDP workshops in 2001 and 2002, 41 of 60 international affiliates were represented. After completing a baseline survey of diabetes in the country in which they operate, 34 made a plan for a national programme in their country. These addressed a range of issues from early detection to aged care programmes and better clinical guidelines. Plans are now being implemented.

WORLD PARTNER PROGRAMME

A model for sustainable diabetes care

In 2002, as part of our World Partner Programme (WPP), we fulfilled our target of developing a model for sustainable diabetes care for helping people with diabetes in poor countries to gain access to diabetes care. The WPP began its work in 2001 with an in-depth, fact-finding analysis of diabetes care in six developing countries: Bangladesh, Malaysia, Tanzania, Zambia, El Salvador and Costa Rica. The model points out interesting opportunities to improve diabetes care in the developing world while remaining a viable and profitable business. It is based on the premise that three basic keystones and their critical success factors influence the delivery and quality of diabetes care in the developing world. All of these

need to be in place in order for a country's diabetes care system to function optimally and effectively.

In 2003, we will continue this work and establish partnerships with patient organisations, ministries of health and other stakeholders. We will initiate and develop partnerships in the six countries which were the focus of the WPP as well as China and India – the countries in the world with the highest number of people with diabetes. Part of the effort will be devoted to establishing national diabetes programmes. We have selected the activities in close consultation with our stakeholders in the countries. These include a workshop in India with key health policymakers from the various states; initiating a centre of excellence at the University Hospital in Tanzania by establishing a clinic for treatment of foot problems associated with diabetes; and helping to form national diabetes plans in El Salvador, Tanzania and China. Other projects include: clinical guidelines update and training of general practitioners in Costa Rica and Malaysia; recruiting and training diabetes educators in Tanzania, Bangladesh, El Salvador and Zambia; implementation of a cool-chain system for insulin in Bangladesh; and patient education programmes in all eight countries. We will also be collaborating with WHO and the International Diabetes Federation.

A model for sustainable diabetes care in developing countries

Drivers

Local champions
Government's political will
Economic resources

Diabetes awareness and education

Awareness of burden of diabetes
National plan and strategies
Public patient education programmes
Clinical practice guidelines
Professional continuing medical education programmes

Infrastructure

Accessibility of diabetes care facilities
Accessibility of medicine and equipment

All three keystones need to be in place in order for a country's diabetes care system to function optimally and effectively. The model points out interesting opportunities to improve diabetes care in the developing world while remaining a viable and profitable business.

BEST POSSIBLE PRICING

Ensuring direct benefits from lower insulin prices

In 2001 we decided to offer 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 an overall profitability while still achieving the goal of affordable pricing. It should be noted that the price of our insulin in these countries has always been substantially reduced compared to world-market prices.

We have reviewed the impact of this maximum pricing initiative during 2002 and found that Novo Nordisk has traded in 30 of the 49 LDC countries. In three countries the pricing policy resulted in a reduction below the maximum price, in 16 countries the price stayed below the 20% threshold and in 11 countries the price did not decrease below this threshold. We are working with governments, wholesalers, hospitals, pharmacists – all of those involved in the retail distribution chain – to encourage them to eliminate or reduce mark-ups or taxes to ensure that the reduced cost for insulin directly benefits the patient, which unfortunately is not always the case. We are also working with patient organisations to lobby decision-makers to ensure that people with diabetes benefit directly from reduced prices for insulin.

WORLD DIABETES FOUNDATION

Education at core of sustainability

To address the need for additional funding, Novo Nordisk established the World Diabetes Foundation (WDF) in November 2001 with an endowment of DKK 500 million (EUR 67 million) to be spent over the next decade. The foundation aims to improve diabetes care in the poorest countries through funding of education, capacity building, distribution and procurement of essential medicines.

The World Diabetes Foundation is governed independently of Novo Nordisk by a five-member Board of Directors, comprised of individuals with expertise in the fields of diabetes and access to health. The members are Chairman of the Board

Sir George Alberti, president of the International Diabetes Federation; Professor Ib Bygbjerg of the Institute of Public Health, Department of International Health, the Panum Institute, Denmark; Ida Nicolaisen, senior research fellow, Nordic Institute of Asian Studies, University of Copenhagen, Denmark; Vice Chairman of the Board Anil Kapur, vice president of Novo Nordisk International Operations and managing director, Novo Nordisk India; and Lars Rebie Sørensen, president and chief executive officer of Novo Nordisk A/S.

"There is far too little funding available for innovative and helpful programmes to improve care for people with diabetes in the developing world," says Sir George Alberti. "The World Diabetes Foundation was created to fill that gap, but it is not just a question of giving hand-outs. We are looking very much at sustainability – at projects that will have a long-term benefit for people with diabetes."

In 2002 the World Diabetes Foundation approved 12 projects out of 44 applications, representing DKK 82 million (EUR 11 million) of which DKK 44 million was donated by the World Diabetes Foundation and DKK 38 million by others. The projects will take place in Latin America, Africa and Asia. Each project meets the requirement of sustainable diabetes care by including elements of education, training, awareness raising and capacity building. Examples are: the establishment of four diabetes treatment clinics in Bolivia and the formation of a national diabetes plan in Cameroon. The World Diabetes Foundation is also collaborating with other institutions. At the World Summit on Sustainable Development in Johannesburg in 2002, the World Diabetes Foundation joined forces with Danida, the development agency of the Danish Ministry of Foreign Affairs, to work together towards preventing diabetes and its long-term complications in developing countries. The joint initiative will kick off in 2003 with two projects aimed at strengthening the national healthcare systems in selected developing world countries.

Together with the International Diabetes Federation, the World Diabetes Foundation is also funding positions at WHO in order to double WHO's efforts towards diabetes education and awareness.

→ For more information, visit www.worlddiabetesfoundation.org

Learning from people with diabetes

In 2002, the findings of DAWN (Diabetes Attitudes, Wishes and Needs), the landmark study of the psychosocial aspects of diabetes financed by Novo Nordisk, played a pivotal role in placing the social and psychological needs of people with diabetes squarely on the agenda.

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Target:

80% of employees have discussed the findings from DAWN with patients in 2003.

As the largest global psychosocial diabetes survey of its kind, DAWN addressed the perceptions and attitudes of more than 5,000 people with diabetes and nearly 4,000 healthcare professionals in a total of 13 countries. It made clear that healthcare providers should focus at least as much on patient attitudes and environment as on medicine when trying to improve a patient's health.

In 2002 the findings were presented through a range of activities, not only to medical professionals, but also to government leaders, and institutions and organisations active in diabetes. In meetings, publications, programmes and other initiatives we invited a discussion aimed at bringing about solutions to the problems made evident by DAWN.

One-third of the patients in the study reported a feeling of "poor well-being", and only 10% reported a feeling of "good well-being".

Approximately 50% of patients were very anxious about their weight and were constantly afraid that their disease would get worse. Almost 40% felt stressed by their diabetes and worried about being able to carry out their family responsibilities and felt more tense than other people they knew. Less than 50% of the healthcare professionals interviewed felt able to identify and evaluate patients' psychological needs.

The findings showed that social support and emotional well-being are central to achieving effective self-management, and that psychosocial support should be combined with appropriate medical care.

CONVEYING DAWN TO EMPLOYEES Now that DAWN has made clear the challenges, a number of initiatives are going forward to find solutions. Those efforts begin at home, with our own employees, all of whom need to understand the key messages of DAWN in order to better deliver on our promise of 'being there' for people with diabetes. Thus, in 2002, we succeeded in meeting our target that at least 80% of all employees were to have a dialogue with people with diabetes.

DAWN SUMMIT IN OXFORD The first Oxford International Diabetes Summit in April 2002, convened by the Oxford Centre for Diabetes, Endocrinology and Metabolism in Oxford, UK, and Novo Nordisk, shared the findings with doctors, nurses, patients and policymakers. Delegates called for a

new framework for psychosocial education and a global campaign to raise diabetes awareness. A second Oxford International Diabetes Summit will be held in May 2003.

DAWN AT THE EASD We also held a symposium during the European Association for the Study of Diabetes (EASD) Congress in Budapest, where DAWN was the focus. In addition, a EUR 1.6 million research grant given by Novo Nordisk in 2002 to the European Foundation for the Study of Diabetes, the research arm of the EASD, will encourage projects with a psychosocial focus.

Findings from DAWN were also part of the discussion for inclusion of diabetes in the 6th framework programme of the European Union. DAWN has been presented and discussed with the International Diabetes Federation, leading to collaboration on a project to improve diabetes educational programmes.

MOVING AWAY FROM THE OLD MODEL

"DAWN pointed out many pressing problems, among which: How do you manage psychological support when there is not enough support to go around?" says Professor David Matthews, chairman, Oxford Centre for Diabetes, Endocrinology and Metabolism. "It means gradually moving away from the old doctor-patient model and recognising that doctors need the help of other professionals to treat diabetes – nurses, podiatrists, psychologists, and so on. But educating doctors alone about the psychosocial aspects of diabetes will not be enough. We need to move towards a scheme that is more group-oriented, not only among health professionals but also among patients, so that they can support one another in a group setting."

COMMUNICATING CARE Improving the communication and understanding between doctor and patient is at the heart of the Communicating Care programme, a patient communication tool for healthcare professionals developed by Novo Nordisk as one response to the issues raised by DAWN.

Successful pilot programmes in Sweden and the UK with 70 healthcare professionals during 2001–2002 now pave the way for the programme to be conducted through Novo Nordisk affiliates in a number of countries over the next two years, including the US and Australia.



DILEMMA

How can we improve access to diabetes care by making our products more affordable in developing countries, and yet sustain a profitable business?

“Thank you for not letting me die, yet.”

These were the words from a young, South African mother to me in one of Médecins Sans Frontières’ (MSF) HIV clinics. She had just started her anti-HIV treatment. Try for a moment to imagine yourself in such a situation, where these words are reality – “Thank you for not letting me die, yet.” In moments like this I realise that we in the West have the key to prevent misery and premature deaths.

The UN Universal Declaration of Human Rights states that a fundamental human right is the right to health. However, this right does not make any sense if you are sick and cannot afford the medical treatment. It does not make sense if no treatment exists because no research or production has been carried out.

The pharmaceutical industry plays a decisive role in the research, development and production of medicine. Market forces determine development and sale. In many places the market is out of play; it is a fact that 10% of the world’s population in the West use 90% of the world’s medicine. Does that mean that we are more afflicted by illness?

When you are involved with people and medicine, moral responsibility and high ethical standards follow. We all have a responsibility to solve these problems.

The pharmaceutical industry should face its responsibility and earn its profit in financially resourceful regions. In poor parts of the world, where health problems are grave, there is a need for medicine at affordable prices. Here, essential medicine should be sold at cost price. The pharmaceutical industry must be part of an open and constructive dialogue, characterised by transparency and good will.

We, MSF, contribute with 3,000 doctors and nurses each year. The contribution of the pharmaceutical industry must be pricing and research and development that make it possible to transform the UN’s honourable intentions into reality. Let us be part of a solution together, not part of the problem.

Our actions are the beginning of change.

Søren Brix Christensen, Médecins Sans Frontières (MSF), Denmark

Søren Brix Christensen is an MD and through his work with MSF a vocal advocate for access to health in developing countries. When Oxfam in 2001 raised the critique against the pharmaceutical industry in connection with the South African court case on AIDS medicine, he was the leading figure in bringing the issue on the agenda in Denmark.

Valuing our people

Novo Nordisk is its people. Being able to attract and motivate the best people, offering a challenging workplace where everyone has equal opportunities to grow and develop with the company, are the objectives that determine how we aim to meet our responsibilities as an employer.

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Targets:

80% of all managers to score 3.0 or more in eVoice survey on questions related to winning culture in 2003.

Units with unwanted turnover above 10% are to reduce this to maximum 10% by the end of 2003.

The People Strategy of Novo Nordisk evolves around five focus areas: winning culture, customer relations, attraction and retention of the best people, development of people, and equal opportunities. These are all considered critical to our long-term performance and are measured through key performance indicators (KPIs) and targets. In 2002 all people targets were met.

WINNING CULTURE Our winning culture is sparked by a desire to constantly improve our performance, both within work units and as individuals. Constant and systematic follow-up on performance and recognition of good results are among the key parameters. Teamwork, personal accountability, the ability to capitalise on collective strengths, and sharing better practice all support the performance of work units and stimulate job satisfaction. In 2003, a mandatory climate survey will measure how well we have performed.

A FOCUS ON RELATIONSHIPS No player in the pharmaceutical industry can rely on establishing a permanent competitive advantage solely through having superior technology or products. That is why we want to develop an intimate understanding of the needs of the people who depend on our products for their health. We know, for instance, based on the findings of the DAWN study of the psychosocial aspects of living with diabetes, that relationships are as central to successful diabetes care as products and services.

This understanding is the basis for our target of inviting all our employees to engage in a dialogue with people with diabetes or other healthcare needs that we serve. In 2002, 80% of employees had a dialogue with patients.

BREAKING DOWN BARRIERS IN INDIA One such meeting made a tremendous difference for Nirmal Kumar Jain, a Novo Nordisk regulatory affairs executive in India. The company's India affiliate asked employees to visit at least one person with diabetes, to observe how employees contribute to the needs of the person, and find ways to improve services. Most of these visits took place in patients' homes, which provided a unique possibility to have a direct dialogue. "It was very thought-provoking," says Nirmal. "It made me feel that I should start contributing whatever means possible."

ATTRACTION AND RETENTION Attracting talent is only half the job. We need to be able to track how well we are doing in retaining our people. Therefore we have set targets to reduce employee turnover, and to identify the reasons why people choose to leave the company.

Throughout Novo Nordisk there are a range of strategies and initiatives to enhance retention. For example, our business area in Eastern Europe has focused on recruiting the right people in the first place using job competence profiles. This provides both a standard against which to evaluate the candidate as well as a way for the candidate to understand the performance expectations and unique values of the company.

To keep the right fit between employees' capabilities and aspirations and the company's needs, we are creating opportunities for ongoing learning and development. For the Eastern Europe organisation, that has resulted in a series of career development workshops for all employees introducing a set of tools and concepts for employees to take a truly active role in managing their own careers.

At our US affiliate, a list of retention tips for managers on the intranet has led to more individual coaching and career development discussions. Department and cross-functional teambuilding sessions and leadership development courses are also boosting retention efforts, along with opportunities for people to try working in new areas.

