

# IKEA

## A Natural Step Case Study

February 1998

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### Overview

IKEA, a Swedish home furnishings retailer, is known as the world's largest designer and retailer of well-designed, inexpensive, and functional furniture for the home. The company is owned by a non-profit foundation and has grown 15% per year in this decade.<sup>i</sup> Each year, IKEA has over 140 million visitors to the 140 stores in 29 countries and distributes over 80 million IKEA catalogues. IKEA designs all 11,000 items in the product line. Product manufacturing occurs at both IKEA production facilities and at approximately 2400 suppliers in 65 countries. Today, employees number 36,400 and sales for FY 1997 were \$5.86 Billion (US dollars).

In 1990, IKEA adopted The Natural Step (TNS) as the basic structure for implementation of its environmental policy and plan. Using the TNS principles and system conditions, IKEA has made a number of changes affecting its products and services. This case describes many of the results of these changes, along with the issues and events that lead IKEA to adopting TNS and formulating an environmental plan.

### Background

IKEA was founded in 1943 by 17 year-old Ingvar Kamprad. As a young entrepreneur in south Sweden, Kamprad soon turned his business into a mail order operation selling a variety of household products, particularly furniture. The first IKEA showroom/store opened in 1953 in Sweden.

Kamprad's innovative strategy was to design functional furniture that was easy and inexpensive to build, receive it disassembled at stores, and display it on the show room floor with detailed explanation tickets, making salesperson assistance unnecessary. Employees were available for questions but the customers could choose, order, pick up, transport, and assemble their own selections. Cost savings earned by IKEA were passed through to customers in lower prices.<sup>ii</sup> His stores soon became home furnishing centers, also offering restaurant facilities and play areas for children. The strategy continues to drive IKEA operations.

From the start, Kamprad's desire to integrate social value into business practice has strongly influenced the IKEA vision. In December 1976, Kamprad wrote, "What is good for our customers is also good for us in the long run."<sup>iii</sup> This objective of responsibility drives the company vision to *create a better everyday life for the majority of people*. The vision is realized by offering a wide range of functional and well-designed home furnishing items, at prices so low that the majority of people can afford to buy them.

## **An Environmental Challenge**

In the mid-1980s, IKEA ran into an environmental problem<sup>iv</sup> that had significant implications on the firm's furniture line. Tests on some IKEA particle-board furniture products showed that formaldehyde emissions exceeded the standard specified by Danish environmental law.

Obviously this situation created a huge problem for IKEA, given the extensive use of particle board in IKEA furniture products. If the particle board from one product violated the standard and was deemed hazardous, then all products using particle board could be deemed hazardous. Negative publicity required a quick response.

While IKEA was searching for solutions, new German environmental law was announced that required formaldehyde emissions from particle board to not exceed .01 parts per million (the German E-1 standard). IKEA elected to apply the E-1 standard, the strictest in the world, to all markets by requiring that all of its particle-board suppliers meet that standard.

This long-term solution proved beneficial when California voters passed Proposition 65, tightening formaldehyde emissions and prosecuting stores selling products exceeding the standard. IKEA avoided the costs of litigation and retooling or revamping the product line because its company-wide formaldehyde requirement exceeded the California requirement. A visit by company executives to the California Attorney General, to inform him of the IKEA standard, even eliminated the cost of investigation.

In the late 1980s, IKEA and other European retailers were receiving pressure, including calls for boycotts from environmental groups, to eliminate the use of tropical rain forest wood in furniture. These pressures made it clear to IKEA-Group Executives that environmental issues would impact the future credibility of IKEA. Therefore, CEO Anders Moberg, who was personally concerned about the pace and extent of environmental deterioration, appointed Russel Johnson as the manager responsible for environmental issues.

