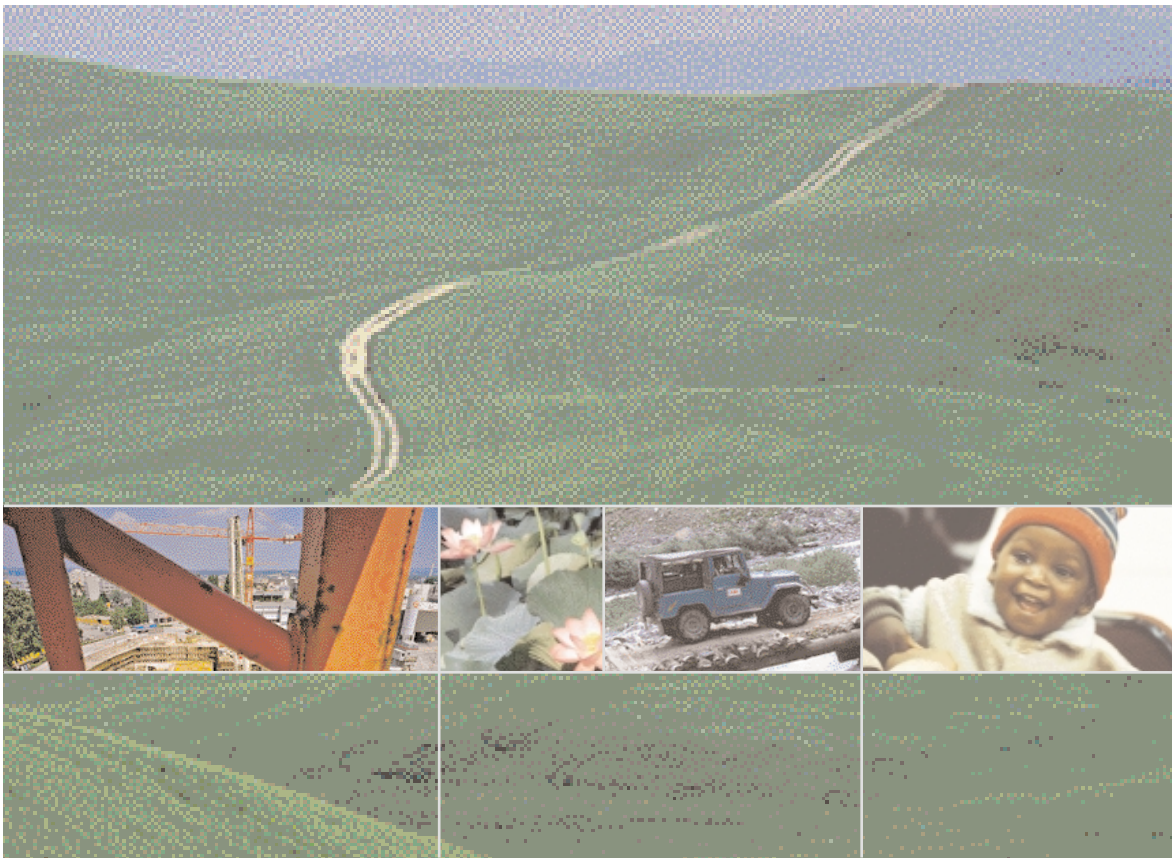
ABB Group Annual Report 2000

Sustainability Report



Brain Power.™

ABB

This is ABB

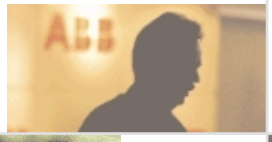
The ABB Group serves customers in manufacturing, process and consumer industries, utilities, the oil and gas sector and infrastructure markets. The company has its headquarters in Switzerland and employs about 160,000 people in more than 100 countries.

ABB fulfills its commitment to sustainable development by developing and supplying ecoefficient products and systems, sharing state-of-the-art technologies with emerging markets, contributing to common efforts and by continuously improving its own sustainability performance.

* All data relating to facilities, products and services of companies and sites sold to Alstom and British Nuclear Fuels have been excluded from this report, whereas data relating to the acquisition of Elsag Bailey have been included.

ABB's Sustainability Report 2000 is available in English on the Internet: www.abb.com

ABB continues to invest in emerging markets through acquistions and joint ventures.



ABB's social programs care for disadvantaged children.

Empowering unemployed people takes priority in a country where unemployment is high.

Urban regeneration at Zentrum Zürich Nord.

Highlights in 2000

Contents

- The Environmental Affairs organization assumed responsibility for coordinating all aspects of sustainability and by the end of the year was renamed Sustainability Affairs. Hence, this report is now the Sustainability Report.

- A workshop was held in March for 80 Country and Business Area Sustainability Controllers to establish strategies and action plans for the next five years. Members of ABB's Sustainability Advisory Board also attended.

- ABB announced a new strategic thrust into alternative energy solutions based on advanced new wind turbines, microturbines, fuel cells, and small-scale combined heat and power plants – and completed the divestment of its large-scale fossil fuel, hydro, and nuclear power generation activities.

- ABB launched a social policy for review and consultation with its main stakeholders. Prior to this, ABB carried out case studies to investigate the social impact of its operations at sites in seven countries. The lessons learned from these case studies were also used in the formulation of the new social policy.

- To complement the new social policy, ABB introduced three social indicators for health and safety and increased the total number of sustainability performance indicators to 39.

- Steady progress was made by most Business Areas in the production of Environmental Declarations (EDs) and Environmental Product Declarations (EPDs). Four have gained third-party certification.

- The EcoLab life cycle assessment tool – a prerequisite for environmental product declarations – was distributed ever more widely throughout ABB's business areas. The number of licenses for the use of the tool has substantially increased, and the database of environmental data has been further expanded.

- In July, ABB participated in the launch of the United Nations Global Compact. The Compact seeks to promote responsible corporate citizenship by calling for the support of business in raising international respect for human rights, labor rights and environmental protection.

- ABB welcomed the findings and recommendations in the final report from the World Commission on Dams, released in November, and suggested measures to facilitate their implementation. Although the company sold its hydropower business earlier this year, ABB's CEO continued to serve as one of the 12 commissioners.

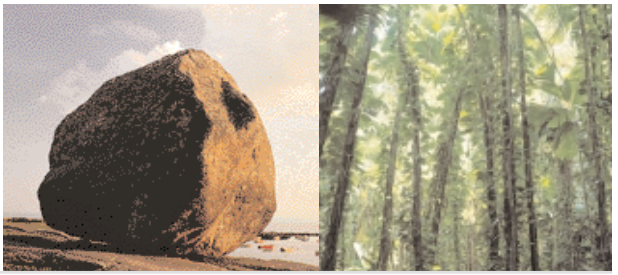
- ABB accepted the role of chairman of a steering committee of the World Energy Council to oversee its greenhouse gas emissions-reduction program launched this year. The goal – proposed in an initiative by ABB's CEO – is to reduce man-made greenhouse gas emissions by one billion tons annually by 2005.

- At the end of 2000, ABB had implemented ISO 14001 environmental management systems at 535 manufacturing and service facilities, corresponding to 97 percent of its total. Greece, with three sites, became the 49th country to join the program.

- The President's message in the 1999 report and a summary of the complete report were translated into 22 languages and distributed widely throughout the Group.

- ABB was rated top of its industry group for the second year in succession in the Dow Jones Sustainability Group Index.

President's message



Living sustainable development

ABB's vision is to create value. For our customers, by making them more competitive. For our employees, by offering them opportunities to learn, grow and share in the value they create. For our shareholders, by seeking to meet or exceed their expectations for value creation. And for the communities and countries where we operate, by living our commitment to sustainable development. ABB contributes actively to economic progress, environmental stewardship and social development.

As I assume responsibility as ABB President and CEO, I look forward to the challenge of raising our social performance, just as we have continuously worked on raising our environmental performance. What actions do we take, how do we meet our goals, what will we measure, how do we report on our sustainable development activities? As we proceed, we will address these issues and more, and we will learn on the way.

In 2000, the ever-changing business environment created new challenges and opportunities. In ABB, we shifted our strategy toward knowledge-based activities, responding to deep shifts in our customers' needs, and acting on the great potential of new information technologies.

Early in 2001, we took the next step in our own permanent quest for excellence – setting out to organize ABB entirely around customer groups instead of traditional product lines.

The strategic changes driven by my predecessor, Göran Lindahl, are crucial. The divestment of our traditional large-scale power generation businesses, including fossil fuel, nuclear power and hydropower plants was guided by sound business sense. But it had another effect – it changed our environmental profile.

Alternative energy solutions

Demand for coal-fired power plants – which significantly contribute to global warming – dropped by two-thirds over the past ten years. This resulted in overcapacity among equipment manufacturers and a need for consolidation within the traditional power generation industry. Power suppliers now prefer natural gas fired plants, which are cleaner, cheaper and take less time to build. Other technologies under the squeeze of ecoefficiency are nuclear power and hydropower, both of which are opposed by some non-governmental organizations.

Rapid deregulation of energy markets, privatization and the emergence of new, competitive technologies combine to give alternative energy solutions a growing appeal. In June 2000, we announced ABB's new thrust to provide small-scale decentralized energy solutions. These solutions include microturbines, fuel cells, combined heat and power generation, and a radical new design for wind power plants. Information technology supports the move to distributed power generation, making it possible to control many small power plants from a central point,

and create eBusiness mechanisms for online energy trading. Such solutions, facilitated by increasing freedom of customer choice, will play a fast-growing role in meeting the world's future energy needs in a more sustainable way. In ABB, we want to lead change in this area, too.

Globalization – a force for good

The past few years have seen growing opposition to globalization. Concerns over poverty, inequality and environmental damage have overshadowed the benefits that globalization can bring to developing countries. We find this worrying. If globalization, guided by shared responsibilities, is given a chance to succeed, it will be a force for good – for the sustainable development of developing countries. These countries have the most to gain from economic and social development in a global framework. But this development remains dependent on international financing.

Reducing poverty and ensuring education for all are in everyone's interest. Poverty and inequality pose major threats to international stability and development. Instead of being marginalized, developing countries must be allowed to develop by promoting education and building up their resources of competence. The activities of international corporations are important in making this happen. Today, education means more than literacy; computer literacy is just as vital in escaping the poverty trap.

The United Nations and business have come together to address these concerns by formulating a Global Compact with nine principles of good behavior for a global corporate citizen, relating to human rights, labor rights and environmental protection. ABB supports this Global Compact and was one of the inaugural companies at its launch, hosted by the Secretary-General of the UN in July 2000. We are now working with other companies, UN organizations and others to help find ways of implementing the goals of the UN Global Compact in developing countries.

On behalf of ABB, Göran Lindahl participated in the World Commission on Dams, which set out to seek new ways of planning and conducting international business, based on transparency, consultation and the participation of interested parties. In its final report, the Commission concluded that public participation and international cooperation are essential in order to properly balance social and environmental concerns with economic and financial aspects in the construction of large dams. The Commission's main contribution was to reach agreement across a whole range of interested parties – governments, industry, non-governmental organizations and affected people – to develop a set of criteria, guidelines and recommendations for planning, building and operating dam projects that point out new directions for sustainable development.

Focus on social performance

In this report, we continue to account for our environmental and social performance. The implementation of ISO 14001 and the development of environmental product declarations based on Life Cycle Assessment (LCA) are progressing well. We have studied the social impacts arising from ABB's activities at sites in seven countries – on employees and their families, on the local community and on society at large. External social scientists have supported the case study teams with objective expertise. We intend to use the findings from these studies to improve the management of social performance throughout ABB.

We are publishing ABB's new corporate social policy in this report. This takes account of the Social Accountability 8000 standard, the OECD Guidelines for Multinational Enterprises, and the UN Global Compact. In the coming year,

we will engage our major stakeholders in a discussion and review of this policy. We have also introduced social performance indicators for health and safety aspects.

With these measures – the Global Compact, the lessons learned from the case studies and the new corporate social policy, added to our continuously improved environmental performance – I feel we are laying a sound basis for sustainable development.

ABB's Environmental Advisory Board has worked to continuously raise ABB's environmental performance to a high level and their advice and guidance have helped ABB move toward an integrated approach to sustainable development. Going forward, we now adopt the name "Sustainability Advisory Board" to reflect this integrated approach.

Our early efforts have been recognized, and ABB is named a sustainability leader in the Dow Jones Sustainability Group Index for the second year in succession. It is clear that sustainability is becoming an important component of shareholder value and a critical factor for public acceptance.

Consistent policies and focused efforts over the last nine years have firmly ingrained environmental management into ABB's culture as an integral part of our daily business. We have implemented ISO 14001 at all our sites. We have developed environmental product declarations for our core products and, maybe of most significance, we have achieved a high level of environmental awareness throughout the Group. As I take over as President and CEO, I can look to personal experience to guide me. In 1987, I experienced public concern for the environment when I returned from a stint at ABB Singapore to run ABB's automation activities in Sweden. We had an electronics factory and the media had just published articles about the fact that a chemical agent employed to clean printed circuit boards was releasing chlorofluorocarbons into the atmosphere – adding to ozone depletion. Suddenly, I found myself at the center of a public outrage campaign. We immediately set to work testing alternative methods and soon discovered that ordinary soap and water could be used to clean the boards. We were challenged, and we changed.

From this experience, I learned to take public concerns seriously. I also learned that there may be better ways of doing things.

Increasing shareholder value while striving to be a good corporate citizen is a mission that concerns us all. And in the years to come, as ABB pursues new directions and enters new markets, we will see the emergence of many more stakeholders and interested parties. Serving their different needs to maintain our license to operate and enhance our business performance is the challenge we will take on.

I look forward to leading the ABB Group onward in the direction of sustainability.

Jörgen Centerman
President and CEO

Social performance

ABB's social policy

ABB recognizes social performance as a key to sustainable development and has included social performance management as an integral part of its corporate strategy. This goes further than simple compliance with government regulations and avoidance of liabilities. It represents a preemptive stance, with adaptation to country-specific needs, as a means of establishing competitive advantage. Our social policy points the way for social performance management within ABB. It covers the following areas:

1. ABB in society
2. Human rights
3. Children and young workers
4. Freedom of engagement
5. Health and safety
6. Employee consultation and communication
7. Equality of opportunity
8. Mobbing and disciplinary practices
9. Working hours
10. Compensation
11. Suppliers
12. Community involvement
13. Business ethics

The new social policy is printed in full on pages 64–65.

Beyond compliance

Although responsibility for social infrastructures generally belongs to governments, there is a growing interest within business, combined with pressure from stakeholders, for companies to commit to and demonstrate corporate social responsibility and so help society to be more sustainable. In ABB, we regard corporate social responsibility as the commitment by business to contribute to sustainable economic development, working with employees, their families, the local community and society at large to improve their quality of life.

Industry already has a large social responsibility, regulated by laws and influenced by public opinion. Compliance is a prerequisite to maintain a company's license to operate – paying wages and taxes, and providing suitable working conditions and health and safety procedures. But baseline performance is not enough. Most socially responsible companies have the ambition to go well beyond compliance with national and international regulations. Their stakeholders demand nothing less.

But what do we mean by beyond compliance? How far should we go? What financial resources will be required? Which benefits will arise and when? Social impact is not easily measured. For the present, it must be assessed by value judgments without the benefit of generally accepted accounting principles.

The absence of internationally recognized definitions and standards and the substantial differences between the social systems in different countries make managing and assessing social performance a challenge for globally operating companies.

ABB South Africa has been running corporate social responsibility programs since 1994, focusing on general community support and education for employment.

ABB's position

ABB has established a baseline for social responsibility by managing its international organization and caring for its 160,000 employees and their dependents, and through its common efforts and social contribution programs. Some of these programs were described in our Environmental Management Report 1999. ABB's strategy of sharing technology with developing countries – where we employ 43,000 people – provides a major social contribution to the welfare of local communities, raising living standards and helping to eradicate poverty.

Although ABB's baseline for social performance already goes far beyond mere compliance, we want to extend it even further. Corporate social responsibility is a vast field. We must explore it thoroughly to find out where additional efforts are most needed and where they will bring the greatest benefits. As part of this learning process, we have studied the social contributions arising from long-term activities at a representative selection of ABB factories in seven countries – Brazil, China, Egypt, Poland, South Africa, Switzerland and the UK. Summaries of these case studies are published in the following pages.

How the case studies were conducted

A steering committee, led by ABB's corporate staff and supported by an outside sociologist, planned and controlled the project. The framework for the studies was benchmarked against the OECD's proposed Guidelines for Multinational Enterprises, the Social Accountability 8000 standard and the United Nations Global Compact.

Cross-functional teams in each country studied ABB's social contributions as experienced by three main groups – employees and families, the local community and society at large. To include elements of the supply chain, an attempt was also made to assess the effects of our social performance on local customers, suppliers and contractors.

Each national team was supervised by a senior ABB manager and guided by an outside sociologist to bring professional focus and objectivity to the studies. ABB's Sustainability Advisory Board reviewed the draft reports of case studies, and the Board's comments and suggestions were taken into account in the final reports. The lessons learned from the case studies were then used to develop ABB's social policy, published on page 64.

Sharing technology with developing countries provides a major social contribution.

Brazil – small steps toward a brighter future

ABB's history in Brazil dates back to 1912, when ABB supplied electric equipment for the Sugar Loaf Mountain cable car in Rio de Janeiro. ABB's first factory in Brazil opened in 1954 in Guarulhos, in the state of São Paulo. Today, ABB has seven factories in Brazil, covering all business segment activities and employing approximately 6,500 people.

Soup distribution close to ABB's facilities in Osasco.

ABB's Brazilian headquarters – the main focus of this case study – is in Osasco, state of São Paulo. The site employs over 1,000 people working in the oil and gas, automation, building technologies and financial services segments.

There is no doubting the immense potential of Brazil. But huge challenges remain. Severe poverty, crime, child labor, illiteracy and inadequate health services continue to burden the country. A sustainable development strategy – dedicated to corporate social responsibility and environmental awareness – is an essential step toward mitigating these problems.

Companies like ABB Brazil are doing their part to help – in part by direct financial support of local projects but also (and perhaps more importantly) by creating and sustaining facilities and continuously encouraging employees to participate in social projects.

Looking over the wall

Each ABB factory decides what voluntary initiatives to take to help the local community. This independence partly explains why ABB's social action programs have expanded by more than 300 percent in the last three years. The approach also makes it possible to address the specific problems of each region better. For example, in the northeastern part of the country there is a dire need for basic sanitation services, whereas in southern and southeastern Brazil work education programs are a priority.

In 1999, ABB Brazil published its first "Social Balance," to highlight the commitment of the company and its employees to sustainable development and social responsibility, and to encourage other companies to follow the same path. The Brazilian Association of Business Communication commended it as the best publication of its type.

Creating an opportunity

The "Criança Futuro-Esperança" (Children with a Future Full of Hope) project supplements the regular school classes of 96 children from the slum areas of Aliança and Canaã. It takes place on the ABB factory grounds in Osasco. The program accepts 32 new six-year-olds every year, and they continue there until the age of 14.

All the children receive medical and dental check-ups, receive training in basic hygiene and are provided with healthy food. Each child's progress in school is carefully monitored. They also learn about protecting the environment and waste disposal.

The success of the project is largely dependent on support and awareness at home. A social worker visits the children's families to teach about the dangers of alcohol and drugs and encourages parents to support their children's schooling and promote good hygiene.

Improved school grades are a clear sign that the project is working. For example, one boy from the Canaã slum spends half the day in the project's remedial classes and the remainder of the day in public school. Before joining "Criança Futuro-Esperança" he was classified as a below-average student. After six months, he consistently receives good grades at school.

Bricks and furniture

Núcleo Batuíra is a philanthropic organization that provides assistance and schooling for underprivileged children in central São Paulo. Limited space and resources meant that only children under the age of six could be helped. A new school was needed so that the children could continue studying and stay off the streets.

In previous years, ABB employees had supported Núcleo Batuíra by collecting food – in 1997 a record 106 tons of food was collected. Then in 1998, they decided to collect funds to help build the new school. The original goal of US$ 33,000 was quickly surpassed – in total US$ 112,000 was raised, enough to build the school and equip ten classrooms where 400 children from the slum could study until the age of 14. ABB employees have also supported a home for the elderly run by Núcleo Batuíra.

Another initiative supported by ABB employees in São Paulo is the "Room, Board, Bath and Kindness" campaign. Employees donate R$ 3–5 per month from their salaries. The money – totaling around R$ 3,000 (US$ 1,500) per month – is divided between ten organizations involved in the care of orphans, drug addicts and AIDS sufferers.

A community of solidarity

At the Salão do Encontro (Meeting Hall), in Betim, in the state of Minas Gerais, nearly 1,000 persons, including children, adults, the aged and the physically impaired, learn arts and crafts. They produce furniture, baskets, rugs, toys, slippers, cushions and various other objects.