Not least of all, benefits and compensation are a vital part of retaining qualified people. Novo Nordisk offers attractive salary and employment conditions as part of its People Policy.

REORGANISATION IN EUROPE A tough competitive environment puts people and companies under pressure to perform more efficiently. Sometimes, this requires a leaner workforce, as it did in Europe in 2002, when 105 people were laid off as a result of a reorganisation. Eliminating jobs is always a difficult decision, yet training and development can also be seen as an investment in our people's employability. We offered alternative jobs to 23, of whom 14 accepted. Twelve persons accepted an outplacement package, while 26 found new jobs elsewhere.

Taking action

Acting on the global challenge of an impending diabetes pandemic, Novo Nordisk employees engage in multiple activities to raise awareness and to help people with diabetes. On World Diabetes Day in November, this focus becomes particularly visible. It brings to life the very real issues of what it means to live with diabetes. These are just a few examples of what Novo Nordisk's employees did in 2002 to raise awareness and funds.



Denmark: Employees participated in a 2.5–5 km jog-a-thon, had a healthy menu in the canteens, had their blood glucose measured and spoke to a dietician or diabetes nurse about their diet and exercise. Proceeds were donated to diabetes education in Trinidad and Tobago.



Czech Republic: 2,000 volunteers and Novo Nordisk employees sold small blue whistles and handed out information on the streets in 20 cities to draw attention to diabetes. The proceeds were donated to the Czech Diabetes Association. A concert with famous musicians was also part of the event.



Canada: Novo Nordisk held a Diabetes Awareness Week in November for their employees with a related theme for each day, for example 'Eating well for diabetes'. A walk to raise money for the Canadian Diabetes Association was also arranged, inviting other companies in the building to join.



Russia: Children with diabetes performed a play about the Danish royal family to an audience of 100 people. Novo Nordisk employees, in turn, performed 'What the Old Man Does Is Always Right' by Hans Christian Andersen. Proceeds were donated to the children's diabetes association 'Fund Preodolenie'.



European Union: Novo Nordisk organised a series of events with EU stakeholders, such as a public health workshop, a roundtable discussion in the European Parliament in Brussels and a diabetes testing event for MEPs in Strasbourg. All events were organised in partnership with IDF Europe.



Spain: In cooperation with the Spanish Diabetes Foundation, Novo Nordisk had the WDD logo and message printed on the popular lottery coupon of ONCE, the Spanish National Organisation of the Blind. Information was also sent to Members of Parliament.

Photo: Yeldeman Photo Brussels

Photo: Julio López Barrena

Ensuring opportunities for all and greater diversity

Promoting equal opportunities in the workplace is a vital part of fulfilling our commitment to social responsibility and a main focus area of our People Strategy. People with diverse backgrounds and perspectives are essential for creating and maintaining the innovative capacity that is fundamental to the continuing success of our company.

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Target:

80% of the targets defined in equal opportunities action plans are to be achieved in 2003.

In an age of globalisation and hard competition for talent we depend on our preparedness to take advantage of an increasingly diverse labour force. We need to recruit the very best people and provide them with equal opportunities to develop and apply their skills. This translates into a more open and flexible organisation, one that is able to expand into new markets and sustain growth.

Since 2001, we have been engaged in a process that will move us closer towards stimulating diversity and equal opportunities. Creating a corporate culture that supports equal opportunities begins by recognising diversity as an opportunity, rather than a problem. Promoting sensibility to discrimination, and recognition of the importance of valuing other cultures, are the first stages of harnessing that recognition and making change happen.

Following a series of workshops, department

meetings, teambuilding exercises and executive coaching on the topic of equal opportunities held in 2001, and the launch of an intranet-based toolbox on the topic, all business areas in 2002 have developed action plans for working with equal opportunities. As a clear signal that equal opportunities should figure high on the agenda of all Novo Nordisk managers, the issue was included in the overall Balanced Scorecard for 2002. The corporate People Policy was also amended to include equal opportunities explicitly.

OUR VALUES The United Nations Universal Declaration of Human Rights is our guide in establishing company policies and practices to ensure equal opportunities. We emphasise that people seeking employment, or employed with us, are not discriminated against because of their back-

Representation of immigrants/descendants of immigrants ¹⁾		2002	2001
Immigrants/descendants of immigrants	%	5.9	5.6
LDC representation in this group ²⁾	%	1.8	1.5
Immigrants/descendants of immigrants at management levels	%	6.7	6.0
LDC representation in this group	%	0.8	0.8
Denmark total ³⁾	%	7.6	7.3
LDC representation in this group	%	3.9	3.9

1) In Novo Nordisk in Denmark. These figures are the only obtainable approximation to ethnicity allowed by Danish law.

2) Least Developed Countries; UN's definition.

3) Population group 15–65 years of age.

Novo Nordisk's top management, Danish organisation ¹⁾	Total	Men	Women
CEO/executive vice presidents	6	5	1
Senior vice presidents	11	10	1
Vice presidents/senior principal scientists	181	143	38
Managers/principal scientists	833	588	245

1) As at 31 December 2002.

In Denmark, two topics have been identified as areas of priority for the first few years: attraction and retention of ethnic minorities and career opportunities for women. Through our membership of The Organisation for the Integration of New Danes in the Labour Market, Novo Nordisk works together with other companies to improve the opportunities of ethnic minorities in the labour market in Denmark.

We have also established informal networks with other large employers in Denmark to exchange ideas and share experiences on common issues and challenges in ensuring equal opportunities and achieving increased diversity. In 2002, Novo Nordisk, along with nine other public and private organisations, has made a commitment to the Danish Board on Ethnic Equality to work actively with ethnic equality and to report on its results and experiences.

ground – in terms of gender, sexual orientation, age, disability, marital status, religious belief, creed, colour, race or ethnic origin, or political orientation. Equal opportunities should be ensured in the conditions at work, with regard to remuneration, training and promotion, termination of employment as well as in recruitment.

IDENTIFYING INFORMAL BARRIERS We are working actively to promote equal opportunities and create an open organisational culture in which anyone will feel welcome, regardless of background. Inequality of opportunities may not only arise as a result of direct and indirect discrimination but also from more informal barriers in the practices and culture of the workplace. We are working to identify the barriers that may prevent specific groups from seeking and attaining employment with us.

EMBEDDING EQUAL OPPORTUNITIES We recognise that these are ambitious goals. Novo Nordisk employs more than 18,000 people and is represented in 68 countries on five continents. Each society has a unique cultural perspective that entails its own specific issues in the field of equal opportunities.

In 2002 Novo Nordisk formulated 15 action plans to address specific issues of equal opportunities in each business area. In consultation with Stakeholder Relations, all executives with responsibility for business areas have discussed the challenges and opportunities regarding equal opportunities in their own business areas.

PRIORITY AREAS In the international part of the organisation we have adopted a dual approach: to secure non-discrimination everywhere while working actively with equal opportunities in a few selected countries, as a start. For example, in International Operations, a business area that covers all countries outside North America, Europe, Japan and Oceania, the action plan aims as a minimum to secure non-discrimination throughout the region. Moreover, three countries, Turkey, South Africa and Singapore, will develop action plans to address local equal opportunities issues.

DRIVING THE PROCESS To ensure closer cross-functional cooperation and coordination of initiatives, an equal opportunities task force with members from the key corporate functions has been established at Novo Nordisk. The task force will drive the process forward and facilitate sharing of better practices to support the implementation of equal opportunities in the company.

Equal opportunities and diversity will continue to be a focus area for the facilitator team that assists each business unit in ensuring that policies and management principles are applied and that we fulfil our commitment to the Triple Bottom Line throughout the company.

In 2003 Novo Nordisk will continue to develop a company-wide approach ensuring that equal opportunities is effectively promoted in all parts of our global organisation. We will evaluate the results achieved in each business area yearly and make the experiences and the successes earned in the past the vehicle for ensuring continuous progress in the future. Step by step we will sharpen our ability to attract and retain the best from a diverse labour force – to prepare for the challenges of globalisation and strengthening the foundation for reaching new customers and sustain growth.

Some examples of actions taken by the company in 2002 to enhance equal opportunities and diversity include:

- ◉ **Employer branding initiative** The US affiliate Novo Nordisk Pharmaceuticals, Inc attracts diversity through an 'automatic' job posting system. Job openings at the company are automatically posted on iMinorities.com, a diversity website. This site is linked to over 24 other diversity websites, including the Black MBA Magazine, Asian-American Exchange and America's Job Bank. This national site is recommended by the US Equal Opportunities Commission, a government agency that coordinates all US equal opportunity regulations, practices and policies. America's Job Bank also links to sites related to people with disabilities and veterans.
- ◉ **Pilot project on fair evaluation** The Novo Nordisk R&D department is working to establish a system of evaluation of foreign educations. This is to ensure that candidates' professional qualifications are evaluated on an equal footing. No one should be excluded from potential employment because his or her qualifications were achieved abroad and thus harder to evaluate in another country.
- ◉ **Diverse engineering base** Novo Nordisk supports an education programme for engineers of ethnic minority background. 11 students have enrolled in a two-year Master of Science programme at the Technical University of Denmark (DTU). The students are also involved in Novo Nordisk projects relevant for their studies.
- ◉ **NovoCorps** A group of employee volunteers at the US affiliate provide support to local social and environmental programmes in the areas of government, education and community relations, with a focus on sharing the diversity strategies developed by Novo Nordisk.
- ◉ **Training operators** At the Kalundborg and Gentofte production sites there are programmes for training candidates from ethnic minority background to qualify as operators, which combine a period of education with a period of on-the-job training. The programme has been very successful as 23 out of 24 have been hired.
- ◉ **Community outreach event** The US affiliate participated in 2002 at the 'Latino Expo' job fair with a demonstration of Novo Nordisk products and a healthy cooking exhibition. The purpose of participating in such an event is to identify diverse job candidates as well as educate people about diabetes. The Hispanic population is one of the fastest-growing populations in the US and Latino-Americans are twice as likely as Caucasians to develop type 2 diabetes, according to the American Diabetes Association.
- ◉ **After-work meetings** These are meetings for employees in Denmark featuring prominent external experts on equal opportunities issues. In 2003 the focus is on women in management and ethnic minorities.

Tracking our health and safety performance

A healthy working environment is a prerequisite for a healthy company. Our Health and Safety Policy states that we will “set high standards and continuously improve the health and safety performance as a natural part of our social responsibility”. In 2002, we made further progress in transforming the policy into concrete actions.

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Target:

Collection of health and safety data for the entire organisation in 2003.

In 2002 we set out to collect background information from each production unit and country on factors that have relevance to the number of accidents reported. With this information, we developed a baseline for global H&S indicators. The first step was taking the pulse of the organisation’s H&S status, to better develop prevention efforts and improve the working environment.

Health and safety performance	2002	2001	2000
Frequency of occupational injuries ¹⁾	8.9	8.2	8.4
Frequency of occupational illnesses ¹⁾	1.1	2.2	1.7

¹⁾ Per million working hours.
2002 figures cover all employees, whereas 2000–2001 figures comprise only Danish employees and employees at production sites outside Denmark.

The aim was to support the continuous development of H&S standards in the company through exchange of better practices, and to measure H&S performance beyond occupational injuries. Arriving at a uniform set of indicators is no easy task, as the practice of H&S is largely determined by national legislation. However, there are many similarities, and ways to exchange better practices.

We collected information from our largest production units on occupational injuries, access to H&S competences, systematic H&S work, and employee participation. The table below shows that this work is well organised.

A TOOL FOR HANDLING STRESS Balance between work and family life is part of our company’s Vision. However, we know that it is not always easy to achieve. We have established practices of flexible working hours and the opportunity to work from home with the aim to address this issue.

Our employees have expressed a need to focus on stress and workload. Therefore, a toolbox on how to cope with stress has been developed and made available at our intranet. The toolbox offers help on how to prevent stress and cope with stressful work situations. It contains concrete guidance for managers on how to recognise signs of stress among their employees and how to create an open environment in which talking about stress is encouraged. The toolbox also emphasises the need for each employee to be aware of symptoms of stress and take the necessary steps to cope with it.

		status
Systematic health and safety work	Responsibilities and targets The responsibility for H&S in the line organisation is well defined. There are generally quantitative targets on H&S issues, and targets are reported in the line.	++
	Working methodically Workplace assessments, action plans and follow-up are carried out, with representation from management and H&S representatives, at varying intervals. Few areas have procedures for systematically sharing better practices.	++
	Mandatory H&S introduction of new employees The mandatory introduction covers issues such as company H&S Policy, employees’ responsibilities and duties, hazardous work processes, use of personal protection equipment, Standard Operating Procedures training and use of protective devices.	++
Health and safety organisation	Employee participation Employees are involved in H&S issues. The H&S representative is either elected (in Denmark) or appointed, and allocates time for H&S work during work hours. There are specific courses for representatives, which are mandatory. Management is part of the H&S organisation.	+++
	Management of health and safety The H&S organisation is informed and consulted on relevant issues. Regular meetings are held to discuss accidents, workplace assessment and H&S issues.	+++
Health and safety competence	Access The H&S organisation has access to services and competences. The services are available to all employees.	+++

+++ Standard achieved in all areas
++ Room for further improvement in some areas

Social responsibility in the supply chain

As part of our continued commitment to addressing social responsibility in our supply chain, we have built in an evaluation of our key suppliers' social performance in our current environmental evaluation to determine what role we can play in improving our suppliers' performance in this area.

We began by exploring how we could live up to our social responsibility. Since we support the UN Universal Declaration of Human Rights, and the UN Global Compact, human and labour rights were used as the guiding principles for our evaluation of social performance. We apply these basic rights in evaluating suppliers, regardless of where they operate, and a questionnaire regarding these issues was sent to key suppliers in early 2002. This questionnaire improved and incorporated an environmental evaluation of suppliers' performance that had already been running for a few years. Besides environmental issues it covers:

- ◉ Wages and benefits
- ◉ Working hours
- ◉ Health and safety
- ◉ Child labour
- ◉ Forced labour
- ◉ Freedom of association and collective bargaining
- ◉ Discrimination/equal opportunities
- ◉ Disciplinary measures
- ◉ Privacy

ROLLING OUT THE PROGRAMME To launch the programme, we conducted workshops in 2001 with suppliers from Denmark, Germany, Sweden, France, Mexico, India and Japan. The purpose was to consult key suppliers as well as external experts on formulating our approach to assessing social performance in the supply chain.