## **Commitment to The Natural Step**

In 1990, Johnson invited Karl-Henrik Robèrt, founder of The Natural Step, to speak at an internal ECO seminar with the board of directors. Dr. Robèrt was viewed as having a new approach to environmental issues. Whereas other environmental groups were good at describing environmental problems, TNS offered clear guidance on how the problems involved IKEA and what the company could do about them from both a strategic and operational point of view. Based on the awareness created by the TNS four system conditions, the relationship with TNS developed into a commitment to work with Dr. Robèrt to develop an environment-friendly business and contribute to a sustainable society.

Throughout the spring of 1990, a series of group management meetings produced an environmental policy that the IKEA board approved in August 1991. (Section III in tool kit.) The implementation and training program of the policy are based on TNS system conditions.

In many ways, the historical values of the company were a natural basis from which to accept the TNS system conditions and adapt business operations. For example, Kamprad had viewed the minimal use of resources essential to keeping a "low-price picture." Furthermore, he valued innovation in employees and encouraged responsibility and decision-making at all levels of the

organization. Therefore, as the company began to develop an environmental program, it became a natural extension to the corporate culture. In keeping with the IKEA vision, Anders Moberg, CEO wrote, "Once and for all, IKEA has decided to side with the majority of people: to create a better everyday life. Therefore, it is our responsibility to do what we can to contribute to a better environment."<sup>v</sup>

## **The IKEA Environmental Program**

In 1992, the environmental policy was transformed into an Environmental Action Plan describing concrete and practical measures for the mid-1990s. As part of the Plan's development process, 25 top managers attended a two-day seminar with presentations given by Karl-Henrik Robèrt, the president for Swedish Greenpeace, an environmental legislative expert, and other environmental speakers. Following the presentations, the managers discussed a proposal for the environmental action plan. Working groups were formed to agree upon the detailed activities for the plan.

The plan is a living document and is periodically updated. Unit managers receive the plan and decide how to focus implementation efforts in their business units. Specific implementation tasks fall into six categories: Management and Personnel, Products and Materials, Customers, Suppliers, Buildings Equipment and Consumable Materials, and Transport.

IKEA seeks to achieve substantial environmental improvements by focusing implementation efforts on structural changes, those that impact processes, methods, or material content. By keeping the efforts focused on structural change, IKEA can maximize the impact of resources invested and reduce the energy necessary to address isolated issues. Some examples of structural changes include: a) the use of the E1 standard for all IKEA products in all sales markets; b) the use of ultraviolet (UV) hardened and water-based lacquers to avoid solvents; and c) the process of optimizing transports to reduce exhaust emissions. In a number of cases, the efforts have resulted in long-term cost reductions.

The following sections highlight many results from the six implementation areas.

### **Management and Personal**

This category recognizes the crucial need for individual contribution to successfully realize the environmental policy. Key tasks involve training and communication. Manager training addresses specific issues or problems in the manager's functional area. Co-worker training includes general information about environmental issues and the IKEA environmental policy and action plan, and "function specific" information about the known environmental problems related to the functional area of the employee.

#### *Results Achieved*

1. By 1995, IKEA North America implemented an environmental training program, with TNS principles at its core. The training program utilizes the "train-the-trainer" principle. In the first step, the trainers are selected from different organizations and functions within the company and then trained at a five-day seminar. In the next step, these trainers are assigned to educate all management teams and all employees, primarily those having a direct customer or supplier contact. For each group, the extent of the program is adapted to the functional needs. The basic modules include:

- Basic environmental knowledge according to TNS
  - The company's environmental program: background, policy, action plan
  - Education adapted to the tasks of the group; e.g., range, purchase, distribution, retail
2. Stores receive the IKEA position on different environmental issues to use for addressing questions or concerns raised by customers.
  3. An "ECO-facts" database was created that contains brief descriptions of different topical environmental issues with summaries of known facts. (See Exhibit A for an example entry.) Co-workers have access to the "ECO-facts" database to gather information to address customer inquiries or solve other problems.
  4. Some co-workers have voluntarily started local environmental working groups.