Nothing is wasted. Leftover wood from furniture making is transformed into decorations that adorn the roofs and gables of the schools, nurseries, restaurant and library of the institution.

The Salão do Encontro was set up by a retired teacher who believes that culture and art are the mainsprings of humanity and dignity. ABB makes a monthly contribution of R$ 10,000 (US$ 5,000) to the institution, supporting its efforts to provide work, food, education and lodging for the underprivileged.

Learning to work

In January 2000, ABB set up a branch of "Projeto Pescar" (the name refers to the saying, "Give a man a fish and he'll have a meal; teach him to fish and he'll feed himself for life") in the state of Rio Grande do Sul. ABB employees volunteer their time to give adolescents from economically poor backgrounds the opportunity to learn a trade and thus gain a living; they also teach good health, hygiene and citizenship.

Throughout the country, the 36 schools of Projeto Pescar so far have trained more than 2,000 adolescents. Nearly 90 percent of them now have jobs.

Pioneering efforts for employee welfare

In the 1980s, inflation in Brazil was out of control, running as high as 70 percent every month. ABB took a bold step, and created a group of employee representatives to work with the company to find ways of minimizing the harmful effects of the economic crisis. In terms of employee representation, the group was a pioneer in Brazil. It was later transformed into a commission to discuss employee concerns directly with company management.

In recent years, management and workers have worked together to develop a private pension plan – an important benefit considering the serious structural and financial problems of the government's welfare and pension programs. The company tops up each employee's monthly contributions to his or her pension fund.

The credit cooperative is another unique benefit offered to ABB employees. The monthly contributions of participants go into a fund for emergencies, small home repairs, etc. Interest rates are much lower than those offered by banks and commercial lenders.

Public healthcare facilities in Osasco are far from adequate. The city's 650,000 inhabitants have access to just six public hospitals, with a total of just 776 in-patient beds. The health program for ABB employees and their families is provided by the largest health insurance company in Brazil. It far exceeds the minimum legal requirements and gives employees access to 7,000 medical facilities of various types in the São Paulo region.

Prevention is as important as cure. In Osasco and Guarulhos, ABB operates health and fitness clubs for employees and their families. Facilities include a swimming pool, covered sports center, aerobics and fitness center, sauna and a team of physical education instructors.

In 1999, EXAME, a highly respected economic and business management publication, cited ABB Brazil as being one of the 50 best companies to work for in Brazil. In 2000, ABB was ranked as the fifth best employer.

Everyone benefits

The presence of a large, successful company has a major impact on the local economy in the form of increased revenues, taxes and job opportunities. It also stimulates local commerce and the development of municipal services.

In 1999, the ABB units in Brazil paid R$ 130 million in taxes. The ABB unit in Osasco, for example, paid R$ 1.6 million in tax to the city government – enough money to build 115 public housing units. Other taxes paid to the state and the federal governments also benefit the city.

A large company also has a positive impact on local commerce, thanks to the purchasing power of its employees. It is estimated that every new job at ABB creates five more jobs in small companies and local businesses.

An eye on the environment

Five of the seven ABB factories in Brazil have now achieved ISO 14001 certification, and the other two have begun the process. The company has introduced selective waste removal at all sites, and there are ongoing environmental awareness training programs for employees. These initiatives are having a positive ripple effect in the local communities.

The removal and processing of solid and liquid wastes are one of the most important environmental challenges facing large cities. Companies must do what they can to help. For example, they can adapt their production processes to minimize harmful emissions into the air and rivers and reduce the quantity of solid wastes they generate.

In 2000, ABB's companies in Brazil sent over 600 tons of waste for recycling or reprocessing. This included 300 tons of paper, 80 tons of plastic and 4 tons of glass. Another 4 tons were incinerated, and 27 tons of waste products were used to generate energy.

A recycling system has also been set up at Escola Franz Voegeli, a school for more than 500 children in Osasco that ABB has supported for nearly 40 years, paying for its buildings, furniture and maintenance. Recycling bins at the school collect about 10 tons of recyclables every year. This effort is reinforced by a training campaign that emphasizes the importance of ecological awareness and responsibility.

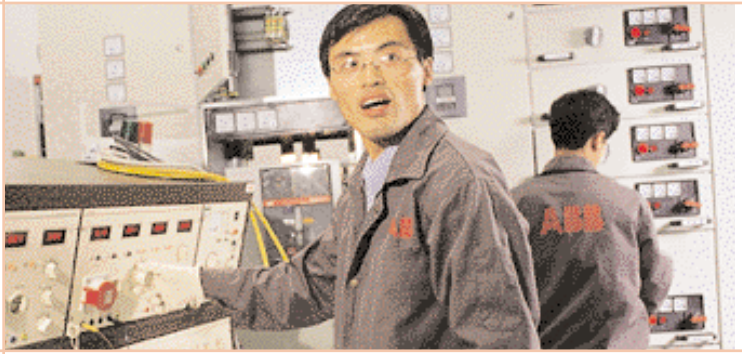
Training to protect the environment

During 1999 and 2000, more than 1,800 employees at one of ABB's facilities in Osasco participated in a comprehensive environmental training program.

The environmental initiatives of a company bring direct internal benefits but they also have a positive impact on the surrounding community. ABB employees are able to set an example for the community in which they live. One of the secretaries is a perfect example. As she explains, "the habit of recycling waste products was strengthened after the system was introduced at the company." She now brings refuse from her home to put in the ABB waste recycling containers.

Children of the "Criança Futuro-Esperança" (Children with a Future Full of Hope) project having lunch at the ABB canteen.

China – long-term investments in education



Providing a healthy and safe working environment is a management priority at ABB Xiamen.

ABB's first office covering operations in China was established in Hong Kong in 1974. In 1979, ABB set up a representation office in Beijing, and in 1994 the company transferred its China headquarters to Beijing. Today, all ABB's business segments are active and represented in China. There are 25 companies and sales offices in 20 cities, altogether employing about 6,000 people.

ABB has a long-term interest in China and is strongly committed to projects and activities that contribute to the enhancement of the Chinese economy, as well as the welfare of its citizens.

ABB's success in China depends strongly on its commitment to employees, customers, partners and society at large. Providing and sharing state-of-the-art technology are important. But equally important are the sharing of business and management practices and investing in the personal development of employees through training and education.

To examine how this has worked in practice, this article focuses on two ABB companies based in Xiamen: ABB Xiamen Switchgear Co. Ltd., which was established in 1993, and ABB Xiamen Low Voltage Equipment Co. Ltd., established in 1994. The companies employ around 700 people, manufacturing a full range of high-, medium- and low-voltage switchgear products.

A housing loan program has enabled more than 60 percent of the staff at ABB Xiamen Switchgear to buy their own apartments.

Continuous training and education for employees

ABB Xiamen considers continuous training and education a long-term investment. Its training program includes technical training, job-related skills training, management training, qualification training and language training. The objective is to provide a positive environment, where employees can develop their knowledge and skills for their own and the company's benefit alike.

In July 1996, a training center was established in Xiamen to improve and harmonize business processes and develop the overall competence of employees. In December the same year, ABB China launched its Management Localization Program in Xiamen. The program, which might be compared to a "mini-MBA," educates local management on finance, strategy planning processes and operational best practices according to international standards.

Other initiatives include employee training at ABB centers in Europe, Asia and the United States and an exchange program that gives employees the opportunity to work abroad for up to six months. Training abroad is increasingly important as ABB companies in Xiamen become major exporters.

Educational opportunities for the local community

ABB's educational investments also extend beyond its employees. In 1995, ABB launched a scholarship program at several Chinese universities. As well as equipping students with knowledge and skills that would make them attractive employees for ABB in China, the program helps raise awareness of ABB as a good corporate citizen. ABB Xiamen supports a local university's teaching of environmental management. Forty graduate students visited ABB Xiamen in 1999 to gain knowledge of ISO 14001 and study its clean production environment.

In cooperation with the Electrical Engineering Department of Xian Jiaotong University, a training center was set up in September 2000 to educate students in the sales and engineering of low-voltage electrical products and systems. Programs are also offered to customers to meet their growing educational needs and ABB provides internship opportunities for young graduates.

At the request of the Xiamen Municipal government, ABB Xiamen has conducted a series of training seminars on international finance and accounting for various local government departments. Total Management System training, and training in other quality management-related subjects, have also been provided to the Xiamen Municipal Economic Development Committee.

Well-paid jobs and a good working environment

ABB's two companies in Xiamen are at the forefront of social awareness and responsibility in Chinese industry. They give their employees competitive pay and comprehensive benefit packages that also extend to their families. A housing loan program, for example, has enabled more than 60 percent of the staff at ABB Xiamen Switchgear to buy their own apartments. The company's medical insurance provides for regular physical check-ups and examinations for occupational diseases, in addition to the regular medical insurance program.

Management programs and open promotion opportunities, combined with an effective performance appraisal system, have greatly motivated employees at all levels. ABB employees and their families also enjoy regular sports and leisure activities organized by the company-affiliated labor union. A recent employee survey showed that over 90 percent of employees are proud to be with ABB. Staff turnover is considerably lower than the local average.

A good and safe working environment was one of the management's visions when ABB's Xiamen companies were established. In 1998, ABB Xiamen Low Voltage Equipment was the first company in China to gain the BS 8800 Occupational Health and Safety Management System certificate and has been officially commended by national and local authorities for its safety record.

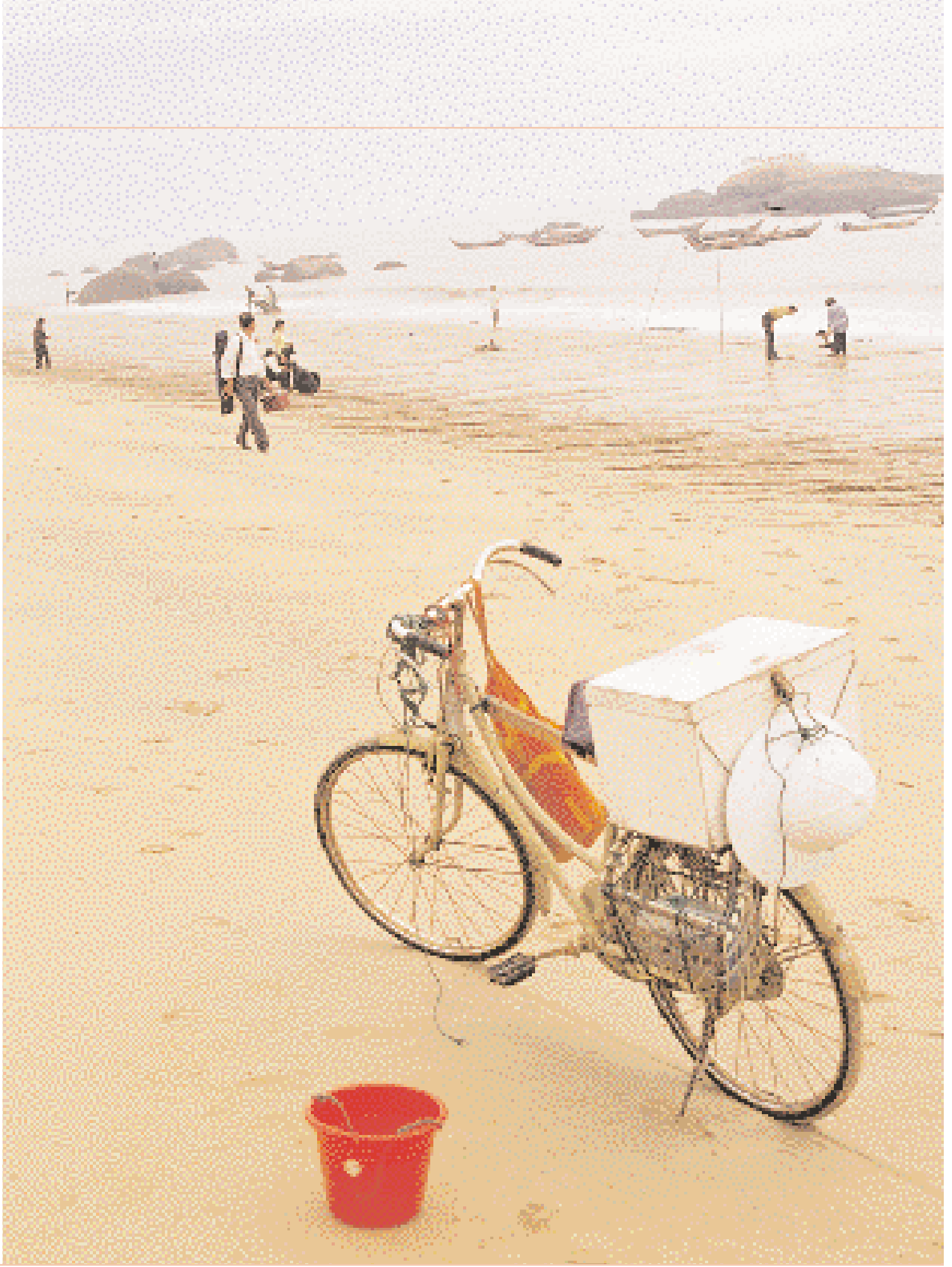
Promoting good environmental practice and corporate citizenship

ABB China began implementing environmental management systems in 1995; and ABB Xiamen Switchgear was among the first Chinese companies to receive ISO 14001 certification, in 1996. Following this lead, there are now 18 companies in Xiamen with ISO 14001 certificates. ABB has also supported its local suppliers in implementing quality and environmental management systems and gaining certification.

In 1998, ABB Xiamen Switchgear was awarded a "Clean Production Enterprise" certificate – the highest award granted by the national Environmental Protection Agency.

ABB is one of the most prominent international companies and one of the top taxpayers in Xiamen. Local purchases in the Xiamen region are more than US$ 20 million a year, generating significant benefits for other local companies.

In 1998, John Yung, the general manager of ABB Xiamen Switchgear, received the Friendship Award, given to foreigners who have made an outstanding contribution to China's economic and social development. Mr. Yung was among 46 recipients of the award, selected from 2,000 nominees.



Egypt – combining the Arab and the ABB way

Companies now in the ABB Group first supplied equipment to Egypt at the beginning of the last century. Today, ABB has 11 companies in Egypt, including four factories and one workshop, employing over 2,000 people and covering the complete range of ABB's segment activities.

A plant nursery in the ABB Arab factory.

The Group's first factory – ABB Arab S.A.E. – was founded in 1979 as a joint venture between Arab Contractors (70 percent) and Brown Boveri (30 percent). In 1990, ABB increased its shareholding to 80 percent. It is the largest of the ABB companies in Egypt and today employs more than 1,100 people. It manufactures low- and medium-voltage switchboards and a variety of electrical equipment including miniature circuit breakers, load-break switches, lighting fittings, and wiring accessories.

The company is located in 10th of Ramadan City, an industrial suburb of Cairo founded and named in memory of the October 1973 war. The city covers an area of nearly 400 square kilometers, and the 1996 census revealed more than 2,500 operational enterprises within its boundaries.

Two-thirds of the city's area is zoned for industrial and urban development, with the remainder allocated for roads and green space. Its residential population numbered around 27,000 in 1996; many more people commute into the city to work. The city now boasts educational, healthcare, communications, transportation and recreational services that are greatly superior to the Egyptian average – for example, over 99 percent of the city's residences are connected to electricity, water mains and sewerage systems.

During 2000, ABB Arab invited Environmental Quality International (EQI) to conduct a social impact assessment. This looked at the company's impact on primary stakeholders – employees and their families – and the surrounding community of 10th of Ramadan City. Training facilities and other businesses were also included.

A top-class employer

One clear conclusion was that job satisfaction was high among employees at all levels. All shared a perception that work conditions at ABB Arab were superior to those in similar companies – most employees ranked ABB among the top three local companies to work for. Most also felt that the wages paid by ABB Arab were the highest among similarly sized companies in the industry. All employees participate in a profit-sharing scheme and receive end-of-year bonuses.

Employees were proud of working for ABB, committed to the company's success and willing to participate in improving production processes. Older workers also mentioned their dedication to training a new generation of workers who would be just as loyal to ABB. Staff turnover is very low.

In its 20-year history the company has seen big changes in its physical environment and

the nature of the production processes it carries out. However, employees pointed positively to continuity in management culture that had survived the shift in majority ownership from Arab Contractors to ABB.

In essence, the Arab Contractors "way" is seen as part of a broader Egyptian value system and culture. The company's relationship with its employees extends beyond the boundaries of the workplace to include a responsibility for employees' family members throughout their lives. The family atmosphere is nurtured by a number of activities and services, some initiated and paid for by the company, others by the employees.

At the same time as they acknowledged the benefits of the "Arab way," employees were also eager to point out the positive contributions of ABB's corporate culture – such as the modernization of the company, the upgrading of management skills and improvements in productivity.

Tangible and intangible benefits

The assessors found that ABB Arab provides its employees and their families with a range of tangible and intangible benefits. Among the tangible benefits are transportation allowances and services for workers. Workers coming from outside 10th of Ramadan City travel free on the company's own buses to and from work and employees' children also have free use of the buses to travel to and from school.

Housing, purchased or built by ABB Arab, is available for staff who wish to live in 10th of Ramadan City. About half the factory workers have taken advantage of this; they are able to buy their housing units in installments that are deducted from their salaries. ABB Arab has also contributed to improving the residential environment of its employees by providing plants from its nursery and lighting for a local soccer field.

All employees have access to the company's health clinic and receive free treatment for minor injuries or ailments. A health insurance plan covers more serious cases. The company has also set up a fund to meet the costs of medical treatment for workers' immediate families, including their parents.

Workers who wish to perform the Hajj (the pilgrimage to Mecca) are given financial assistance to do so. The company also contributes to employees' summer vacations by allocating money for summer rental homes.

Intangible benefits cannot be stated in financial terms but help strengthen the bonds between the company and its employees. For example, several rooms have been set aside for worship, for workers to fulfill their Islamic prayer obligations.

In addition, the company supports several in-house soccer teams that train throughout the year, culminating in a company soccer day.

Another annual ceremony, attended by workers and managers, honors the academic achievements of workers' children. Managers also make every effort to attend workers' weddings and are diligent about paying their respects when a relative of an employee dies.

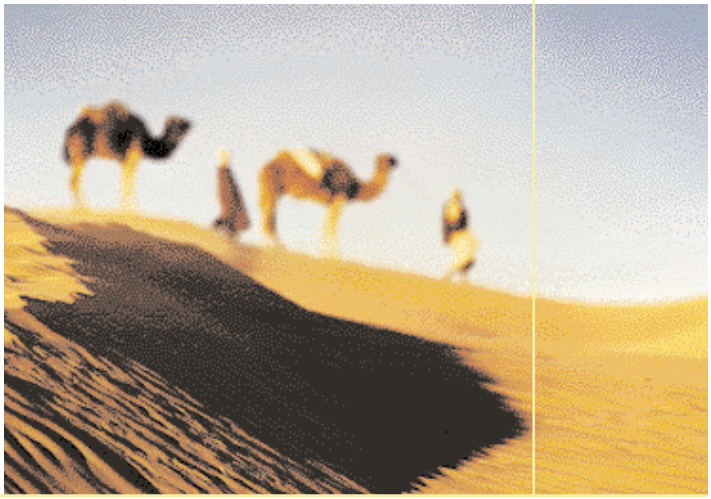


ABB Arab and the wider community

The EQI assessors noted evidence of several positive contributions that ABB had made to the local community in 10th of Ramadan City. The company has assisted in various ways, for example, providing its well-equipped ambulance during emergencies and supporting local clubs, schools and orphanages with donations in cash and in kind. ABB Egypt contributed £E 500,000 (US$ 132,000) – most of which came from ABB Arab – for the construction of an overpass connecting 10th of Ramadan City with the new July 26 highway. The overpass has benefited the local community by reducing accidents and traffic congestion.

Again with ABB Arab as the major contributor, ABB Egypt has provided sponsorship to two of the most active non-governmental organizations working on education and the eradication of poverty: the Upper Egypt Association and the Association for Protection of the Environment. The company has also sponsored the Egyptian Special Olympics Committee.

Training: an important social contribution

ABB Arab has a liberal training policy and invests substantial resources in its employees' professional development. Managers have received a minimum of 100 hours' training. Training in English and computer skills is carried out locally, and most employees have the opportunity to travel overseas for training.

A mosaic showing typical Egyptian scenes decorates a factory wall.

An important and highly effective social contribution is the training the company provides to youth in the community by maintaining relationships with three local schools and academies. It also offers a short summer program for engineering students from various Egyptian universities.

Several hundred young graduates have received training in circuit board assembly from ABB Arab. Both the company and the graduates have benefited: the graduates have become self-employed as customers and distributors for ABB Arab's products.

The working environment

EQI's assessment included an examination of ABB Arab's physical environment. It concluded that ABB Arab had made clear efforts to create a good working atmosphere – in sharp contrast to some neighboring factories.

