



“We focus on offering the client environmentally adapted solutions”

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This document is in all respects a translation of the Swedish original Environmental Report. In the event of any differences between this translation and the Swedish original, the latter shall prevail.

# The Internet

Skanska's Internet web site contains additional environmental information. This includes a regularly updated project database with summaries on projects with special environmental dimensions. It is easy for you to contact us via the web page if you have questions or want to discuss our environmental work.

[www.skanska.com/environment](http://www.skanska.com/environment)



# Code of Conduct

## GENERAL PRINCIPLES

It is our key responsibility to develop and maintain an economically sound and prosperous business. Skanska as a business with a long history and future assumes its responsibilities. These include our responsibilities toward the countries, communities and environments in which we operate, toward our employees and business partners and toward society in general.

Therefore we have defined some key underpinnings for our performance:

- We comply with legal requirements that apply in the countries where we do business.
- We respect the United Nations Universal Declaration of Human Rights and recognize our responsibility to observe those rights that apply to our performance toward our employees and the communities we work and live in.
- We are committed to do our business with a high standard of integrity and ethics.
- We are open-minded in dialogue with those who are affected by our operations. We respond to inquiries from external parties and communicate with affected parties in a timely and effective manner.

Within the sphere of our influence we will endeavor to ensure that our suppliers and subcontractors abide by the principles in our Code of Conduct.

## ENVIRONMENT

Caring about the environment permeates all of our work. Compliance with relevant legal and other environmental requirements, especially from our clients, provides the foundation for our environmental ambition. We are committed to preventing and continually minimizing adverse environmental impact and to conserving resources.

- We think ahead to determine how our work will affect the environment and base our decisions on available relevant facts.
- We avoid materials and methods with environmental risks when there are suitable alternatives available. We strive to recommend that clients use environmentally better alternatives whenever the circumstances permit.
- We do not engage in activities that have unacceptable environmental and social risks. We aim to identify such risks as early as possible to facilitate timely and adequate actions and decisions.

Stockholm, February 2002



Claes Björk  
President and CEO

This text is an excerpt from Skanska's Code of Conduct, approved by the Board of Directors in February 2002. In addition to the sections entitled General Principles and Environment, it also deals with Employee Relations and Business Ethics.

# United States



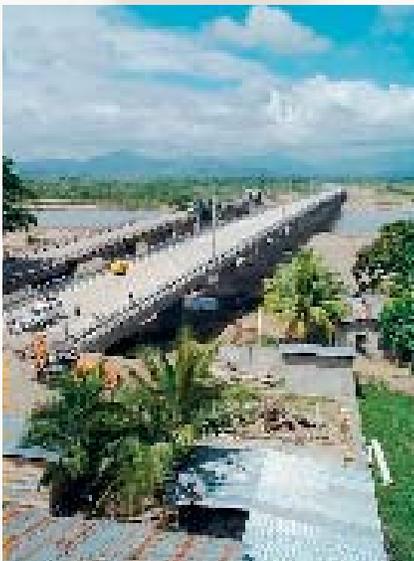
(Photo montage)

New York City's Department of Environmental Protection awarded Skanska USA Civil a contract to renovate and upgrade the North River Wastewater Treatment Plant on the Hudson River.

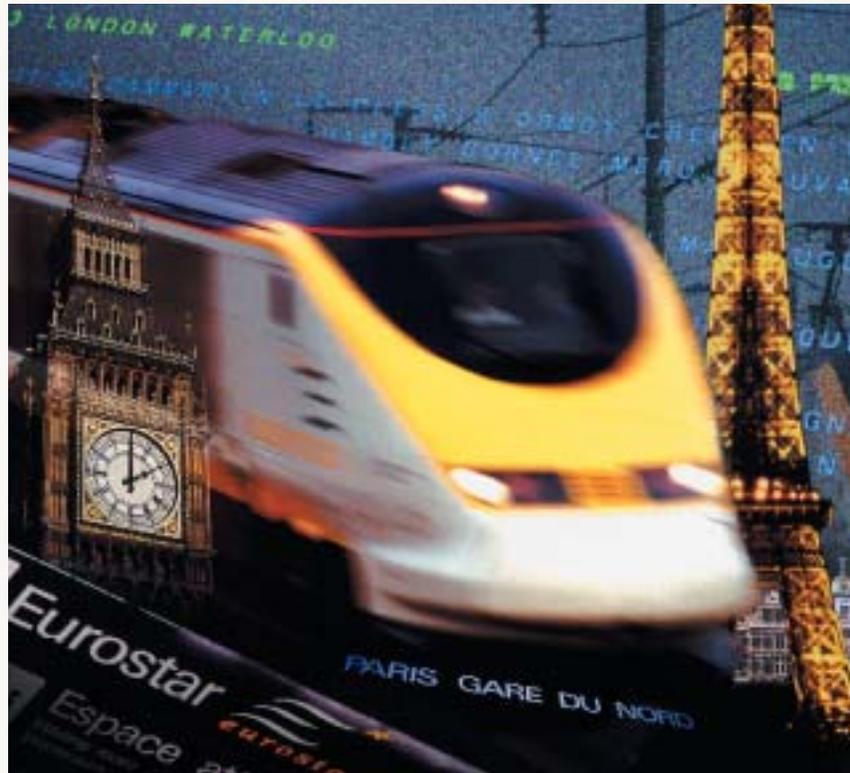
After Hurricane Mitch ravaged Honduras in 1998, Skanska built 11 bridges in that country, with a high level of consideration for the working environment and external environment during construction.

The project exemplifies application of the United Nations Global Compact, which Skanska backs.

The Global Compact focuses on a number of principles for supporting sustainable development.



# Honduras



(Photo montage)

Skanska UK is participating in the construction of the Channel Tunnel Rail Link between London and the rail tunnel under the English Channel. This high-speed train route will greatly increase both passenger and freight capacity between Great Britain and the European Continent. The project involves extensive environmental requirements.