### **Products and Materials**

This category recognizes that products and packaging must convey a clear signal about the commitment to the environment. Key tasks involve evaluating materials and manufacturing methods to identify the environmental impact of the materials or methods. When assessing the environmental impact of product materials, IKEA applies the environmental laws and standards from the strictest market as a minimum requirement for the products sold in all markets.

### **Facts about Formaldehyde**

**What is it?** Under normal conditions, formaldehyde is a colorless gas with a pungent smell. It occurs naturally in all living cells and therefore also in the human body. Formaldehyde is able to combine with a number of substances to form a variety of end-products, and synthetically manufactured formaldehyde is used in the manufacture of paints, lacquers, adhesives, rigid plastics and a number of toiletry items, such as shampoo and soap. Formaldehyde is normally used in bound form or in aqueous solution as formalin. Formaldehyde also occurs as a by-product of incomplete combustion, for example in car exhaust fumes and tobacco smoke where it is present in much higher concentrations than emitted from, for example, furniture.

**How is the Environment Affected?** Formaldehyde is quickly broken down in nature and is not accumulated in animals and plants. Formaldehyde can, however, cause allergic reactions in contact with skin or if inhaled. In very high doses over a long period of exposure, formaldehyde is suspected of being carcinogenic. There is, however, no scientific evidence for this.

**Is it Used in IKEA Products?** Formaldehyde occurs in IKEA products as a binder in wood-based materials such as particleboard, bentwood and plywood. It also occurs in adhesives and lacquers, and in textile materials as a component in finishing treatments.

**What Rules Apply Generally?** IKEA has long worked to minimize the use of formaldehyde. Since 1986, IKEA has applied the German formaldehyde requirement, currently the strictest, for all IKEA products on all sales markets, even where no limit exists. The German limit is such that even persons who are over sensitive to formaldehyde should not experience any problems. Denmark and Austria have similar requirements, while Sweden, Norway, Finland and California have their own formaldehyde requirements.

On its own initiative, IKEA has also introduced equivalent requirements on textiles in spite of the fact that formal requirements exist only in Japan and Finland.

### *Results Achieved:*

1. Polyvinylchloride (PVC) is gradually being phased out at IKEA. It has been replaced in wallpapers, home textiles, shower curtains, lamp-shades, and furniture. PVC has also been eliminated from all packaging and is gradually being phased out in electric cables.
2. IKEA is at the forefront of minimizing the use of formaldehyde in its products, including textiles (despite the fact that formal requirements for formaldehyde in textiles exist only in Japan and Finland).
3. Acid curing lacquers have been replaced with alternatives (e.g., ultraviolet (UV)- hardened and water-based lacquers).
4. A version of the IKEA OGLA chair is made from 100% recycled pre-consumer plastic waste.
5. A product called "a.i.r.," consisting of a series of air inflatable furniture products (e.g., a sofa), has recently been introduced into the product line. Individual components are inflated by the customer, using a hair-dryer, and then individually "stuffed" into a slip cover, that serves as the item's frame. The resulting product reduces the use of raw materials for framing and stuffing. In addition, transportation weight and volume are reduced to about 15% of what is required for a conventional sofa.
6. Powder lacquer is substantially reducing the use of chromium for metal surface treatment.
7. The use of substances such as cadmium, lead, PCB, PCP, and AZO pigments is prohibited or strictly limited.
8. IKEA strives to use only wood from known, well-managed sources: forests that replant and care for the protection of biological diversity.
9. IKEA uses only recyclable materials for flat packaging. In addition, using "pure" (non-mixed) materials for packaging enables easy sorting/recycling.

### **Customers**

This category recognizes the need to make it easy for customers to incorporate environmental considerations into purchase decisions. Tasks seek to give customers sound environmental information and provide environmentally-friendly alternatives for acquiring IKEA products.

