

# Industry takes up the challenge of sustainability

Around the world, and especially in Europe, companies are discovering that they have much to gain by employing the techniques of environmental management; thereby helping themselves, while at the same time improving the world we live in. By reviewing the effect on the environment caused by products and production methods, companies save money, improve their image, motivate employees and expand their influence, while often gaining new market shares because of better and more sustainable products.

Many of the companies have had their environmental management system certified according to the ISO14001 standard and European firms have their system registered to the even more rigorous **EMAS** regulations, which require among other things a yearly environmental report. These reports are interesting and inspirational reading for companies planning to work with environmental management. I have included links in the following, so that it will be possible to study some of the companies' reports.



## Shell improves its image after Brent Star

### In the Shell Group, we are all committed to

- Pursue the goal of no harm to people
- Protect the environment
- Use material and energy efficiently to provide our products and services
- Develop energy resources, products and services consistent with these aims
- Publicly report on our performance
- Play a leading role in promoting best practice in our industries
- Manage HSE matters as any other critical business activity
- Promote a culture in which all Shell employees share this commitment

**Shell** thought they had worked out a way to dispose of obsolete oil platforms like Brent Star by dumping them in the high seas. They had weighed economic factors against some environmental considerations, but neglected to take Greenpeace into account. The resulting bad PR caused a substantial loss of market. This was only one of several instances where Shell had shown little concern for the environment or the society in which it was operating.



Shell has learned from its experience, however. By using environmental management techniques Shell has evaluated its entire environmental, societal and human impact, enabling it to discover problems before they occur, to react quickly when they occur and to plan strategically for more sustainable products and production. Shell (and several other oil companies) have started to investigate more sustainable energy sources - now much more aware of the impact the petroleum industry has on all aspects of the environment - from the air pollution caused by exhaust to the depletion of resources in the future.

See [www.shell.com](http://www.shell.com) to read about Shell's environmental and social policies and impact.

## Novotex reeducates its suppliers

The Danish textile manufacturer **Novotex** was founded on the ideological belief that it must be possible to make more sustainable textiles. Recognizing that the environmental impact of textiles lies in the supply chain, from chemical fertilizers and insecticides to various chemical treatments used in refining, spinning, dyeing and weaving, Novotex has been instrumental in mapping this impact and in aiding its suppliers in employing more sustainable methods. The company has worked out a "logbook" for textiles to chart the chemicals used in the production process, which is now being used by a number of Danish textile manufacturers. Novotex is recognized internationally in both textile and environmental management circles as an innovator and a leader in sustainable textiles.

Novotex has developed the concept of **Green Cotton**, which is also licensed to other companies who produce organic and "sustainably" produced products. It was furthermore instrumental in developing the requirements for ecolabeling of textile products, such as the **EU Flower** and the **Nordic Swan** ecolabels.



Unfortunately Novotex has not invested as much time and energy to produce designer collections or to market its products as it has used in working out the supplier management principles, so Green Cotton products are often difficult to find except at specialty shops. To remedy this, Novotex and other players in the textile market are working with the Danish Ministry of the Environment to produce a wide spectrum of sustainable textiles to be marketed broadly. See more at [www.green-cotton.dk](http://www.green-cotton.dk).

## FDB starts the wave of popularity for organic foods.

The consumer-owned **FDB** chain, one of Denmark's largest food chains, collaborated in 1993 with Denmark's largest, producer-owned, dairy, then known as MD Foods, to lower the price of organically produced milk products to within 20% of non-organic products. This was the start of a wave of popularity for all organic foods. Now more than 10% of all milk products in Denmark are organic; likewise, the consumption of organic eggs, vegetables and meats has increased rapidly ever since. With the growth of the market, distribution systems have improved, and a greater variety has become available. Many people buy organic foods because they believe they are getting the better product - that the food tastes better, has been grown more conscientiously and is more healthful. Customers are not generally as aware of the environmental improvements brought by organic farming.



**Danish  
label for  
organic  
foods**



Because of their work, FDB has gained great popularity among consumers while increasing the volume of environmentally correct purchases, which has spilled over to other supermarket chains. FDB won the EU prize for environmental leadership in the year 2000.

On the company's website [www.fdb.dk](http://www.fdb.dk) you can find information in English by clicking on the English Flag icon.