We have also trained some 100 employees, primarily purchasers, who are directly involved in the programme on the issues and dilemmas involved in social responsibility. The participation at these sessions and strong management commitment has fueled incentive for the programme.

Our target was to evaluate 90% of key raw material suppliers and a range of key suppliers in service and engineering on environmental and social performance by the end of 2002. We reached the target and managed to evaluate 300 key suppliers.

POSITIVE RESPONSE The vast majority of our suppliers have responded very positively to the initiative and delivered satisfactory information on the management of their environmental impact and their position on core labour and human rights. As of 2002 all new contracts with suppliers include a clause stating the mutual commitment to

the UN Universal Declaration of Human Rights, the International Labour Organisation (ILO) Conventions and the International Chamber of Commerce's (ICC) Business Charter for Sustainable Development. The supplier must promptly report inconsistencies with these principles to Novo Nordisk.

PROMOTING DIALOGUE Besides better understanding the risks in our supply chain, we believe that the evaluation will improve social and environmental standards among our suppliers.

A small group of suppliers has been unsure about why we are asking these questions, and what kind of information we expect to get from them. In most cases, a talk or a meeting is enough to promote the understanding needed to complete the questionnaire, and to transform initial doubt into a clear position on the issues. This is the starting point of a dialogue based on trust between Novo Nordisk and its suppliers.

Only a few of our key suppliers have been reluctant to answer the questionnaires, but we will engage in dialogue in each of these cases and ensure that our requirements are met.

We aim to eliminate the risk of having suppliers in our supply chain that do not live up to basic human rights. We have established an internal committee with high-level managers, social, environmental and supply chain experts who decide on actions in case of serious violations of the issues. We found no such cases in the first evaluation round.

TAKING THE NEXT STEPS In the beginning of 2003 we will assess the first year of evaluating suppliers on both social and environmental performance. The experience gained will be integrated in the planned roll-out of the programme to partners and collaborators of our research and development and to our production affiliates in China, South Africa and Brazil.

We expect to use the same approach as in 2002 with minor adjustments to the questionnaire; however, we recognise that the self-evaluation cannot stand alone. Therefore we will build the evaluation of key suppliers' environmental performance and observance of human and labour rights into our audit system, starting in 2003.

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Targets:

All licence productions to be evaluated on environmental and social performance by the end of 2003.

Full implementation of an environmental and social evaluation system for suppliers as well as appropriate management systems in place by the end of 2005.

Respect for all life

In every decision we make, we believe that our commitment to follow the highest bioethical standards and to act with integrity in all that we do ensures our continued ability to operate and innovate and to act as a responsible corporate citizen.

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Targets:

Contribute to the total removal of animal tests for biological product control by 2004.

Establish and fully implement new Novo Nordisk standards for optimal housing in consideration of the needs of the animals we use by 2005.

Develop and implement improved measures and standards in relation to animal experimentation at external contractors such as CROs by 2005.

We consider bioethics as one of our core issues in the environmental, medical and animal spheres. 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.

Animal welfare, patenting, access to genetic resources and benefit sharing, and the safe application of gene technology, are among the issues with which we work. We recognise that bioethical issues are sometimes controversial. In our work, we try to apply the basic bioethical principles of not doing harm and doing good by demonstrating the benefits of respect and justice.

We work towards continuously improving our bioethical performance, by establishing and ensuring high ethical standards for experiments on living animals, clinical trials and the use of human material, and gene technology.

In addition, we set high ethical standards for our external partners, contract research organisations and suppliers and monitor their performance. We could not meet these goals if we did not engage in extensive dialogue and partnership with animal welfare organisations, patient organisations and other relevant stakeholders.

We wish to be proactive by ensuring active and positive compliance with the spirit, values, principles and content of relevant conventions, laws and requirements and by influencing new laws and regulations by setting new trends and standards.

In order to further disseminate our policies and strategies regarding bioethics, in 2002 we produced three Novo Nordisk Guides – for bioethics, for the ethical use of experimental animals, and the ethical use of human material.

Animals purchased ¹⁾	2002	2001	2000
Novo Nordisk	36,182	43,968	48,328
CROs ²⁾	11,946	11,908	13,184
Total	48,128	55,876	61,512
Change in % from previous year	-13.9	-9.2	2.1

1) A list of types of animal used for experimentation is available on the internet.

2) Contract Research Organisations.

A TEST OF CLINICAL RESEARCH ETHICS

Suspending the NN622 drug trial

In the summer of 2002, Novo Nordisk decided to suspend the clinical studies of our experimental diabetes drug, ragagli-tazar (also known as NN622), following observation of a tumour in a mouse. We felt that this finding, together with our earlier pre-clinical findings of tumours in rats, created concern that the drug might not be safe for chronic use. In February 2003 we have decided not to pursue further development of NN622 based on a renewed benefit/risk assessment of the compound.

The suspension of the NN622 clinical trial could well be seen as a test of our Clinical Trial Policy. This policy, approved in 2001, codified the practices we had been undertaking for many years. It describes the principles for conduct of Novo Nordisk-sponsored clinical trials to ensure the safety, rights, integrity, confidentiality and well-being of trial subjects. The NN622 trial, which involved 2,500 people in 32 countries, was conducted in full compliance with all requirements for good clinical practice.

Faced with a dilemma While the trial, and our decision to suspend it, was based on rigorous ethical guidelines, we regret that the decision created anxiety among some people who participated in the trials. Novo Nordisk immediately, simultaneously, and diligently informed the involved physicians, ethics committees, regulatory agencies and the stock exchange about the decision to suspend the clinical trials.

Unfortunately, and as a consequence of this, full and accurate information about why a clinical trial is being suspended does not always reach trial participants first through a reliable source, such as their physician. The participant may in fact read a media report of the decision to suspend the trial before he or she has a chance to meet with the physician. This media report may or may not present the full and accurate picture of the situation.

This presents a dilemma: while it is in our best interest that participants in our clinical trials should get the best information as soon as possible from the best source, pharmaceutical companies do not know who the trial participants are, and cannot contact them. Only the investigators conducting the trials are permit-

ted to contact trial participants directly. While these international guidelines are designed to ensure the independence of the trial results and protect the integrity of the participants, it does mean that our desire to be open and transparent with all our stakeholders is limited in this instance by the prevailing system for conducting clinical trials.

As a company we cannot solve this dilemma; we must abide by the system. What we can do, as in this case, is to provide full information quickly to the trial investigators so that they can inform the trial participants about the decision and its consequences, if any, for their health.

BIOETHICS

Facing the stem cell debate

Novo Nordisk's aspiration is to defeat diabetes. Human stem cell research with the potential for cell transplantation is presently the most promising approach for curing type 1 diabetes, affecting approximately five million patients worldwide. We recognise, however, that it has prompted a passionate medical ethics debate – one in which we intend to take a full and active part.

Stem cells are unspecialised cells that have a unique capacity to multiply indefinitely and turn into several or all the different kinds of cells and tissues of the human body.

We see it as an obligation to pursue a potentially very promising treatment, which might in due course improve the life of millions. Novo Nordisk also wants to be prepared for these new therapies and thus maintain a successful and sustainable business in diabetes care.

Yet we recognise that the source of some stem cells – the human embryo – is controversial. Some object to any research on these stem cells because of religious beliefs that human life has the status of a potential person from conception.

Others disagree. Proponents of stem cell research are convinced not only of the prospects of the therapy, but also because they perceive a fertilised human egg as gaining gradually in status, and thus rights, during its development.

Research performed on stem cells obtained from adults or umbilical cord blood has not evoked objections on ethical grounds. However, recognising that research on stem cells obtained from ei-

ther foetuses or embryos poses moral and ethical issues for some people, we agree that scientific research in this field should be undertaken by adequately addressing both the ethical and legal issues.

Novo Nordisk is committed to contribute to an open dialogue and an ethical and political clarification regarding the use of human embryonic stem cells from surplus *in vitro*-fertilised embryos.

"Securing an unlimited supply of stem cells is one of the best hopes we have for curing diabetes. We believe it is appropriate and worthwhile to use spare embryos from *in vitro* fertilisation (IVF) clinics, which would otherwise be discarded, to try to treat children and others with diabetes," says Dr Robert A. Goldstein, chief scientist, Juvenile Diabetes Research Foundation International.

Roundtable on stem cells During 2002, a number of activities have taken place. We hosted a roundtable in August that included several external stakeholders with expertise in bioethical issues, and held a meeting to inform employees about stem cell research as part of a regular series of informational meetings for employees on issues important to the company. It was attended by more than 800 employees in the Danish headquarters and shown live over the intranet.

In support of proper regulation We acknowledge that society's elected representatives are the decision-makers on what applications are acceptable and what ethical limitations should be applied on the use of new technologies, eg the use of human embryonic stem cells. We urge all countries to enact legislation to ensure that such research is properly regulated and controlled.

As in many other research areas, Novo Nordisk has long-time partners in national and international cooperative projects involving stem cells. Novo Nordisk's activities have so far been restricted to the use of mouse embryonic stem cells.

We want to work with human stem cell lines/cultures derived from spare embryos from IVF treatment that are obtained with informed consent and to direct these stem cells into mature insulin-producing beta cells, to be further developed for transplantation.

In Denmark, the legislation around the use of human embryonic stem cells for research is presently being revised. Novo Nordisk has encouraged Members of Parliament to vote for a change of legis-

lation in favour of using human embryonic stem cells in a well-defined way.

ANIMAL WELFARE

Ethical spotlight on animal experiments

In 2002, Novo Nordisk implemented a new policy of performing internal ethical reviews of all present and future types of experiment on living animals. Two Ethical Review Committees (ERCs), in development and in research, meet monthly to review applications for animal experiments. No type of animal experiment at Novo Nordisk can be conducted without a review by the relevant ERC. Such review committees are not yet required by law in Denmark, but we feel this oversight is important to ensure high ethical standards.

Each committee is chaired by an experienced animal scientist and has members who are directly involved in animal experimentation and others who are not. The goal is to review current animal experiments in light of stress levels, housing conditions, how well the experiments meet the three Rs (reduce, refine and replace animal experiments wherever possible), and by cost-benefit analyses to determine whether the gain for humanity outweighs the possible suffering of the animals.

To date, the ERCs have functioned well, sharing information and advice that help those conducting animal experiments to place an even greater focus on the ethical aspects of the experiments.

Progress on housing standards We are making good progress towards our target of establishing and fully implementing new Novo Nordisk standards by 2005 for optimal housing in consideration of the needs of the animals we use. In 2002, the success of a prototype pen system for rabbits led us to erect 14 such pen systems, each capable of holding eight rabbits, and it is our goal that all our rabbits will live in pens, enhancing their welfare. We have added improvements to the two large outdoor enclosures for the exercise and socialisation of dogs and have extended our facility for housing pigs, allowing the animals to have contact, and built an outdoor area for exercise. All of these improvements were made as a result of our collaboration with the Danish Animal Welfare Society and valuable input from external animal behavioural experts.



DILEMMA

How can we respect others' cultural beliefs and positions on a sensitive issue such as stem cell research, and yet maintain a competitive edge in the quest to defeat diabetes?

Biomedicine is a global business, demanding global perspectives on health, medical progress and the pharmaceutical markets. The diversity of ethical and social challenges raised by different cultures requires respect. Ethics in medicine helps to appreciate a vision that integrates moral, scientific and business interests under the paradigm of sustainability.

The success of this arrangement depends upon trust. Patients trust that doctors treat them as well as possible, the public trusts that politicians are concerned with the commonwealth and that scientists pursue a better understanding of the real world.

Throughout current medical ethics debates, from Germany to China, the trustworthiness of key players has been questioned. There is a tendency to take personal greed, double standards and a merely rhetorical reference to moral arguments for granted. These trends carry an imminent danger that might jeopardise the success of the vision of sustainability.

Like other social contracts, sustainability relies on the resolve of society's leaders to demonstrate honesty, responsibility and trustworthiness.

Given biomedicine's new global horizons, stakeholders from sciences and industry should take the lead in exhibiting good conduct, especially when, as in many developing countries, national regulations are inefficient to protect their citizens.

Trust will also be built when companies keep their profile transparent and actively support public debate and a rigorous ethical review of important issues. Critical voices from all backgrounds should be treated with respect.

Philosophical objections to research on human embryonic stem cells remind science and individuals that there is considerable debate about what defines life. Such research should be assessed with due sobriety, transcending religious beliefs and scientific enthusiasm.

Public engagement involves risks; however, that is the price for social peace and trust.

Ole Döring, Ruhr University, Bochum, Germany

Drs. Ole Döring, a philosopher, sinologist and expert on medical ethics in Germany and China, is a research fellow with the Institute of Asian Affairs in Hamburg and the Department of Chinese Philosophy and History at Ruhr University, Bochum, Germany. He participated in the roundtable discussion on stem cells hosted by Novo Nordisk in August 2002.

Setting priorities for research and development

Innovation allows us to explore our research and development agenda in a way that addresses both social and environmental concerns. The challenge is to ensure that treatment, education and capacities are available in all parts of the world.

In 2002, we spent DKK 4 billion on R&D (EUR 555 million) – 16% of our total turnover – a figure that reflects the industry average. We have some 3,000 employees working in R&D and three-quarters of these are working within diabetes care.

New products launched during the past six years constituted approximately one-third of our turnover. Currently, we have six key product candidates in the late-stage pipeline. This innovation could not take place without our declared strategy of external research partnerships with other biotechnology companies, universities and research institutions. Close to 25% of our external research budget is dedicated to such collaboration, of which 95% takes place outside Denmark. In addition, we fund about 75 students from all over the world in their doctoral and other postgraduate programmes. We believe that our education-related R&D is a social investment that benefits not only Novo Nordisk but society at large. Also, by running the basic research at the Hagedorn Research Institute and working with the Steno Diabetes Center, we are at the forefront of global research efforts aimed at understanding and finding a cure for diabetes.