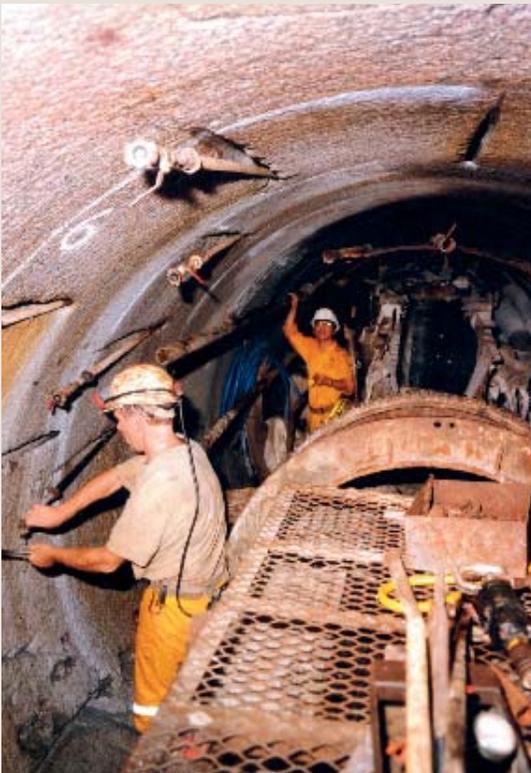
# London

# Krakow

Exbud Skanska followed strict environmental standards during construction of the Krakow Plaza Center in Poland, taking special care to preserve adjacent natural landscapes and to protect animal and plant life.



(Photo montage)



# Hong Kong

Skanska built a wastewater tunnel system in Hong Kong.

The new tunnel system will help to greatly improve water quality in the adjacent Victoria Harbour.

# Stockholm

Skanska Sweden built environmentally labeled housing for graduate students and visiting scholars in Stockholm, constructed entirely out of wood. More than 70 percent of the wood is FSC-labeled. This means that it meets the Forest Stewardship Council's sustainable forestry standards.



# Statement by the President and CEO

Skanska's Code of Conduct marks a new phase in our environmental work. The environmental management systems throughout the Group are now certified, and newly acquired companies will also certify their systems shortly. This means that we can focus even more on offering the client environmentally adapted solutions.

## **SUSTAINABLE DEVELOPMENT**

Meanwhile we are broadening our perspective and creating a common strategy and ambition for Skanska's sustainable development work. Our responsibility encompasses not only environmental issues but also human rights, employee relations and business ethics. Skanska's Code of Conduct, which was recently approved by the Board of Directors, provides a platform for consistent, positive actions throughout the Group. We will also influence our suppliers and subcontractors in the same direction.

Our Code of Conduct is an important basis for ensuring that society at large will have confidence in Skanska. It is part of our vision of being a world leader. One sign that we are on the right path is that for the third consecutive year, Skanska was included in the Dow Jones Sustainability Indexes, this time as the leader in our industry. This is an award that we note with pleasure, at the same time as it will spur us to continued improvement efforts.

## **ENVIRONMENTAL WORK – AN INTEGRAL ELEMENT OF ALL OUR OPERATIONS**

A comparison with our international competitors shows that we are still alone in implementing ISO 14001-certi-

fied environmental management systems in all operations. We are proud of our role as a world leader in our industry. At the same time, we would be pleased to see more proactive environmental efforts from our competitors, because this would encourage change in our industry and generate greater pressure for active environmental work among suppliers and subcontractors. We are also convinced that more widespread support in our industry for proactive environmental actions would lead even more of our clients to increase their commitment to environmental adaptation.

During 2002 we will be expanding our efforts at Skanska to identify best practices in high-priority environmental fields. In an international and growing corporate group like Skanska, it is important that we systematically evaluate our environmental efforts. Collective competence and effective transfer of experience are essential factors in maintaining high credibility among our clients.

## **INSPIRING OUR CLIENTS AND MANAGING RISKS**

Today we can see that a large proportion of our construction projects incorporate environmental dimensions that go beyond legal and regulatory requirements. Our analysis of all large building and civil construction projects also indicates that Skanska initiated most of these measures.

This is a gratifying development, which also shows that our environmental dialogue with clients is paying off. We hope that this trend will continue. One thing that makes it easier is that we are increasingly often involved



in the early stages of construction projects, where we have a greater opportunity to have an influence. When it comes to public procurement, Skanska has a positive attitude toward the clarification concerning environmental standards that is being made in the EU's proposed new directive on public procurement. We are convinced that increasing the opportunities to specify relevant, fact-based environmental standards in procurements will accelerate the necessary environmental adaptation.

Through our environmental management systems and Skanska's risk assessment procedures, we conduct continuous and systematic evaluations of all operations. Skanska's model for risk assessment in large building and civil construction projects includes both environmental and social responsibility as important areas.

### **ENERGY CHALLENGES – A CENTRAL ELEMENT OF ENVIRONMENTAL WORK**

The risk of climate change due to higher greenhouse gas levels in the atmosphere is the biggest single environmental threat. The most important reason for this is the use of fossil fuels to cover the energy needs of a growing global population.

The construction sector has a central role in these issues, because a very large percentage of the energy use by humans is related to buildings and their use.

During 2001, Skanska worked actively in the European Union and the United States to contribute to an increased commitment to energy efficiency both in new construction and renovation. There is very large potential

for reducing energy use by humans through systematic, proactive efforts.

### **ENCOURAGING THE DEVELOPMENT PROCESS**

Skanska will intensify its environmental dialogue with clients during 2002. To make this easier, we are refining our operational tools.

We will also prioritize expanded collaboration with other external stakeholders. Our purpose is to inspire continued improvements and help raise the general level of environmental ambitions in the construction sector. Through dialogue with players at different levels – ranging from international agencies within the EU to local market players – we want to improve our knowledge and at the same time influence the development process.

There is every reason to feel proud of the results of our environmental work. At the same time, we must be humble and aware that major, fundamental changes take time.

Stockholm, March 2002

Claes Björk  
President and CEO  
claes.bjork@skanska.se

# This is Skanska

- Skanska's mission is to develop, build and maintain the physical environment for living, traveling and working.
- Skanska's vision is to be a world leader – the client's first choice – in construction-related services and project development.

## Segments

Skanska is one of the world's leading companies in construction-related services and project development. In recent years, its growth rate has been high compared to many of its international competitors. Its strategy in recent years has been to grow in selected markets and segments, through both significant organic growth and acquisitions.

Meanwhile Skanska has broadened its range of services, enabling it to offer clients effective comprehensive solutions that include all phases from concept and development to construction as well as operation and maintenance. This is a strategically important development, because an increasing proportion of Skanska's clients are outsourcing or divesting non-core operations and focusing on their core competencies. The growing proportion of repeat clients is one indication that Skanska understands and can meet the needs of clients. In many markets, assignments from repeat clients account for more than 75 percent of sales.

Skanska's operations can be grouped into three main segments: Construction-related Services, the Services business unit and Project Development & BOT. The organization consists of 17 business units that report

directly to the Senior Executive Team. Responsibility for environmental issues is part of the managerial role and line responsibility at Skanska. This applies to everyone from the CEO to project managers at building and civil construction projects.