The compound is attractively laid out; in addition to the offices, showroom, production and testing areas, it includes a health clinic, cafeteria, meeting rooms, prayer areas and a soccer field with spectator stands. The driveway is lined with well-tended gardens; the car park has been paved and roofed over; and the factory wall is decorated with a mosaic showing typical Egyptian scenes.

Inside the factory, lighting and ventilation have been optimized and roof insulation installed. The interior is neat and tidy, with no visible litter, graffiti or vandalism; decorations include murals and plants. Placards and posters giving advice on safety at work and emergency procedures are prominent, and there are also social bulletin boards carrying news of interest to employees, such as marriages and funerals. ABB Arab's quality and environmental policies are prominently displayed on bulletin boards in several locations.

Environmental management

ABB Arab received ISO 14001 certification in 1998. Although EQI's assessors concluded that the impetus for improved environmental management had most likely come from the ABB Group management, there was a noticeable and positive change in the environmental awareness of ABB Arab's management.

EQI recommended that ABB Arab develop a strategy to improve the health awareness of its workforce. For example, although the company has installed filters on all drinking water taps on the site, many workers drink unfiltered tap water when off the site.

Factory waste at ABB Arab is carefully sorted, and systematic recycling contributes to effective cost cutting. However, EQI found that there was no control over the final disposal of non-recyclable and hazardous waste, which is removed by the municipal authorities. The assessors recommended that ABB Arab could take the initiative and participate in community efforts to ensure the safe and hygienic disposal of waste materials.

Agenda for the future

According to the criteria selected by ABB to measure corporate social responsibility, which included the Social Accountability 8000 standard, the assessors found that ABB Arab demonstrated a very high level of compliance – especially within the scope of common local practice. But in some areas, compliance fell short of international standards or was difficult to gauge. For example, the corporate social responsibility of ABB Arab's local suppliers and the company's influence on them were not clear.

At the national level, ABB Arab's social contribution through its extensive training activities is significant. The jobs it provides sustain many families as well as contributing to the national economy.

However, ABB has the potential to do more in many areas. The assessors recommended taking steps to improve workers' awareness of health and environmental issues; influencing customers and suppliers to apply the same codes of practice as ABB; and that the company should be more proactive in coordinating common efforts to improve the local environment.

Another area for improvement is social security. It is estimated that only 30 percent of workers in 10th of Ramadan City are covered by a pension plan. Contract laborers, in particular, are vulnerable; and the assessors found that some of ABB Arab's own contract laborers were not covered. The company has taken immediate steps to rectify this situation. As one of the largest and most successful companies in the community, ABB should take a lead in promoting the importance of protecting workers in this way.

10th of Ramadan City has been proposed as Egypt's first environmentally friendly industrial city; and there is a proposal to establish a fund for environmental improvements. There may be a role for ABB to promote environmental and social awareness not only among its own workers, but also in other local businesses.

Soccer field within the grounds of the ABB Arab factory.

Poland – coping with economic transition

ABB has 13 companies in Poland, some of which trace their history back nearly a century. Together they employ around 3,500 people, working in all ABB's segment activities. One of the largest of these companies is ABB Elta, based in Lodz. Established in 1992, it now employs about 680 people. The company manufactures power and distribution transformers. It also repairs and modernizes transformers. ABB Elta is now one of the main transformer companies in ABB: exports have increased rapidly and now account for more than 60 percent of the company's production.

Turning decline into prosperity

Lodz, situated at the heart of Poland, is a heavily industrialized city with more than 800,000 inhabitants. Because of the economic transition of the 1990s, the region is now in a serious decline. Only fragments remain of its once prosperous textile and clothing industry, and all the industries in the region need restructuring.

Also, in recent years, large numbers of young people born in the late 1970s have entered the labor market. The market has been unable to absorb these people, resulting in high unemployment and a demand for an intermediate labor market for young people as a transition to regular work. In Lodz and its surrounding areas about 200,000 people – 15 percent of the working-age population – are unemployed. Many well-educated young people, including university graduates, cannot find work. Older workers – those over 45 – as well as women of all ages have also suffered in the economic transition. Their age and lack of education make it especially difficult for them to find work.

As one of the largest employers in Lodz, ABB Elta has responded forcefully to the challenges posed by local economic conditions. It participates in a project aimed at finding employment for young people with high or medium levels of education, but no previous work experience. The challenge is to raise their skills to meet the

Chemical laboratory (left), transformer assembly (above) and transformer core cutting line (right).

requirements of employers in the region. Young workers are therefore offered vocational training and personal development opportunities.

Paving the way to the labor market

The young unemployed need basic training, particularly in computer technology and English. For the past five years, ABB Elta has helped youth and student organizations with support in cash and in kind, including the donation of used computers. In 1999, the company spent over PLN 10,000 (US$ 2,500) on joint programs with student organizations.

The most important initiative is a long-term agreement with the local technical university, which gives students technical training at ABB and access to laboratories and the company's skills and knowledge. Students also receive assistance in their research projects. In exchange, young ABB employees are able to attend post-graduate courses run by the university. ABB sponsors participation in these courses.

It is difficult to evaluate the effects of these activities on the labor market. But clearly, ABB has a good reputation among students. In the annual "Employer of the Year" survey organized by students in Lodz, ABB Elta consistently ranks near the top. A main criterion is employee satisfaction, defined mostly by training opportunities offered by the company.

Funding for employee training is a good indicator of social performance. ABB Elta spends PLN 550,000–750,000 (US$ 165,000–225,000) every year on training and is building up a learning organization especially suitable for young employees. In the last five years, the company has sponsored training for 80 students in Poland and 16 in other countries.

Although labor market policy is the responsibility of the government, ABB Elta plays an important role in stimulating debate on employment actions. Together with some 20 other local companies, ABB Elta has set up an Employment Observatory to gather and disseminate information on actions and progress.

ABB Elta's activities are still at an early stage, but they are very important in providing a model for partnership between business, universities and local government, as well as the continuous improvement of the company's social performance. The outcome so far emphasizes the need for ABB to further strengthen its partnership with non-commercial organizations and to increase cooperation with national, regional and government bodies.

A common charter for charity

Between 1996 and 1999, ABB donated almost PLN 650,000 (US$ 195,000) to charities active in education, healthcare and the arts, and to help flood victims in southwest Poland. However, the results of these charitable initiatives have not been monitored closely enough. ABB Poland is therefore preparing a strategy concerning charity and its contributions to society at large. Employees will be involved in developing the goals for corporate engagement in the community.

Building an ethical business environment

This year, ABB Poland initiated a project called "ABB Business Ethics 2000." Its main objective is to build excellence, efficiency and productivity by applying ethical values and norms in daily business. These values and norms will be reflected in the way all ABB's companies in Poland relate to their employees, managers, customers and suppliers. One of the project's first activities was to translate ABB's corporate "Mission and Values" brochure into Polish and distribute it throughout ABB's Polish companies.

The project's success depends on how well ethical behavior can be linked to social and economic policies. This, in turn, depends on the success of ethical policy as a competitive advantage in Polish business life. ABB's long-term external aim is to help ethical business prosper in Poland – and share its experience with other transition economies. To achieve this requires a long-term internal commitment to ethical behavior in order to strengthen ABB's ties with the community and create stronger bonds among employees.

Consultative forum

The first phase of the project was to form a consultative forum to encourage discussions between different groups of employees. A series of workshops was held in the spring of 2000, involving almost 100 managers from various ABB sites. Training programs brought together chief executive officers, chief financial officers, human resource managers and trade union representatives.

These events attracted a lot of attention. They confirmed the need for the implementation of corporate ethical values – as set out in the "Mission and Values" brochure – as a tool for innovation and creativity, and for building mutually beneficial relationships with all stakeholders. Managers at all levels should be able to "walk the talk" of corporate values and integrate them into all decision-making processes; and all employees should feel that they are, both individually and collectively, engaged in implementing the corporate mission and values. There was also a need for training and day-to-day support in creating and following ethical guidelines.

Based on the results of the discussions, ABB Poland has established an Ethics Committee to help employees promote ethical behavior at all sites. The committee agreed that an ethical environment could not be achieved through management directives, but only by employee participation. Therefore, ABB Poland is committed to creating conditions that support employees' personal development and allow them to contribute to the best of their capacity.

Long-term success depends on ABB's ability to demonstrate that projects managed ethically can generate both social benefits and new prospects for economic growth.

Preparation of transformer insulation kits at ABB Elta.

South Africa – empowering development

Although ABB's first activities in South Africa date back to 1907, the first of the 11 ABB companies active today was set up in 1992, following the lifting of economic sanctions against the country. ABB companies in South Africa employ 2,500 people, covering the activities of three business segments – transmission and distribution, automation and building technologies – as well as general service and maintenance operations. ABB South Africa is headquartered in Johannesburg and oversees ABB companies in seven other southern African countries.

Many children benefit from ABB South Africa's sustainability program (above). Empowering unemployed people takes priority in a country where unemployment is high (below).

Throughout southern Africa the main social priority is to meet basic needs, such as safe water, sanitation, health services, electricity, education, housing and other infrastructure. South Africa leads the way in the region, but even here less than half of all households have access to clean water. Electricity reaches 58 percent of households, but 29 percent still use candles and 13 percent use kerosene lamps.

With a GDP per head of US$ 2,882, South Africa is officially classified as a developing country. There are still great inequalities of income, which mainly follow racial and gender lines. Although two-thirds of white men and one-third of white women in South Africa earn more than R3,500 (about US$ 450) per month, only one in 20 black men and women earns this much.

The arrival of democracy in South Africa in 1994 has helped drive economic and political change and reestablished the country as the regional leader. However, the AIDS/HIV epidemic and other instabilities throughout the region will hinder development for many years to come. Life expectancy in South Africa improved from 52.8 years in 1970 to almost 62.5 years in 1995; but the figure will undoubtedly fall back sharply as a result of AIDS.

In recent years, liberal social and economic policies have reached deeply into the region. Trade barriers are being dismantled, state enterprises are beginning to be privatized and fiscal discipline is strictly applied. While these policies may produce long-term benefits, in the short term they tend to result in growing social inequalities and the maintenance of social exclusion barriers. Economic growth in the region has now resumed but unemployment remains high, especially among the young, women and previously

disadvantaged groups. It is estimated that half a million non-agricultural jobs have been lost since 1994. This situation poses many threats to the region's stability.

ABB South Africa has provided significant corporate social investment in projects that empower people to earn a living for themselves and contribute to much-needed economic growth. ABB also invests directly in training and development of its own employees and is widely cited as a preferred employer.

Measuring the commitment to sustainability

During 2000, ABB assessed its contribution to sustainable development in South Africa. A team of nine was involved: four managers from ABB South Africa, and five researchers from the Sasol Centre for Innovative Environmental Management at the University of the Witwatersrand.

The study assessed the sustainability practices of ABB South Africa against internationally accepted standards, including Social Accountability 8000, in order to establish a benchmark for measuring future performance, document achievements and returns on sustainability investments and identify possible improvements.

Detailed questionnaires were distributed to senior and middle managers. These were complemented by face-to-face interviews with ABB staff, recipients of social investment, and workers at black economic empowerment (BEE) companies supported by ABB.

In general, the study found that all ABB South Africa's operations met the requirements of SA 8000 and were fully compliant with all legislative requirements in the social and environmental field – in many cases well exceeding them. In areas such as staff development bursaries, maternity leave, medical aid and pensions ABB provides benefits well above the norm. As a result, staff loyalty is high: it is not uncommon to find employees who have been more than 20 years with companies owned by ABB.

The study found that sound environmental practice was universally applied within ABB's South African companies and ran well ahead of legal requirements. Five companies were certified to ISO 14001 by the end of 2000. Two more are scheduled for certification in the first quarter of 2001, and one later in the year.

Among the ABB companies in South Africa that have achieved ISO 14001 certification is ABB Karebo Manufacturers – the first BEE company in the field of electrical engineering to achieve the certification.

The study also found strong board-level commitment to sustainability. Senior managers cited the social license to operate – in simple terms, the support of the entire stakeholder base – as a prime steering force, together with ecological and economic imperatives, in directing the company.

The company has emerged as a leader in environmental care and social responsibility. It won the emPower 2000 national award for environmental care, together with the industry sector awards for both environmental care and black economic empowerment, and was honored as a finalist for its overall contribution to sustainable development.

Long-term social investments

ABB South Africa has been running corporate social responsibility programs since 1994. Investment focuses on providing progressive employee benefits exceeding the legal minimum; recruitment and training schemes; centralized funding of empowerment programs throughout South Africa; and local projects carried out by local operations. These policies place ABB South Africa in a very favorable position in the business environment: legislators and policy-makers, as well as customers, expect corporations to make social investments; and such investments are often a prerequisite to participate in tenders for government contracts.

ABB's Social Investment program focuses on two areas: education for employment and more general community support. The central budget was set at R1.5 million (US$ 450,000) in 1995. In 2000, the budget was R450,000 (US$ 90,000). Despite this reduction, the study concluded that the drop in spending was not necessarily associated with a drop in delivery, since several of the projects funded have now completed their most expensive start-up phases. Moreover, the study estimated that ABB staff donated about R1 million worth of their time each year to social responsibility projects.

Conquest for Life

The Conquest for Life project has been supported by ABB since 1995, including a cash contribution of R20,000 (US$ 2,600) per year. The project is located in Westbury, a severely disadvantaged community notorious for gang activity and drugs. Unemployment in Westbury runs at 80 percent, twice the South African average.

Conquest for Life focuses on children and adolescents. It provides after-school activities and extra educational opportunities, such as training in basic computer skills. In cooperation with the local courts, it has established a program aimed at rehabilitating first-time offenders, resolving their cases out of court and, with the help of parents, teachers and the victims of crime, returning the young offenders to society. About 120 cases are resolved in this way every year, with a success rate of more than 90 percent.

An additional 90 youths every year go through the "In and Out Development Programme." This is designed specifically to deal with those who have become involved in gang violence or drugs. They receive three weeks' full-time rehabilitation on a farm bought specifically for this purpose, and they are given the opportunity – which many take – to train as social workers. The program has a success rate of more than 85 percent.

Conquest for Life is the fastest-growing community project in the region, and since its foundation over 1,000 young people have benefited from its various programs.

Lungisa – empowering unemployed and disabled people

"Lungisa" means "fix it" in Nguni languages. It is the name of a project started in 1997 to help empower unemployed and disabled people by giving them the technical and business training they need to open up their own businesses for simple repairs of household appliances and welding.

Lungisa provides eight weeks' full-time training. After that comes a six-month follow-up period where the graduates have at least one day's contact each month to help them with any problems they have in putting their skills into practice. The total cost of the program is R5,000 per person, which includes a set of tools presented to each graduate. The success rate is generally high – significantly better than other similar initiatives. Six months after their courses, some 60 percent of graduates are earning at least R1,000 per month. Some do very well: at least three Lungisa graduates earning more than R6,000 per month have been identified.

Lungisa is one of ABB's most important social responsibility projects. Its sponsors include a number of other prominent South African corporations, and because of its success rate it also attracts funding from the Department of Labour.

Success has enabled the Lungisa project to grow and diversify, increasing its contribution toward local sustainability. So far more than 860 people have been trained at locations throughout South Africa. In addition to electrical and welding training, courses on refrigeration and hydroponics are now offered. The Department of Correctional Services is using Lungisa as a model for rehabilitation of ex-offenders on their release.

ABB South Africa has been the driving force behind Lungisa for many years. Its contribution has been significant, not just in terms of money but also by providing expertise, training, staff support and materials for the trainees.

Local initiatives

Aside from the centrally funded work, local companies are responsible for local initiatives. Local schools, for instance, are provided with furniture, equipment and occasionally cash, and ABB companies often provide end-of-term presents for students. Another educational initiative is an in-house literacy program, which so far has taught more than 200 employees how to read and write and, as a result, has given them opportunities for further training and career development within ABB. In addition, ABB Automation has set up an Internet café at its facility in Alrode as part of an initiative to provide all employees with Internet access.

Another local initiative is the support of Lifeline, a volunteer organization providing crisis counseling. ABB sponsors Lifeline and is training counselors for the Duduza community near Johannesburg, where many ABB employees live.

Learning to read, and learning about electricity

The READ Educational Trust's Big Book Project provides materials for children learning to read, with content relating to a variety of development and environmental issues. ABB sponsors one of the course modules on electricity. While learning to read, the children also learn about the role of electricity in our lives, how it is generated and distributed, and how to use it safely and wisely.

The Big Book Project reaches 300,000 children every year, mostly in South Africa, although copies have also been supplied to Nigeria and some other African countries.

Mpumalanga International Airport

ABB is the leader of a consortium that is planning to build, own and operate an international airport near Nelspruit, Mpumalanga, east of Pretoria. During construction, the project will create 400 jobs, mainly for local people.

The project plan includes many innovative approaches to environmental and social responsibility. One example is the social contract between ABB and the local community that gives the community a ten percent stake in the airport and other financial benefits through passenger fees. If traffic reaches forecast levels, this will generate an annual income of at least R600,000 (US$ 77,500) for the local community.

Once the airport is completed, the community will be able to continue its economic growth by providing services to the airport and the tourist industry.

ABB's social program involves both youth development and skills training.

Switzerland – creating a model urban district

ABB has 24 companies in Switzerland and employs 8,100 people. ABB Switzerland serves customers in power transmission and distribution, automation, building technologies and financial services. The main activities focus on the development and sale of IT-assisted automation systems and solutions, as well as high-and medium-voltage equipment. The headquarters of ABB Switzerland is located in Baden. In the Canton of Argovia and in the Baden region, ABB is the foremost employer and an important customer for local suppliers.

The industrialization of Oerlikon began in 1876 when the company Maschinenfabrik Oerlikon was founded. Charles Brown and Walter Boveri worked here before founding Brown Boveri in 1891. Brown Boveri later acquired Maschinenfabrik Oerlikon. When ABB was formed in 1988, its headquarters was established on the Oerlikon site. At its peak, about 2,000 people were employed on the site; today there are 1,260.

In the next few years, an area the size of Zürich's old town will be redeveloped at Zürich-Oerlikon – right next to one of the busiest rail stations in the Zürich area. Until recently, zoning permitted only industrial use of this land. Now, thanks to rezoning and conversion of the industrial land, a new urban center – Zentrum Zürich Nord – is taking shape.

Zentrum Zürich Nord is the first large-scale urban regeneration project of its kind in Switzerland, and ABB – which owns almost half of the land involved – is playing an essential role in the development. ABB is determined to live up to its economic, environmental and social responsibilities, and make a major contribution to sustainable urban development. Employees and residents, the region and ABB itself will all benefit.

Industrial change

Swiss industry has undergone huge changes in recent decades. There has been a shift of emphasis away from the workshop toward services and engineering. Fewer people produce

Zentrum Zürich Nord is the first large-scale urban regeneration project of its kind in Switzerland.

more goods in less space and at ever-increasing speed. As a result, industrial companies need much less space. Vast former industrial sites are now derelict – a luxury that Switzerland, a small country with a high population density, can ill afford.

ABB did not seriously consider selling the vacant site or leaving it as a derelict industrial area. There were sound commercial reasons for wanting to participate in a top-quality urban regeneration project.

For Swiss companies in particular, competitiveness depends on attracting and retaining the finest staff from all over the world. Attractive workplaces, in pleasant living environments, are very important elements in achieving this. They need good access for public and private transportation, shops, green spaces and sports facilities, schools and day nurseries. Employees value their free time and are now increasingly looking for living accommodation close to their workplace to minimize commuting. So the overall environment must be attractive to the whole family.

A company can only influence all these factors if it plays an active part in the debate surrounding urban development.

At the same time, companies recognize the importance of social responsibility. A company that is perceived as a good corporate citizen will not only find good staff more readily but also gain support from local residents and the authorities. Participation in sensitive urban regeneration, as at Zürich-Oerlikon, gives an excellent opportunity to demonstrate good corporate citizenship.

Involvement of all stakeholders is crucial

Back in 1991, ABB formulated the vision of an "economic eco-city" – a city in which ecology and economy are complementary. Lively urban development allows industry, services, residential accommodation, training and culture to coexist. People can live close to their workplaces, avoiding long commutes. Mixed use will also prevent the center of Oerlikon from becoming a "dead area" when the offices close in the evening.

ABB, together with another major landowner in the 61-hectare industrial zone, contacted the local planning authorities in 1988.