A STRONG PIPELINE FOR DIABETES Our pipeline constitutes the most comprehensive portfolio of type 2 diabetes drug candidates in the industry. From a global social perspective, our main product area – diabetes and insulin therapy – aims to fulfil an unmet need in society, namely the epidemic of type 2 diabetes. At present, NovoNorm®/Prandin®, an oral antidiabetic drug, is the only Novo Nordisk product designed exclusively for type 2 patients. A number of type 2 products under development are expected to play a major role in future, including NN2211 (an analogue of the natural hormone GLP-1 which stimulates the production and release of insulin in the body), currently in phase 2 trials, and AERx®IDMS, now in phase 3 trials. The latter is being developed in collaboration with the Californian company Aradigm, and is a pulmonary delivery system for administering insulin by inhalation.

We do, however, face a dilemma in shaping our R&D agenda. For while the majority of our R&D is going into products for type 2 diabetes, our most advanced products will only be affordable for the developed world. The only way to address this dilemma is to help ensure that life-saving therapies do in fact reach the most disadvantaged part of the world. This recognition is what prompted our

LEAD initiative in the developing world and the World Diabetes Foundation.

FOCUS ON HAEMOSTASIS MANAGEMENT

NovoSeven® (recombinant Factor VIIa) was originally a niche product designed for an extraordinary type of haemophilia in which the patient's body develops inhibitors (antibodies) and is refractory to standard treatment. But in recent years the drug has been reported to have a number of promising uses on patients with no underlying clotting disorders, such as in surgery and severe bleeding in trauma and intra-cerebral haemorrhage. Its potential as a general haemostatic agent means that Novo Nordisk will have two main growth drivers: diabetes care and haemostasis management. Human growth hormone therapy and some promising early development phase projects further complement our portfolio of protein-based therapies, and contribute to our business goals.

A FUTURE WITH BIOPHARMACEUTICALS

We have increased resources for discovery and development of biopharmaceuticals within and outside the diabetes area. This move was made to get full value out of our existing and future portfolio and core competences: diabetes, proteins and drug delivery. Hence, our R&D pipeline encompasses therapeutic proteins with the potential to fulfil unmet needs within eg cancer and chronic immunological diseases. We have created a new seamless organisation for our discovery and development, and established a closer relationship between R&D, our International Marketing team and the affiliates.

ADDRESSING ENVIRONMENTAL CONCERNS

When applying gene technology in the expression and production of insulins and other protein-based products, we are focused on environmental considerations such as eliminating antibiotic resistance marker genes wherever possible, making the most efficient use of raw materials and reducing the consumption of water and energy. This way, cutting-edge scientific innovation and benefit to the environment go hand-in-hand. To scientists, having a yeast cell, for example, provide as much product as possible as quickly as possible is a measure of their research success. The proof of our researchers' commitment to both superior products and a better environment is the fact that all our new insulin production strains today demonstrate marked improvement in water and energy consumption.

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A shared responsibility for the environment

The pursuit of sustainable development requires a vision that takes into account the perspectives of communities, governments, industry and society in the framework of an international agenda. We believe that this broad view is essential for tackling global environmental issues. That is why our approach to assessing and acting upon our environmental performance focuses not only on the impact of our production, but on the role we play as a representative of industry.





In that spirit, we participate in international industry groups' efforts to promote sustainable development and subscribe to or support a variety of international conventions and compacts. We support national and international political objectives to decouple environmental pressures from economic growth because we think it makes good business sense. In this section we discuss our role from an international perspective.

Our Environmental Policy and Strategy, which are continually updated to keep abreast of developments in global environmental concerns, seek to proactively identify issues of relevance for Novo Nordisk. The strategy is rooted in embedding our environmental work throughout our organisation to achieve the best possible progress in prevention and reduction of our environmental impacts. In every case, we apply the precautionary approach, as outlined in the section on management of risks.

Good environmental housekeeping is where we need to start when signing on to global efforts to address issues such as global climate change, change in biodiversity, ozone layer depletion, the uses of freshwater and fossil fuels, and the waste generated by our production and consumption of our products.

A robust environmental management system is an important tool for mitigating our contribution to these problems. That is

why we have put a great deal of effort into implementing the ISO 14001 Environmental Management System at our production facilities worldwide, a goal we expect to achieve in 2003. On the following pages we explore the process of education and awareness raising that has put us firmly on that path. Case stories show the continued potential for improvement.

We see biotechnology as having the potential to create significant advances for humankind through the development of products that can enhance quality of life. This is partly achieved by making better products and reducing the use of natural resources in production, and the progress we have made in this area is addressed in a discussion of our processes. But we also recognise that these beneficial qualities must be balanced with ecological risks.

Since our first Environmental Policy was formed in 1975, our approach has entailed continual improvements of our environmental performance. While we report on our compliance record annually as part of our commitment to transparency, we know that these figures do not tell the whole story.

As the 2002 World Summit on Sustainable Development in Johannesburg made clear, all players in the global community needs to accelerate their pace to stem environmental degradation. It is a challenge that we at Novo Nordisk take seriously.

Decoupling environmental impact and economic growth

In the decade since the first Earth Summit in 1992, environmental pressures have continued to escalate, despite a global commitment to reverse that trend. We agree with the consensus reached at the 2002 World Summit on Sustainable Development that now, more than ever, is the time to focus on solutions.

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It is estimated that by 2025 two out of three people in the world will live in water-stressed conditions, and that by 2050 global energy consumption will double. Add to that a consumption of resources which contributes to the degradation of ecosystems and biological diversity, and the growing problem of climate change due to greenhouse gases, and it becomes painfully clear that the challenges are immense.

At Novo Nordisk, we realise that environmental problems must be seen in a global context. Once it was believed that addressing the problems of individual pipes and smokestacks was sufficient environmental action. Now we know better. Acid rain, depletion of the ozone layer and global warming are examples of environmental problems to which we all contribute. Solutions can only be found through concerted action by society and industry.

LIVING OFF THE EARTH'S INTEREST That is why we think it is important to go beyond the requirements of local and national legislation and consider international agendas. We subscribe to the UN Global Compact and to the International Chamber of Commerce's Business Charter for Sustainable Development. We support the United Nations Convention on Biological Diversity and

work to reduce our CO₂ emission in line with the Kyoto Protocol on global warming.

Promoting efficient production and minimising the use of energy is one step in the right direction – so is the wise management of water at local level. Improving efficiency of industrial and management processes, consuming fewer raw materials and generating less waste, are all part of the path towards sustainable development.

This requires living more off the earth's interest, and less off its capital, which is, in fact, sound business. We think of it as decoupling 'environmental bads' from 'economic goods'.

'Decoupling' occurs when the growth in environmental impact is less than the economic growth per produced unit within a given time period. This is one of the main objectives of the OECD Environmental Strategy for the First Decade of the 21st Century. It is also a goal of the European Union's current Environmental Action Programme. This approach is also emphasised in the plan for implementation of improved environmental progress that emerged from the Johannesburg summit.

Failing to decouple economic growth from the intensified use of natural resources will put an increasing burden on the global environment. It is a risk society cannot afford to take.

Product life cycle	Decisions with implications for environmental impact	Degree of control
Discovery ↓	New drug candidates frame the outline of the product's potential life cycle environmental impact, when specifying raw materials and production method.	<p>high</p> <p>low</p>
Development ↓	Development of candidates for production implies defining the application of the product and the needed human dose. This affects the need for resources for production, related emissions and waste and identifies potential suppliers.	
Production/distribution ↓	Environmentally sound design of the production process and choice of distribution heavily influence the environmental impact.	
Use ↓	Use of the product is defined by the clinical trials and health authorities' approval in the development phase.	
Disposal ↓	The developed product design determines methods to dispose of packaging material and other wastes. In this phase the environmental impact relies largely on the local waste management system.	

Decisions in discovery, development and production of our products determine the environmental impact of the product. As illustrated here our influence on the environmental impacts of our products decreases through the product life cycle.



DILEMMA

How can we justify to shareholders that investing in non-material assets, such as environmental management, is good business, and yet not see it reflected in share prices?

Although non-material assets such as visionary management, social responsibility and environmental performance are not directly visible in the balance sheet of companies, recent academic studies indicate that 80% of equity market capitalisation is made of intangible value. Innovest research focusing on sustainability demonstrates that 'eco-value', human capital, stakeholder capital and sustainable governance are strong proxies for the intangible value of companies. The 'EcoValue' is the intangible value driver with the strongest documented ability to generate positive 'alpha' or portfolio out-performance.

It is now increasingly widely recognised by leading-edge financial analysts and investors that there is a strong, positive, and growing correlation between industrial companies' 'sustainability' and their competitiveness and financial performance, whether measured as ROI, ROE or total stock market re-

turn. Our own research on the pharmaceutical sector, analysing 29 of the world's largest pharmaceutical companies found that companies with better environmental performance (eco-efficiency) outperformed laggards by 17% (1,700 basis points) in the stock market since May 2001.

The results of the study suggest that investor returns can be substantially improved by investing in companies with superior eco-efficiency. Mainstream Wall Street analysts typically overlook this increasingly important source of value creation. Novo Nordisk received an 'AAA' rating by Innovest, the best EcoValue'21 rating.

Pierre Trevet, Innovest Strategic Value Advisors, France

Pierre Trevet is managing director of Innovest Strategic Value Advisors, Paris, and authored the benchmark report The Global Pharmaceutical Industry – Uncovering Hidden Value Potential for Strategic Investors, published in July 2002. Innovest specialises in analysing companies' environmental and social performance and their impact on competitiveness, profitability and share price performance.

Constantly improving eco-efficiency

Compliance with environmental laws and regulations form the basis of our environmental management. Our ambition is full compliance, a goal that was supported in 2002 by improved reporting through our new Environmental Management System.

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Targets:

Increase the eco-productivity index for water by an annual average of 5% by 2005.

Increase the eco-productivity index for energy by an annual average of 4% by 2005.

Report on lorry transport of intermediary and final products from Danish sites to affiliates and customers in 2005.

Report on transport by ship and by air in 2005.

EPIs relate the scale of production to the consumption of resources. An increase in the index figure is a positive trend and means that we have been able to produce more with less. In other words, we have contributed to the decoupling of environmental impact and economic growth.

Our main environmental targets are therefore focused on optimising our eco-efficiency – produced units per unit of energy and water used. We have been successful in keeping a positive trend in these key figures over recent years, and since 2000 we have achieved an improvement of 29% for water and 18% for energy. We expect this increase to continue, and have undertaken a number of efforts to that end.

USE OF WATER The total water consumption for Novo Nordisk in 2002 amounted to 2,044,000 m³, which is an increase of 14% compared with 2001. In spite of this, we achieved an increase in eco-productivity for water of 16 percentage points compared to 2001. This assures us that we should be able to achieve, if not exceed, the target of an annual average 5% improvement in the EPI for water by 2005.

Throughout the company, production sites have worked to reduce water consumption. Water saving campaigns and projects have resulted in reduced water consumption in general, and reduced consumption of scarce groundwater resources in particular.

USE OF ENERGY The total energy consumption for Novo Nordisk in 2002 amounted to 2,083,000 GJ, which is an increase of 13% compared with 2001. Despite the increase in consumption, we achieved an increase in eco-productivity for energy of 15 percentage points compared to 2001. The improvement indicates that we have been better at utilising energy – at producing more with less energy, and bodes well for being able to achieve, if not exceed, the target of an annual average 4% improvement in the EPI for energy by 2005.

Validation and implementation of new facilities and equipment are very resource-consuming, but as soon as the new facilities are fully operational, we benefit from improved efficiency from the use of best available technology.

Although the energy consumption, supplied from own or external sources, has increased by

13%, the total CO₂ emissions have increased by only 4% and the SO₂ emissions have declined by 34% compared with 2001. This is due to the fact that we are increasingly using energy from more environmentally friendly sources such as renewable energy.

65% of the energy used by Novo Nordisk is supplied by external power stations primarily as electricity and also as steam or district heat. The remaining 35% comprises heat and steam produced by combustion plants at our production sites. Heat and steam generated at our sites are based on 99% natural and town gas and 1% mineral oil.

With the liberalisation of the electricity market in Europe, Novo Nordisk in Denmark took the opportunity to purchase electricity from a Swedish supplier (Elektra) which supplies electricity based on renewable sources such as hydropower.

In 2002 approximately 44% of the energy consumption at our largest production site in Kalundborg was electricity of which approximately 69% was based on renewable sources, while the remaining 31% was delivered from the Danish energy network and based on other environmentally sound energy types such as wind energy, and energy from incineration of natural gas, biomass and waste.

The process steam is supplied by the Asnæs Power Station in Denmark as part of an industrial symbiosis where five enterprises trade by-products resulting in a reduction of both resource consumption and environmental impacts.

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

Accounting principles are given in the internet version of this report.

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

EPI is an eco-productivity index that 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.

CASE STUDY

Greener facilities bring return on investment

Time-to-market is a critical factor for the pharmaceutical business today. This has led to fast-track design and construction of production facilities using pre-assembled modules that are not necessarily the most resource-efficient.

The solution is building new plants with a view to keeping resource use in check, thereby decoupling economic growth and environmental impact. This was the thinking behind a new procedure introduced in 2002 to ensure environmentally sound project design in the construction, extension and conversion of production plants. If a resource-saving investment has a pay-back time of four years or less, there is a green light to move ahead.

The procedure was tested at the new insulin plant in Kalundborg, Denmark, resulting in energy- and water-saving measures in the design that reduce water consumption by 45% and energy consumption by more than 35%, compared to the original design. The extra cost is less than 1% of the total investment, with a payback time of just over a year. Reduced operating costs of DKK 6.5 million a year make an attractive return on investment.

In 2003, we will speed up pace by developing methods for environmental assessment of new technologies in our facilities.

CASE STUDY

Tracking our transport impact worldwide

Producing pharmaceutical products for the world market is greatly dependent on transport, which has environmental impacts from atmospheric emissions of eg CO₂, CO, SO₂, NO_x and hydrocarbons originating from combustion of fossil fuels. These emissions contribute to environmental impacts such as global warming, acidification and photochemical smog.

In accordance with our Environmental and Purchasing Policies, since 2000 environmental considerations have been an integral part of our annual evaluation of the transport companies we use as suppliers. We focus on lorry transport and transport by air, since transport by ship is an insignificant part of our transport.

We have made considerable progress on the target for 2005 to improve methods for reporting transport emissions and use the results to reduce the environmental impact, in cooperation with our suppliers. Data are available on the internet. In 2002, we implemented a system to report on lorry transport of raw materials to the Danish production sites (import), and intermediary or final products to affiliates and customers outside Denmark (export). The system enables us to control and improve this environmental indicator through our target-setting process.