## Construction-related Services

Construction-related Services refer to building and civil construction. A rough allocation shows that 71 percent of sales are related to building construction, which includes both residential and commercial projects. Civil construction consists mainly of infrastructure projects, for example rail systems, roads, bridges, harbors and tunnels.

These operations take place in twelve business units, grouped into Scandinavia (Sweden, Norway and Denmark), Europe (Finland, Poland, the Czech Republic and Great Britain), the United States and Other Markets (Argentina, Hong Kong, India and International Projects).

## Services

The Skanska Services business unit is responsible for the Group's facilities management (FM) operations, which include a broad spectrum of services related to the operation and maintenance of properties, together with individually tailored contracts for property support services. The unit's strategy also includes the development of operations targeted to industry's need for technical services. The former Skanska Telecom Networks business unit was integrated with Skanska Services effective from the beginning of 2002.

## Project Development & BOT

With the help of the Group's collective resources, Skanska's Project Development

business units develop commercial real estate projects for their own account. These projects include both office buildings and shopping centers. Such projects are currently underway in Sweden, Denmark, the Czech Republic, Hungary and Poland.

Build-Operate-Transfer (BOT) projects are privately financed infrastructure projects, in which Skanska's role often includes all phases from design, construction and operation to arranging financing solutions. Skanska today has ownership interests in six BOT projects related to roads, harbor facilities, power generating plants, hospitals and prisons.

## ENVIRONMENTAL RESPONSIBILITY

### Board of Directors and CEO

Skanska's CEO reports regularly to the Board of Directors on the strategy and results of environmental activities. This is part of the certified environmental management system for Skanska's Group headquarters.

### Group staff units

The Group Senior Vice President for Environmental Affairs, Axel Wenblad – who reports to the CEO – has an overall role in coordinating and developing Skanska's environmental work. Environmental specialists at Skanska Teknik also provide back-up to the business units on various environmental matters.

### Business units

In Skanska's business units, line managers are responsible for the implementation and outcome of their environmental work. Environmental management systems are often an integral part of the management systems in their operations. To support and coordinate this work, there are also environmental managers/coordinators at each business unit and in most projects. The contact person at each business unit is listed on Skanska's web site, [www.skanska.com](http://www.skanska.com).

Highlights	2001	2000	1999	1998
Net sales, SEK bn	165	108	79	62
Operating income, SEK bn	2.3	7.2	6.9	4.4
Employees, annual average (thousands)	80	63	45	39

For a more detailed presentation of Skanska's business operations, see [www.skanska.com](http://www.skanska.com) and the Annual Report for 2001.

# A holistic view

Skanska Sweden has built a number of timber apartment buildings in recent years, among them Trähus 2001, displayed at this home construction fair in Malmö. Using a timber frame for these buildings conserves energy and improves their indoor climate.



## All operations

The focus of Skanska's environmental work is to ensure that all Group operations are embraced by the same fundamental requirements and guidelines. This is a prerequisite for achieving credibility, both internally and externally. It underscores that the Skanska Group operates on the basis of common values and working methods. One example of the implementation of this approach is that the schedule for introducing certified environmental management systems was the same for all business units. All units fulfilled the target and were certified by the end of 2000. When Skanska acquires companies, or develops new business operations, they are required to introduce certified environmental management systems within two years.

## Life-cycle approach

Skanska has systematically built up increasing expertise on environmental adaptation of building and civil construction projects. This

includes environmental aspects during the long life cycle of a structure, from concept and pre-construction engineering to construction, service life and maintenance, as well as final demolition and recycling of a structure.

As part of its environmental management systems, Skanska conducts continual evaluations of the significant environment aspects of its business. These evaluations are then used as the basis for managing and following up the environmental performance of Skanska's operations, as well as for dialogue with clients, suppliers and subcontractors. The aim is to achieve effective collaboration on design, structural solutions and material selection in order to decrease total environmental impact during the service life of a structure.

Implementing operational environmental work in a large organization also requires effective tools. Some examples of such tools are presented in the illustration on this page. Rapid development and systematic evalua-

tion are occurring in this area today. Networks are also being developed between environmental specialists and coordinators at Skanska's various business units, making the effective transfer of experience easier.

## Sustainable development

During 2001, Skanska drafted a Code of Conduct that clarifies the Group's roles and ambitions concerning social responsibility in a broader sense than environmental aspects alone. The Code of Conduct, which is part of Skanska's sustainable development efforts, also addresses human rights, employee relations and business ethics. This document will serve as a platform for the Group's actions in these areas. It also aims at influencing Skanska's suppliers and subcontractors in the same direction. In accordance with Groupwide procedures, risk evaluations of large or risky projects always include an assessment of their environmental and social dimensions.

### PHASE IN THE LIFE CYCLE

### EXAMPLE OF TOOLS

#### Feasibility study

Environmental project database  
Risk evaluation procedures

#### Pre-design

Environmental program  
Ecometer

#### Pre-construction engineering

Database of chemical products  
Environmental database of building materials

#### Construction

Local environmental requirement systems  
Environmental supplier evaluation

#### Operation and property management

Environmental logbook

The illustration provides examples of tools developed and used by some units in the Skanska Group in order to achieve increased environmental adaptation of buildings and other facilities.



The Dow Jones Sustainability Indexes rank Skanska as the leading company in the construction industry in terms of environmental and social dimensions.

# Environmental management

## Skanska influences its clients

The environmental aspects of building and civil construction projects are often long-term and indirect. This means that only a small proportion of total environmental impact occurs in conjunction with the construction process. A sizable proportion instead occurs during the service life of the building or facility. Skanska's ability to motivate and inspire its clients to increase the level of environmental adaptation is thus perhaps the most important success factor.

It is therefore gratifying to report that more and more construction projects are being implemented with environmental standards that are more far-reaching than legal and regulatory requirements. The Group's annual analysis of all major construction projects, defined as projects with order values exceeding SEK 10 M (about USD 1 million) also indicates that the initiative for a higher level of environmental adaptation increasingly comes from Skanska.

Skanska's analysis of order bookings in 2001 shows that a total of 774 of these large projects were being implemented with higher environmental standards. This is a positive trend that will stimulate continued efforts during the coming years.