## Phoenix gains considerable market share for environmentally labeled printing.



The small Danish printing company **Phoenix** became aware of its environmental impact in the beginning of the 90s. Since then it has worked diligently to establish environmental management, becoming the first printer ever to be certified for the **Nordic Swan** ecolabeling for its printed products. Phoenix works closely with its customers to convince them to request environmentally labeled print jobs. In that way they now use close to 100 per cent environmentally labeled paper for their products.



Phoenix was instrumental in finding innovative methods for replacing environmentally toxic cleaning fluids with vegetable oils for cleansing printing rolls, now almost standard in the Danish printing industry. Instead of using paper towels to clean the rolls, Phoenix started to use recyclable cotton cloths. The laundry that washes the cloths developed an environmentally friendly washing technique and is certified with both ISO14001 and EMAS.

After Phoenix made ecolabeled print work available, this became a requirement of all government printing in Denmark. As a result, other printing firms now feel obliged to become environmentally certified to be qualified to take these jobs. Thus a leader in the field forces others to follow suit. The company website, <http://www.phoenix-print.dk> has information in English about their efforts to reduce the environmental effects of printing.

## Rockwool uses environmental management to make an environmentally controversial product acceptable.



**Rockwool** has a problem. It has a product that is used extensively in Denmark for insulation, which reduces energy use considerably. It is convinced that it is an environmentally friendly company. It uses its surplus to support a number of socially beneficial activities. Nevertheless, environmentalists are not convinced that the product is environmentally acceptable. There have been a number of health problems among construction workers using the company's insulation mats. Furthermore the production emits particles to the air and consumes a great deal of energy.

Rockwool has used environmental management to study its environmental impact, seeking ways to improve its record. The tools of environmental management have helped locate new methods to save energy and reduce particles from the production process as well as to prove the product's sustainability with arguments based on Life Cycle Assessment.

Unfortunately it is very difficult to change the public impression of a firm once it has gotten a bad name, which Shell [and McDonald's) have also discovered. Some companies have managed to stave off problems by engaging in environmental management before being discovered by Greenpeace. You can read Rockwool's environmental efforts at: <http://www.rockwool.com> .

## Midtkraft cleans up its act while increasing employee motivation

Danish power companies most often are combined heating and power companies, in that they not only produce electrical power, but also hot water for the prevalent district heating systems. **Midtkraft** provides heat and energy for Denmark's second largest city, Aarhus, burning mostly coal and, increasingly, bio-mass (wood chips and straw). Even though the company plays an important role in the country's environmental goals, any power plant has an immense impact both locally and globally.

While dealing with compliancy problems in the beginning of the last decade, Midtkraft decided to use environmental management to solve its problems. Initially company management alone undertook the process, using technical solutions such as better filters. When management decided to require behavioral change among its employees to save on internal energy consumption and improved waste management, the results were quite meager.

To remedy this, Midkraft's environmental engineer decided to use some techniques she had learned from another Danish company, **Grundfos** (see link below). She involved employees from all levels to map problems, suggest solutions and carry them out. Her groups soon got all employees to participate in the projects, not just by turning out lights, but also by suggesting other methods to save energy or reduce waste. Now Midkraft is almost more proud of increased employee motivation than of the incurred environmental results.

You can read about the Danish power companies and their environmental impact at the site of the Jutland power collaboration, Elsam:

[https://www.elsam.com/engelsk/default\\_ie.htm](https://www.elsam.com/engelsk/default_ie.htm).




## Employee involvement leads to better results as well as improved motivation

Several Danish studies have shown that the increased involvement of employees has a marked effect on environmental improvement. Where top-down management can introduce expensive technical solutions to some problems, often employees are aware of areas where a simple solution could have a great effect.

- **Top-down management** strengthens the status quo.
- **Greater involvement** — that is, a greater degree of bottom-up management — can enable companies to improve through change, which can often be far reaching.

Employees do not mind change, but they resist being changed. If they participate in the processes leading to change, they will 'own' the change and not resist it. By using not only employees' hands but also their brains, companies are expanding their resource pool by increasing motivation not only for environmental projects but also for the job in general.