We are also developing a unique model for reporting environmental impacts of air transport. The work was carried out in a partnership with some of our key suppliers. In 2003, we will work with our partners to develop and disseminate the model to make it a generally accepted reporting method for environmental impacts from air transport.

CASE STUDY

Turning waste into energy in France

At our production facility in Chartres, France, waste is not just waste. It is energy. An ambitious programme to convert solid waste into energy was prompted in part by the fact that the French environmental authorities would introduce new regulations from 2004 that would prohibit landfilling of certain types of solid waste.

The Chartres facility decided to step ahead of the coming legislation by deciding that from 2003, any incinerated waste would be converted into energy.

That meant accelerating its programme for recycling of waste materials such as cardboard, wooden pallets, toner cartridges, and office paper. The toner cartridges are collected by an organisation that employs people with physical disabilities to dismantle the cartridges for reuse.

KEY INDICATORS OF ENVIRONMENTAL PERFORMANCE

Input

Raw materials
86,000 tons



Packaging materials
7,000 tons



Water
2,044,000 m³



Energy
2,083,000 GJ



Emissions to air

Acidification potential
360 tons
SO₂-equivalents

Global warming potential
152,000 tons
CO₂-equivalents

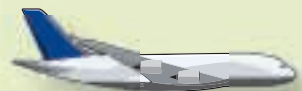
Ozone-depleting potential
83 kg
CFC₁₁-equivalents

Organic solvents
149 tons

Turnover
DKK 25,187 million

Products

Distribution



Liquid waste

Recycled as yeast cream
106,668 m³



Recycled as fertiliser (NovoGro®)
48,822 m³



Discharged to wastewater treatment
1,714,000 m³



Solid waste

Total 12,935 tons
Recycled 41%
Incinerated 24%
Landfilled 8%
Controlled destruction 27%



New Environmental Management System underway

After a year of preparation, the first stage of implementation of our new Environmental Management System (EMS) was completed in 2002, with the first seven ISO 14001 certifications. By third quarter 2003 all production sites worldwide will be certified. The goal is optimal control of significant environmental impacts of our operations worldwide.

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Target:

ISO 14001 certification of all production sites worldwide by 2003.

With the implementation of our ISO 14001 system, the annual target-setting process has been changed to a bottom-up process, involving not only management but also a vast number of employees. Nearly 4,000 employees have been trained in environmental management during the year.

In 2003, we will have additional training and will launch an intranet-based database and dialogue forum. Also in 2003, every site will have two auditors, each performing two weeks of full-time auditing per year to ensure compliance with the system.

Our EMS provides employees at all levels of the organisation with the tools to gain an overview of the environmental impact of their activities, to communicate ideas, objectives and targets, to focus effort on issues that most need attention, evaluate results and share better practice. This way, our ISO 14001 system is the foundation for improving sustainability in our operations, both locally and globally.

RAISING EMPLOYEES' AWARENESS In devising the EMS we developed a limited number of new procedures in order not to duplicate the company's already rigorous quality system. Instead, we have placed greater emphasis on training and raising awareness of employees. These procedures describe common areas and define the minimum requirements for all sites; for instance, with regard to environmental impact assessment, training and communication.

Based on the overall procedures, the site tailors its ISO 14001 system to the relevant activities and impacts, and sets site-specific objectives and targets. This model allows a high degree of autonomy and flexibility, which is vital to achieving a locally embedded system.

During 2002, employees contributed numerous ideas and suggestions for improvements. Some of these were formulated into targets that now contribute to the corporate EPI targets for water and energy. The process fuelled motivation for setting and accomplishing targets, and increased the ambition of corporate-level targets – and the likelihood of achieving them.

BALANCING CONCERNS One intention behind implementing an EMS is to bring environmental

decision-making closer to the people affected, and giving them new challenges. Site environmental coordinators and environmental group members play a leading role, as they are often required to make decisions in areas that are unfamiliar to them. A series of training courses during 2002 was therefore an essential part of the first stage of implementation of the EMS.

In the autumn of 2002 they gathered at one of the biannual International Environmental Network meetings, EnviroNet. A workshop focused on identifying competences that were lacking, leading to the development in 2003 of a palette of specific environmental courses and actions to improve exchange of knowledge.

INTERNAL AUDITS ARE A KEY DRIVER Internal environmental audits are another important element to improve performance. The audit process is coordinated by Novo Nordisk's External Environment department and performed in cooperation with production employees, who are trained on external, accredited ISO14001 auditor courses.

In 2002 the audits focused on environmental impacts, objectives and targets, and the training of employees. The audit is a dialogue between the employee and the auditor. We use the audit to stimulate and encourage new ways of thinking, so that it works as an incentive to take an active part in environmental work. The audit has helped raise the employees' awareness of pollution prevention and sharing of better practice.

TOWARDS SUSTAINABLE DEVELOPMENT Employees have already identified many areas where Novo Nordisk can improve its environmental performance. We see this as a very positive development and also a major challenge, since it creates a greater level of expectation to deliver solutions. This requires cooperation across professional groups as well as with external partners and stakeholders.

Achieving a balance between running an economically viable business and protecting the environment means we cannot solve all problems at once and must set priorities. But this need not discourage progress. The key to a sustainable company is in the hands of every employee of Novo Nordisk.

Optimising our processes

It is our goal to optimise the use of genetic engineering in the manufacturing of our products, not only to ensure high-quality and efficient production at our sites, but also as a boon to the environment.

The core technology used by Novo Nordisk is microbial fermentation to produce therapeutic proteins, the active ingredient in our pharmaceutical products. For each product, we develop specific genetically modified microorganisms (GMMs) that are suitable for producing that particular protein.

The main raw materials used in our closed fermentation tanks are water, nutrients and sugar. During the recovery and purification processes, we use organic chemicals (primarily ethanol), inorganic chemicals such as acids, bases and salts, and filter materials such as kieselgel.

The main by-product from our production is a nutrient-rich organic material known as yeast sludge, which is recycled either as pig feed (yeast cream) or as raw material for biogas generation. The biomass is deactivated by heating, ensuring that all microorganisms are killed.

We have optimised the use of resources in the development of our new generation of insulin products. Our new yeast strain is able to substantially reduce the consumption of water, energy and raw materials per produced unit, resulting in a significant improvement in environmental performance. The new generation of insulin products will be produced in a new plant in Kalundborg, which will start production in 2003.

ADVANTAGES OF GENETIC ENGINEERING The application of genetic engineering enables us to produce a variety of active proteins used for the production of biopharmaceuticals, various types of insulin for the treatment of diabetes, growth hormones, glucagon and clotting factors for haemostasis treatment. Our products do not contain GMMs as these are separated from the final products in the recovery process.

With genetic engineering, organisms are tailored to be more specific and more productive. Modified organisms produce valuable substances that would otherwise be in short supply, or even impossible to produce. Without genetic engineering, it would not be possible to provide a sufficient and stable supply of high-quality insulin to the global market.

FOCUS ON SAFETY Some people are concerned about the risks associated with genetic engineering, of which we are keenly aware. We realise that safety is an important issue in managing modern

biotechnology. The GMMs we use fulfil the widely adopted international criteria for microorganisms to be classified as safe or demonstrating the lowest potential risk. National laws regulate the use of GMMs for production purposes, with the aim to protect human health and the environment from any adverse effects.

Novo Nordisk only uses GMMs in closed production facilities – a method called ‘contained use’. Since our GMMs are safe and well-known – presenting no risk to human health or to the environment – the release of a limited amount of GMMs from air emissions, solid and liquid waste is allowed. The limits are set by the authorities and regularly controlled. We monitor whether emitted GMMs have survived outside the production facilities. No viable production organisms have ever been identified in the samples.

ELIMINATING MARKER GENES In genetic engineering, specific uses of genes coding for resistance to antibiotics are considered to be associated with potential risk. Genes that make microorganisms resistant to some antibiotics (called ‘marker genes’) are normally used in genetic engineering for selecting successfully modified microorganisms. Yet, because antibiotics are used to treat infections, it is important not to potentially increase the level of antibiotic resistance among microorganisms in the external environment.

Recognising this potential risk, and extending our precautionary approach, it is Novo Nordisk’s policy, wherever possible, to avoid the use of genes coding for antibiotic resistance when developing new production strains. A new modified yeast strain in which the gene coding for antibiotic resistance was successfully removed was tested in production in 2002 and will eventually substitute the existing insulin production strain when the health authorities have approved its use.

Natural microorganisms can potentially be contaminated with antibiotic resistance genes via the disposal of waste products, especially yeast cream. An improved yeast cream process to ensure optimal degradation of the antibiotic resistance genes will be implemented in 2003.

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Working towards full compliance

Compliance with environmental laws and regulations form the basis of our environmental management. Our ambition is full compliance, a goal that was supported in 2002 by improved reporting through our new Environmental Management System.

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Target:

Zero breaches of regulatory limits and accidental releases by 2005.

We have selected a number of indicators to evaluate our environmental compliance: breaches of regulatory limit values, regulatory limit values with repeated breaches, and accidental releases. In addition, we report the number of complaints, although this is not directly linked to regulatory compliance.

BREACHES OF REGULATORY LIMIT VALUES

Environmental authorities stipulate a number of conditions in the production approvals of our factories. For some of these, regulatory limits are set for emissions of particular substances to the environment. We regularly monitor and document our compliance with environmental requirements.

A total of 29 breaches of regulatory limits occurred in 2002, a significant reduction from the 68 breaches in 2001. The observed improvement relates specifically to the fact that limits for the volumes of wastewater discharged at our production site in Clayton, North Carolina, were raised with permission from the local environmental authority, and a general increased environmental awareness among our employees.

Besides two breaches of the permitted flow limit at Clayton, the breaches related to elevated emissions of ethanol at the production site in Bagsværd, Denmark, and deviations in permitted pH levels of wastewater at the production sites in Bagsværd and Hillerød, Denmark. No breaches were severe, and the local authorities accepted our corrective and preventive actions.

ACCIDENTAL RELEASES We recorded no accidental release of genetically modified microorganisms (GMMs) in 2002.

We have had ten other accidental releases of liquid waste and chemicals to the external environment. The environmental impact of the reported releases was negligible. All accidental releases are reported to the environmental authorities and actions are taken in order to limit the environmental impact and to avoid similar incidents in future.

Our policy and target is to avoid any accidental release, and to prevent and mitigate possible damage to the environment. A thorough risk analysis of the handling of GMMs is always performed prior to commencing operations. As of 2002, due to the implementation of the ISO

14001 Environmental Management System, we are now subjecting other activities to risk analysis, including storage of chemicals, cooling facilities, water injection facilities and logistics related to safe transport of chemicals. This has led to physical changes in facilities, painting of sewers to indicate safe areas for liquid disposal, moving of storage areas that pose a risk and training employees to increase focus on prevention of accidental releases and potential pollution.

The system for reporting has been improved and knowledge of its existence has increased dramatically with the ISO 14001 system. All reports are investigated according to the Environmental Management System and better practice is shared whenever relevant.

COMPLAINTS We received seven complaints from residential neighbours all regarding noise from various sources. This is a significant decrease from 2001, when we received a total of 32 complaints. The complaints in 2002 related to a road sweeper, a construction site, a relief steam valve and a facility in general. We learn from every complaint we receive and our aim is to respond quickly and efficiently. A constructive dialogue with our neighbours helps us to resolve problems. In 2002 we solved all cases by changing work procedure or taking noise-reducing actions.

The site reports contain more information on compliance and complaints at specific locations.

Compliance status	2002	2001	2000
Breaches of regulatory limits	29	68 ¹⁾	9
Regulatory limits with repeated breaches	4	5 ¹⁾	4
Accidental releases	10	5	2
Accidental releases of GMMs ²⁾	0	0	0
Complaints	7	32	2

1) Due to delayed test results in 2001 at site Bagsværd, additional breaches were identified after the 2001 report was published. The number of breaches of regulatory limits has been changed accordingly for 2001 to a total of 68.

2) Genetically modified microorganisms.

Managing risk under the Precautionary Principle

A company's ability to effectively manage environmental risk is under the lens of government authorities and environmental watchdog groups, as well as investors and the general public. We are well aware of the environmental risks associated with our operations, and are proactive in assessing those risks and taking actions to address them.

The Precautionary Principle serves as our guide in assessing environmental risks. This principle, first outlined in the 1992 UN Rio Declaration, is now a central tenet of sustainable development. In essence, it states that where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

In consultation with a range of stakeholders, we carefully consider the risks that may arise from current operations as well as from past and future actions. Insufficient risk management can damage a company's reputation and in worst case its licence to operate, while superior risk management opens the door for new business opportunities.

PHARMACEUTICALS IN THE ENVIRONMENT

We have chosen to focus on a number of issues affecting risk exposure that are central to our business. Among them is the growing global concern over pharmaceuticals in the environment. We have learned in recent years that some pharmaceutical products that benefit humankind may put other living species at risk when these products are disposed of in the natural environment. This may be the case for oestrogenic hormones.

Environmental authorities and the media have focused the spotlight recently on reproductive disorders of the males of different species all over the world. The prevailing hypothesis is that the disorders are caused by oestrogen-like substances and not least female sex hormones like oestrogens released from the urine of pregnant women, women using the contraceptive pill, or hormone therapy, and maybe also a vast number of oestrogen-like chemicals.

As a producer of oestrogenic hormone products, and as an environmentally responsible company, Novo Nordisk must consider the potential environmental implications of the use of our hormone products – since the most significant environmental impact is not in the production processes, but during use and disposal.

Our hormone production takes place in Denmark. In compliance with requirements from the environmental authorities, all waste from our production with a significant content of hormones is collected and sent to controlled destruction at

Kommunekemi in Nyborg, Denmark. Consequently, the discharge of hormones from our production is negligible.

RESULTS OF STUDY To gain more knowledge we performed a literature study to investigate the current knowledge of ecotoxic effects of estradiol and its primary metabolite, estrone. Furthermore, in 2002 we conducted a number of ecotoxicological tests of estradiol and estrone according to OECD guidelines. The study showed a significant impact of estradiol and estrone on juvenile male fish, even at low concentrations, while no effect on other test organisms was observed.

In line with our commitment to the ICC Charter to conduct or support research on the environmental impacts associated with our operations, and on the means of minimising such adverse impacts, we will share this information with relevant authorities and interested stakeholders.