### Construction projects with higher environmental standards, 2000–2001

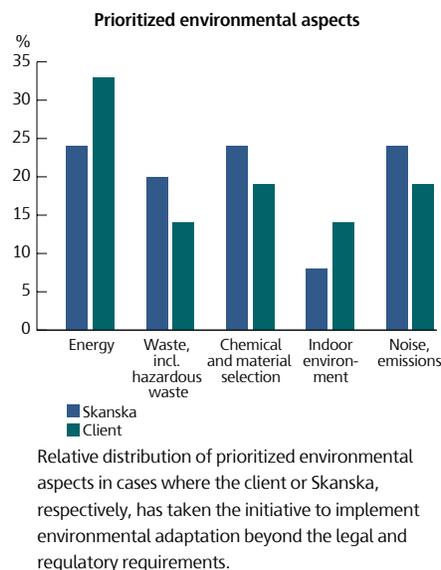
	Number of projects		Total contract sum, SEK bn	
	2001	2000	2001	2000
Client's initiative	350	156	18	19
Skanska's initiative	424	391	53	41
<b>Total</b>	<b>774</b>	<b>547</b>	<b>71</b>	<b>60</b>

The number of construction projects – with order values exceeding SEK 10 M – that incorporate environmental standards beyond legal and regulatory requirements.

The total order value of these projects with higher environmental standards was SEK 71 billion, or about 46 percent of total order bookings during 2001. This was an increase compared to an order value of SEK 60 billion for projects with higher environmental standards the preceding year. This trend applies to a number of business units in the Group,

but the increase was primarily due to some major building and civil construction projects in the United States during 2001.

The analysis of these projects also reveals which environmental aspects received priority. The most commonly occurring priorities are energy efficiency and chemical and waste management, but the local impacts from construction projects in the form of noise and discharges into the water are often also high priority issues.



## Power to change

Certified environmental management systems are the basis for the structured environmental work pursued in the Skanska Group. By the end of 2000, all operations were certified according to the ISO 14001 international environmental management standard. In some cases this was achieved during 1999 or earlier. As for recently acquired operations, Skanska has decided that ISO 14001 certification must be completed no later than two years after acquisition. Such development work is currently underway in the companies acquired in 2000. This includes Skanska UK in Great Britain, Exbud Skanska in Poland, IPS Skanska in the Czech Republic and Selmer Skanska in Norway. In all these cases, certification is expected to occur on schedule, that is, during

2002. There are also a number of newly acquired companies – for example in Skanska USA Building, Beers Skanska and Skanska Oy – which are working to introduce environmental management systems during 2002.

### Certified environmental management systems at business units acquired during 2000

	Exbud Skanska	IPS Skanska	Selmer Skanska	Skanska UK
Percent of net sales	55	2	75	9
Percent of number of employees	44	<1	78	22

A comparison with Skanska's main international competitors shows that only Skanska has introduced certified environmental management systems on a Groupwide basis. However, development efforts in this direction are underway at several of these companies. Skanska welcomes such a trend at other companies in the construction and project development industry, since it would create more active environmental work in the industry and more effective collaboration with both clients and suppliers.

## Increased knowledge

Environmental management systems mean that each business unit continually evaluates significant environmental aspects, using the information it gathers to work out procedures, targets and action programs.

In addition to good structure and effective procedures, Skanska requires a high level of environmental expertise. For some years, training programs at Skanska's business units have provided employees with basic environmental information. By the end of 2001, about 55 percent of employees had received this type of information. The reason this figure is lower than in 2000 is that newly acquired business units have only started the environmental training of their employees.

Skanska is also continuing its specialist training programs in the environmental field. This includes training related to environmental auditing, legislation, environmentally adapted pre-construction engineering, environmental effects of building materials and hazardous waste. The number of participants



The new hydroelectric power station in Rönnöfors, northern Sweden, demonstrates the potential for combining energy production with concern for nature conservation values. The buildings were adapted to their location by selecting local materials and a design associated with old traditions of construction in the area.

in specialist training declined somewhat, while the number who received training as internal environmental auditors increased.

**Environmental training beyond basic environmental information**

Type of training	Number of participants	
	2001	2000
Specialist training	1,254	1,804
Environmental audit training	393	289

During 2001, the Skanska Management Institute developed and carried out a number of seminars on environmental leadership as part of the management development programs at Skanska. Extensive information and training programs are also provided for the employees of subcontractors who work at Skanska construction projects. This is especially true in U.S. operations, where a very large proportion of the work at Skanska projects is performed by subcontractors. During 2001, a total of 20,400 employees of subcontractors received this type of environmental information, or more than twice as many as in 2000.

As Skanska's experience of environmental adaptation in different types of projects increases, this improves the potential for effective transfers of experience at Skanska. To make this easier, there is a regularly updated environmental project database. Summaries are also presented externally via Skanska's Internet web site. The purpose is to stimulate transfers of experience and make the dialogue with clients more concrete. To take more effective advantage of Skanska's collective competence, there is also a program of regular seminars with environmental coordinators and specialists throughout the Group.

**Evaluations create improvements**

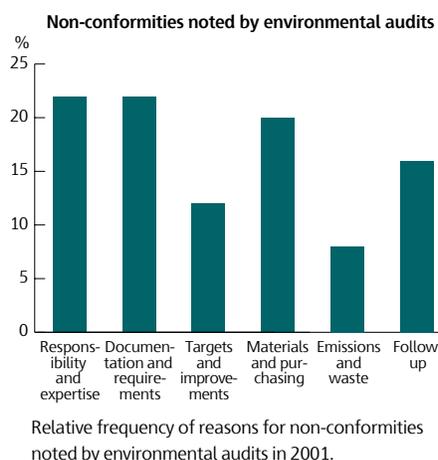
One important element of development work in the environmental field is to undertake systematic evaluations of environmental work in order to create incentives for continual improvements. In short, it is a matter of learning from the strengths and weaknesses that are observed.

At the project level, follow-up occurs in such forms as internal environmental audits,

which are a very important element in the task of ensuring the implementation of environmental management systems. During 2001, 1,431 internal environmental audits were completed, compared to 1,234 during 2000. The results of these audits are regularly followed up at each business unit, among other things as part of recurrent management reviews of the environmental work.

The certification of environmental management systems also means that accredited certification bodies conduct regular follow-ups of the quality of Skanska's implementation and the development of environmental management systems in relation to the ISO standard. These external environmental audits occur at least once a year and include visits at selected operations encompassed by each respective ISO 14001 certificate. The number of external environmental audits during 2001 was 185, which represented an increase compared to the 125 audits during 2000.

These external environmental audits of the business units noted 22 major non-conformities. One of these is related to shortcomings concerning targets and action programs and will be remedied early in 2002. Other cases of major non-conformities are related to small operations. The shortcomings cited mainly concern administrative procedures, documentation and labeling of chemicals. These non-conformities have already been remedied.