Because of the size and importance of the project, the planning process was extremely complex and took several years. But cooperative planning proved worthwhile. Today, there is a clear town planning policy model and a legally binding set of plans derived from it in which the partners' wishes are largely taken into account. An innovative traffic and parking concept (see box below), for instance, together with good public transportation, will reduce private

An innovative traffic and parking concept

Parking limited to 2,000 places in nine car parks.
Illuminated signs show locations of free places.
Personalized season tickets issued to each driver, programmed with permitted parking rights per season.
Parking rights rationed according to driver's activity – office worker, local resident, shopper, evening entertainment.
Concept based on daily usage targets for each place – 2 1/2 times for a resident, 3 1/2 times for an office worker, 10 times for evening entertainment, 16 times for a shopper.
ABB responsible for managing the system, setting fees, allocating parking rights and enforcing compliance.

vehicular traffic without cramping the lifestyles of residents and visitors. Along with the residential and office buildings, which are attractive to owners and investors alike, four public parks, some ecological areas and squares round out the plans for Zürich-Oerlikon and provide ample space for relaxation, social interaction and local events.

Local government, landowners and residents alike have enthusiastically adopted the idea of the "economic eco-city." While the city and municipal authorities directed the work up to the end of the planning phase, the principle of cooperative planning and partnership was respected consistently even in tough times, and the attractiveness of the project to investors was always considered.

The transformation of Zürich-Oerlikon will proceed in phases, with iterative planning guaranteeing flexibility as the project progresses. The local population was actively encouraged to participate in the planning, and did so.

Working with the university

The development created widespread public interest. In 1996, around 130 students from the Swiss Federal Institute of Technology in Zürich worked on a case study of "Zentrum Zürich Nord – a dynamic city," gaining the opportunity to perform work of practical relevance on one of the world's largest urban redevelopment projects. They looked at subjects such as the "sustainable city," the impact of the city on man and the environment, traffic, green spaces, pollution, groundwater balance, environmental management and building planning.

The students' work allowed ABB to gauge the environmental and social aspects of the project. Open and transparent flows of information helped create understanding between economic, ecological and social interests. Both sides benefited: the students were able to work on real, practical problems, and ABB developed a new and more active awareness of the relevant issues.

The future Zentrum Zürich Nord

The cooperative planning process has been a great success so far, overcoming many problems on the way. If all goes as planned, 20–30 years and some 2.6 billion francs down the line, Zentrum Zürich Nord will have 12,000 workers and 5,000 local residents, and will be a vibrant community both throughout the day and through the week. But people do not always behave the way planners want them to. For example, the "Züri50" apartment building was one of the first stages of the project to be completed, in October 2000. It was planned as a child-friendly development aimed at small families. In reality, it has proved equally attractive to childless couples and apartment-sharing singles.

ABB has, however, succeeded in preserving Zentrum Zürich Nord as an industrial site by creating, in the form of its "Toro" project, a modern engineering building and a production hall that employs around 1,100 people. ABB is helping transform Oerlikon from industrial dereliction into an attractive and economically strong model city district, with a high quality of life for workers and residents alike.

An area the size of Zürich's old town will be converted from derelict industrial land into a new urban center.

Project	Use	Completion	Capital investment CHF millions
Toro 1	ABB engineering building with 1,100 employees	1997	120
Toro 2	ABB production bay	1997	40
Binzmühle	Multipurpose building, reuse of former staff restaurant for fitness and leisure center	1998	15
Züri50 first phase	Residential building with 176 apartments	2000	65
Center Eleven	Shopping center with 16,000 m^2 sales space and 90 apartments	2001	100
Dinocenter	Office building	2001	84
Cityport	Office building	2001	122
Octavo first phase	Commercial and residential building	2002	61
Total of projects under construction			**607**
Züri50 second phase	Residential building with 52 apartments	2002	24
Magic Park	Entertainment center	2003	150
Grand Casino Zürich	Casino	2004	100
Octavo second phase	Commercial and residential building	2004	64
Ententeich	Residential building, reuse of an engineering and assembly building to provide 60 large lofts	2004	46
Meccano	Production center and offices	2005	80
Total of projects in preparation			**464**
Total of projects overall			**1,071**

Zentrum Zürich Nord is taking shape. When completed,

it will have 12,000 workers and 5,000 residents.

United Kingdom – a framework for social performance

First established in the UK in 1910, ABB now has 15 UK companies covering all business segments and employing approximately 8,000 people.

ABB performed its first pilot social impact assessment in the UK during 2000. The company chosen was ABB Power Transmission and Distribution Ltd.'s Project Division, which has been based in the town of Stone in Staffordshire, in central England, since 1997.

The company employs 214 people. It provides complete large-scale high- and medium-voltage transmission and distribution solutions for power utilities and large industrial customers. It is one of only four approved high-voltage substation solutions providers for National Grid plc, which operates the UK's power transmission infrastructure.

The study was carried out by CAG Consultants, who specialize in social impact assessments and stakeholder engagement. It began by mapping out seven formal stakeholder groups – employees, their partners or families, suppliers, the local community, wider social groups, competitors and customers. All these groups were included in the study.

Another main objective of the study was to build up a list of "social performance indicators" – quantifiable indicators that can be measured year by year to show objectively what progress the company is making. A total of 13 indicators were identified. Examples include health and safety expenditures, incidents, gender and race profiles and pay differentials among employees, spending on training and development, the amount of money raised for charities and the total sponsorship of community activities.

The list of social performance indicators developed at Stone will be used as input in the development of Group-wide indicators.

Taking a lead in the power industry

The results of the study show that ABB Power T&D is managing the social dimension of its business in a responsible and proactive way and is, in many areas, setting best practice standards for its industry sector.

Overall impressions among stakeholders are that ABB has an excellent image. The company is viewed as a key local employer with a valuable and beneficial presence in the local and regional economy. It is recognized as being accessible and responsive to suggestions, with a good environmental performance record and commitment to sustainability.

ABB Power T&D is viewed as an asset by the local community in and around Stone. There is a positive perception among all stakeholder groups of the company's social performance. The company is seen as active in local business forums and with local schools. Specific benefits cited include training, sponsorship and funding of scholarships.

Highly committed employees

The study found that employees are highly committed to the company, with the majority enjoying their work and satisfied with their level of responsibility, career opportunities, holidays and other benefits. Rapid growth during the last two years means that internal communications are considered more important than ever.

Other concerns raised by rapid growth include the impact on family life of a "long work hours" culture, flexibility with regard to family responsibilities and graduate recruitment and training. Salaries were considered good by most, but graduate recruits thought that their packages could be improved.

Most employees' families felt that ABB employees enjoyed their work and had adequate responsibility and career opportunities though most felt that the company could take health and welfare issues more seriously. Most family members said that ABB employees worked long hours and came home tired. Families were satisfied with ABB's holidays and other benefits, and some employees' children wanted more contact with ABB in the form of events and parties.

Suppliers and customers

Suppliers view ABB as a leader in terms of R&D and technical know-how, with products and equipment rated as second to none. The company is seen as good at delivering its side of agreements and was praised for forward thinking on environmental matters. Contractual relationships vary from very good to average. While some suppliers see communication as very effective, others see a need for improvement in administrative matters.

Some small suppliers felt that they were not important to the company and suggested that ABB's listening abilities could be improved.

Toward the end of 1999, ABB Power T&D launched a partnering program involving its main customers, contractors and suppliers. The aim is to create a framework for constructive partnering focusing on efficient teamwork to improve performance in large, collaborative projects such as railroad infrastructure and transmission substations.

The wider community

The study contacted other businesses, local government, schools and other organizations that ABB has sponsored or worked with on educational and health programs.

Overall impressions were very positive, with the company seen as modern, Europe-focused, and excellent at marketing. However, there was some lack of understanding as to what the company actually does. The company is seen as a very important local employer and an asset to the community, causing few, if any, adverse impacts on the area. Improved landscaping around the site was suggested.

Respondents viewed ABB as socially and environmentally aware, though there was little awareness of ABB's involvement in community projects. However, respondents believed that ABB had a lot of skills and expertise to offer to schools and local authorities.

ABB reached its goal of giving all UK employees Internet access before the end of 2000.

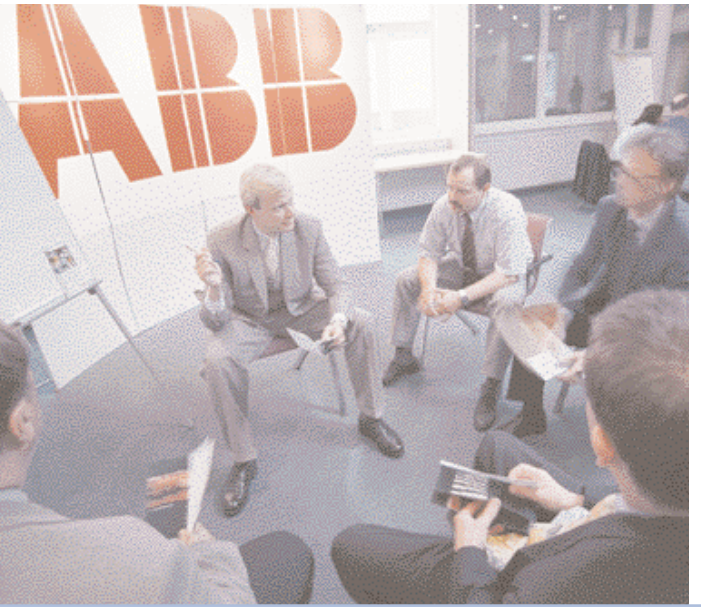
Investors in People

Investors in People (IIP) is a UK quality standard that sets a level of good practice for improving an organization's performance through its people. It is a prestigious, externally verified standard. Progress toward IIP started two years ago at ABB Power T&D in Stone, with external accreditation being achieved in March 2000.

As part of this process an employee survey and evaluation against the standard was conducted in 1999. It covered a wide variety of issues including communication, business planning, and training and development.

The many benefits in achieving IIP include:

- An improved induction process for new employees
- Individual training and development programs for all employees
- Regular and formal employee performance appraisals
- Increased employee participation and engagement
- Greater employee commitment to the business and its success
- Increased understanding by employees of the business and the part they play in it



ABB's employees surfing at the Internet Café in Stone.

The Internet Café

UK Prime Minister Tony Blair has set a goal to make the Internet available to all adults by 2005. ABB reached its goal of giving all UK employees Internet access before the end of 2000.

ABB Power T&D in Stone was one of the first ABB companies to install an Internet Café for the benefit of employees and their families. Employees can access company information when they need it, and organize their work and home lives by surfing for information or shopping online. Children can also come in with their parents to do research for their homework.

ABB UK has been praised by the Prime Minister's office for the Internet Café initiative.

Securing a supply of exceptional brainpower

"Brain Power" is the slogan of ABB's corporate advertising campaign, summing up the company's most valuable asset. ABB Power T&D has been looking at ways to recruit a continuous supply of excellent brains for the future. The company is currently holding talks with the University of Manchester Institute of Science and Technology (UMIST) concerning sponsorship for research and development and other ways of encouraging highfliers into the company.

The Young Engineers' Club

ABB Power T&D provided £2,000 (US$ 3,000) to a school in nearby Newcastle-under-Lyme to buy equipment for an after-school Young Engineers' Club. Several employees volunteered to oversee the project and act as mentors to the students. This resulted in a group of boys entering a team into the IEE (Institution of Electrical Engineers) Y2K Micromouse Grand Prix.

The IEE challenged schools around the country to design and build a robotic vehicle capable of navigating around circuits and mazes rapidly. The Newcastle-under-Lyme pupils finished second in the Formula 2 Challenge to design a decision-making Micromouse able to rapidly complete the mystery Grand Prix circuit. They also finished third in the Rat Race Challenge where the mice had to travel as fast as possible over a straight course and then brake to a stop without hitting the end wall.

The mentors from ABB Power T&D in Stone acted only as technical advisors, with all of the design and construction being completed by the pupils themselves. It is hoped that this kind of sponsorship will encourage more young people to consider engineering careers.

Partnership with Macmillan Cancer Relief

Macmillan Cancer Relief funds specialist doctors and nurses, centers for cancer treatment and care, and grants for patients in financial difficulties. ABB UK established a partnership with the charity in 2000, aiming to raise a total of £100,000 (US$ 147,000) over the year. Each of ABB's sites in the UK has appointed an individual to coordinate fundraising activities. In addition to local events, such as sponsored fitness programs and walks, and raffles, ABB UK has supported the Macmillan calendar of fundraising events, including the tenth "World's Biggest Coffee Morning."

The Stone Festival

The Stone Festival is an annual event with fundraising activities throughout the festival week. The event begins with a parade of floats through the town and a family fun day. ABB sponsors the festival program. All the money raised supports local charities.

Photo by courtesy of the "Staffordshire Newsletter."

Conclusions from the case studies

Each case study highlights a different aspect of social performance to meet local needs. The local needs in South Africa are quite different from those, say, in Switzerland, and ABB's efforts vary accordingly. ABB aims at good social performance at the local level with a high degree of community engagement. Many of the social initiatives and programs described in the studies go well beyond compliance with both local legislation and practice, thereby establishing ABB's performance as something of a pioneering benchmark. Few philanthropic initiatives were reported by the teams. Where they exist, they often come from the employees themselves – participating in good causes and charities. These are some of the main findings:

- Most social initiatives are business-driven, combining good business sense with community involvement, providing social benefits and creating a win-win situation for both parties.

- Many initiatives also fall in the longer-term social investment category, creating immediate social benefit but only a longer-term business benefit. Local educational support is an example.

- Employee education and development is ranked as one of the most important social initiatives, strengthening our baseline performance. Attention to promoting business ethics was also featured.

- Systematic consultations and interviews with stakeholders are rare. Ad hoc interviews for the case studies produced a lot of useful information. This highlights the need to incorporate stakeholder dialogue in any social program.

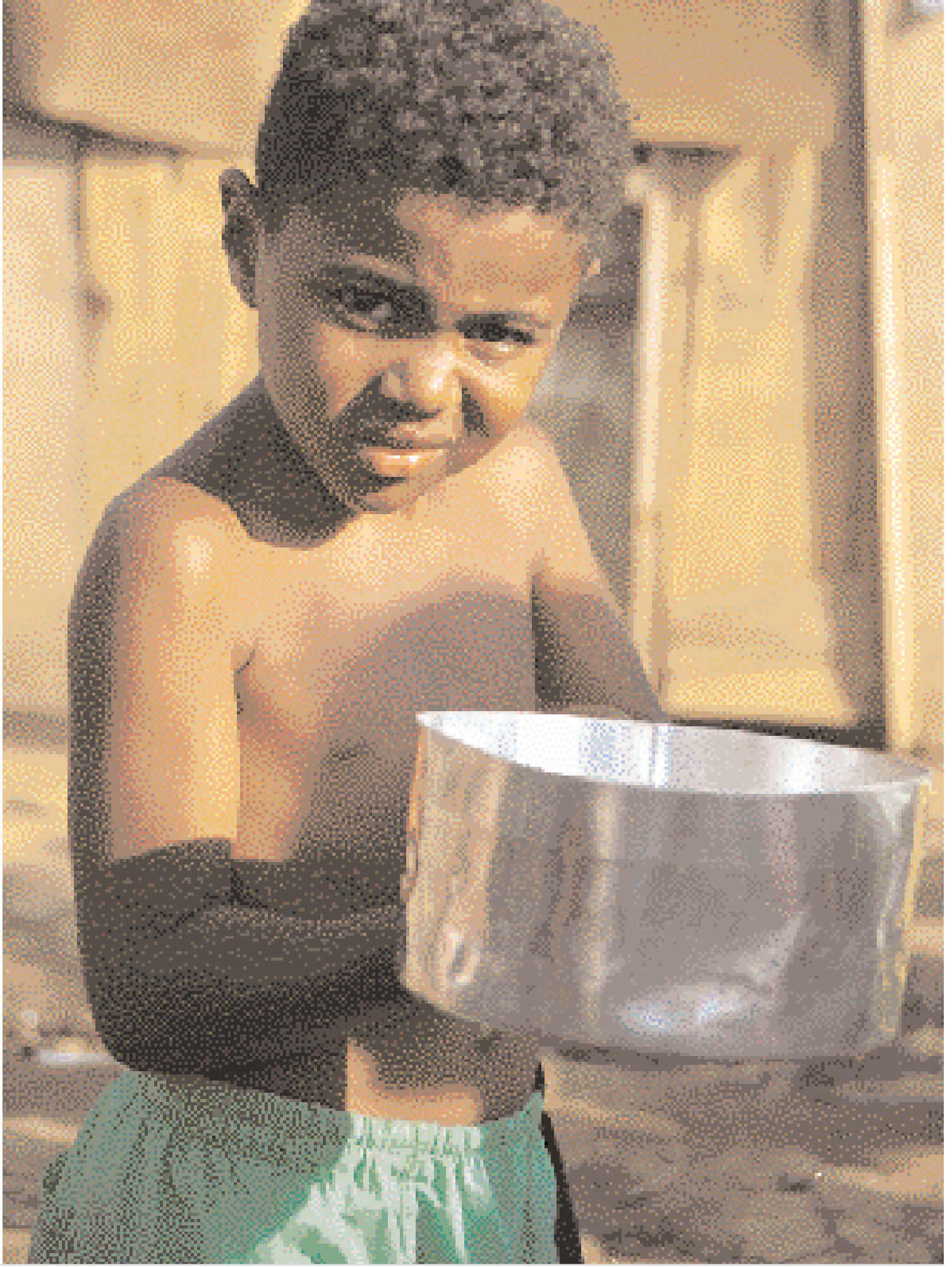
- Two case studies identified shortcomings within ABB, such as low wages of unskilled workers and long working hours for salaried staff. A mechanism will be needed to ensure improvement.

The case studies have shown that in most of the countries investigated, ABB lacks a formal social program to coordinate initiatives and allocate resources. With increasing demands in this field and competing social needs, such a program would help maintain a clear strategy. Also, the case studies suffered from the lack of suitable social indicators or metrics, although the UK case study proposed a preliminary list of indicators.

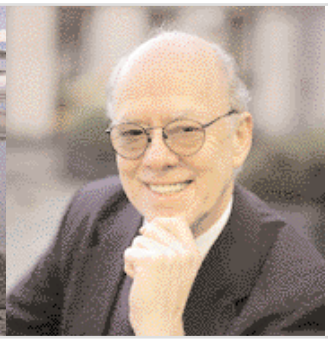
Further action

As mentioned, the lessons learned from these case studies have been used to develop ABB's new social policy. The next step will be to initiate dialogues with important stakeholders to review and improve the policy.

At the same time, additional social indicators (such as those for health and safety performance reported on page 57) will be developed along with implementation procedures. This will lead to gradual implementation of the social policy, making use of existing management frameworks and processes, and adapting the organization and resources to establish responsibilities, training programs and reporting and monitoring channels.



Sustainability management program



As Senior Vice President Environmental Affairs since 1992, Jan Strömblad has overseen the implementation of ABB's highly successful environmental management program. During 2000, he directed the expansion of the program to move toward the full scope of sustainability. In this interview he explains some of the consequences.

An interview with Jan Strömblad

Question: Why is this report named "Sustainability Report" and not "Environmental Management Report," as in previous years?
Strömblad: The new title is intended to demonstrate that ABB has taken the first steps to formally include the social dimension in its program and is responding to the increased expectations and interest among stakeholders regarding corporate social performance.

Question: Is ABB's Environmental Affairs organization also responsible for social affairs?
Strömblad: Yes, and consequently we have changed our name to ABB Sustainability Affairs. We are very proud to have been assigned this responsibility, which we see as an indication of the confidence held by ABB's Executive Committee in our activities.

Question: Is the organization trained for this?
Strömblad: In principle – no – even if several of our Local Environmental Control Officers are also Health and Safety officers. But I am confident that our experienced global network, with training and support, will be able to help bring social performance up to the high levels they have already achieved for our environmental performance.

Question: In this report, you have published ABB's new social policy. What is the reason for this, and what is the background?
Strömblad: The social policy has three purposes:
1) It is the tone from the top; indicating to our employees and other interested stakeholders the direction in which the CEO and his Executive Committee want ABB to go and the standards they want ABB to reach in this area.
2) It responds to the increasing interest in, and pressure on, corporate social performance which we see from our major stakeholders, including society at large.
3) It constitutes a firm corporate base for implementation and assessment of compliance, dialogue and communication, to help us achieve a high level of visible social management within ABB.

Question: Why now and not before? After all, ABB subscribed to ICC's Business Charter for Sustainable Development as early as in 1992, and you are using it as the basis for ABB's environmental policy.
Strömblad: The ICC Business Charter focuses on environmental performance, even if some of the 16 principles also have a direct social dimension. This applies particularly to Principle 13, Transfer of technology, and Principle 14, Contribution

to the common effort. It took us five years to develop and fully implement our environmental management program, life cycle assessment and environmental product declarations. Now, with the emergence of new social standards and guidelines, we are ready to formally include social aspects and gradually and systematically expand our program to cover the full scope of sustainable development.