### *Results Achieved:*

1. In 1992, IKEA worked with Greenpeace to develop guidelines for catalogue production. Today, over 80 million IKEA catalogues are printed on non-chlorine bleached paper and use pulp from farmed wood (no old growth). In addition, the company issues only one catalog per year, utilizes 10-20% post-consumer recycled paper, and accepts old catalogues back at stores for recycling. Additional environmental highlights of catalogue production include the use of:
  - Digital engraving at the print shop, rather than traditional film reproduction. This process reduces the use of plastic film and heavy metals, and there are **no** chemicals in the reproduction process.
  - Low-toluene content ink and heavy-metal-free ink, resulting in less use of solvents.
  - Adhesives that are free from injurious chemicals.
2. Several European stores offer free bus transportation from selected city areas to the store, as an alternative to use of private cars. When public bus transportation became available to a German IKEA store, 33,000 additional individuals visited the store in the following year.
3. Stores will accept product packaging that the customer wants to leave.
4. Organic cotton fabrics are available for custom upholstery.

## **Suppliers**

This category recognizes the need to encourage suppliers to adopt environmentally responsible production methods. Key tasks are to encourage suppliers to strengthen their awareness of environmental issues and to support the development of more environmentally sound production technologies.

### *Results Achieved:*

1. The process of working with suppliers for the North American market has been challenging. Robert Paolozza, IKEA NA manager responsible for quality and environmental issues, said that most suppliers were "somewhat surprised" at the environmental requirements of the IKEA product specifications. It has been necessary to work closely with suppliers to help them understand and adapt to key environmental product specifications, including restrictions on formaldehyde, lacquers, wood sources (no rain-forest wood). Also, packaging is to be recyclable or reusable and contain no PVC.
2. In Northern Europe, IKEA has organized 2½-day environmental workshops for suppliers. The workshop is offered to suppliers at cost. Participating companies send one or two individuals to be trained to train others on environmental issues. Afterwards, the participants are prepared to conduct training at their own company and to help establish their own environmental program.
3. Several IKEA suppliers in European countries now act according to established environmental standards and use an environmental management program. Standards used for certification are ISO 14001 or the Eco Management and Audit Scheme (EMAS), an European Union regulation. Many more suppliers are in the certification process.

## **Buildings, Equipment and Consumable Materials**

This category recognizes the need to work for a better environment in all "we" do. Efforts in this area include evaluating the environmental impact of property, property enhancements, waste, equipment, and materials. For example, the environmental impact of office machines and materials is evaluated, and if more environmental compatible alternative products are available, they should be chosen at the time of next procurement. Similar practices are also used for other kinds of equipment (e.g., fork lifts) and consumable supplies.

### *Results Achieved:*

1. Newly built IKEA stores and other owned property are constructed according to environmentally adapted requirements. Every effort is also made to adapt to these requirements when renovating old property.
2. Many European IKEA stores have adopted a "Trash is Cash" program. Trash is Cash takes IKEA packaging materials (e.g., cardboard, plastics), recyclable office waste (e.g., paper), and other store waste (e.g., paints, glass, wood) and recycles it.
3. In 1993 the Gothenburg, Sweden store set up its own on-site recycling facility and today the store recycles almost 85 % of its waste. Its annual solid waste bill, about \$35,000 (US dollars) in 1992, is now a small profit. On-site recycling facilities are now established at all Swedish IKEA sites (including stores, offices, and warehouse/distribution centers). Waste is sorted into 16 to 22 fractions, and 80 to 85 % of total waste volume is sorted. The program considerably reduced waste handling costs; total cost today is close to zero. The goal is to reach 100% sorting/recycling within a few years. There also is a prototype in use for on-site composting of restaurant waste.

4. In Switzerland, stores offer customers the ability to deposit old furniture when replacing it with new IKEA furniture. By depositing old furniture with IKEA, customers can save about half of the waste disposal cost (e.g., nearly \$100 for a sofa). A recycling contractor dismantles the furniture and sorts the materials into different fractions: wood, metal, textile, plastic, etc. The IKEA goal is to offer this service at a break-even cost point.
5. In 1995, the Philadelphia store was retrofit with fluorescent lighting at a one time cost of \$151,000 (US dollars) and expected yearly savings of \$85,322 (US dollars) through less energy (in KWH) use. By the end of 1998, all IKEA North America facilities will be retrofit with fluorescent lighting.
6. Some buildings are experimenting with alternative energy sources (e.g., photo voltaic solar systems and use of ground water to heat/cool the indoor climate).