If major non-conformities are noted, the business unit in question must immediately report this to the Skanska Environmental Affairs unit. There is also yearly reporting of environmental data to Skanska Environmental Affairs from all business units. This reporting includes key data in the following areas: analyses of major projects, environmental training, environmental audits, supplier evaluations and waste management.

During 2001 Skanska and the manager in charge of a tunnel construction project at Halland Ridge (Hallandsåsen) in southern Sweden were ordered to pay fines for improper use of a chemical waterproofing agent. The resulting environmental accident occurred in 1997 and is the only known major violation of environmental legislation within the Skanska Group in recent years. By means of certified environmental management systems and substantially increased awareness, Skanska has taken vigorous steps to prevent this type of accidents.

**Best practices**

Now that environmental management systems have been in place for some time at all business units, it is vital to evaluate their strengths and weaknesses, and to encourage the broad use of best practices in this field. During 2001, Skanska therefore carried out a development project in which a number of working groups were entrusted with identifying best practices in various parts of the environmental management systems.

Among other things, these working groups have evaluated the following areas:

- legal and other requirements
- environmental training
- internal and external audits
- supply chain
- environmental indicators

The purpose is to disseminate knowledge about effective methods and tools as well as to stimulate rapid improvements. During 2002, this type of development project will continue. Additional areas that will be examined are contaminated soil, energy efficiency in buildings and tools for supporting eco-design.

# Theme: Energy

## CLIMATE CHANGE AND ENERGY EFFICIENCY

### A global challenge

One of the biggest threats to the global environment is climate change due to greenhouse gases in the atmosphere. The most important cause of this threat is the use of fossil fuels.

The construction sector therefore faces a major challenge, because a sizable percentage of the energy used by humans is related to buildings and their utilization. The European Commission has estimated this at 41 percent within the European Union, which means that buildings contribute more greenhouse gases than traffic (31 percent) and industry (28 percent). A very large proportion of the environmental impact of buildings occurs in conjunction with their use – due to space heating, cooling, hot water, lighting etc.

### Construction sector can lead the way

A large proportion of this energy use can be avoided. Given today's technology, it is fully possible to substantially lower the energy use of buildings. When renovating existing office buildings in Sweden, Skanska is able to achieve improvements of 20–30 percent in energy efficiency and nearly 50 percent in new construction. There is consequently a very large potential for energy savings. The table on page 11

shows the total energy use for property-related purposes in Skanska's Swedish real estate portfolio, calculated per square meter (heating, air conditioning, and electricity for operations other than tenants' electricity use).

Because of the continuous turnover in Skanska's property holdings during the year, the figures vary from one year to another. The sharply improved energy efficiency in new construction during 2000 was mainly due to the construction that year of some large properties with high standards in the energy field. There is, however, a clear trend toward lower energy use, both in renovated properties and new buildings.

Looking at energy use, it is especially important to focus on the carbon dioxide emissions that are generated. The Project Development Sweden business unit is therefore carrying out an analysis of entire energy systems, including electricity generation, heating and cooling by electricity and district heating suppliers. The results show that it is possible, through the choice of suppliers and energy systems, to achieve substantial reductions in carbon dioxide emissions, especially in renovations and new construction. One example of this is that carbon dioxide emissions from properties renovated during 2001 total 6.8 kg of CO<sub>2</sub>/m<sup>2</sup> per year, compared to an average value of 14.6 kg of CO<sub>2</sub>/m<sup>2</sup> per year for all Skanska properties in Sweden. See also the table on page 11.

Skanska's calculations indicate that the construction sector's emissions of greenhouse gases, for example in Europe, could be reduced by 20 to 25 percent within ten to twenty years. The construction sector should therefore take the lead in this effort. Emissions from Europe's 160 million hotels, stores, industrial buildings and office and residential buildings could be reduced by 450 million metric tons of greenhouse gases each year, which is equivalent to more than 12 percent of total emissions.

### Skanska stimulates progress

In order to stimulate progress, over the past few years Skanska has become deeply involved in these issues. It relates to steps at the systems level, such as changes in management tools and procurement systems, as well

as improvements in information systems. In addition, Skanska has demonstrated in concrete terms at a number of construction projects that there is major potential for improving energy efficiency, both in renovation work and new construction.

This theme section therefore summarizes both Skanska's initiatives to generate greater interest and the prerequisites for an industry-wide commitment to energy efficiency. In the two boxes below, we have briefly described examples of current efforts to encourage this trend. One is the EU's draft Directive on Energy Performance of Buildings. The other is Energy Star, a system developed by the U.S. Environmental Protection Agency for energy labeling of buildings and other products.

In the EU, Skanska has worked actively to win broad support for the above-mentioned directive. For example, Skanska initiated a hearing in the European Parliament on energy efficiency in buildings. On a number of occasions, Skanska has also participated in discussions within the EU aimed at increasing the opportunities to require relevant, fact-based environmental standards in public procurement.

On the next two pages, we present some of Skanska's construction projects that illustrate the potential for improving energy efficiency. Further examples are found at [www.skanska.com](http://www.skanska.com).



### The European Commission's proposal for a Directive on the Energy Performance of Buildings:

This draft Directive was presented in May 2001 and is proposed to go into effect in 2003. The proposal has four parts:

- a common EU method for calculating the energy performance of buildings
- a proposed minimum standard for the energy performance of buildings in all member countries
- energy certification systems for new and existing buildings
- inspection systems for heating and cooling installations



### Energy Star

In the United States, the Energy Star is a symbol of energy efficiency. This voluntary labeling system has been extended to include homes and other buildings.

One prerequisite for obtaining an Energy Star label on a building is that its energy performance is at least 30 percent better than the average for that type of building. There is rapidly increasing interest in this type of energy labeling in the U.S., especially in newly constructed homes.



The Ecocycle House (Kretsloppshuset) in Mörsil, northern Sweden, was built to be as resource- and energy-efficient as possible. The house is part of a larger project that focuses on ecological products and educational programs to promote a sustainable lifestyle.