Question: Does ABB's social policy cover the Social Accountability 8000 standard and the OECD Guidelines for Multinational Enterprises? And what about the United Nations Global Compact?
Strömblad: We have benchmarked ABB's three policies – Environmental, Social and Compliance 2000 – together with our overarching Mission and Values, against these standards, guidelines and principles. We believe we have achieved good coverage, relevant to the nature of our activities.

Question: What about implementation?
Strömblad: We will move forward gradually, building credibility for our continuously improving performance. This year, we have started to expand our ISO 14001 process to include those social aspects and indicators that are tangible, such as health and safety, and can be managed in the same way as the environmental aspects. We will, over time, include the other social aspects, some of which can be managed within the scope of ISO 14001, and some of which may need separate implementation programs.

Question: How is the environmental management program proceeding?
Strömblad: Quite well, but there is always room for improvement. Our environmental management network, with 500 competent people on business area, country and site level, does a very good job. We have implemented ISO 14001 in about 97 percent of our manufacturing and workshop facilities. This is about as high as we can expect to achieve, bearing in mind the constant change due to acquisitions, divestments and reorganization. The scope of our work is increasing to include common efforts and communication. The strategies for these have been prepared by the countries and business areas, to run over the coming year. And I am confident that adding social aspects to the program will contribute to bringing ABB's social performance to the same level as our environmental performance.

Question: How will ABB's new concentration on automation, information technology and knowledge-based activities affect the focus of your Sustainability Affairs network in the future?
Strömblad: ABB will become a still "greener" company. In fact, many of the new products, systems and service activities actually enhance the environment. Ecoefficiency based on life cycle assessment, as described in our environmental product declarations, will remain essential in the design of all new core products. But we still have much work left to do in our current sustainability management program – meeting our targets for reducing CO_2 emissions and reducing our use of unwanted substances, in both our products and processes. And of course, we need to gain experience in the implementation, monitoring and reporting of our new social policy. We want to get all three elements of our sustainability performance into balance – economic, environmental and social.

Highlights of the last nine years

1992

- ABB signs the International Chamber of Commerce (ICC) Charter.
- Environmental Advisory Board is formed.
- Corporate Staff for Environmental Affairs (CS-EA) is established.
- First life cycle assessment (LCA) is performed.

1993

- Country Environmental Controllers and Local Environmental Control Officers are appointed.
- 38 countries participate in the program.
- Initial environmental reviews begin at manufacturing sites.
- The first procedure for reporting on environmental performance is introduced.

1994

- Initial reviews are completed.
- The decision is made to implement environmental management systems (EMSs).
- ABB publishes its first environmental report.
- 43 countries participate in the program.

1995

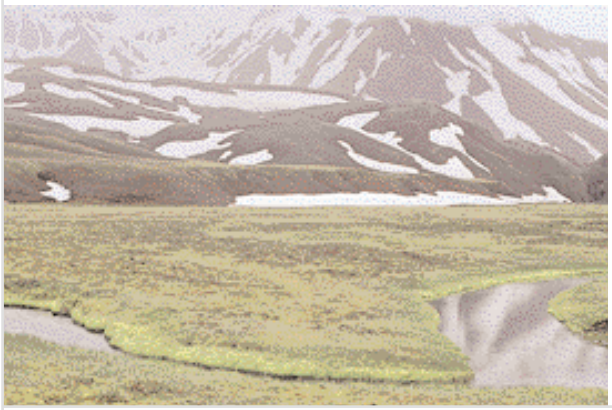
- 15 ABB sites are certified to BS 7750 and/or Eco-Management and Audit Scheme (EMAS).
- The first set of corporate environmental objectives is published.
- The first "train-the-trainers" seminar for internal EMS trainers is conducted.
- ABB's international environmental communications database is established.
- The first design tool for LCA studies of products is launched.

1996

- ISO 14001 is published.
- Full-scale implementation begins.
- 50 ABB sites are certified to ISO 14001.
- The first ABB construction site (South Humber Bank power station in England) is certified to ISO 14001.
- The first ABB site in China, ABB Switchgear in Xiamen, is certified to ISO 14001.

1997

- 123 sites in 20 countries are certified to ISO 14001.
- A second-generation LCA strategy is developed.
- The first external certification of an ABB environmental lead auditor is achieved.
- ABB's CEO introduces a second generation of environmental objectives (Goal 2000).



1998

- ISO 14001 is implemented at 449 sites in 32 countries.
- 60 ABB employees graduate as Internal Environmental Auditors.
- The concept of environmental declarations is introduced.
- A second-generation LCA software tool and database are introduced.
- ABB's CEO is chosen as one of the 12 commissioners on the World Commission on Dams.
- Environmental management report summary in 23 languages and the complete report on ABB's website improve communications.

1999

- ISO 14001 is in place in 519 sites, representing 96 percent of the targeted scope.
- Business Area Environmental Controllers are appointed.
- First-generation environmental declarations (EDs) and environmental product declarations (EPDs) are published.
- Environmental statements are produced to serve as a basis for internal and external communication.
- ABB Karebo Manufacturers is the first company in South Africa's Black Economic Empowerment (BEE) scheme to receive ISO 14001 certification.
- ABB's CEO initiates World Energy Council's pilot program to reduce greenhouse gas emissions by 1 billion tons annually by 2005.

2000

- The Environmental Affairs organization is given responsibility for all aspects of sustainability and is renamed Sustainability Affairs.
- ABB conducts case studies of the social impact of its operations at sites in seven countries.
- ABB launches a social policy.
- ABB introduces three social indicators for health and safety, and increases the total number of sustainability operational performance indicators to 39.
- ABB participates in the launch of the United Nations Global Compact.
- ABB announces a new strategic thrust into alternative energy solutions and divests its large-scale fossil fuel, hydro and nuclear power generation activities.
- ISO 14001 environmental management systems are implemented at 535 facilities, corresponding to 97 percent of the total number of sites covered by the program.
- ABB South Africa wins the emPower 2000 national award for environmental care, together with the industry sector awards for both environmental care and black economic empowerment.
- ABB is rated top of its industry group for the second year in succession in the Dow Jones Sustainability Group Index.

Sustainability Affairs organization

Sustainability Advisory Board (SAB)
A panel of independent experts, chaired by ABB's CEO, acts as a sounding board, bringing their expertise to ABB's sustainability management program, and offers objective opinions.

Corporate Staff for Sustainability Affairs (CS-SA)
Reporting directly to the CEO of ABB and responsible for developing, communicating, implementing, monitoring and improving the sustainability management program, it also develops and conducts training programs to increase social and environmental awareness and proficiency.

Business Area Sustainability Controllers (BASCs)
The BASCs are responsible for initiating and coordinating the sustainability management program in their respective Business Areas, including the development of environmental declarations; the implementation of environmental and social goals and programs; education and training of personnel; follow-up and reporting of progress; and reviewing environmental and social performance within the Business Area.

Country Sustainability Controllers (CSCs)
The CSCs, reporting to their country managers and to CS-SA, are responsible for establishing and communicating ABB's social and environmental policies, programs and procedures to all facilities within their countries. They also commission independent social and environmental audits and prepare performance reports. Other responsibilities include promoting new, ecoefficient technologies and developing country-specific education and training programs. CSCs also work with Local Sustainability Officers to coordinate with local authorities.

Local Sustainability Officers (LSOs)
The LSOs, reporting to the managers of local manufacturing, service and construction sites (or offices), facilitate the implementation and maintenance of local environmental management programs. This includes development of manuals, plans for continuous improvement and annual reporting.

As of this year, LSOs' annual reporting duties also include health and safety performance indicators with reference to Principle 5 of ABB's social policy. This change in reporting procedures does not affect any of the existing responsibilities of the local health and safety functions.

From its Zürich headquarters, ABB manages a global sustainability affairs organization.

Business Area Sustainability Controllers

Business Area	Activities	Sustainability Controller
Automation segment		
AFA	Flexible Automation	Klaus-Werner Thomer
AIC	Instrumentation and Control Products	Doug Lincoln
AMT	Marine and Turbochargers	Arthur Bollier
APC	Petroleum, Chemical & Consumer Industries	Odd Natvik
APM	Pulp & Paper and Metals & Minerals	Ken Morris
APP	Automation Power Products	Timo Miettinen
AUT	Utilities	Klaus Oeder
Power Distribution segment		
DDS	Power Distribution Solutions	Ed Walsh
DDT	Distribution Transformers	Reiulf Wilhelmsen
DMS	Medium-Voltage Equipment	Thor Endre
Financial Services segment		
FEV	Equity Ventures	Tony Shea
Building Technologies segment		
IAH	Air Handling Equipment	Per-Olof Dahlin
ICO	Building Systems	Roberto Fazio
IPS	Low-Voltage Products & Systems	Gerhard Kuehl
ISV	Service	Mia Adriaensen
Oil, Gas & Petrochemicals segment		
OGP	Oil, Gas & Petrochemicals	Dave McGinigal
Power Transmission segment		
THS	HV Products and Substations	Kjell G Pettersson
TPS	Power Systems	Rolf Bogren
TPT	Power Transformers	Kjell Magnusson
TSS	T&D Service and Support	Rolf Rotterdam

Focus on sites

Experience of ISO 14001

Having practised ISO 14001 for six years, now in place at more than 500 facilities, ABB has gathered much useful experience. For example, we have found that:

- A formal environmental management system that is correctly implemented does indeed improve the organization's environmental performance. Correct implementation involves setting objectives and goals for the significant environmental aspects and committing to continuous improvement.
- Performance improvement usually comes from a number of relatively small projects and not from one big project. This is because few opportunities for substantial improvement remain in a modern company. At any point in time, ABB is conducting more than 3,500 improvement projects worldwide.
- ISO 14001 often provides opportunities for cost savings, particularly in waste and energy management. If, for example, energy consumption is a significant aspect, the organization can often identify projects that produce annual savings equivalent to the total cost of implementing the environmental management system, with a payoff time of 12 months or less.
- Implementation of ISO 14001 offers many opportunities for employee involvement – for example, in identifying environmental aspects and formulating objectives for performance improvement. Employees usually become very engaged in this. They want to know more about environmental matters and about the effects of their own daily activities.
- The same set of environmental principles apply everywhere. ABB has many sites certified to ISO 14001 in both developing and industrialized countries – all employing the same principles for environmental performance management.
- Implementation of ISO 14001 can, advantageously, be extended beyond manufacturing and service sites to include sales companies, installation companies and full-service contracts where ABB has an organization permanently based at a customer's site.

Integrated systems

Within ABB, many companies have integrated environment, quality and, sometimes, also Occupational Health and Safety (OHS) into a single management system. Integration will now be facilitated by the fact that the new version ISO 9001:2000 and ISO 14001 share the same basic principles. This includes commitment to continuous improvement, management responsibility and internal auditing. We now have some 70 integrated systems, some of which are externally certified by accredited certification bodies.

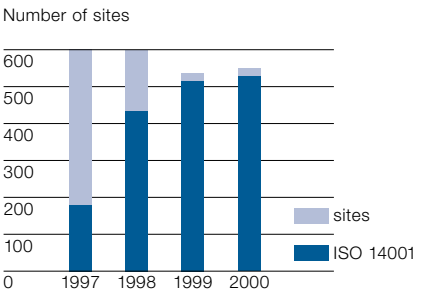
The experience of integrated systems is positive. It is usually possible to use more than half of the procedures and instructions in more than one system. In 2001, when ISO 9001:2000 becomes available, we will launch a broad education program to facilitate the development of combined or integrated systems.

Scope of ISO 14001 implementation

Taking account of acquisitions and divestments, the scope has increased by 41 sites. Some of these are in countries that completed their first implementation during the year. Others belong to ABB organizations not having factories or workshops – for example, installation companies and service companies handling full-service contracts at customer sites. A third category is sales offices.

With the new sites included, the scope for ISO 14001 implementation is now 582 sites. But 31 sites were excluded from Goal 2000 because of mergers, reorganization and other changes. Accordingly, the number of sites eligible for implementation dropped to 551. ISO 14001 was implemented at 535 sites, which means that we reached 97 percent of the total.

Implementation of ISO 14001 throughout ABB



ISO 14001 implementation

Country	"ISO" sites	CSC
Argentina	8	Justo Gonzales-Litardo
Australia/New Zealand	21	Peter Kinsey
Austria	0	Erwin Wippel
Benelux	24	Joost Kuijpers
Brazil	11	Sérgio dos Santos
		Manoel Siqueira (2001)
Canada	8	Grazyna A Momot
China	12	Jean-Jie Gao
Colombia	2	Albert Tibavizco
Czech Republic	2	Frantisek Dobes
Denmark	24	Erik Klixbüll
Egypt	5	Hassan Sharawi
Estonia	2	Liis Metusala
Finland	29	Sakari Hakkarainen
France	12	Valérie Rimonteil
Germany	35	Christoph Huf
Greece	0	Andreas Mamalis
Gulf Area	6	Gary Foote
Hungary	5	István Horváth
India	10	Satinder K Maira
Indonesia	1	vacant
Ireland	4	Tom O'Reilly
Italy	27	Antonio Giacomucci
Japan	2	Masaru Uetsuka
Korea	1	Kyeong-Hee Lee
Latvia	1	Visvaldis Lacis
Malaysia	1	Leong-Seng Ng
Mexico	2	Mario Martinez
Norway	35	Nils Børstad
Peru	0	César Férnandez
Poland	10	Piotr Ciechanowski
Portugal	1	Joao Oliveira
Romania	0	Ioan Nicola
Russia	1	Alexander Burov
Saudi Arabia	1	Ferenc Remenyi
		Abdalkareem Alhooshan (2001)
Singapore	3	Boon Eng Ong
South Africa	5	Clive Govender
Spain	16	Roberto Sellés
Sweden	83	Gunnel Wisén-Persson
Switzerland	55	Jakob Weber
Thailand	4	Manoonsak Siamwalla
Turkey	2	Refik Can Erkök
UK	39	Marc Slater
United States	25	Dave Onuscheck
Venezuela	0	Milagros Soto
Total	**535**	**sites**

Focus on suppliers

Attention to the supply chain

With 97 percent of all ABB manufacturing and service sites having implemented ISO 14001, our own house is in good order. We will now focus more on our suppliers' environmental performance. This is becoming vitally important as we subcontract more and more production.

Preference will be given to suppliers that have implemented environmental management programs and, in particular, to those that are ISO 14001 certified. For those that are not, ABB requires the following minimum standards to be met. This applies chiefly to suppliers of direct materials and services (those that go directly into manufacturing). Suppliers must:

1. have an environmental management policy;
2. have identified the significant environmental aspects in manufacturing the products supplied to ABB;
3. ensure that all operations and processes comply with relevant environmental standards and legislation; and
4. have in place the basic elements for continuous improvement of environmental performance.

Environmental costs

ABB accounts separately only for costs related to its Sustainability Affairs network, to ISO 14001 implementation and maintenance, the environmental databases and to the development of environmental product declarations including life cycle assessment.

Other costs could also be classified as environmental because they contribute to improved environmental performance. However, in practice, it is often difficult or impossible to separate environmental costs from other costs. For example, investments in research and development, or investments to boost productivity, usually improve both business and environmental performance, but it is not possible to apportion these costs meaningfully between the two.

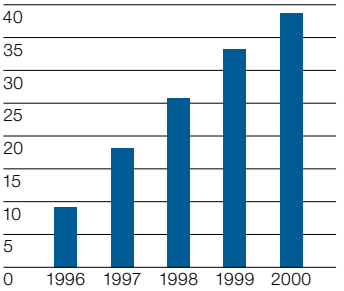
Estimated costs (US$ millions)	1997	1998	1999	2000
ABB Sustainability Affairs network	35	36	32	32
Implementation of ISO 14001	29	43	12	7
Maintenance of ISO 14001	0	1	5	10
Development of EPD/LCA	1	2	2	4
Total	**65**	**82**	**51**	**53**

Operational performance indicators – choice and quality assurance of information

In accordance with the ISO 14031 International Standard, we use a set of Operational Performance Indicators (OPIs) to monitor environmental performance. This report includes 39 OPIs, six more than last year.

The steady increase in the number of indicators reflects our aim to be open about the handling and use of chemicals and materials that, unless properly controlled, may harm the environment. The choice of indicators is based on "restriction" and "warning" lists published by leading environmental agencies. From such lists, we have chosen materials and chemicals relevant to the type of processes we perform.

Number of operational performance indicators used throughout ABB



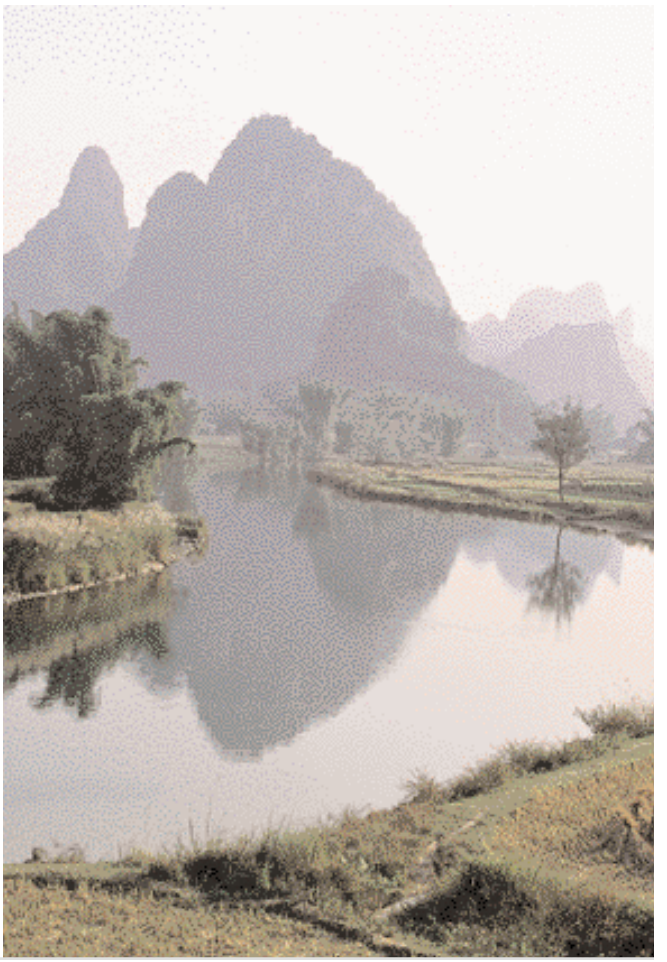
The selection of indicators alone does not ensure correct information. It is also necessary to have a reliable process for collection and verification of information about the actual level of the indicators. To ensure the consistency and quality of our reporting we have established the following procedure:

Collection of information

1. Each year, the Corporate Staff for Sustainability Affairs (CS-SA) establishes a generic report format including definitions and boundaries of what to include in the figures.
2. At site level, the Local Sustainability Officer (LSO) is responsible for site-specific systems to generate the figures for the report. LSOs have been trained to do this by CS-SA and the Country Sustainability Controllers (CSCs). Report channels within the organization for reporting of figures have now been established. For example, the quantity of emissions and use of chemicals are calculated with the mass balance method based on information reported to the LSOs by the purchasing departments.

Verification of information

3. The Country Sustainability Controller (CSC) is responsible for all reports from his or her country and checks all figures.
4. CS-SA consolidates all reports and performs an internal audit to check for accuracy and consistency in accordance with reporting procedures.
5. The process of consolidating data from the sites is reviewed by Det Norske Veritas (DNV), an internationally accredited classification society, as part of the annual verification process.



Operational performance indicators

Inputs

Energy used (GWh)

Year	Electricity	District Heating	Oil	Coal	Gas	Total	MWh per employee*
1998	1,680	445	323	118	1,386	3,952	26
1999	1,914	371	274	59	557	3,175	22
2000	1,381	304	150	45	533	2,413	21

* Employed on the sites

Comments
Oil and coal are converted into MWh using the following conversion factors: 1 ton of coal = 7.56 MWh, 1 ton of oil = 9.96 MWh.