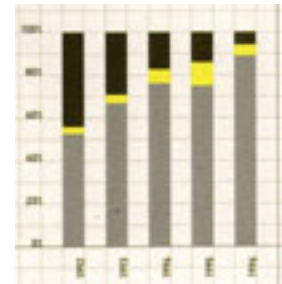
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1. **Top-down management** often goes no farther than informing employees of actions taken and improvements made.
  2. Often attempts are made to **collect information from employees**, by asking them to report where they think improvements can be made, as using a suggestion box. In some companies these suggestions are rewarded. In others the suggestion box remains empty.
  3. Companies may **involve their employees** in pointing out key areas through courses and meetings where environmental problems can be discussed freely.
  4. **Bottom-up management** asks employees to participate in the entire process, as seen above in the example of Midkraft. Employees find areas to work with, study the situation, work out possible solutions and carry out the solution chosen by management.

In a study of six companies, including Novotex and Midtkraft, we found that there are various ways of activating employees.

At a small plastics company where I helped with an environmental review, the person chosen to facilitate environmental management organized meetings with the entire staff (35 employees) to decide what needed to be done. She planned to create small groups to work with the solutions. Unfortunately the plant manager decided to solve all the problems himself, leaving the facilitator without a job. Afterwards she refused to continue to participate as facilitator, which also means that the company has come no further with environmental management. What started as bottom-up involvement with participation ended as top-down information collection.

## Information and pedagogical environmental indicators

Employees cannot participate without **knowledge**. Some knowledge they have gained themselves through their work experience. Other knowledge must be learned. The company has — or can acquire — the necessary **data** about its environmental impact.



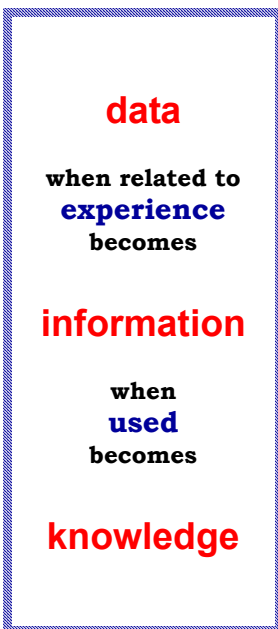
data, not information

Nevertheless, data is not knowledge. Data must be organized and related to something to be useful **information**. A cutback in energy use in kwh is only information when related to the previous year's total, or consumption in similar companies. Many companies post environmental data on bulletin boards to inform employees, often in the form of graphs and charts. The studies showed that most employees have no idea what this data can be used for. They cannot relate it to their own work, and it is therefore of little interest. In other words, it does not become useable information.

Information must be pedagogical. The **ISO 14031** standard for **environmental indicators** recommends that they be:

- relevant
- understandable
- comparable
- trustworthy

If employees participate in choosing environmental indicators that they need in their work, they become useful input to their learning process. If information is apportioned according to company departments, if the chosen indicators can tell employees how their behavior affects the project, employees will be motivated to learn how to improve their own contribution. When information is used it becomes **knowledge**.



## Create a strategy for changing behavior

In the study we discovered that very few companies had any strategy for involving employees in environmental work, and none had found a way to measure how employee motivation was improved or what impact it had on the projects. We recommended that participation be a **goal** along with other goals, and that ways be found to **measure** participation, just as effluents or consumption are measured.

Indicators of involvement such as the number of employee suggestions, employee meetings, posted data, etc. are strategically probably not very useful. The study found no useful methods, but recommended that some be found through experience.

## Other links

<http://www.grundfos.com> Website for the pump manufacturers **Grundfos**, who have developed excellent employee organization for Environmental Management.



<http://www.mst.dk/homepage/> The Danish Environmental Protection Agency

<http://www.ecocouncil.dk/> The Danish Environmental Council

<http://europa.eu.int/comm/environment/emas/> EU's Guide to EMAS registration

<http://www.ecolabel.dk> Danish site about environmental labeling has links to all the criteria for labeling with both the Swan and the Flower (in English).

<http://europa.eu.int/comm/environment/ecolabel/index.htm> Official site for the European ecolabel

<http://www.wbcscd.ch> World Business Council for Sustainable Development, an elite group of top businesses practicing environmental management.

<http://www.oecd.org/env/> The OECD's environmental section

<http://www.ecoweb.dk/english/> Danish site for most commercial environmental and organic foods activities

<http://www.cece.dk> Copenhagen Environmental Capital of Europe