Energy use in Skanska's properties in Sweden, kWh/m<sup>2</sup> per year

Type of property	2001	2000	1999
Average, existing properties	142	142	145
Properties renovated during the year	89	115	128
Properties newly constructed during the year	87	75	115

Carbon dioxide emissions from Skanska's properties in Sweden, kg/m<sup>2</sup> per year

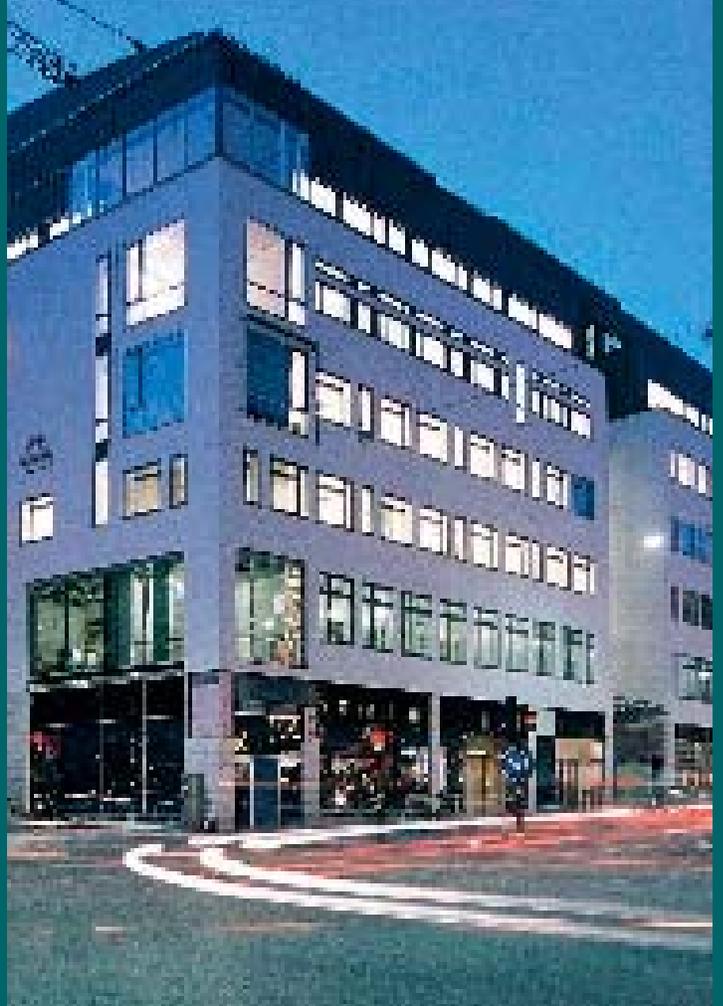
Type of property	2001	2000
Average, existing properties	14.6	12.3
Properties renovated during the year	6.8	9.2
Properties newly constructed during the year	7.2	6.1

# CityCronan, Stockholm, Sweden

In a joint project, two Skanska companies in Sweden are carrying out a large-scale renovation of an office building in downtown Stockholm. One of the main goals of the project is to serve as an environmental model. Its program has been designed to limit the environmental impact of the property throughout its service life.

One of the most important areas is energy use. The target is that energy use for the operation of the building should total about 80 kWh/m<sup>2</sup> per year. This can be compared to the average energy use of Skanska's properties in Sweden in 2001, which was 142 kWh/m<sup>2</sup> per year. Among the ways of achieving this are demand-controlled, flexible ventilation systems as well as the design and selection of energy-efficient windows.

CityCronan was awarded Skanska's internal environmental prize during 2001.



# Mansion Ridge, Monroe, New York, U.S.A.

Mansion Ridge is in a very scenic location, next to a golf course and overlooking the Hudson River Valley, about an hour north of Manhattan. Built by Skanska Project Development USA, it consists of 110 homes of varying sizes.



Mansion Ridge is the first of Skanska's residential projects to carry the Energy Star label. Energy Star is a voluntary energy labeling system for buildings and appliances devised by the U.S. Environmental Protection Agency. To qualify, a home must meet a number of standards, for example related to windows, insulation, heating and ventilation systems. Before being issued an Energy Star certificate, each home was inspected repeatedly during construction. Energy Star labeled homes are built to consume at least 30 percent less energy than conventional homes.



# Lena Terrasse, Trondheim, Norway

Lena Terrasse, located about 20 km (12 mi) outside of Trondheim in northern Norway, consists of three 5–7 story buildings plus a number of single-family homes, for a total of 113 units. Energy issues were the focus when the area was planned. Space heating and hot water are provided under a long-term contract with the energy company Statoil.

Each unit has its own energy meters. This reduces heat and hot water consumption by an estimated 10–15 percent. Together with other conservation measures, this means that the energy required for space heating and hot water is an estimated 110 kWh/m<sup>2</sup> per year, or substantially less than average for existing residential properties in the Trondheim region. A common underground heat pump provides about 75 percent of this energy supply, while the rest comes from oil heating.



# INTEGER, Hong Kong

The INTEGER Hong Kong pavilion was developed to show how “intelligent” and “green” solutions can be integrated into the residences of the future. It is the first permanent exhibition of its kind in Asia. Using demonstration apartments and other means, the pavilion shows how modern technologies can improve housing and environmental performance in a densely packed major city like Hong Kong. Gammon Skanska, which built the pavilion, is also one of the organizations behind the INTEGER exhibition.

INTEGER is a modular construction system based on

prefabricated units. Efficient energy use is one of its goals. Sun shading louvers, insulation, energy-efficient windows etc. achieve an estimated 25 percent energy saving compared to conventional apartments.



# Environmental operations

## Follow-up of environmental operations

Many environmental operations are related to the work at Skanska's building and civil construction projects, for example selection of construction machinery and vehicles, efficient logistics to reduce haulage and energy use during the construction period, on-site chemical and waste management and steps to limit noise and dust formation. A large and increasing proportion of work at Skanska's construction projects is performed by subcontractors. This underscores the importance of establishing relevant environmental requirements and developing collaboration on environmental issues with suppliers and subcontractors.

These environmental operations are of course strongly influenced by the type of construction project that is involved. Introducing a detailed system of project-specific measurement of environmental performance during the construction period at each of Skanska's 10,000 to 15,000 projects, then aggregating the data at the business unit and Group levels, is obviously possible. However, Skanska has deliberately chosen to abstain from this type of reporting. One reason is that it would only cover part of the Group's environmental impact. Another is that changes over time would not provide an accurate picture of the results of Skanska's environmental work. The credibility of this type of environmental performance measurement, both internally and externally, may thus be low. There is thus an imminent risk that it would make effective environmental work more difficult.

The follow-up of environmental work at each building and civil construction project is currently supplemented by a reporting system that focuses on a few parameters that are compiled and monitored yearly at Group level. This reporting system also supplies the documentation on which the Skanska Environmental Report is based. It specifies magnitudes and main conclusions related to the following areas:

- analysis of the environmental work at major construction projects
- environmental training programs
- internal and external environmental audits

- non-conformities
- evaluation of chemicals
- evaluation of suppliers
- contaminated soil
- waste management
- environmental projects

## Chemicals

The task of improving the evaluation and handling of chemicals remains a high priority at Skanska. During 2001, a common database for the five chemicals/chemical substances that may not be introduced in Group operations was developed. These chemicals are acrylamide, asbestos, CFCs, halon and PCBs. A follow-up shows that during the year, there were no violations concerning the use of these substances.