Materials and chemicals

Organic substances (tons)		1997	1998	1999	2000	Comments
PVC resin	For cables and molding	16,280	11,769	10,228	1,382	Reduction due to divestment of several cable manufacturers
Phthalates (DEHP, DOP)	Softener for PVC	n. acc.	4,893	2,709	88	See comment for PVC
Phthalates (DIDP)	Softener for PVC	n. acc.	n. acc.	1,417	96	See comment for PVC
Organic lead	Stabilizer in plastics	n. acc.	n. acc.	65	8	See comment for PVC
Chloroparaffin <C14	Softener/flame retardants	n. acc.	n. acc.	103	1	See comment for PVC
Chloroparaffin C14–17	Cutting fluid	n. acc.	n. acc.	n. acc.	<1	Will be phased out completely
PBB and PBDE	Flame retardants in plastics	75	82	77	25	Required by customer specification
Insecticides	Control of insects	1.2	0.4	0.7	0.7	Required by customer specification
Fungicides	Control of water fungi	0.4	0.5	1.3	1.6	In closed water systems
Nonylphenoletoxylate	Degreasing agent	n. acc.	2	1.7	<1	Will gradually be replaced
Polyurethane	Coating, paints, adhesives	n. acc.	n. acc.	n. acc.	715	OHS – used under strict control
Epoxy (low molecular)	Coating, paints, adhesives	n. acc.	n. acc.	n. acc.	117	OHS – used under strict control
Epoxy (high molecular)	Molded parts	n. acc.	n. acc.	n. acc.	586	OHS – used under strict control
Inorganic substances (tons)						
Lead	Sub-marine cables	n. acc.	n. acc.	4,586	2,974	Specification requirement (to be recycled)
	Counterweight in robots	n. acc.	n. acc.	1,981	2,780	Will be replaced in next generation of standard robots
Cadmium	Rechargeable batteries	n. acc.	n. acc.	1.3	1.9	Will gradually be replaced by Cd-free batteries
	Microelement in Pb alloy	n. acc.	n. acc.	3.6	2.5	Specification requirement (for sub-marine cables)
	CdO plating on contactors	n. acc.	n. acc.	0.2	0.4	Restricted use until replacement is available
Mercury	Instruments	n. acc.	n. acc.	0.012	0.032	Used under strictly controlled conditions
Gases (tons)						
CFC class I	Customer plants/products	12	0	0	0.5	Delayed conversion of one customer plant
CFC class II	Customer plants/products	74	65	48	40	Handling only according to well-defined procedures
SF_6 – inflow to ABB facilities	Insulation gas in breakers	n. acc.	n. acc.	n. acc.	331	Reported in accordance with Danish Act No. 1,288
SF_6 – outflow to customers	Insulation gas in breakers	n. acc.	n. acc.	n. acc.	301	Reported in accordance with Danish Act No. 1,288
Liquids (ktons)						
Water	For process cooling	n. acc.	n. acc.	7,355	6,044	Will be reduced by using more closed loops

Outputs

CO_2 emissions (tons)

Regions	1998 ktons	1998 tons/empl*	1999 ktons	1999 tons/empl*	2000 ktons	2000 tons/empl*
ABB total	1,445	10	1,173	8	964	8
Europe	856	8	777	7	693	7
Americas	355	18	231	13	199	12
Asia, Pacific, Africa & Middle East	234	13	165	11	72	8

* employed on the sites

Comments
When assessing the amount of CO_2 emissions, we have used official conversion factors for electricity and district heating, and average coal, oil and gas qualities.

Waste and emissions other than CO_2 (tons)

Hazardous waste	1997	1998	1999	2000	Comments
Solid	9,850	8,820	5,652	4,278	Reported amounts are based on national definitions that may vary between countries.
Liquid	7,334	7,044	5,295	4,343	
Emissions to air					
VOC	1,817	1,623	1,276	1,261	Increased use of VOC-free paint systems and subcontracting
VOC_{Cl}	179	197	149	157	Phaseout planned but postponed due to relocation of process line
SF_6	n. acc.	n. acc.	4	3	Assessed as 1% leakage of the amount of SF_6 used in production

Recycled (tons)

Recycling of waste/scrap	1997	1998	1999	2000
Solid	123,300	195,198	210,316	107,650
Liquid	4,200	4,437	2,995	2,025
Heat recovery	n. acc.	280	344	1,670
Temporary storage for future disposal				
PCB-contaminated oil	58	32	29	30

Comments
The divestment of manufacturers has affected the amounts significantly.

The storage of PCBs in ABB facilities is subject to control both by environmenal agencies and by environmental management on site.

In use

Equipment	1997	1998	1999	2000
No. of transformers with PCB oil	103	78	57	47
No. of capacitors with PCB oil	19,314	5,416	5,318	4,212
Substances				
Mercury (kg)	n. acc.	10	16	16

Comments
The quantity of oil in transformers and capacitors still in use was 100 tons in 2000 (–5%). Replacement program continues.

Used in seam-welding machines and pressure gauges. Used under strictly controlled conditions.

Focus on products

Environmental Product Declarations (EPDs) and Environmental Declarations (EDs) are important tools for communicating environmental performance. An EPD describes in a credible and understandable way the environmental performance of a product, a system or a service over its entire life cycle. An ED describes the environmental performance of the engineering, construction, service and other activities of an entire business area or other organizational unit.

EPDs must meet the requirements of the ISO 14025 International Standard. The information presented must be based on a formal Life Cycle Assessment (LCA). In some countries, EPDs can be certified by external authorized bodies, provided that the EPDs are based on Product Specific Requirements (PSRs).

ABB has made good progress in developing EPDs for its major product lines. This will enable customers to compare the environmental performance of our products with that of competing products – the same way they can compare technical specifications, quality, price, etc.

Product Specific Requirements

To permit comparability between declarations within a given product group or service type, the basic data must be calculated in the same way and with the same general rules. These rules are called product specific requirements, and are prepared in cooperation with manufacturers, importers, industry organizations, environmental agencies and others having good knowledge of the environmental properties related to a certain product category. PSRs define which data should be included in the life cycle assessments that generate data for environmental product declarations. PSRs are available to the public on the Internet and usually include:

System boundaries. Which phases to include – for example, manufacturing, use and decommissioning – as well as the defined lifetime for calculating the use phase.

Functional unit. Unit for calculation so as to compare environmental performance – for example, 1 MW, 1 meter.

Allocation unit. How common environmental aspects are allocated to a functional unit – for example, waste and emissions at the manufacturing facility.

Calculation rules. How to calculate environmental aspects – for example, losses during use of the product.

Parameters to include. For example, use of energy, use of renewable and nonrenewable resources, and impact on global warming, acidification, nutrification, ozone depletion and formation of ground-level ozone.

Life Cycle Assessment

LCA is a management tool for appraising and quantifying the total environmental impact of products or activities by analyzing the entire life cycle of materials, processes, products, technologies, services and other activities. LCAs must meet the requirements of the ISO 14040–43 International Standard.

ABB's LCA database stores information about the environmental impact of each aspect – use of energy and resources, etc., and is being con-

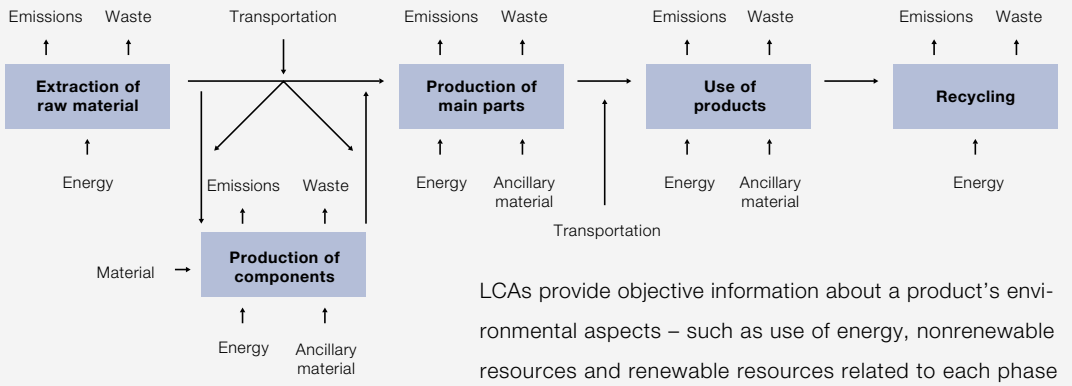
tinually expanded. This information is obtained from official sources and relevant suppliers. It is quality-controlled by Chalmers University of Technology, according to the ISO 14048 draft International Standard for LCA Data Documentation Format and the SPINE format (Sustainable Product Information Network for the Environment).

EPD status

After the international standards for life cycle assessment were published, ABB initiated a pilot program to develop environmental product declarations. In 2000, these became a routine part of the Business Areas' activities.

Several environmental product declarations have now been completed, for example for the following products: ACS 400 AC Drive, AMS 800 AC Machine, DMI DC Machine, GBA 800 AC Machine, HXR 355 AC Machine, HXR 500 AC Machine, THS Disconnector SGF, TPT Power Transformer TrafoStar 63 MVA and TPT Power Transformer TrafoStar 500 MVA.

Four of these EPDs (DMI Machine, THS Disconnector and both TPT Power Transformers) have been certified by external bodies and copies of these declarations can be ordered from ABB Sustainability Affairs. More are in preparation, and the objective for 2001 is to produce EPDs for all major product lines.



LCAs provide objective information about a product's environmental aspects – such as use of energy, nonrenewable resources and renewable resources related to each phase of the product's life cycle.

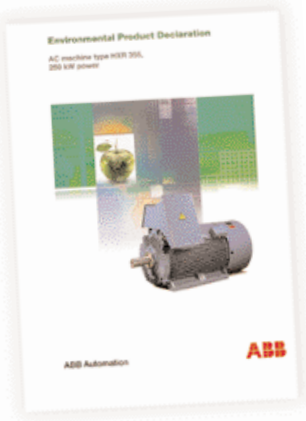


ABB Environmental Product Declarations are printed and distributed to help customers compare the environmental performance of different manufacturers' products. They are also available on the ABB website. They show use of renewable and nonrenewable resources and use of energy over the product's complete life cycle.

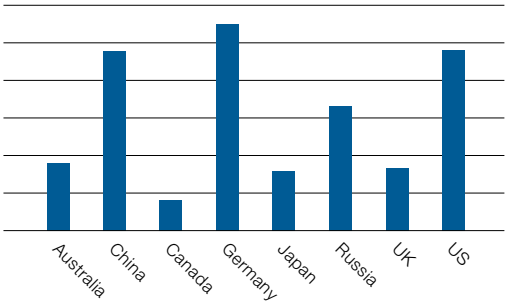
Focus on common efforts and communication

The World Energy Council

As a result of an initiative by ABB's CEO at the World Energy Congress in 1998, the WEC pilot program to reduce industry's greenhouse gas emissions is now well under way. A database describing projects that are part of the program is available on WEC's website www.worldenergy.org (click on GHG Reduction Projects). The total number of projects now stands at almost 500, spread throughout 80 countries and representing a possible aggregate reduction in emissions of more than 850 million tons annually by 2005. Over 100 of the projects are in developing countries. An additional 200 new projects are under review – pending further details and a quality check of data – and will be added to the database shortly.

The challenge is now to stimulate other industry sectors – agriculture, transportation, process, construction, etc. – to follow WEC's example and encourage the start-up and registration of emission reduction projects in their sectors for global consolidation. A main goal of the project is to raise public awareness and concern for this important issue. Consumer involvement is vital and a condition for real progress in preparing for the carbon-restrained world of the future.

Relative source of emission reduction projects per country



The World Commission on Dams

The World Commission on Dams published its final report at an international press conference in London on November 16, 2000. The report contains information and viewpoints from all parties affected by large dam projects – and provides consensual answers and solutions to the issues while recognizing the rights of all concerned. It is the first independent, multi-stakeholder, systematic assessment of large dams around the world and provides criteria, guidelines and a framework for examining future large dam proposals.

During its work, the Commission had access to a large group of experts, the WCD Forum, a representative grouping of 50–60 stakeholders in the debate on dams. The Forum will meet in February 2001 to discuss the findings and recommendations of the report and its implementation.

The United Nations Global Compact

ABB helped initiate and supports the United Nations Global Compact, intended to promote the implementation of nine principles (see box on page 55) in the areas of human rights, labor and the environment. These principles derive from the Universal Declaration of Human Rights, the ILO's (International Labor Organization) fundamental principles on rights at work, and the Rio Principles on environment and development, all of which enjoy universal consensus among the world's governments.

Globalization presents an opportunity for companies to integrate more closely with their political, social and economic surroundings – and

an obligation to play active roles in society. ABB sees the Global Compact as a key to increasing society's understanding of the positive influences on globalization that industry can bring to bear.

ABB has now taken the next step – to bring this Compact to the local level by creating local initiatives – and has initiated meetings with like-minded peer companies to brainstorm ways to move this process forward.

The UN Global Compact

Human Rights

1. Businesses should support and respect the protection of internationally proclaimed human rights; and

2. make sure they are not complicit in human rights abuses.

Labor

3. Businesses should uphold the freedom of association and the effective recognition of the right to collective bargaining;

4. eliminate all forms of forced and compulsory labor;

5. seek the effective abolition of child labor; and

6. eliminate discrimination in respect of employment and occupation.

Environment

7. Businesses should support a precautionary approach to environmental challenges;

8. undertake initiatives to promote greater environmental responsibility, and

9. encourage the development and diffusion of environmentally friendly technologies.

Common effort and communication strategies

ABB's common effort strategies are designed to create and encourage participation in initiatives, targeted on local needs, to improve the environmental and social situation. Whereas the aim of the communication strategies is to incorporate environmental messages covering our strategies, objectives and achievements into the day-to-day internal and external country communication programs. A priority for many countries is to raise public awareness of ABB's shift away from large-scale conventional power generation and toward alternative energy solutions based on renewable wind power and small-scale decentralized power sources.

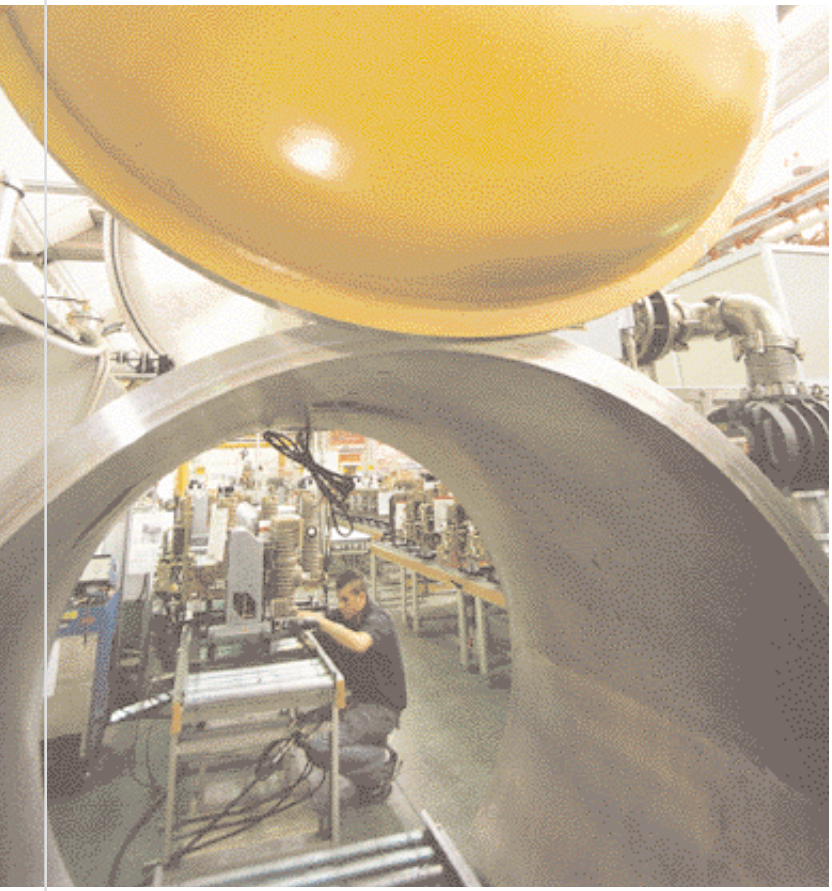
The Business Areas' communication strategies aim to include the environmental performance of their products into their marketing arguments in order to enhance their business.

The sustainability section on the ABB Group website has been upgraded and given a new appearance in accordance with ABB's new worldwide website concept. The website carries this Sustainability Report in English, together with a downloadable pdf file of the report.

With the common effort and communication strategies, we strive to improve our efforts to be a good corporate citizen at the local level and to reach out to our stakeholders with our environmental messages.

A summary of our 1999 report was produced in pamphlet form in 22 languages and distributed widely throughout the Group. The aim is to provide all employees and interested external parties with information on our latest objectives, performance and activities in this field.

Focus on social performance



Throughout the year we have focused strongly on preparations to integrate social performance into our sustainability management program. ABB's Executive Committee accepted the recommendations of an internal cross-functional task force, set up to investigate ways to improve our sustainability performance, and decided on the production of a social policy for the Group – including a group-wide health and safety framework and reporting system. ABB's Management also encouraged country and company managers to engage in local stakeholder dialogue on our environmental and social activities.

Dow Jones Sustainability Group index

In preparation for renewing ABB's rating in the Dow Jones Sustainable Group Index, we carried out a group-wide survey in over 50 countries where ABB has significant operations. The survey collected information to facilitate completion of the extensive social section of the Dow Jones questionnaire. The responses also helped establish a reference level for the formulation of our new group-wide social policy.

ABB was rated top of its industry group in the Dow Jones Sustainability Group Index for the second year in succession.

Case studies of ABB's social impacts

As a second step, we carried out detailed case studies to investigate the social impacts of ABB's activities at sites in seven countries. Summaries of these case studies are published in the beginning of this report.

ABB's new social policy

Lessons from the case studies were then incorporated into ABB's new social policy, which was also benchmarked against the proposed OECD Guidelines for Multinational Enterprises, the Social Accountability 8000 standard and the United Nations Global Compact. The new social policy is introduced in the main chapter of this report and printed in full on pages 64–65.

As we move into the implementation phase, we will initiate dialogues with stakeholders to review and improve the policy. Social affairs within ABB will be combined with environmental affairs and come under the responsibility of ABB's Corporate Staff for Environmental Affairs – now renamed Sustainability Affairs.

Occupational health and safety

We have been collecting data on health and safety performance for several decades. These data now cover all manufacturing and service sites. However, administration sites, such as sales offices, have not yet been included.

As of this year, we are consolidating occupational health and safety (OHS) data on a corporate level. Although there are still some differences in the way data are collected, defined and reported, we are publishing our initial findings. This first year, we have chosen to concentrate on three basic operational performance indicators, shown in the table below. In coming years, as we learn from experience, more indicators will be added.

Operational performance indicators, 2000

Work-related fatal accidents	2
Work-related accidents resulting in hospitalization	475
Working hours lost due to work-related illnesses and accidents	326,477

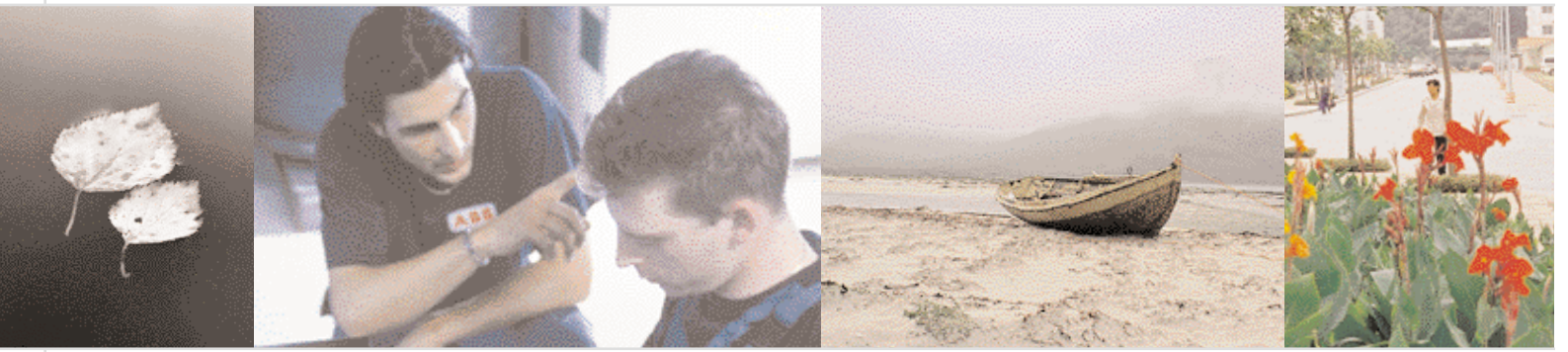
We deeply regret that two ABB employees lost their lives in work-related accidents – a road accident and an on-site accident. Our target remains to reduce the number of work-related accidents to zero.

The figures in the chart are based on 105,711 employees at 550 sites – almost 100 percent of the total number of manufacturing and service sites. Ninety-three percent of these sites have appointed a person responsible for the coordination of health and safety issues. The Local Sustainability Officers (LSOs) are also helping in this respect.

At approximately 20 percent of the sites, OHS management has been integrated with the Environmental Management System (EMS). At 15 percent of the sites, OHS management has been integrated with the Quality Management System (QMS). And at 22 percent of the sites OHS, EMS and QMS have been integrated into a single system. Our long-term goal is to have all three managed as a single system at most sites – a system that can be audited and certified by external bodies.

Many of the social initiatives and programs described in the case studies in this report go well beyond compliance with both local legislation and practice.

Outlook 2001



Scope

We plan to extend the geographic scope of our sustainability management program to cover ABB activities in Bulgaria and Vietnam, thereby increasing the total number of countries covered by the program to 51.

