Lise Kingo Novo Nordisk A/S Denmark

During the last 3 - 4 years the public perception and interest in products made by biotechnology has increased tremendously.

Due to this increased awareness — and an internal wish to meet this new challenge — we have had to take a much more proactive stance in our environmental communication than before.

I will now try to describe this process that started with increased public awareness of enzymes about three years ago, and has now resulted in a completely new environmental management structure and a serious commitment to engage in environmental issues.

Novo Nordisk and the company's environmental background

Novo Nordisk is one of the world's largest biotech companies and a major force in diabetes care. The company is the world's largest producer of industrial enzymes and works in more than 100 markets. 96% of the turnover is outside Denmark and more than 10,000 employees work for the Danish company.

Nordisk Novo has had a written **environmental policy since 1974**, so environmental affairs are neither a new concern nor a fleeting interest in Novo Nordisk.

The company's attention to environmental issues came, obviously, from regulatory demands, but also from the fact that the environmental benefits of enzymes have always been a recognized sales parameter (a parameter that, however, is infinitely more important today).

In 1970 there was a major scare in the US about enzymes in detergents. The case was spearheaded among others by Ralph Nader and centered on allergy problems caused by enzyme dusts among workers in detergent manufacturing plants.

NN sales in 1970 were cut in more than half and we had to lay off about 400 people. As you can understand we took the problem very seriously. Development work to solve the problem started immediately. The problem

was solved in two stages primarily through a wax coating on the enzymes that practically removed the dust problem.

Apart from this case there have been no major problems raised or caused by the application of enzymes in various industries.

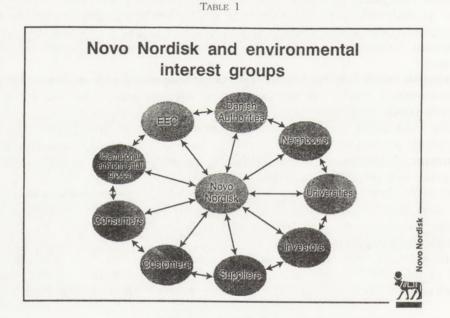
Things change

However, in 1989 things started to change. Again it was enzymes in laundry detergents that came under attack. In the concern about the contents of these products, enzymes were swept along together with phosphates and other chemicals in a new green tidal wave that started in the UK and began rolling across the rest of Europe.

It was now clear that it **no longer was enough just to look at the concept of "environment" from a technical viewpoint**, which is mostly what we had done up till then. Ethical, social and communications parameters now also entered the picture. The number of **interest groups** had increased, and so did the number of enquiries.

At the time there was **no channel for coordinating** the various environmental questions/problems that entered NN in different departments. Whoever was confronted with questions handled them. Since it seemed that the number of these was increasing considerably, we decided in the spring of 1989 to form what became known as **the Green Group**.

The members were representatives from all relevant areas such as production, research, marketing, Health & Safety, Product Approval, Environmental Affairs and Communications.



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The purpose of the group was:

— Coordinating BIG's (Bioindustrial Group — the enzyme division) activities in environmental issues,

- Watching and responding to the development of environmental issues,

— Evaluating opportunities for using the environmental benefits of enzymes as a marketing parameter,

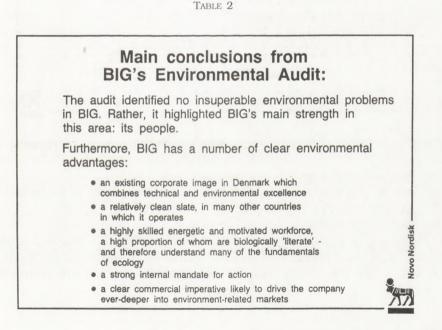
- Coordinating the specialist groups.

The group produces various factual publications and met regularly to coordinate response to whatever questions/problems arose.

SustainAbility

In the fall of 1989 Novo Nordisk came into contact with SustainAbility directors, John Elkington and Julia Hailes. Earlier that year they had published the Green Consumer Guide. We felt there were some misunderstandings in their Green Consumer Guide about enzymes in detergents, and we invited them to NN, to try to solve these misunderstandings. The meeting was very positive and the misunderstanding was cleared up.

In early 1990, after some discussions, the Green Group suggested to BIG Management that **SustainAbility should carry out an Environmental Audit for BIG**. This was carried out in the spring of 1990 eventhough it was new to everybody in the company to let critical environmentalists look into all aspects of our business.

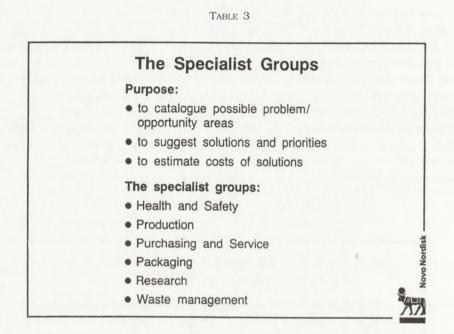


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Action internally

Thus the audit report **did not point to any serious problems** that needed to be taken care of instantaneously. It was clear that SustainAbility felt we had a very good reason to be **proactive** about the environmental benefits of enzymes.

However, the audit report was a **strategic management review**. And we wanted to be certain that our house was in order **also** when seen from a technically detailed viewpoint. We wanted to be able to measure our performance and to track progress. It was therefore decided that we would form a number of **internal specialist groups** with the mandate to audit the specific areas in detail.



The groups were asked to split their report into these categories.

- 1. Areas that needed guick solutions.
- 2. Areas where alternative solutions eventually had to be found.
- 3. Suggestions for new sustainable solutions.

At the same time they were to provide suggestions for time schedules and cost estimates. In February of 1992 a **progress report** on the work of the specialist groups was produced. Annual progress reports are planned.