MONITORING OTHER RISKS Another key issue is the prevention of soil and groundwater pollution. We have programmes for surveillance of all underground storage and waste tanks to monitor their integrity. At our production sites, for example, we systematically control sewers to check that they are intact.

We also recognise that biotechnology, our main technology, may present certain ecological risks. These are discussed in detail in 'Optimising our processes' on page 45. Our policy is to limit our risk exposure in the use of genetically modified microorganisms (GMMs) to a minimum.

We monitor whether the GMMs emitted under the legally permissible levels have survived outside the production facilities. No viable organisms have ever been identified in the collected samples.

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From decision to impact: a look at our economic performance

The economic component of the Triple Bottom Line is often assumed to be the same as the company's financial performance. But economic performance is not the same as financial performance. Finance concerns the market valuation of transactions that pass through company books. Economics, on the other hand, is the means by which society uses human and natural resources in the pursuit of human welfare.





In the past few years, Novo Nordisk has been working towards building a more systematic approach to accounting for economic performance. It is our aim to be part of the international business community's efforts to develop standards or guidelines for economic reporting. That is why we support the development of reporting guidelines under the Global Reporting Initiative (GRI).

In this section we look at the development of our economic stakeholder model as well as indicators of economic performance, all of which can be considered a work in progress as economic impact is a relatively new area of reporting for most companies.

Economics extends beyond the boundaries of a single organisation and is linked to both the environmental and social elements of sustainable development. This makes measurement of a company's economic impact much more challenging.

From this perspective, our business decisions certainly have an impact on our company's profitability and its attractiveness for employees, investors and the communities in which we op-

erate. But those decisions also reverberate throughout the economy, affecting economic growth, employment, and the health and well-being of people who depend on our products.

We are aware that there is a downside as well as an upside to a company's economic impact. Investments in a community can serve as an engine of growth in the economy, by boosting local supply chains and developing a new skills base. The goods and services that a company produces can also contribute to a higher quality of life. On the other hand, growth in economic activity does not in itself reduce poverty, provide a cleaner environment, or achieve greater equality or better quality of life.

By attempting to understand, manage and communicate our economic impact we hope to identify the type of economic growth that supports sustainable development. Analysing our socio-economic performance makes clear the trajectory from decision to impact. It allows us to capitalise on our commitment to sustainable development. It is also an important stepping stone towards fully integrating Triple Bottom Line thinking.

Measuring our economic footprint

Managing a sustainable business implies taking broader responsibility than delivering healthy returns on investments. A profitable business is the basis for sustainable development, but as a responsible corporate citizen the commitment goes beyond narrow business concerns. This is why we track our economic footprint.

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Long-term growth targets:

Operating profit margin of 25%.

Growth in operating profit of 15% per year.

Return on invested capital (ROIC) of 25% per year.

Cash to earnings (3-year average) of 60%.

We use the Global Reporting Initiative (GRI) as a framework for analysing our impact on the creation of economic wealth and on the economic stakeholders that benefit from our activities. We also support the development of the GRI in this area.

Taking our inspiration from the GRI, we are developing a systematic approach that begins with our direct economic impacts. As a company, our most direct contribution to wealth creation is through employing people's skills in creating goods and services and investing in new plants and equipment.

Indirect impacts, in turn, refer to when a company's operations affect the economic activities and performance of others, both individuals and organisations. The kind of data and indicators available today make accounting for the direct impact a manageable task, but it will be a challenge to get a better grasp of our indirect impacts.

TRACING THE LINKS We have started to address that challenge by mapping out our economic impact. The Novo Nordisk economic stakeholder model (on the opposite page) attempts to summarise our socio-economic impact on society based on production and consumption activities. The model illustrates the interaction in society between Novo Nordisk, suppliers, patients and healthcare providers, local communities, the global community, and the public sector.

The company's added value is created through a range of internal business processes, into which the commitment to the Triple Bottom Line is integrated. This kind of model prompts a new form of decision-making, in which we aim to achieve a better understanding of our wider socio-economic impact.

In each of these processes the added value is generated through interaction with various stakeholders. This is addressed in other sections of the report and hence not further described here:

- ◉ R&D: bioethics and animal welfare.
- ◉ Production processes: environmentally friendly technologies/evaluation of suppliers.
- ◉ Management systems: risk prevention.
- ◉ Marketing strategies: affordable pricing in the developing world, LEAD initiative.
- ◉ Human resources: equal opportunities/human rights.

- ◉ Social investments: global health/education and training of doctors and nurses.

DISTRIBUTION OF CREATED WEALTH One of the factors we examine is distribution of created wealth. We use a cash value distribution chart derived from the statement of consolidated cash flow and financial resources in the *Annual Financial Report* for 2002 (see the table on the opposite page).

Customers – that is people with healthcare needs and healthcare providers – represent the most important economic stakeholder group of our company. From 2001 to 2002 our turnover grew by 6%. 99% of our sales are outside Denmark, with Europe at 42% as the most important market. However, the relative importance of North America (23%), Japan & Oceania (17%) and 'rest of the world' (17%) is growing. Most production takes place in Denmark, where 62% of the employees and 89% of the company's tangible assets are located.

External economic stakeholders (suppliers) receive 55% of the company cash, and the remaining 45% is distributed to various economic stakeholder groups profiting from the company added value.

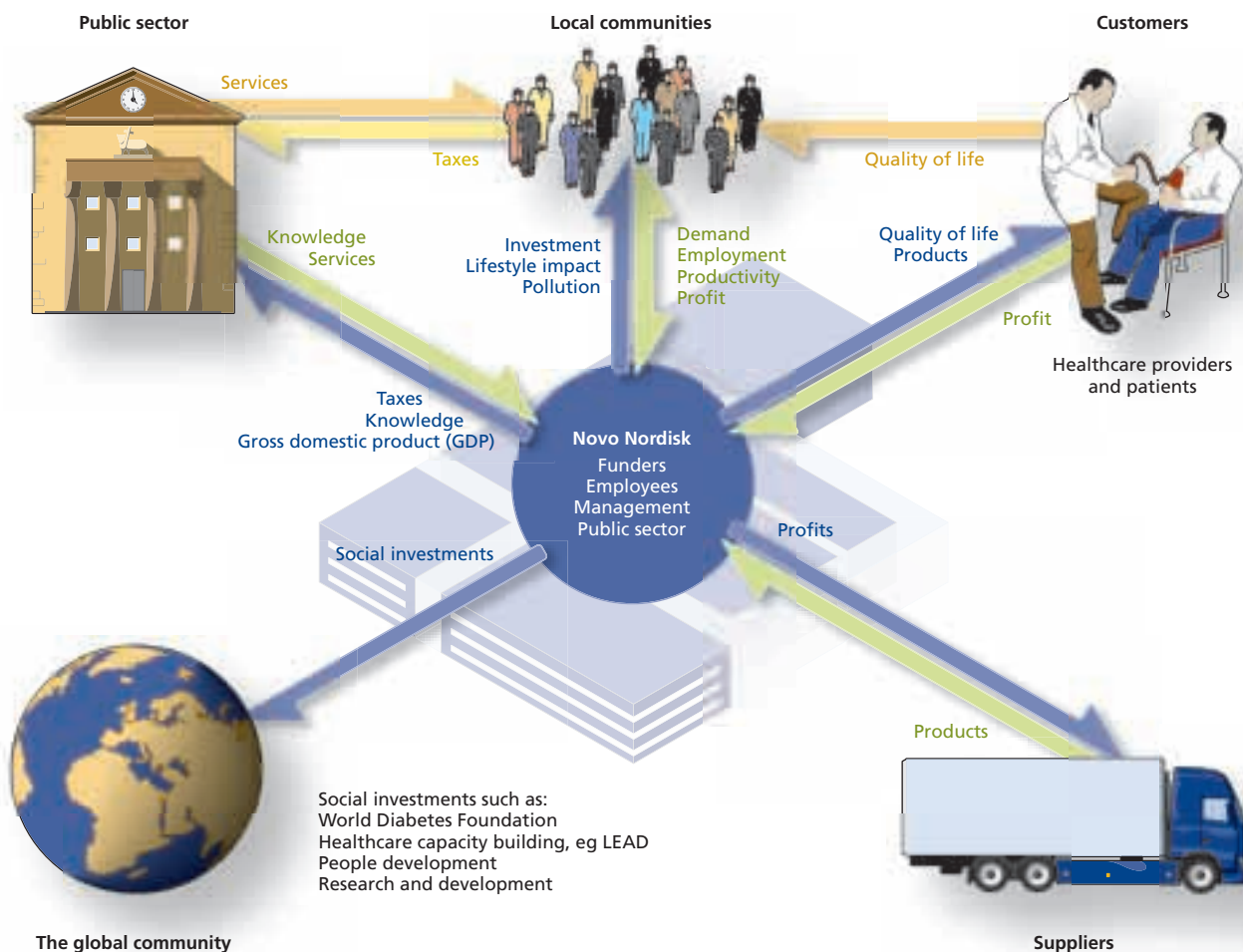
The share of the total company cash received by suppliers indicates the extent to which suppliers profit from the location of Novo Nordisk's plants in their neighbourhood. Suppliers to production are located primarily in Denmark.

Employee income (75% of cash added value) is a measure of the market value of people's productive capabilities. The regional distribution of this wealth points to a concentration in the developed world and in particular in Denmark. Net cash flow in 2002 for future growth is negative. This reflects the fact that investments made in 2002 have been self-financed through reduction of company cash reserves.

INVESTMENT NOW AND IN THE FUTURE The level of investment is a measure of the company's future economic capacity and development. In 2002 Novo Nordisk invested DKK 4.0 billion in new facilities, an increase from DKK 3.8 billion in 2001, primarily in Danish production facilities.

Novo Nordisk acquired the Brazilian company Biobrás in 2002 at DKK 380 million. This acqui- →

Novo Nordisk's economic stakeholder model



Looking at the wider socio-economic aspects of our business prompts a better understanding of Novo Nordisk's impacts on society. The model illustrates relations between the company and our economic stakeholders: customers, suppliers, employees, management, investors and the local community. The arrows indicate direct and indirect impacts.

Customers constitute the most important economic stakeholder group. Here, the main impact is improved health through the provision of our products in synergy with the infrastructure of the health sector.

Novo Nordisk contributes with growth, employment, taxes and knowledge to the national economy and in return society provides us with various public services. Novo Nordisk's activities in a local community serve as an engine of growth in the economy, by boosting local supply chains and developing a new skills base. Employee salaries and suppliers' income spent locally multiply through the local economy.

Cash value distribution ¹⁾

		2002 (DKK million)	Cash received	Cash added value
Customers	a : Cash received for products and services ²⁾	25,258	100%	
Suppliers	b : Cash payments for materials, facilities and services ³⁾	13,771	55%	
Company cash	Cash added value (a minus b)	11,487		100%
Employees	c : Remuneration	8,628	34%	75%
Funders	d : Dividend and lenders	1,622	6%	14%
Public sector	e : Taxes	2,266	9%	20%
Management	f : Future growth	(1,029)	-4%	-9%

1) The above cash value distribution reflects the impact of investments in 2002. Investments were not included in the 2001 model.

2) Cash received from net turnover.

3) Cash payments outside the Group. The figure includes cash received from licence fees, realised exchange rate gains and interest income.

sition is a major expansion of Novo Nordisk's activities in the large and growing market for diabetes care products in Brazil and other Latin American countries.

Expenditure on R&D is an important capacity builder from a societal point of view and a major part of the innovation that will create our future wealth. The wage share of R&D is an indicator of the company's impact as a capacity builder in a region or 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 2002.

VALUE OF KNOWLEDGE Knowledge consists of all the skills, expertise and competences of the employees of our company. There is a growing understanding of the value of knowledge or intangible assets as drivers in the creation of company wealth. Novo Nordisk's employee base (full-time employees) grew by 12% from 2001 to 2002, primarily in 'rest of the world' (47%) followed by Denmark (10%), North America (6%), Europe (3%) and Japan & Oceania (2%).

CONTRIBUTION TO SOCIETY In generating profit from our production, we have an impact on the environment through our use of resources and materials. Novo Nordisk works intensively to improve production technologies in order to reduce the negative impacts on the environment.

Our turnover contributes to overall economic wealth with 1.6% measured as a share of GDP in Denmark in 2000 rising to 1.8% in 2001¹⁾. Our economic contribution through the value added is approximately 0.7%²⁾ of GDP in 2001. Total corporate taxes in 2002 amounted to 8.8% of our turnover. Of the corporate Danish taxes 13% are paid as local taxes and 87% as state taxes. Further, in 2002 the company's employees contribute with 0.5%³⁾ of the total Danish personal income taxes (60% state taxes and 40% local taxes).

However, as a healthcare company it can be argued that we make a more profound contribution to society through our products' value to customers in terms of improved health.

We contribute to total current as well as future socio-economic welfare by securing and creating employment, by developing the competences of our employees, and by making products that provide better health for people dependent on insulin.

EDUCATION AS INVESTMENT We work with knowledge and investment in people; long-term development plans are made for all our employees in a consultative process with their manager. This process ensures a continuous development, edu-

cation and motivation of each employee. Continued education is an important socio-economic enabler as it helps increase individuals' employability, not just for the benefit of employees and the company, but also for the benefit of society and other companies. By making such investments, resources can be freed elsewhere for other use and investment in companies and society.

We also have an impact on the future direction of economic growth and societal wealth through investments in new production. A decision to make an investment in a local area or a country, or to withdraw investment in another, can have either positive or negative social, environmental and economic effects. Therefore, it is highly important to understand how these decisions can support sustainable development.

An important contribution from the company, where the current and future worlds become linked, is knowledge: not just through R&D activities, and investment in training employees, but also from our efforts to educate doctors and nurses worldwide in diabetes care.

SOCIO-ECONOMIC IMPACT AT GLOBAL LEVEL

Alleviating poverty has become part of the agenda for companies that want to see their business grow, as Novo Nordisk does, in the developing world. Globalisation promises bigger markets and more profit but it also exposes the ever-widening gap between the rich and the poor. Economic growth and trade, combined with foreign investments, is one of the most important factors in economic growth for the developing world.

But corporate responsibility in the developing world cannot be limited to investments and tax contributions. A community must benefit in a broader sense from having the company located there. Often, companies that establish themselves in the developing world find that the regulatory, public or institutional frameworks on which the conventional business model is based are often weak or absent.