### **Transport**

This category recognizes the need for environmentally-sound transportation methods. Efforts seek to reduce the demand of non-renewable natural resources such as oil and direct damage to the environment as a result of emissions. Specific tasks achieving positive results over time include:

- Using flat IKEA packaging that takes up little transport volume.
- Using railroads for long-distance transportation.
- Maximizing the efficiency of shipments: reduce the number of transports and the number of empty transports, make maximum use of cargo vehicle space, utilize return transportation, and avoid rush-hour traffic.
- Choosing transportation companies that meet EC-standards on emissions and noise.

### *Results Achieved:*

IKEA has continually applied logistic solutions to all distributed goods (e.g., product, catalogue, and fixtures). These items have resulted in real cost savings for IKEA, through the reduction of waste and the efficiency of transport. For example:

- recycling shrink-film.
- using returnable pallets.
- using combi-transports, i.e., goods are conveyed by rail for part of their journey and by road for the remainder of the journey.
- using transportation units in both directions when possible.
- creating a "smart" goods logistics, e.g., using a bookbinding contractor between the printing house and the distribution center, to minimize total transportation distance.

### **Benefits, Challenges & Lessons Learned**

To date, IKEA has not focused on measuring tangible benefits of its environmental program. Plan implementation costs have been viewed as operational or product costs. Intangible benefits have affected the employees, customers, suppliers, and product line.

The environmental training program received a fantastic response from employees and good support from management. Employees are motivated to work for a company with an environmental commitment.

Consumers, in all markets, are benefiting from the IKEA adherence to strict environmental standards, regardless of the regulations in that market.

Supplier relationships are strong. IKEA has worked closely with suppliers to help them modify production processes to meet revised product specifications. Such modifications have often resulted in production efficiencies and a reduction in total product cost.

IKEA has made the strategic decision to focus its energy internally on continuous improvements that support the environmental policy and plan. Therefore, external communication of the plan's implementation is made through "proving results."

The greatest challenges that lie ahead are in the areas of sustainable forestry, producers' responsibility legislation (Sweden and Germany), and transportation. The following insights share some lessons learned from the IKEA experience:

- create awareness by involving as many people as possible from the start.
- align your environmental work with your business vision; it must fit your business reality.
- keep it simple in simple words!
- put the environmental issue deep into the line organization - don't departmentalize it; it concerns everybody.
- start with visible actions that show concrete results.
- have a champion, someone whose job it is to focus on the key issues. Managers and co-workers will absorb the "functional view;" a champion can advocate a "systemic view."

"Even on a day-to-day operation," says Russel Johnson, director of environmental affairs, "there is a lot to be done." Basic tasks that will help achieve objectives include:

- avoid complicated specialist terms by using 'every-man' wording and explanations.
- try to find 'down-to-earth' changes and solutions.
- communicate to employees and others involved.
- encourage employee volunteer activities and behavior changes at home as well as at work.

## Endnotes

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<sup>i</sup> FY 1990 - FY 1997 average growth rate.

<sup>ii</sup> Estimated cost savings are 20-50 percent, compared with the competition.

<sup>iii</sup> Kamprad, I., "Testament of a Furniture Dealer," December 20, 1976.

<sup>iv</sup> The description of the formaldehyde problem is adapted from: "IKEA and the Natural Step," by Joel Reichert, Darden Graduate School of Business Administration, University of Virginia, Feb. 1996 and from IKEA sources.

<sup>v</sup> Anders Moberg, Feb. 24, 1993 from Introduction of [IKEA and the Environment](#).

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