Sites

We have a clear corporate objective to implement the ISO 14001 international environmental management standard at all facilities. But a 100 percent goal presents a difficult, moving target because of organizational changes. Although 97 percent of our sites are now covered by the ISO standard, we are always faced with a small number of uncovered sites due to acquisitions, divestments and restructuring. Our aim is to keep this number to a minimum. Maintenance of the installed environmental management systems and of the certified status of our sites is also an important part of the ongoing process, all the time setting new goals to achieve continuous improvement.

We see, quite rightly, an increased focus on sustainability performance along the supply chain. The systems to control the performance of our key suppliers need to be further improved. We will introduce systems that take account not only of environmental performance, but also of social performance, as required by our new social policy. We will collaborate with ABB's supply management department to strengthen ABB's criteria for the selection of key suppliers.

ABB is committed to cutting greenhouse gas emissions from its facilities by one percent annually over the five-year period through 2003. It is important that we continue to meet this goal and demonstrate that ABB can be counted in the vanguard of those organizations that are doing something concrete to counter the threat of global warming, and not just talking about it.

A further challenge for our Local Sustainability Officers is to continue to integrate quality management with environmental management systems at each site. By initiating a broad education and training program, we aim to facilitate the spread of combined systems.

Products

The work of ABB's Business Area Sustainability Controllers is off to a good start. We have now produced more than 30 environmental declarations for our products and services, with the number increasing steadily. We need to maintain this momentum and develop a full range of environmental product declarations covering ABB's core products in all segments.

This will involve increased use of life cycle assessment techniques, and we will use web-based solutions to carry out studies. We expect to use first attempts to apply LCA not only to assess the environmental performance of a product, but also to extend the study to cover a complete system.

We will strongly pursue our efforts to reduce unwanted or restricted materials, such as lead and cadmium. Furthermore, we will add more materials and substances to the list during 2001.

We also want to apply the results of our work with LCA and environmental product declarations to better assess the cost benefits from enhanced environmental performance of our core product lines. These cost benefits will help our Business Areas to develop environmental arguments to supplement their marketing strategies and so improve the competitive edge of our products, viewed over their complete life cycles. It will also help our Business Areas to be better prepared for the forthcoming political focus on products and environmental performance.

Lastly, a new and exciting challenge for our Business Area Sustainability Controllers is to participate in capacity building for the emerging carbon market – looking at quantifiable greenhouse gas emission reductions generated by their products over their life cycle.

ABB's Employee Sustainability Award

The year 2001 will see the announcement of the first winners of ABB's new Sustainability Award. Open to all employees, the award of US$ 30,000 will be divided among the employees who have personally contributed to the enhancement of ABB's sustainability performance, measured across ABB's range of operational performance indicators. ABB's Sustainability Advisory Board will judge the candidates and choose winners.

Social performance

As a follow-up to the introduction of our social policy, we will embark on a program of initial dialogue with ABB's main stakeholders in all countries where we have Country Sustainability Controllers in place. By the end of the first quarter, we expect to have the first responses.

During the second quarter, we will begin implementation. This will involve outlining and reviewing social performance programs in each country. We will also select additional operational performance indicators, some of which can be included in the scope of our ISO management programs.

Throughout the year, we will carry out employee training programs in order to raise awareness of our policy and its implementation throughout the Group.

ABB supplies advanced technology to help China build up its electric power infrastructure.

In ongoing support of the United Nations Global Compact, we will take steps to bring this Compact to the local level by creating local initiatives and projects that embody its principles. During 2001, ABB will look for more projects and partners.

Common effort and communication

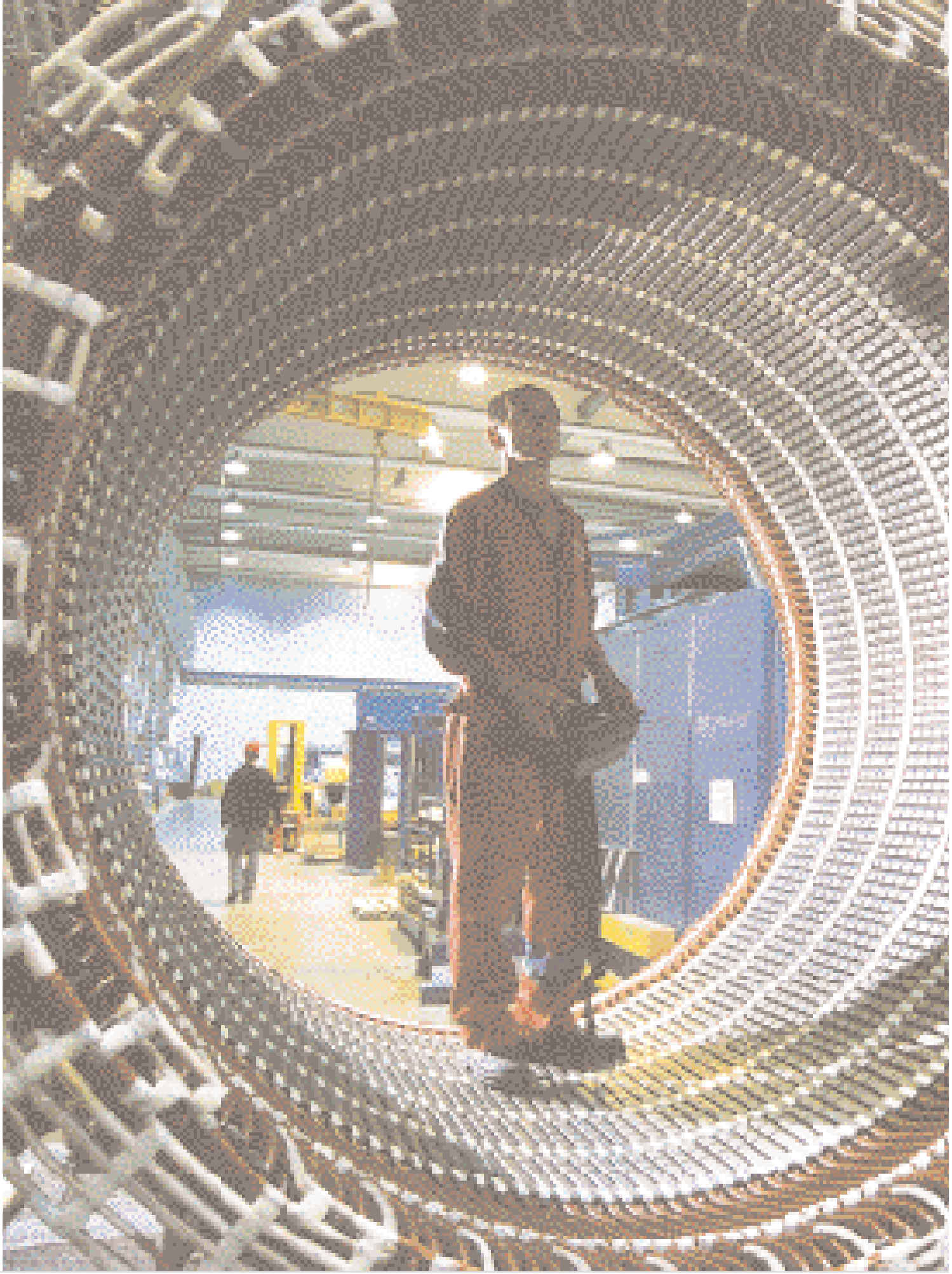
The common effort and communication strategies, developed during 2000 by the Country and Business Area Communication Managers, will start up and run through 2001, thereby adding substance to our corporate citizenship and reaching out to our stakeholders to encourage dialogue on our sustainability performance.

The China Energy Technology Program, which ABB heads in conjunction with the Alliance for Global Sustainability, will complete its work by the end of 2001 and we look forward to its final report with interest. It will produce a methodology for assessing the "real" impact of electric power generation from cradle to grave, taking energy technologies and their environmental impact into account. It should guide China when building up its electric power infrastructure.

Also in 2001, we will continue to support the work of the World Energy Council in further expanding their database of greenhouse gas emissions reduction projects.

The environmental section on the ABB Group website will be further expanded, with additional information, updated environmental statements, new keynote speeches and articles by ABB's management and the latest environmental news from ABB. It will also contain a complete copy of this Sustainability Report in English.

We will also continue our practice of producing a summary of this Sustainability Report in pamphlet format, translated into 22 languages, so that our employees and external parties can read in their own language about our latest objectives, performance levels and activities in this field.



Statement by Det Norske Veritas 2000

For the fourth year running, ABB asked Det Norske Veritas (DNV) to conduct an independent assessment of the Group's environmental performance.

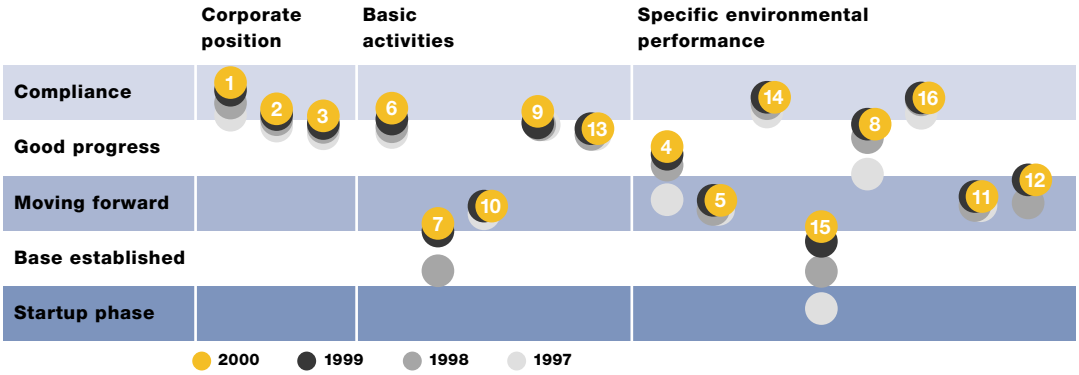
Our assessment, benchmarked against ICC's Business Charter for Sustainable Development, covered interviews and discussions with management at corporate, segment and Business Area level and relevant specialists throughout the organisation.

Spot checks were performed through interviews with personnel at site level in some selected countries.

This year we have observed progress against many of the principles, as described below, but there are still areas offering room for improvement. We have grouped the 16 principles into three categories: corporate position, basic activities and specific environmental performance. The result for each principle is shown in the diagram compared with the last three years' performance.

We were also asked to include an initial evaluation of ABB's social performance. This is presented at the end of this assessment.

Environmental performance



ICC principles	Findings and conclusions
1. Corporate priority	Continued strong support from corporate management has further strengthened the environmental performance of sites and products. ABB's strategic shift toward alternative decentralised energy solutions and industrial IT offers environmentally sound business opportunities. ABB was rated top of its industry group for the second year running in the Dow Jones Sustainability Group Index. **Conclusion: Compliance: improvement over 1999.**
2. Integrated management	Integration of environmental issues into both functional and operational management has increased. Many companies have implemented, or are moving toward implementing combined systems for quality, environment and occupational health and safety. Long-term environmental objectives have been established in most Business Areas. The degree of integration of environmental issues into local business strategies varies between business and country. **Conclusion: Good progress: improvement over 1999**
3. Process of improvement	All ISO 14001 sites have improvement programs in place and have made substantial progress. Consolidated Group data shows improvements in areas such as waste management, energy consumption and emissions. **Conclusion: Good progress: improvement over 1999**
4. Employee education	Basic environmental training in line with the ISO 14001 process continues. Spot checks indicated that, depending on the relevance of their environmental influence, 30–100% of site employees have received relevant training. Intranet training programs are implemented in many locations. Workshops and LCA training for product development and marketing continues, but does not yet cover all relevant personnel. **Conclusion: Good progress: improvement over 1999**
5. Prior assessment	Due diligence is performed for acquisitions and divestments of sites. We were given an example of significant expenditure for clean-up in connection with the disposal of a site. Examples were also given of substantial clean-up investments for acquired sites. **Conclusion: Moving forward: same level as in 1999**
6. Products and services	The shift into alternative energy solutions is backed by a range of new products. ABB is taking a lead in developing common industry standards for product specific requirements. Organized by the BA Sustainability Controllers, 23 Environmental Product Declarations are completed or under development, four of which have been certified. ABB has identified the need to focus on product responsibility programs since replacement is an increasing service opportunity in the marketplace. **Conclusion: Good progress: improvement over 1999**

7. Customer advice

Environmental product declarations are increasingly used for customer advice and development of sales and marketing arguments. Updated product information is published on the Internet.
Conclusion: Moving forward: improvement over 1999

8. Facilities and operations

More than 40 new ISO 14001 sites were added. ISO 14001 is now implemented at 97% of all sites in the program. The number of group-specific operating performance indicators increased by six to 39. An expanded list of restricted materials was introduced.
Conclusion: Compliance: same level as in 1999

9. Research

Corporate research increased its activities by 20% on new environment-driven projects such as fuel cells, low emission micro-turbines, windpower generators, dry transformers and inground transmission & distribution cables. Continuous efforts are being made in the Business Areas to improve energy efficiency and reduce losses. LCA is being increasingly used. Over 80 licences of the LCA tool are issued and supported by LCA expert groups located at four corporate research centers.
Conclusion: Compliance: improvement over 1999

10. Precautionary approach

Typical examples are the use of LCA in product development with increased focus on the environmental impact of materials used.
Conclusion: Moving forward: same level as in 1999

11. Contractors and suppliers

A new suppliers' qualification scheme stating minimum environmental requirements was introduced. Also, a program to improve monitoring of suppliers' environmental performance was initiated in collaboration with ABB's supply management corporate staff.
Conclusion: Moving forward: same level as in 1999

12. Emergency preparedness

Local sites handle emergency preparedness, as required by ISO 14001. Also, business continuity plans for all key sites are under development, and a group-wide risk management scheme to coordinate all normal risks is being prepared.
Conclusions: Good progress: same level as in 1999

13. Transfer of technology

ABB continues to transfer state-of-the-art technology, management systems and know-how to new and existing plants in emerging markets with the aim of achieving one global technology platform, including management training and apprentice programs.
Conclusion: Good progress: same level as in 1999

14. Contributing to the common effort

Programs have been prepared by 25 countries. We were given many examples of local initiatives and partnerships with universities. Significant resources have been spent on work related to the World Commission on Dams, the UN Global Compact, the WEC Greenhouse Gas Emission Reduction Program and the China Energy Technology Program.
Conclusion: Compliance: same level as in 1999

15. Openness to concerns

Environmental communication programs have been developed for 25 countries and five Business Areas. Communication managers are increasingly involved in communicating environmental issues. Initiatives are being taken at both corporate and local level to conduct stakeholder dialogues. The number of sustainability issues on the Q&A section of ABB's website increased to 23.
Conclusion: Moving forward: improvement over 1999

16. Compliance and reporting

Spot checks indicate that ABB sites are in compliance with laws and regulations. A Group Sustainability Report in three languages and a summary booklet in 22 languages are being produced. Country environmental and social reports are published in some countries. ABB's website is regularly updated with environmental information and news.
Conclusion: Compliance: same level as in 1999

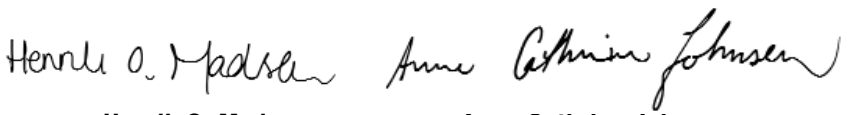
Social performance

ABB's social policy is new and still subject to local dialogues and reviews. It is therefore premature to make any specific assessment, although we found several relevant activities at both corporate level and in the line organization; for example:

- Active support of the UN Global Compact initiative from the very beginning.
- Publishing of a new social policy based upon SA 8000, OECD's guidelines and on lessons learned from case studies carried out in seven countries. The policy also takes ABB's "Mission and Values" and Business Ethics compliance program into account.
- A variety of local social initiatives such as financial contribution to schooling for underprivileged children, counteracting illiteracy, antidrug programs, tree planting, etc.
- Extensive training programs for employees and their families.
- Well established occupational health and safety organization and, in some cases, implemented management systems.
- Group-wide consolidation of three health and safety indicators, published in this report.

Our assessment this year leads to the conclusion that ABB, with its new social policy and planned implementation program, has established a solid base for its sustainability performance and compliance with the UN Global Compact. But ABB now needs to further develop its sustainability organization and define measurable indicators covering the principles of its social policy.

Oslo, 12 January 2001



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ABB's social policy

As an active participant in society, through our business activities and their economic, environmental and societal impact, ABB recognizes social performance as a key to sustainable development. Along with our ambition to make a positive contribution economically and environmentally, we see social performance as the third dimension of sustainability.

We have drawn up a social policy, reproduced below, applicable to areas that ABB can directly influence. We will engage in stakeholder review and consultation on this policy, to continuously improve it.

1. ABB in society
To contribute within the scope of our capabilities to improving economic, environmental and social conditions through open dialogue with stakeholders and through active participation in common efforts.

2. Human rights
To support and respect the protection of internationally proclaimed human rights.

3. Children and young workers
To ensure that minors are properly protected; and as a fundamental principle, not to employ children or support the use of child labor, except as part of government-approved youth training schemes (such as work-experience programs).

4. Freedom of engagement
To require that all employees enter into employment with the company of their own free will; and not to apply any coercion when engaging employees or support any form of forced or compulsory labor.

5. Health and safety
To provide a safe and healthy working environment at all sites and facilities and to take adequate steps to prevent accidents and injury to health arising out of the course of work by minimizing, so far as is reasonably practicable, the causes of hazards inherent in the working environment.

6. Employee consultation and communication

To facilitate regular consultation with all employees to address areas of concern.

To respect the right of all personnel to form and join trade unions of their choice and to bargain collectively.

To ensure that representatives of personnel are not the subject of discrimination and that such representatives have access to their members in the workplace.

To make sure, in any case of major layoffs, that a social benefits and guidance plan is in place, and already known to employees or their official representatives.

7. Equality of opportunity

To offer equality of opportunity to all employees and not to engage in or support discrimination in hiring, compensation, access to training, promotion, termination or retirement based on ethnic and national origin, caste, religion, disability, sex, age, sexual orientation, union membership, or political affiliation.

8. Mobbing and disciplinary practices

To counteract the use of mental or physical coercion, verbal abuse or corporal/hard-labor punishment; and not to allow behavior, including gestures, language and physical contact, that is sexual, coercive, threatening, abusive or exploitative.

To develop and maintain equitable procedures to deal with employee grievances, and disciplinary practices.

9. Working hours

To comply with applicable laws and industry standards on working hours, including over-time.

10. Compensation

To ensure that wages paid meet or exceed the legal or industry minimum standards and are always sufficient to meet basic needs of personnel and to provide some discretionary income.

To ensure that wage and benefits composition are detailed clearly and regularly for workers, and that compensation is rendered in full compliance with all applicable laws and in a manner convenient to workers.

To ensure that labor-only contracting arrangements and false apprenticeship schemes are not used to avoid fulfilling ABB's obligations under applicable laws pertaining to labor and social security legislation and regulations.

11. Suppliers

To establish and maintain appropriate procedures to evaluate and select major suppliers and subcontractors on their ability to meet the requirements of ABB's social policy and principles and to maintain reasonable evidence that these requirements are continuing to be met.

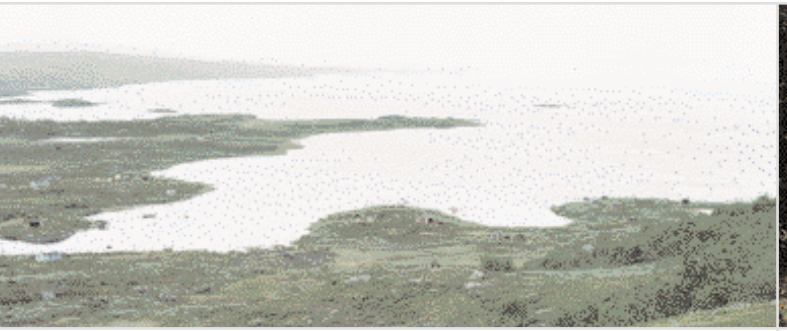
12. Community involvement

To promote and participate in community engagement activities that actively foster economic, environmental, social and educational development, as part of ABB's commitment to the communities where it operates.

13. Business ethics

To uphold the highest standards in business ethics and integrity and to support efforts of national and international authorities to establish and enforce high ethical standards for all businesses.

ABB’s environmental policy



Environmental management is ingrained in ABB’s culture.

Environmental protection is among ABB’s top corporate priorities. We address environmental issues in all of our operations and public policies.

ABB is a signatory to the ICC Business Charter for Sustainable Development and has adopted the 16 principles of the Charter, reproduced below, as its environmental protection policy.