In that context, corporate social responsibility becomes a concrete issue for these communities. Companies have to assume greater responsibility by helping to provide services that are conventionally provided by the public sector in the developed countries. These factors underpin the work we are doing in our global access to health initiative, LEAD, and the way we approach our business in China.

1) The first preliminary figures for GDP in 2002 are not available until March 2003.

2) The contribution to GDP depends on the method used to calculate the value added.

3) 2002 figures for Danish income taxes are corrected for labour market contributions etc.

Key indicators of economic performance

Our key economic indicators attempt to measure and report on the financial wealth created by Novo Nordisk. Following GRI's Sustainability Reporting Guidelines, we provide information on where we produce and earn our income, on how economic stakeholders benefit from our activities and where they are located.



Figures for 1998–1999 are derived from the consolidated accounts of the former Novo Nordisk Group – all dividend is allocated to the continuing Novo Nordisk (prior to the demerger). 2001 was the first full financial year for Novo Nordisk as a focused healthcare company.



Charlotte Dam Jensen from Denmark has type 1 diabetes. Charlotte is one of the 'professional patients' in Novo Nordisk's 'Meet a Customer' project where employees get the opportunity to meet and talk to people with diabetes.

Assessing the benefits of diabetes care

What are the advantages for a society in ensuring access to insulin and improved diabetes care? To answer that question we have developed a model that helps us examine the socio-economic costs and benefits of diabetes and diabetes care.

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Most people would agree that access to health is a precondition for societal prosperity. The benefits of access to health may outweigh the costs for two reasons: first, survival and improved health has an intrinsic positive value, and second, health improves the productive national capacity by realising a human and national potential that otherwise would be wasted through sickness or death.

For the individual, living with diabetes means that their ability to work, their quality of life, and their ability to prosper as a person, or as a provider for a family, is potentially limited, depending on the severity of the person's diabetes and whether there are complications. From a societal perspective, a potential contribution to societal welfare from a productive person is lost.

The World Health Organization estimates that 9% of all global deaths are caused by diabetes, primarily among people in their most productive years. In countries where access to healthcare is available, the care of people with diabetes also entails significant costs to the health system. Hospitalisation and treatment of late complications (eg blindness, amputations and heart-related problems) due to poorly treated diabetes, are the main cost drivers. It is estimated that the costs of dia-

betes and its complications already account for between 5% and 10% of total healthcare spending in most countries and up to 25% in others.

Treatment with insulin means that people with diabetes can lead an almost normal life and reduce the risk of disabilities and premature death. To people with diabetes, access to insulin improves their quality of life and their productivity. Their intellectual and emotional capacity, and that of their families, is no longer primarily focused on worries about health, but rather on more positive, forward-looking activities.

A CASE STUDY OF DENMARK We are developing a methodology based on a case study of type 1 diabetes in Denmark that links the consequences of diabetes to costs and benefits associated with treating diabetes. The results presented here are part of a project Novo Nordisk is conducting with experts in epidemiology and health economics, Professor Anders Green and Professor Terkel Christiansen, associated with the University of Aarhus and the University of Southern Denmark. The results of the study will be published in 2003.

In this project we have designed a socio-economic diabetes model for a country's prerequisites in

terms of identification, diagnosis, treatment patterns and complications status caused by diabetes. The model is based on the Danish healthcare system with model data based on the clinical knowledge of medical experts and their estimates of the population of people with diabetes. The empirical medical data are from the Danish national hospital activity register.

BENEFITS AND COSTS The benefits are patient life years, quality of life and productivity gains. With regard to costs, we distinguished between the direct and indirect costs of treating diabetes. Direct costs are public healthcare costs of hospitalisation. These include routine GP visits, insulin, other medicines, blood glucose monitoring, education of patients and treatment of acute and chronic complications, nursing homes and disability assistance. Other direct costs are the financial consequences for the patient through costs of transport, housing, family and childcare during visits to the hospital or GP, and costs of physiotherapy. In the calculation are also indirect costs related to foregone income due to absence from work during treatment.

The study presents the costs and benefits from diabetes treatment in Denmark during one year (2001). It is important to underline that these effects, measured in terms of patient lives and quality of life, build on 80 years of continuous improvement of the medical treatment and the general living conditions in Denmark. The first stage of the study focused on the costs for two scenarios. One in which treatment (insulin) is not available, and one where treatment is available and complications are treated, as in Denmark.

The economic cost of treating type 1 diabetes in Denmark during one year, ie the difference between the two scenarios, is estimated at DKK 1.1 billion. Approximately DKK 700 million or 50% of the total annual costs of the current treatment is related to hospital treatment. When interpreting these conclusions, some reservations must be made. A sensitivity analysis is required to show how sensitive the results are to some of the assumptions. Further, calculations have not included macro-economic consequences of increased survival due to adjustments in the economy, for example net changes in the population, impact on employment, production and consumption.

INDEX FOR QUALITY OF LIFE We have chosen to measure the benefits of treatment as life years gained (avoided premature death) and quality of life. This can be expressed as an index: Quality Adjusted Life Years (QALYs). QALYs is a tool to incorporate the quality of life/well-being, in a health economic analysis. The QALY describes how a disease or a medical treatment affects an individual's life expectancy and quality of life. One way to investigate the effect in terms of QALYs is to use the EuroQol questionnaire (EQ5D). It identifies the quality of life on a scale between 0 (death/worst imaginable health state) and 1 (best imaginable health state). A group of diabetes nurses have linked typical diabetes health states to the EuroQol descriptive states.

This case study showed that during 2001, 15,452 patient years were gained from the continuous long-term availability of insulin in Denmark for type 1 diabetes. Indeed, those gained life years have a value in themselves. Moreover, if the patient years above were transformed to QALYs, using the EQ5D, this would entail gains as well.

Of these 15,452 people, 80% are between 15 and 65 years old and in a physical condition that allows them to be able to work. Approximately 70% of the estimated treatment costs can be referred to this group.

Finally, we measured the effects in terms of productivity gains. This was estimated to be DKK 2.3 billion a year. It is a measure of the productivity gains resulting from the gained patient years in scenario 2 compared to scenario 1.

This is a socio-economic benefit to the Danish society based on the assumption that the patients who are physically able to work would have the opportunity to work in the same capacity as the rest of the population (75% work force participation rate). The project will be further developed to look at type 2 diabetes for Denmark and to estimate the socio-economic costs of type 1 and type 2 diabetes for a developing country.

COSTS CAN BE CONTAINED BY PREVENTION The private versus public costs depend on the national health costs reimbursement and benefits systems and differ between countries. In determining public health budgets it is necessary to foresee how much the public health sector will need and the equivalent taxes that have to be collected. Equally important is to ensure that all costs and benefits are taken into account regardless of who is bearing the costs. The socio-economic approach enables a comparison between countries and presenting a comprehensive 'holistic' picture of the cost to society of diabetes.

Prevention can reduce the societal costs of treating the complications of the disease. These include lifestyle modifications in terms of healthier food, more exercise, and less smoking as well as monitoring, screening, treatment and control of high blood pressure, raised blood lipids, blood glucose levels, sight-threatening eye complications and urinary protein excretion. Prevention also entails intervention against early signs of chronic complications such as renal failure, heart disease and loss of visual acuity.

AVAILABILITY OF INSULIN NOT ENOUGH Insulin therapy in itself is not sufficient. There must be an adequate healthcare infrastructure and a decision by the government to prioritise diabetes by allocating a sufficient budget.

The treatment of diabetes is expensive in terms of direct healthcare costs and competes for scarce resources with other societal needs both in and outside the health sector. In the short term, more effective treatment with insulin increases costs, but in the long perspective it pays off. Studies have shown that after six to eight years there is a clear positive effect on the costs for complications.

Treatment of diabetes		Scenario 1 (insulin not available)	Scenario 2 (current Danish healthcare)	Gain (+)/loss (-)
Direct and indirect costs ¹⁾	DKK million	300	1,400	-1,100
Patient life years		1,038	16,490	+15,452
Productivity	DKK million	0	2,300	+2,300

1) Medical costs and non-medical costs.

Accounting for the environment

Sound environmental management remains to be good business. However, to achieve more sustainable gains for the environment as well as in financial terms, we have set a course to move beyond compliance-based solutions. Innovations must integrate environmental considerations.

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In 2001, analyses showed that the efficiency gains in consumption of water and energy did not result in similar actual savings of costs due to significant price increases. With increasing prices, efficient utilisation of resources remains to be good business, as our efficiency gains in the consumption of water and energy entail lower costs.

Environmental costs as a share of total production costs as well as of operating income have remained stable. In absolute figures, costs have increased in two areas. In connection with the start-up of a new Insulin Bulk Plant in Kalundborg, Denmark, increased volumes of wastewater had to be discharged, at subsequently higher net costs of wastewater treatment. This also implied increases of the costs of biomass management at 58%.

Efforts to reduce environmental impacts focus on those areas where environmental costs are particularly high: energy supplies, waste management and wastewater. Targets and action plans to reduce environmental impacts in these areas are integrated in the Environmental Management System according to the ISO 14001 standard.

INVESTMENTS FOR THE FUTURE Novo Nordisk has made massive investments in new production facilities to meet the market demands for insulin and to fully exploit the prospects of NovoSeven® becoming the world's first general haemostatic agent.

The new insulin plant in Kalundborg, an investment at DKK 2.5 billion, will be ready for production in early 2004 and will be our primary supplier of insulin and insulin analogues. A DKK 800 million NovoSeven® facility in Hillerød, Denmark, was

completed as a fast-track project in just 18 months and inaugurated in November 2002.

From design to delivery, environmental considerations have been part and parcel of the processes. The NovoSeven® facility consists of modules, delivered ready to use at the factory site. All materials are chosen in accordance with latest environmental standards, including energy-saving technology and minimising waste wherever possible.

NEW ACCOUNTING METHODS In line with this, a new procedure for environmental assessment of investment applications has been implemented. If the pay-back time for additional costs of environmental improvement is less than four years, then these additional costs related to the investment will be covered. This procedure applies for all new investments in production facilities.

These two factors – heavily increased overall investments and the move towards integration of environmental investments – are reflected in the table below as a significant decrease in the environmental investment as a share of total investments. By having environmental concerns integrated into standard solutions, the level of investment accounted for as 'environmental investments' is likely to decrease in future.

However, we wish to be able to assess such costs and investments and to calculate the extent to which environmental gains also have a positive impact in monetary terms. To do so, we have set up a pilot project in 2003 at our production facilities in Bagsværd and Hillerød, Denmark, to implement Environmental Management Accounting. The aim is to introduce this as a corporate activity.

Environmental costs and investment		2002	2001	2000
Running of the environmental department	DKK million	9.5	9.3	12.3
Net cost of wastewater treatment at municipal plants	DKK million	8.4	10.7	10.1
Biomass management (including transport, treatment and capacity costs)	DKK million	7.6	4.8	19.8
Handling and disposal of solid waste	DKK million	24.8	27.8	23.1
Energy, SO ₂ and CO ₂ taxes (non-refundable)	DKK million	45.5	43.0	27.5
Remediation cost for polluted sites	DKK million	0	0.3	0.4
Total environmental costs	DKK million	139.1	129.7	93.2
Environmental costs as a share of total production costs	%	2.1	2.2	1.8
Environmental costs as a share of net turnover	%	0.6	0.5	0.4
Environmental costs as a share of operating income	%	2.3	2.3	1.9
Environmental investments	DKK million	14.4	44.3	30.1
Environmental investments as a share of total investments in tangible assets	%	0.4	1.1	1.3

Investing for long-term profitability

Despite increased pressure on share prices, Novo Nordisk's commitment to sustainable development remains unchanged. The obligation to maintain a healthy business requires a long-term perspective. As markets get more volatile, socially responsible investments are gaining ground as more than a niche position.

In 2002 not just our values were put to the test. The financial value of Novo Nordisk, built over the years and substantiated by almost five years of satisfactory profit growth, was indeed severely challenged during the year. In a tense market with high pressure on pharmaceutical companies in particular, two adverse events resulted in a market cut of 40% of Novo Nordisk's market value – from DKK 119 billion to DKK 71 billion.

On 10 April the company had to announce that sales in the first quarter of the year were lower than expected. That information instantly reduced share prices from 342 to 205. Three months later, the decision to suspend phase 3 clinical trials of an experimental diabetes drug, NN622, further dampened the market's expectations of the company's business prospects.

However, such fluctuations, it is generally agreed, do not paint a fair picture of a company's ability to operate a sustainable business. And so, whereas the weekly share curves should not be neglected as a barometer, the real challenge lies in keeping the long-term perspective in view. This is where we see a convergence of interest between a company such as Novo Nordisk and those investors that take a wider, sustainability-driven view.

A NEW INVESTOR COMMUNITY Socially responsible investing (SRI) can be defined as an investment process which combines the investor's traditional financial objective with a commitment to social and environmental responsibility. It has evolved from primarily involving negative screening to positive screening, using social and environmental criteria to identify best-in-class companies. Other strategies include shareholder activism and community investments.

Pharmaceuticals, being an attractive investment object but also operating in areas of controversy and high risk, have naturally been in focus for SRI investors. Hence, identification of key issues is vital, as is risk management and addressing the global and industry-specific issues at a strategic level. By describing the societal risk of a company, a social screen can help remove risk to the investor, which may be one way to explain why SRI investments have been found to outperform mainstream international indices, such as the Dow Jones and the Standard & Poor's 500 Index (S&P 500). As is the case for mainstream investors, per-

formance – documented by relevant and preferably comparable indicators – is the main driver for SRI.

BENCHMARKS Novo Nordisk is included in all the leading global indices, such as the Dow Jones Sustainability World Index (DJSI World), and the FTSE4Good. In 2002 the DJSI World Index rated Novo Nordisk as leader in the pharmaceutical industry in terms of corporate sustainability.

Through our long-standing Triple Bottom Line commitment and favourable ratings in several independent benchmarks, Novo Nordisk has been included in a range of mutual funds and asset managers' portfolios, in the US as well as in Europe. See the updated list and more specific investor information on the internet.

A NEW CONVERSATION Novo Nordisk attends a number of international conferences on SRI investments and corporate social responsibility – often invited as keynote speakers or panellists. We have seen a shift in the conversation with the investment community towards taking Triple Bottom Line issues into account, and we would like to encourage that development. To that end, Novo Nordisk hosted a roundtable meeting in 2002 on SRI. The main objective was to discuss how and on which parameters the pharmaceutical industry might be evaluated in the future.

