

A HISTORY OF GLOBAL ENVIRONMENTAL LEADERSHIP

IBM is committed to environmental affairs leadership in all of its business activities. The company has had a long-standing commitment to environmental protection, having established its first formal corporate policy on IBM's environmental responsibility in 1971. The company has maintained a strong worldwide environmental management system in support of this policy for more than a quarter of a century.

From this global environmental management system and integration of environmental considerations throughout the business to its processes, products and contributions toward sustainable development, IBM's initiatives cross a broad spectrum. This brochure identifies some of the accomplishments IBM has made since 1990 in its quest for continual improvement and highlights the leadership that resulted.



A microscopic image of IBM's Silicon-on-Insulator (SOI) technology. SOI technology results in faster computer chips that require 1.7 to 3 times less power than the older bulk CMOS chip technology.



INTEGRATION INTO THE MANAGEMENT SYSTEM

IBM took a number of strategic actions in 1990 and 1991 to further strengthen its global environmental management system and resources. The company:

- Consolidated and expanded its corporate policies on environmental protection, conservation and workplace safety into a new corporate policy on environmental affairs
- Realigned existing functions to create a new dedicated corporate environmental affairs staff
- Updated all corporate instructions and environmental practices and created new ones, ensuring one global system for its expanding operations

- Implemented a centralized, consistent worldwide Corporate Environmental Audit Program performed by IBM's independent corporate audit staff

- Established environmental affairs focal points in IBM's geographies and divisions

- Created the IBM Engineering Center for Environmentally Conscious Products

- Established one of industry's most generous internal environmental recognition programs, with cash awards up to \$50K per accomplishment. Since 1991, 292 employees in 9 countries have been recognized with 54 awards totaling \$2.07M

- Created the Chairman's Environmental Affairs Citation program recognizing IBM sites and organizations for their environmental leadership, accomplishments and results

In the years that followed, IBM:

- Participated in a broad range of voluntary initiatives, among them: the U.S. EPA's 33/50, Project XL, ENERGY STAR, Climate Wise and perfluorocompound emissions reduction programs; the U.S. Dept. of Energy's voluntary reporting of greenhouse gases; Canada's Accelerated Reduction/ Elimination of Toxics (ARET) program; the Public Environmental Reporting Initiative (PERI) and World Wildlife Fund's Climate Savers Program

- Initiated tracking and reporting of environmental expenses and savings—demonstrating that good environmental management is good business. Estimated savings from environmental leadership have outweighed expenses by an average of approximately 2 to 1 over the last four years

- Published 11 consecutive annual corporate environmental reports



IBM's flat-panel displays are one-sixth the depth and 85% of the width/height of the equivalent cathode ray tube (CRT) products. They use 50% - 66% less energy and generate less than one-third the heat of the equivalent CRT.

ENVIRONMENTALLY PREFERABLE PROCESSES

IBM continued its focus on environmentally responsible processes, moving from forward-thinking waste minimization to major innovative pollution prevention and source reduction activities. IBM:

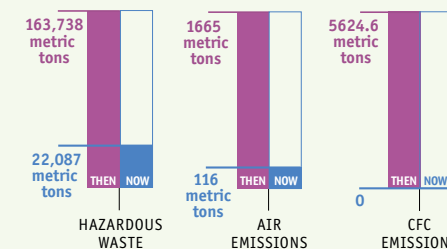
- Became the first major multinational to earn a single global registration to ISO 14001, covering manufacturing and hardware development (product design) across all business units
- All of these programs involve cross-functional and multi-divisional efforts on the part of IBMers worldwide.
- Eliminated all manufacturing use of CFCs—5624.6 metric tons—as well as all other Class I ozone-depleting substances in 1993
- Reduced hazardous waste by 86.5% and air emissions by 93% worldwide from 1990 through 2000 while increasing production considerably
- Increased the rate of non-hazardous waste recycling at global manufacturing and development sites from 48% to 77% since 1990, and averaged 73.2% over the last five years

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Christine Todd Whitman, U.S. EPA Administrator with Wayne Balta, Director, IBM Corporate Environmental Affairs (left) and Jon Judge, General Manager, IBM Personal Computing Division, at the USEPA ENERGY STAR Awards Dinner. IBM received the 2001 ENERGY STAR Excellence in Corporate Commitment Award in recognition of its overall commitment and contributions to energy conservation and efficiency across the company's operations and in the design of its products.



PRODUCT DESIGN FOR THE ENVIRONMENT

IBM formally established its industry-leading Environmentally Conscious Products/Design for the Environment program in 1991. The company also:

- Established an aggressive IBM Environmental Packaging Guideline in 1990 that required, among other things, the elimination of heavy metals and promoted reusable, recyclable packaging using recycled content
- Was a Charter member of the U.S. EPA ENERGY STAR Computers Program
- Was the first to produce a computer system unit made with 100% recycled resin for all of its major plastic parts, including the decorative cover, the IBM IntelliStation® E Pro
- Was the first to develop powder coatings with aesthetic properties equivalent to liquid-based paints for the finishing of decorative parts of computers



IBM, the American Red Cross and the Cable News Network (CNN) created a Web site for global disaster relief information. The site, www.disasterrelief.org, contains up-to-date coverage of disaster relief efforts, along with the capacity to offer services, support and contributions. IBM is providing the technology, consulting and services for the site, as well as cash contributions to the Red Cross.

CONTRIBUTIONS TOWARD SUSTAINABLE DEVELOPMENT

Through its processes, products and the use of its technology, IBM is making significant contributions toward sustainable development—a sampling:

- Industry-leading advancements in eco-efficiency
 - Since 1991, IBM's disk drive storage density has grown by an extraordinary 60% annually, which has reduced energy consumption per gigabyte by 99.8%
 - IBM's copper chip technology provides higher performing, higher function microprocessors that require 30% less energy to produce
- Digital solutions can replace their less preferable physical alternatives. For example, simulated chemical reactions rather than actual ones reduce waste. Geological modeling and visualization reduce the need for physical exploration, saving natural resources



- A networked world and e-business remove traditional barriers for people all over the world to start or reinvent businesses, gain new customers and participate in economic development. They open up access to information. And, they enable resource-efficient opportunities like telecommuting and distance learning

- From 1993 to 1998, the IBM Environmental Research Program provided \$16M to 14 universities and research institutions around the world for computer-based environmental research

- From Reach & Teach to IBM's flagship \$45M Reinventing Education program, the company is improving education for elementary and secondary schoolchildren in Brazil, Canada, India, Ireland, Italy, Vietnam, Singapore, South Africa, the U.K. and the U.S.

Information technology is a key tool for improving and expanding education—the centerpiece of IBM's corporate philanthropy program.