1. Corporate priority
To recognize environmental management as among the highest corporate priorities and as a key determinant to sustainable development; to establish policies, programs and practices for conducting operations in an environmentally sound manner.

2. Integrated management
To integrate these policies, programs and practices fully into each business as an essential element of management in all its functions.

3. Process of improvement
To continue to improve corporate policies, programs and environmental performance, taking into account technical developments, scientific understanding, consumer needs and community expectations, with legal regulations as a starting point; and to apply the same environmental criteria internationally.

4. Employee education
To educate, train and motivate employees to conduct their activities in an environmentally responsible manner.

5. Prior assessment
To assess environmental impacts before starting a new activity or project and before decommissioning a facility or leaving a site.

6. Products and services
To develop and provide products or services that have no undue environmental impact and are safe in their intended use, that are efficient in their consumption of energy and natural resources, and that can be recycled, reused or disposed of safely.

7. Customer advice
To advise and, where relevant, to educate customers, distributors and the public in the safe use, transportation, storage and disposal of products provided; and to apply similar considerations to the provision of services.

8. Facilities and operations
To develop, design and operate facilities and conduct activities taking into consideration the efficient use of renewable resources, the minimization of adverse environmental impact and waste generation and the safe and responsible disposal of residual wastes.

9. Research
To conduct or support research on the environmental impacts of raw materials, products, processes, emissions and wastes associated with the enterprise and on the means of minimizing such adverse impacts.

10. Precautionary approach
To modify the manufacture, marketing or use of products or services or the conduct of activities, consistent with scientific and technical understanding, to prevent serious or irreversible environmental degradation.

11. Contractors and suppliers
To promote the adoption of these principles by contractors acting on behalf of the enterprise, encouraging and, where appropriate, requiring improvements in their practices to make them consistent with those of the enterprise; and to encourage the wider adoption of these principles by suppliers.

12. Emergency preparedness
To develop and maintain, where significant hazards exist, emergency preparedness plans in conjunction with the emergency services, relevant authorities and the local community, recognizing potential transboundary impacts.

13. Transfer of technology
To contribute to the transfer of environmentally sound technology and management methods throughout the industrial and public sectors.

14. Contributing to the common effort
To contribute to the development of public policy and to business, governmental and intergovernmental programs and educational initiatives that will enhance environmental awareness and protection.

15. Openness to concerns
To foster openness and dialogue with employees and the public, anticipating and responding to their concerns about the potential hazards and impacts of operations, products, wastes or services, including those of transboundary or global significance.

16. Compliance and reporting
To measure environmental performance; to conduct regular environmental audits and assessments of compliance with company requirements, legal requirements and these principles; and periodically to provide appropriate information to the Board of Directors, shareholders, employees, the authorities and the public.

Glossary

Agenda 21. A world action plan for sustainable development, adopted in 1992 by 178 national governments at the United Nations Conference on Environment and Development, in Rio de Janeiro, Brazil.

Alliance for Global Sustainability, AGS. A partnership involving the Massachusetts Institute of Technology (MIT), the Swiss Federal Institutes of Technology (ETH) and the University of Tokyo (UT). The alliance was formed in 1994 to work on integrated aspects of environment and sustainability problems through research, education and global outreach.

Annex I Parties. Industrialized countries that, as parties to the Framework Convention on Climate Change, have pledged to reduce their greenhouse gas emissions by the years 2008–2012 to 1990 levels. Annex I Parties consist of countries belonging to the Organization for Economic Cooperation and Development (OECD) and countries designated as Economies-in-Transition.

Business ethics. Moral principles concerning acceptable and unacceptable behavior by corporations and individual business people. Corporate executives are obligated to maintain a high sense of values and conduct honest and fair practices with all stakeholders.

Cadmium, Cd. A cumulatively toxic element used in the manufacture of batteries, for electroplating, in submarine cables, and in circuit board contacts.

Carbon dioxide, CO_2. A colorless and, at room temperature, gaseous substance found in the atmosphere as part of nature's life cycle. Human activities, especially the burning of fossil fuels, can increase levels of carbon dioxide in the atmosphere, which is believed to affect the climate. The primary greenhouse gas is carbon dioxide.

Chlorinated paraffins. Highly complex, stable compounds containing chlorides that are resistant to degradation and oxidation. Used as softeners in plastics and rubber, as flame retardants and as components of cutting fluids in metalworking. Harmful primarily to aquatic life.

Chlorinated volatile organic compounds, VOCcls. Compounds containing chlorine that are highly volatile and easily disperse into the immediate environment and the atmosphere. They are often directly, or indirectly, hazardous to the environment and to health. Large quantities of VOCcls were previously used as industrial solvents, for degreasing and in dry cleaning. Other substances are now gradually replacing them. VOCcls include trichloroethane, trichloroethylene and perchloroethylene.

Chlorofluorocarbons, CFCs. See freons.

Clean Development Mechanism, CDM. One of several "flexibility mechanisms" authorized in the Kyoto Protocol. A form of emissions trading.

CML (Centre of Environmental Science). A department of Leiden University in the Netherlands that has developed the most widespread method for classification and characterization of environmental threats (such as global warming, acidification and eutrophication).

Cogeneration. Use of heat (that would otherwise be released into the environment) from a combustion process as an additional source of electricity generation, or as a heating or cooling source.

Common effort. One of the principles of the ICC Business Charter for Sustainable Development. See page 66 of this report.

Compliance 2000. An ABB program to promote the practice of business ethics.

Conference of the Parties to the UN Framework Convention on Climate Change, CoP. The more than 150 nations that have ratified the Framework Convention on Climate Change (FCCC). The most important session was in Kyoto (CoP3) in 1997. CoP6 was held in The Hague in 2000.

Design for environment, DFE. An engineering approach for optimizing environmentally related characteristics of a product, process, or facility.

Diisodecyl phthalate, DIDP. See phthalates.

Ecoefficiency. The combination of efficiency and ecological aspects in the pursuit of sustainable development. An environmental management program is an instrument for achieving ecoefficiency.

Ecotoxicity. The potential of a substance to harm ecosystems. Usually refers to ECA, ecotoxicity for aquatic systems, the toxic effect on water organisms based on maximum tolerable concentrations.

Emission. Release or discharge of any substances, effluents or pollutants into the environment.

Emissions trading. A tool for reducing emissions of greenhouse gases. Sources of a particular pollutant (most often carbon dioxide) are given permits to release a specified number of tons of the pollutant. A government or trading agency issues only a limited amount of permits consistent with the desired level of emissions. The owners of the permits may keep them and release the pollutants, or reduce their emissions and sell the permits. The fact that permits have a value and can be sold or traded gives owners an incentive to reduce emissions. In 1997, the Kyoto Protocol included emissions trading as a means of controlling greenhouse gases.

Enhanced greenhouse effect. The concept that the natural greenhouse effect has been augmented by emissions of man-made greenhouse gases. Increased concentrations of carbon dioxide, methane, nitrous oxide, CFCs, HFCs, PFCs, SF_6, NF_3 and other photochemically important gases caused by human activities trap more infrared radiation, thereby exerting a warming influence on the climate.

Environmental aspects. Elements of an organization's activities, goods or services that can interact with the environment.

Environmental declaration, ED. A description of the environmental impact of activities such as engineering, construction

and service. The concept of environmental declarations as a complement to environmental product declarations has been introduced by ABB. EDs cover entire business areas, not individual products, specify overall environmental goals, state policies and define methods to achieve the goals.

Environmental impact. Any change to the environment, whether adverse or beneficial, wholly or partially resulting from an organization's activities, products, or services, or from human activities in general.

Environmental management system, EMS. That part of an overall management system that includes organizational structure, planning activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining an environmental policy.

Environmental performance. The measurable results actually attained by an organization through environmental management.

Environmental performance indicator, EPI. Standardized metrics that provide information for measuring and motivating progress toward environmental goals. According to ISO 14031, the three main classes of EPI are management performance indicators (MPIs), operational performance indicators (OPIs), and environmental condition indicators (ECIs).

Environmental product declaration, EPD. A description of the environmental performance of a product, system or service over its entire life, from raw material acquisition, manufacturing and use to waste disposal and decommissioning. ABB's EPDs are based on full life cycle assessments as specified in ISO 14025.

Epoxy. A group of synthetic resins used to make plastics and adhesives. Can be highly toxic and cause allergies and cancer.

Fossil fuels. Fuels found in earth strata, deriving from organisms of an earlier geological age. Fossil fuels include oil, natural gas, coal and peat.

Framework Convention on Climate Change, FCCC. The international treaty unveiled at the United Nations Conference on Environment and Development (UNCED, also known as the "Rio Summit"), in June 1992. The FCCC commits signatory countries to stabilize greenhouse gas emissions to levels that would prevent dangerous interference with the climate system.

Freons, (CFCs) A group of halogenated hydrocarbons in which fluorine atoms, chlorine atoms, or both have replaced one or several of the molecule's hydrogen atoms. Freons, or CFCs (chloroflurocarbons), were previously used widely as cooling agents and expanding agents in insulation foam. As they contribute to both depletion of the ozone layer and the greenhouse effect of global warming, their use is now banned in many countries.

Global Compact. A UN-sponsored platform for encouraging and promoting good corporate practices and learning experiences in the areas of human rights, labor and the environment. These principles derive from the Universal Declaration of Human Rights, the ILO's (International Labor Organization) fundamental principles on rights at work, and the Agenda 21 principles on the environment and development. The nine principles of the Global Compact are reproduced on page 55 of this report.

Global warming. The increase in the Earth's mean temperature that is, or is believed to be, occurring as a result of human activities affecting the Earth's atmosphere.

Global warming potential, GWP. The index used to translate the level of emissions of various gases into a common measure to compare their contributions to the absorption by the atmosphere of infrared radiation. GWPs are calculated as the absorption that would result from the emission of 1 kg of a gas to that from emission of 1 kg of carbon dioxide over 100 years.

Greenhouse effect. The effect that certain variable constituents of the Earth's lower atmosphere have on surface temperatures. Greenhouse gases keep ground temperatures at a global average of approximately 15°C. In their absence, the global average would be below the freezing point of water. Environmental scientists are concerned that changes in the atmosphere's CO_2 content, caused by human activities, could have a dangerous warming effect on the Earth's atmosphere.

Greenhouse gases. Gases that contribute to the greenhouse effect and global warming. The most significant are carbon dioxide (CO_2), water vapor (H_2O), methane (CH_4), nitrous oxide (N_2O), chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Hazard. A material condition that may cause damage, injury, or other harm, frequently established through standardized assays performed on biological systems or organisms. Hazard and exposure constitute risks.

Hazardous waste, HW. Waste requiring special disposal techniques. Different countries have different definitions and regulations, and national standards are frequently changed.

Hydrocarbons. Chemical compounds consisting of carbon and hydrogen. There are many different hydrocarbons, mainly extracted from petroleum. Hydrocarbons are increasingly replacing freons (CFCs and HCFCs) as cooling agents and insulation gases. They do not contribute to ozone depletion and contribute only negligibly to the greenhouse effect. Most hydrocarbons are highly flammable, and many are hazardous to health.

Hydrofluorocarbons, HFCs. A major substitute for chlorofluorocarbons and halons. HFCs contain no chlorine or bromine, only fluorine, which is benign toward the ozone layer. Therefore, their ozone depletion potentials are essentially zero. The major HFCs are CF_3CFH_2 (134a), CF_3CF_2H (125), CHF_3 (23), CF_3CH_3 (143a) and CF_2HCH_3 (152a). In particular, HCFC-134a has begun to be widely used in air conditioning and refrigeration applications.

Interested party. An individual or organization directly affected by the activities of an enterprise. Corporate management has a responsibility to interested parties, including customers, employees, shareholders, suppliers, communities, and others.

International Chamber of Commerce, ICC. A non-governmental organization founded in 1919 that serves world business by promoting trade and investment and the free

market system. The ICC helps the international business community develop solutions for environmental problems, while striving to ensure that intergovernmental organizations concerned with the environment consider business views.

International Energy Agency, IEA. An agency established in 1974 within the framework of the Organization for Economic Cooperation and Development (OECD). A basic aim is to promote cooperation among participating countries, in order to increase energy security through conservation, development of alternative energy sources, and energy research and development.

International Organization for Standardization, ISO. Founded in Geneva in 1946, ISO is concerned with standardization in all technological or nontechnological fields, except for electric and electronic engineering, which are the responsibilities of IEC, the International Electrotechnical Commission. Membership comprises more than 80 countries.

ISO 9000. A series of international standards for quality assurance, adopted in 1987. A revised series is to be published in 2001.

ISO 14000. A series of international standards for environmental management systems, life cycle assessment, environmental auditing of processes, environmental labeling, environmental performance evaluation and terms and definitions.

Isocyanate. Any of a group of compounds containing the -NCO radical, used especially in producing polyurethanes. Isocyanates are toxic and can cause shortness of breath, nausea, vomiting and abdominal pain, as well as asthma and neurological problems.

IUCN. The World Conservation Union, established in 1948. A union of governments, government agencies and non-governmental organizations working with scientists and other experts to protect the environment. IUCN advises and helps governments, organizations, and local communities to devise and implement conservation strategies.

Joint Implementation, JI. Agreements made between two or more nations under the auspices of the Framework Convention on Climate Change to help reduce greenhouse gas emissions. JI is a form of emissions trading.

Kyoto Protocol. A legally binding agreement under which industrialized countries will reduce their collective greenhouse gas emissions by 5.2 percent. The agreement was reached in Kyoto on December 11, 1997, at a meeting arranged by UNEP, and attended by delegates from 160 nations.

Lead, Pb. A metallic element used in many industrial processes. Accumulates in biological systems and is linked to behavioral change, paralysis and blindness. Tetraethyl lead has been used as a petroleum additive for vehicle fuel.

Life cycle assessment, LCA. A management tool for appraising and quantifying the total environmental impact of products or activities over their entire lifetime by analyzing the entire life cycle of particular materials, processes, products, technologies, services or activities. Life cycle assessment comprises three complementary components – inventory analysis, impact analysis and improvement analysis.

Lindane. A chlorocarbon used as an insecticide. It degrades slowly in the environment and accumulates in the fatty tissues of organisms at the top of the food chain. Toxic reactions range from mild skin irritation to vomiting and even convulsions and death. Many countries have banned or restricted its use.

Mercury. A heavy metal used in mercurial catalysts and the paper industry and released by the combustion of fossil fuels. Organic mercury compounds, such as methyl mercury, act as cumulative poisons that affect the nervous system.

Nitrogen. A gaseous element that forms the major part (78 percent) of the atmosphere. Nitrogen is an important building block for all forms of life. It is transferred in a continuous cycle between the atmosphere and the biosphere.

Nonrenewable energy resources. Irreplaceable energy resources, representing an energy capital that must be conserved and utilized wisely. These include coal, oil and natural gas, and fuels for nuclear energy, such as uranium.

Nonylphenoletoxylates. Complex hydrocarbons used in industrial cleaning and degreasing, in paint manufacture and as components of cutting fluids. May be harmful to aquatic life.

OECD. The Organization for Economic Cooperation and Development has 29 member countries that together produce two-thirds of the world's goods and services. The organization offers governments a setting in which to discuss and develop economic and social policy.

Ozone, O_3. A form of oxygen with three oxygen atoms. The upper atmosphere's ozone layer protects life against harmful ultraviolet radiation, while ground-level ozone is a pollutant that is harmful to life forms and can cause breathing disorders.

Phthalates. Salts or esters of the aromatic hydrocarbon phthalic acid. Used as softeners in plastics. Up to half the weight of PVC can sometimes consist of phthalates. It is suspected that phthalates diffusing into the environment might harm living creatures' capacity for reproduction.

Polybrominated biphenyls, PBBs. A group of biologically persistent organic compounds containing bromine used as fire retardants in plastics, as in the housings of electrical apparatus. The negative effects of PBBs are similar to those of PVC.

Polybrominated diphenyl ethers, PBDEs. A group of biologically persistent organic compounds containing bromine used as flame-retardants in plastics. The negative effects of PBDEs are similar to those of PVC.

Polychlorinated biphenyls, PCBs. A group of biologically persistent organic compounds containing chlorine previously used in electrical transformers and capacitors for their insulating and fire-resistant properties. PCB compounds are toxic to marine life. Now being phased out and disposed of.

Polymers. Compounds formed by a reaction in which many small molecules (monomers) unite to form a larger or more complex molecule with a higher molecular weight and different chemical properties. Many polymers occur in nature, such as

cellulose, rubber, silk and starch. A large number have been synthesized in laboratories and are commercially important products – for example, nylon, polyesters, polyethylene and polyurethane.

Polyurethane. A group of polymers with a variety of uses – in products ranging from shoe soles to furniture upholstery and from insulation foams to coatings, paints and adhesives. Different types of isocyanates are used in the production of polyurethanes. Toluendiisocyanate (TDI) and 4,4'-diphenylmethanediisocyanate (MDI) are of special concern since both may cause allergic reactions and asthma. Polyurethane is a relatively stable compound but when broken down emits aromatic amines, which can cause cancer.

Polyvinylchloride, PVC. A plastic with a wide range of applications, used in pipes, profiles, bottles, cable insulation, etc. Its environmental impact, which has been the subject of intensive debate, involves especially the discharge of heavy metals from stabilizers and from phthalates used as softeners, as well as dioxin formation during combustion.

Precautionary approach. The approach promoted under the Framework Convention on Climate Change to help stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous interference with the climate system.

Primary energy. Energy that has not undergone transformation. Sources of primary energy that can be transformed into electricity and heat include crude oil, coal, natural gas and water used to generate hydroelectric power.

Product specific requirements, PSR. Rules that define which data should be included in LCAs that generate data for environmental product declarations. Rules are prepared in cooperation between manufacturers, importers, industry organizations, environmental agencies and others having good knowledge of the environmental properties related to a certain product category.

Recycling. Reintroduction of used materials or liquid residual products into manufacturing processes. A natural part of resource conservation. Today, most products are designed and manufactured with recycling in mind.

Renewable energy sources. Energy sources that replenish themselves naturally within a short period, making them continuously available. Sources of renewable energy include hydroelectric power, geothermal energy, ocean thermal energy, wave power, solar energy, wind power, peat and fuel wood.

Social Accountability 8000, SA 8000. An auditable standard and an independent auditing process for the protection of workers' rights. Based on conventions of the International Labor Organization and related international human rights instruments – including the Universal Declaration of Human Rights and the UN Convention on the Rights of the Child. Developed by the Council on Economic Priorities Accreditation Agency (CEPAA). ABB has benchmarked its social policy against SA 8000.

Solvent. A medium, usually a liquid, in which other substances can be dissolved without being chemically altered. Solvents are used in industrial processes as part of paints, lacquers, and plastics. Can affect human health and/or damage the environment.

Stakeholder. See Interested party.

Sulfur hexafluoride, SF_6. A gaseous insulator used in some electric circuit breakers, substation connections, transformers, and power cables. SF_6 is a greenhouse gas.

Sustainability (or sustainable development). Meeting the needs of the present without compromising the ability of future generations to meet their own needs; combining economic growth and greater prosperity with environmental and social quality for people around the world. Sustainability has three interdependent dimensions: ecological sustainability, social sustainability and economic sustainability. Sometimes, a fourth dimension is added: cultural sustainability.

United Nations Development Program, UNDP. The UN's principal agency for development advice, advocacy and grant support to the countries, home to the world's extremely poor people.

United Nations Environment Program, UNEP. An organization within the UN, formed as a consequence of the 1972 Stockholm Conference on the Human Environment. UNEP's mission is to provide leadership and encourage partnerships in caring for the environment by inspiring, informing and enabling nations and people to improve their quality of life without compromising that of future generations.

Volatile organic compounds, VOCs. Compounds that easily evaporate and spread in close surroundings and in the atmosphere. Often directly or indirectly hazardous to the environment and to health. The largest releases of volatile organic compounds stem from combustion of fossil fuels. Other sources are solvents and paints. VOCs include toluene, xylene, styrene, naphthalene, and ethanol.

Waste. Different types of residues considered as lacking any utility value. The opposite of waste is a resource i.e., something considered useful. What is considered waste or resource may depend on its location and on who is doing the defining.

World Business Council for Sustainable Development, WBCSD. An organization established on January 1, 1995, through the merger of BCSD (Business Council for Sustainable Development) and WICE (World Industry Council on the Environment).

World Energy Council, WEC. A non-governmental energy-policy forum founded in 1923, with headquarters in London. Its objective is to promote the sustainable supply and use of energy for the greatest benefit of all.

World Bank. An agency of the United Nations, offering loans and technical assistance to promote balanced growth of international trade and economic development, especially in developing regions.

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For further information, please contact ABB Sustainability Affairs.

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ABB designs some of the world's largest and most advanced synchronous machines, backed by life cycle assessment studies.

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