We are seeking a proactive strategy to push SRI further up the agenda of the mainstream financial community. Further, in a continued dialogue with the investor community, Novo Nordisk is investigating how shared goals by SRI asset managers, analysts and rating companies on the one side and corporations on the other might materialise in practice.

Transparency and accountability work both ways. Hence, we welcome the initiative to set up a Europe-wide accreditation standard for socially responsible investment funds.

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Independent Assurance Statement to Executive Management

INTRODUCTION We have performed an assurance engagement on the Novo Nordisk *Sustainability Report 2002* ('the Report') and the underlying systems, structures and processes.

These subject matters are the responsibility of the Novo Nordisk Executive Management, with whom the objective and terms of the engagement were agreed. We are responsible for expressing our conclusions and findings based on the engagement.

We have based our approach on emerging best practice for independent assurance on sustainability reporting, including the AA1000 Assurance Standard, Guiding Principles, Consultation Document, June 2002, and ISA 100 Assurance Engagements, issued by the International Auditing and Assurance Standards Board.

This independent assurance statement concludes our engagement, which was conducted in three parts. Our detailed recommendations for management as well as information on our independence are available in the internet version of the Report.

THE REPORT AND ITS UNDERLYING PROCESSES We have reviewed the Report and its preparation considering the objective of the Report and its accordance with GRI's 2002 Sustainability Reporting Guidelines, as described in 'About the report'.

In this part we reviewed the systems, structures and processes applied by Novo Nordisk as described in the Report (excluding quantitative data) and as required in 'the Novo Nordisk Way of Management' pertinent to the company's Triple Bottom Line approach.

Our engagement included a review of evidence supporting the subject matters, and performing such other analytical procedures and interviews, as we considered necessary in the circumstances. We believe that our review provides an appropriate basis for our conclusion.

The objective of this part of our engagement is to obtain a moderate level of assurance on completeness, materiality and responsiveness of aspects addressed in the Report and the underlying systems, structures and processes.

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

- ⊙ Management has designed and applied reasonably effective systems, structures and processes to identify and understand activities, performance, impacts and stakeholder views.
- ⊙ The Report provides, as an extract from this basis, a reasonably balanced representation of these activities, performance, impacts and stakeholder views, and it has been prepared in accordance with GRI's 2002 Sustainability Reporting Guidelines. A comprehensive GRI compliance index is available in the internet version of the Report.
- ⊙ Management has a reasonably effective process in place for managing these aspects of performance and responding to stakeholder views; and Novo Nordisk has applied processes that allow stakeholders to access the Report.

CATCH AND DATA ON WATER AND ENERGY In this part we examined the environmental information system CATCH at the

corporate level. CATCH is described on page 59 in the Report. We have further examined the energy and water consumption data presented in the Report and consolidated from production sites as determined in 'About the report'.

On a test basis we examined the evidence supporting the subject matters and we performed other such procedures, as we deemed necessary. We believe that our examination provides a reasonable basis for our opinion.

The objective of this part of our engagement is to obtain a high level of assurance. 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 are complete, and accurately reported in accordance with 'About the report'.

OTHER QUANTITATIVE DATA IN THE REPORT In this part we performed certain procedures focusing on the collection and inclusion of other quantitative data in the Report. The agreed-upon scope and work performed under this part of our engagement preclude us from stating an opinion as to whether other data in the Report are complete and accurate.

We find that Novo Nordisk applied detailed data collection procedures for the purpose of collecting 2002 data from the reporting units for inclusion and appropriate reflection in the Report; and made reasonable endeavours at corporate level to verify the data. For the two reporting units, Kalundborg and Køge, included in the scope of this engagement, submitted data were consistent with the source documentation presented to us.

COMMENTARY We recommend that Novo Nordisk clarifies whether issues of business ethics, such as competitiveness behaviour, bribery and corruption, should be part of the Triple Bottom Line approach.

We have observed noticeable improvements in the Report's presentation on how Novo Nordisk deals with dilemmas and embeds actions in the context of global health and social responsibility. We recommend further development of reporting measures on the 'Economic footprint' emphasising the societal value of Novo Nordisk's products and services to be a particular area of focus.

Copenhagen, 6 February 2003

DELOITTE & TOUCHE
Statsautoriseret Revisionsaktieselskab

Preben J. Sørensen
State Authorised Public Accountant

Key performance data

		2002	2001	2000	
Financial	Profit and loss figures				
	Net turnover	DKK million	25,187	23,776	20,811
	Employee costs	DKK million	8,640	7,435	6,352
	Research and development costs	DKK million	4,139	3,970	3,390
	Operating profit	DKK million	5,979	5,614	4,816
	Profit before tax	DKK million	6,300	6,030	4,840
	Net profit	DKK million	4,095	3,865	3,087
	Profit and loss key figures				
	Research and development costs	% of turnover	16.4	16.7	16.3
	Operating profit margin	%	23.7	23.6	23.1
	Net profit margin	%	16.3	16.3	14.8
	Effective tax rate	%	35.0	35.9	36.2
	Balance figures				
	Cash and current asset investments	DKK million	1,738	3,062	3,845
	Current liabilities	DKK million	5,969	6,006	5,496
	Total assets	DKK million	31,496	28,905	24,920
	Balance key figures				
	Equity ratio	%	72.8	69.7	68.1
	Return on invested capital (ROIC)	%	20.1	23.1	22.0
	Share data				
	Earnings (net profit) per share	DKK	11.81	11.18	8.84
	Dividends per share	DKK	3.60	3.35	2.65
	Share capital (nominal) at year-end	DKK million	709	709	754
	Quoted price at year-end for B shares	DKK	205	342	285
Environmental	Resources				
	Water consumption	1,000 m ³	2,044	1,790	1,429
	Energy consumption (direct and indirect supply)	1,000 GJ	2,083	1,838	1,732
	Raw and packaging materials ¹⁾	1,000 tons	93	88	76
	Wastewater				
	Volume	1,000 m ³	1,714	1,424	1,121
	COD	Tons	971	830	723
	Nitrogen	Tons	111	86	63
	Phosphorus	Tons	17	15	11
	By-products (biomass)				
	Volume	1,000 m ³	155	147	141
	Nitrogen	Tons	1,649	1,415	1,167
	Phosphorus	Tons	504	423	353
	Waste				
	Waste (total)	Tons	12,935	14,866	10,551
	Non-hazardous waste	Tons	7,032	7,300	–
	Hazardous waste	Tons	5,903	7,566	–
	Recycling percentage of total waste	%	41	50	45
	Emissions to air				
	Organic solvents	Tons	149	75	78
	Ozone-depleting substances	Kg	1,351	915	1,561
	CO ₂	1,000 tons	149	143	139
	SO ₂	Tons	162	245	270
	NO _x	Tons	283	251	272
	Environmental Impact Potentials				
	Global warming	1,000 tons CO ₂ -eqv	152	145	142
	Ozone layer depletion	Kg CFC ₁₁ -eqv	83	41	153
	Acidification	Tons SO ₂ -eqv	360	421	460
	Eutrophication	Tons NO ₃ -eqv	1,417	1,291	1,040
Social	Basic employee statistics				
	Number of employees ²⁾		18,372	16,693	13,752
	Female	%	49.7	50.7	50.8
	Male	%	50.3	49.3	49.2
	Rate of absence ³⁾	%	2.7	3.8	4.0
	Employee turnover rate ³⁾	%	6.4	7.7	10.6
	Health and safety				
	Frequency of occupational injuries ³⁾	Per million working hours	8.9	8.2	8.4
	Frequency of occupational illnesses ³⁾	Per million working hours	1.1	2.2	1.7
	Training costs				
	Annual training per employee ⁴⁾	DKK	8,189	8,201	8,393

1) The total quantity of materials has changed in 2001 due to an error in the division of raw materials and packaging materials in Chartres. The change only affects Chartres figures.

2) The number of employees is the headcount at the end of 2002 and equals 18,372. The full-time equivalent of this headcount equals 18,005.

3) In 2002 we have broadened our scope of reporting to cover other social data for all employees. Hence, the data foundation for the indicated social indicators has changed to cover all employees.

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

For the full data set and accounting principles, visit www.novonordisk.com/sustainability. The environmental information system CATCH is part of the CATCH concept. Through a web tool environmental data are submitted from the 12 sites and transferred to a central data warehouse for further aggregation. All environmental data except 'ozone-depleting substances' are managed through CATCH.

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

Definitions

AA1000 Framework is an accountability standard designed to improve accountability and performance by learning through stakeholder engagement. The building blocks are planning, accounting, auditing and reporting. The new AA1000 Series adds specialised modules, including the AA1000S Assurance Standard, the world's first assurance standard for social and sustainability reporting to complement GRI.

Accidental release is an irregular incident where potentially harmful substances, waste or GMO materials are released to the environment.

Balanced Scorecard is a management tool in which major issues are vision, values and business strategies. A basic principle is that management of a company has to be based on measurements of its score or performance in relation to different business perspectives: customer, economic, internal processes, and organisation and people.

Bioethics covers all ethical issues related to the use of life science technologies for the development and production of biotechnological and pharmaceutical products.

Biotechnology and genetic engineering refer to the application of living organisms and their cellular, sub-cellular or molecular components to create products and processes. Historically, the first use of biotechnology took place centuries ago with the discovery of fermentation of wine and beer. Modern biotechnology is often used synonymously with genetic engineering.

Contained use is a highly specific term from national and international regulation. It means that physical barriers (such as Novo Nordisk's fermentation tanks) or a combination of physical, chemical or biological barriers are used to limit the contact of genetically modified microorganisms (GMMs) with the surrounding environment. The regulatory authorities set limits for emissions of GMMs. A chemical barrier might be chemical treatment to kill organisms. A biological barrier is an inherent characteristic of an organism, which means that the organism's ability to survive in nature is limited.

Corporate governance is the system or process by which companies are directed and controlled. It is based on the principle that companies are accountable for their actions and therefore broad-based systems of accountability need to be built into the governance structures of companies.

Diabetes results from defects of insulin secretion, insulin action or both. There are two major types of diabetes. Type 1 is due to a deficiency of insulin, whereas type 2 (which constitutes more than 80% of the cases) is primarily due to a resistance to insulin. Also, some women temporarily develop diabetes during pregnancy and this is called gestational diabetes. Whatever the type, the disease is characterised by a high level of sugar in the blood and it manifests itself by weight loss, the subject producing large volumes of urine that contains high amounts of sugar, and a resulting feeling of thirst which necessitates high liquid intake. The term 'diabetes mellitus' actually refers to the honeyed taste of the urine.

Eco-efficiency is the delivery of competitively-priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout the life cycle to a level at least in line with the Earth's estimated carrying capacity.

Economics is the means by which society uses human and natural resources in the pursuit of human welfare. As such, economics extends beyond the boundaries of a single organisation and is inextricably linked to both the environmental and social elements of sustainable development.

Eco-productivity index (EPI) is an expression of the ability to utilise resources. It is calculated by relating the total yield of product to the respective consumption of water and energy. Performance is tracked annually against previous year (index 100).

Environmental responsibility covers our impact on the external environment and the bioethical implications of our activities.

Equal opportunities is when everyone enjoys and exploits the same opportunities with respect to recruitment, conditions at work, remuneration, career management as well as termination. Following international human rights conventions, no distinction, exclusion or preference is made on the basis of gender, sexual orientation, age, disability, marital status, religious belief, creed, colour, race or ethnic origin or political orientation, except when justified by requirements intrinsic to a specific job.

Global Compact is a UN-sponsored platform for encouraging and promoting good corporate practices and learning experiences in the areas of human rights, labour and the environment.

Global Reporting Initiative (GRI) was established in 1997 to develop globally applicable guidelines for reporting on the economic, environmental and social performance. It is convened by the Coalition for Environmentally Responsible Economies (CERES) in partnership with the United Nations Environment Programme (UNEP). In 2002, the GRI was established as a permanent, independent, international body with a multi-stakeholder governance structure. The *Sustainability Reporting Guidelines* were released in September 2002.

GMM and GMO Genetically Modified Microorganisms (GMMs) are a subgroup of Genetically Modified Organisms (GMOs). At Novo Nordisk microorganisms such as bacteria (*Bacillus*, *E. coli*) and microfungi (yeast, *Aspergillus*) have been encoded with genes for producing pharmaceutical proteins. GMMs are classified as safe or demonstrating the lowest potential risk only if certain criteria are fulfilled according to the scientific risk analysis. The GMMs must not be pathogenic to humans, animals or plants, or in any way harmful to the environment. Further, the original microorganism should be non-pathogenic, and the genes inserted should not be expected to cause any harm.

Phase 1 trials are human pharmacology trials conducted in healthy volunteers or in patients.

Phase 2 trials are therapeutic exploratory trials with the primary purpose to demonstrate Clinical Proof of Concept (CPoC), ie efficacy and short-term safety.

Phase 3 trials are therapeutic confirmatory trials; pivotal safety and efficacy trials based on the expected dose.

Social responsibility is about improving the quality of relations with key stakeholders. Novo Nordisk defines it as putting values into action in the perspective of human resources, human rights, health and safety, and our relations with society at large.

Stakeholders are individuals or organisations affected by or affecting the behaviour of a company or an organisation. Novo Nordisk's most significant stakeholder groups are shareholders, employees, customers, suppliers, the media, authorities, NGOs and local communities around our production sites.

Sustainable development was defined in the Brundtland report from 1987 as "development that meets the needs of the present world without compromising the ability of future generations to meet their own needs." Novo Nordisk interprets this definition as the Triple Bottom Line approach.

Triple Bottom Line reflects an integrated understanding of business performance, in which social, environmental and economic bottom lines are interdependent. The aim of a Triple Bottom Line approach is to ensure a business performance that is socially responsible, environmentally sound and economically viable.



Feedback

This report is the result of our ongoing dialogue and engagement with stakeholders. We welcome feedback, comments and suggestions on how to do better.

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→ Novo Nordisk's sustainability reports can be ordered at www.novonordisk.com/sustainability



Sustainable development is about preserving the planet while improving the quality of life for its current and future inhabitants. We have chosen to translate it as the Triple Bottom Line. By this approach, we build our business in a way that is financially profitable, environmentally sound and socially responsible.

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