Handling of chemicals is often regulated in detail by national legislation, which means that the procedures developed must be nationally adapted. The efforts of Skanska Sweden provide an example of how chemical issues can be handled. Based on available information on the environmental characteristics of chemicals, three different lists of chemical substances have been compiled:

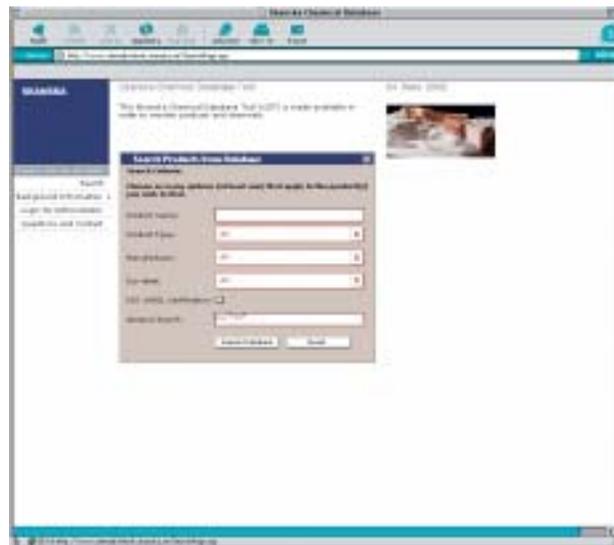
- a list of restricted (i.e. banned) substances
- a phase-out list
- a surveillance list

The list of restricted substances includes 14 substances and the phase-out list 24 substances that are to be phased out by 2004. Certain chemicals, including brominated flame retardants, are to be phased out during 2002. The surveillance list contains 29 substances that are widely used but that should be kept under observation due to their characteristics.

With these lists as a starting point, a database of more than 4,700 commercial chemical products has been developed by Skanska Sweden. These are products that are used or may be used in operations. In this way, individual projects can obtain information in a practical way about whether these products contain any substances on the restricted, phase-out or surveillance lists. They can gain access to product information sheets and draw up project-specific chemical lists.

Skanska Sweden's list of chemical products

	2001	2000
Total number of products evaluated	4,749	3,184
Skanska's environmental choices	71	40
Approved	2,249	1,415
Approved under surveillance	1,540	956
To be phased out	878	765
Restricted	11	8



Skanska has developed a database structure that each business unit can use to develop a local tool for handling chemical products. This means that individual building and civil construction projects can have access to information on whether products contain the restricted chemicals.

As part of the upgrading and expansion of the harbor facility in Maputo, Mozambique, Skanska is carrying out large-scale decontamination of bottom sediments.



Skanska Denmark has been a leader in the task of developing a national industry-wide chemical database. This database now contains 1,281 products. On the basis of these, Skanska Denmark has then selected 714 products that may be used in its own operations. The industry-wide database of chemical products is evolving all the time, and the number of chemical products listed is rapidly increasing. Skanska Denmark has further refined the standard version of the industry-wide database, so that each individual chemical product is classified on the basis of a number of criteria, taking into account both environment and working environment, as well as quality and economic factors. Products are classified in three categories: permitted products, products that should be phased out and non-permitted products.

### Evaluating and influencing suppliers

Efforts to persuade Skanska's suppliers to expand their environmental work continued during 2001. A total of about 3,300 suppliers were formally contacted during the year.

A number of Skanska's business units in Europe have carried out environmental eval-

uations of prioritized suppliers. These evaluations occur yearly on the basis of established procedures and are gradually being extended to more and more suppliers. During 2001 Skanska conducted environmental evaluations of 463 prioritized suppliers. This was about 36 percent more than the preceding year.

The year's evaluations also show that 254 prioritized suppliers to Skanska are ISO 14001 certified, a quadrupling of the number in 2000.

During 2001, Skanska Oy in Finland evaluated 520 suppliers according to a number of criteria that include their compliance with legislation, Skanska's environmental policy and a number of specific environmental issues. Suppliers are divided into three categories: not approved, approved and approved with distinction. Of the 520 suppliers, 92 percent were approved and eight percent approved with distinction.

Skanska Sweden has continued to develop its Internet-based environmental web site, where more than 500 suppliers have completed self-evaluations of their environmental work: [www.inkop-miljo.skanska.se](http://www.inkop-miljo.skanska.se)

### Soil decontamination

An analysis of the occurrence of contaminated soil on Skanska-owned land, and of sites where the remediation costs are expected to be substantial, takes place annually. The analysis during 2001 reported three such cases, which were previously known.

Decontamination of soil is a relatively common element of Skanska's work at large construction projects. An analysis of new projects in 2001 with order values exceeding SEK 10 M indicated that 126 of these projects include soil decontamination. Over the years, Skanska has built up wide-ranging expertise and experience in soil decontamination to enable sites to be used for residential or other buildings.

### Waste and recycling

Decreasing environmental impact requires efficient procedures for reducing the quantity of leftover materials from the construction process. Meanwhile it is important to take advantage of opportunities for a high degree of reuse and recycling of waste that nevertheless arises.

During 2001, at-source waste separation at Skanska's construction sites in Sweden resulted in a reduction in the share of all residue sent to landfills as waste. At Skanska's other business units in Europe, the percentage of construction sites that undergo at-source separation into at least three material types varies between 80 and 100 percent, except for certain newly acquired units.

In the United States, restrictions by local authorities sometimes make at-source separation directly at the construction site impossible. However, sorting of waste occurs at the waste stations that these sites are required to use. Where at-source separation is possible at the construction site, Skanska's U.S. business units maintain a high degree of waste separation.

Skanska has built this Computer Center in North Carolina for the U.S. Environmental Protection Agency. The building was adapted to achieve low energy use.



# Outlook for 2002

## Refining best practices

Skanska's ambition is to be the construction industry leader in the environmental field. This requires continued analysis and development of best practices in various areas. During 2002, this work will enter a new phase, with a focus on practical environmental operations and tools to support effective environmental work. A number of working groups recently began the review process and will summarize their conclusions and recommendations later in the year with regard to contaminated soil, energy efficiency in buildings, and tools for supporting ecodesign.

This is an important part of the process of disseminating an awareness – and increasing the use – of successful methods and tools for achieving continual environmental improvements.