TABLE 4



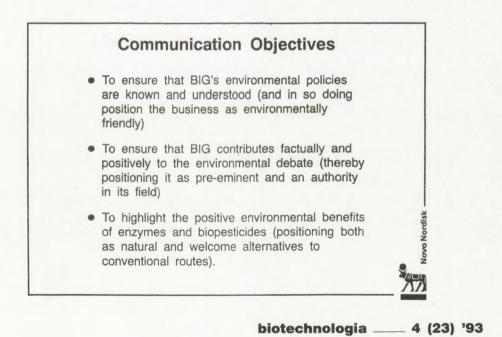
- Contamination of air with solvents, foul smell, etc. in some of the laboratories in Bagsvaerd will be solved by construction of new buildings
- A change of recovery method for Penicillin is resulting in much lower water consumption (15,000 - 20,000 m³/y)
- At the plant in Kalundborg, more than 80% of the nutrients is re-used as fertilizer
- Objective for BIG Purchasing: "We will encourage interest in products which are environmentally friendly - both among consumers and suppliers"

Action externally

Simultaneously, we worked out a communications plan in corporation with SustainAbility.

Communications objectives were established.

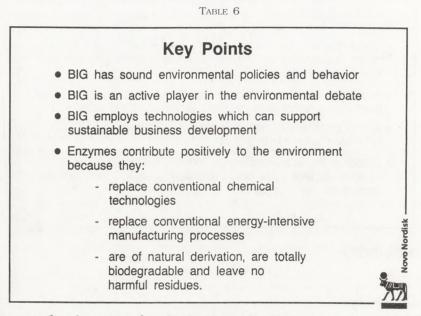
TABLE 5



Novo Nordisk

Novo Nordis

The communication plan was presented in April 1991. The crux of the plan was the suggestion to open **a dialogue with environmentalists**, starting by inviting them to visit Novo Nordisk. The aim of the visit would be to establish following key points:



The specific objectives for the visit would be:

TABLE 7

Objective for environmentalist visits

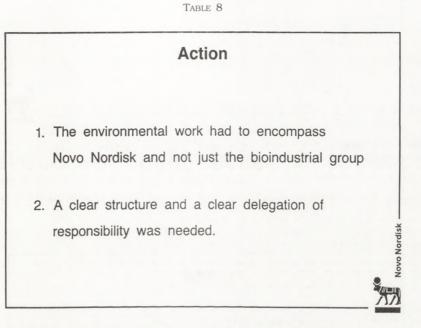
- to develop channels of communication with leading individuals and organizations in the European environmental and sustainable development fields;
- to communicate BIG's environmental position, and ensure that key opinion-formers understand how Novo Nordisk has responded to the environmental challenge, and see Novo Nordisk as a responsible force in the development of environmental solutions to global problems.

A good deal of discussion took place in BIG Management before the decision was made to go ahead. But it was made though it was with some trepidation.

In **September 91 the first visit took place**. 12 environmentalists participated. The arrangement went very well. The visitors were unanimously positive about the idea and how it was carried out. **Som stereotype perceptions were put to rest on both sides.**

To the visitors it was the **openness** and the **willingness to debate** that meant the most.

A lot of issues were raised, but especially **two points** were made that we felt we had to react to:



Encouraged by our own success, we decided to arrange a second visit. **12 new environmentalists were invited** (some suggested by the previous visitors). We were better prepared — since this time we had an idea of what to prepare for. Once again the visit went very well.

The visitors response to the arrangement was very positive.

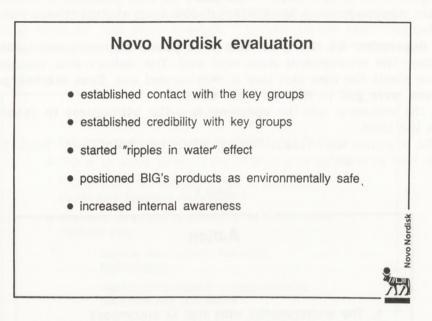
Apart from this, the visitors have written about the visit and NN in articles (positively) and they have and continue to invite us to speak at conferences as "a model of openness".

As I have already stated, we consider the visits to have been very successful and **well worth the costs and the amount of time spent on preparation and participation of a rather larger number of BIG employees including BIG management**. There are **five points** I would like to point to as important consequences of the visit.

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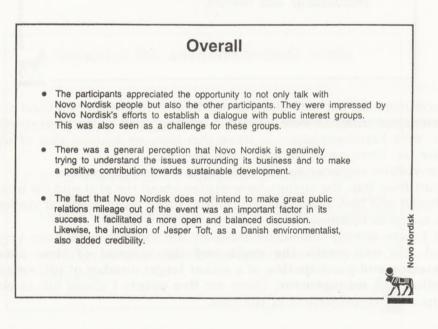
TABLE 9



The environmental work extended to the entire company

As of April 1992 our market driven, proactive environmental work was extended to the entire company, and in the beginning of 1993 all departments working with internal or external environment were gathered in a new area

TABLE 10



called Environmental Affairs. We are now working on the next environmentalists' visit in March 1993 and we have initiated a number of internal environmentalists' audits which will form the base of the company's first public environmental report which we hope to publish in the beginning of 1994.

Future plans

We still see a number of challenges in the environmental work, but we have made a good start. We wouldn't call ourselves a "green" company - no company should use this cliche as all industry companies have an impact on the nature. Nevertheless, the only way forwards is to challenge ourselves and make commitments to current improvements.

Furthermore, corporation between industry, environmentalists, researchers etc. is a "must" for creating results that has a real positive impact on the environment world-wide. Environmental work should cover internal as well as external activities.

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