Skanska will also refine the Group's model for the risk evaluation of projects. The criteria related to environmental and social aspects will be adapted to Skanska's Code of Conduct, which was recently approved.

## Dialogue with the investment community

When evaluating companies for decisions on equity investments, there is increasingly often an assessment of how companies deal with the environmental and social dimensions of their business. During 2001, Skanska initiated a dialogue with a number of asset managers and companies that perform industry analyses in these areas, with a focus on identifying the leading companies in each industry.

Skanska will expand this dialogue during 2002 in order to stimulate continued development activities. An increased interest in these issues in the capital market will meanwhile create further incentives for companies to improve their efforts related to environmental adaptation and assuming social responsibility.

## Strengthening development work in the construction sector

In an international perspective, environmental efforts in the construction sector are still relatively modest and slow. This is true, for example, of efforts to establish certified environmental management systems.

Skanska is hoping for broader support in the construction industry for proactive environmental actions during 2002. This would lead to an expanded environmental dialogue with clients and more intensive environmental work among suppliers and subcontractors.

Viewed in a global perspective, there is a great need for research and training related to sustainable construction and infrastructure, especially considering that a majority of the world's population will soon be living in cities. The big challenge is to develop these cities in such a way that housing, space utilization, transportation, energy use, waste management, and water and wastewater treatment take place in a sustainable way.

In order to ensure research and training resources, Skanska in partnership with the Royal Institute of Technology in Stockholm, IVL (the Swedish Environmental Research Institute) and the Swedish National Testing and Research Institute have developed a proposal for a Center for Sustainable Building to be located in Stockholm. The intention is to make it a center with a strong international focus. Discussions are currently underway with various stakeholders, with the objective of starting up activities late in 2002.



Skanska has established an annual environmental award to stimulate expanded environmental initiatives in the Group. Its purpose is to reward and publicize construction projects with special environmental dimensions or innovative solutions, which facilitate effective environmental work. In 2001 the award was given to the individuals responsible for the environmental efforts in the following projects:

### CityCronan, Stockholm

Renovation of an office building including extensive environmental adaptation.

### Silver Bell, Colorado, U.S.A.

Soil decontamination in large areas around a closed mine.

### The Ecometer, Finland

A tool developed to calculate the environmental impact of buildings.

### Miljöwebben (The Environmental Web), Sweden

A tool for the environmental evaluation of suppliers.

# Glossary

## Accreditation

Official approval by a certification body.

## Acrylamide

Chemical label: 2-propenamide. A substance that is toxic when in contact with the skin or ingested. Risk of serious health hazards in the event of long-term exposure. Exposure to acrylamide may lead to cancer and genetic damage.

## Asbestos

Mineral-based fiber used for fire-retardant insulation etc. Long-term exposure may lead to lung damage and cancer. Prohibited and regulated in many countries.

## Brominated flame retardants

Brominated flame retardants are long-lived and may accumulate in tissues. Possible environmental impacts on humans include liver cancer and behavioral, learning and memory disorders.

## Certification/Registration

An independent examination of an operation and a confirmation that it meets a standard, for example the ISO 14001 international environmental management standard.

## CFCs

Chlorofluorocarbons, used primarily as refrigerants. They break down the stratospheric ozone layer and contribute to the greenhouse effect. Prohibited under international rules according to the 1987 Montreal Protocol on Substances that Deplete the Ozone Layer.

## Code of Conduct

Skanska's Code of Conduct, which was recently adopted, specifies the direction and ambition of Skanska's work with regard to human rights, employee relations, business ethics and environmental issues.

## Dow Jones Sustainability Indexes

An index developed by Dow Jones Index and the Swiss company SAM Sustainability Group. It is the first global index for tracking and assessing companies that are pacesetters in their respective sectors in terms of environmental activities and sustainable development. [www.sustainability-index.com](http://www.sustainability-index.com)

## Ecometer

A tool used by Finnish-based Skanska Oy for calculating the environmental impact of buildings.

## Energy Star

A program for promoting better energy performance in buildings and appliances. Its environmental label is a symbol of energy efficiency. Established by the U.S. Environmental Protection Agency and U.S. Department of Energy. [www.energystar.gov](http://www.energystar.gov)

## Environmental aspect

Elements of an organization's activities, products or services that can interact with the environment. A significant environmental aspect is an environmental aspect that has or can have a significant environmental impact.

## Environmental audit

A systematic, objective review of an organization's environmental work aimed at examining whether an operation is run in accordance with the commitments in an environmental management system.

## Environmental management systems

The portion of an organization's management system that includes organizational structure, planning, responsibility, practice, procedures, processes and resources for developing, introducing, fulfilling, revising and maintaining an environmental policy.

## Global Compact

The Global Compact was initiated by U.N. Secretary-General Kofi Annan. Skanska is one of several hundred companies that have joined the Global Compact, which urges companies to support nine universal principles in the fields of human rights, employee relations and the environment. [www.unglobalcompact.org](http://www.unglobalcompact.org)

## Halon

Halogenated hydrocarbons primarily used for extinguishing fires. Halons contribute to depletion of the stratospheric ozone layer and are among the internationally prohibited substances under the Montreal Protocol.

## ISO 14000

A series of standards for environmental activities issued by the International Organization for Standardization, ISO. [www.iso.org](http://www.iso.org)

## ISO 14001

An international standard for environmental management systems.

## Miljowebb (The Environmental Web)

To ensure that suppliers meet Skanska Sweden's standards in the environmental field, the business unit developed a questionnaire. Based on self-evaluations, the environmental work of suppliers is classified into four categories: Not Approved, Approved, Good and Very Good. Although the web site is mainly in Swedish, the questionnaire and Skanska Sweden's three chemical substance lists are available there in English. [www.inkop-miljo.skanska.se](http://www.inkop-miljo.skanska.se)

## Millennium Ecosystem Assessment

An international study aimed at strengthening the capacity for sustainable development of ecosystems. The project is run on a collaborative basis by various United Nations agencies, international conventions, governments, local authorities, companies, non-governmental organizations etc. Skanska is on its Board as a representative of the business sector. [www.millenniumassessment.org](http://www.millenniumassessment.org)

## PCBs

Polychlorinated biphenyls, a type of toxic hydrocarbons that are very difficult to break down and that accumulate in living organisms. Once widely used in transformers and for insulating purposes, they are among prohibited and regulated substances in many countries.

## WBSCD

The World Business Council for Sustainable Development is an organization with 150 member companies, including Skanska, committed to the principles of sustainable development. [www.wbcd.ch](http://www.wbcd.ch)



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