The truest test of any institution's vision, strategy and values is how it does two things: responds to change, or inspires it.

Important change. Not just in global markets, but in global politics. Not just in technologies, but in cultures and societies. Not only among employees or clients, but among their children. In schools, in our air and water. In the ways the technologies contribute to making the world safer, more secure and more prosperous.

As this report has documented, we don't think our role in these social, human, legacy issues is all that different from our role in technical fields or in financial markets.

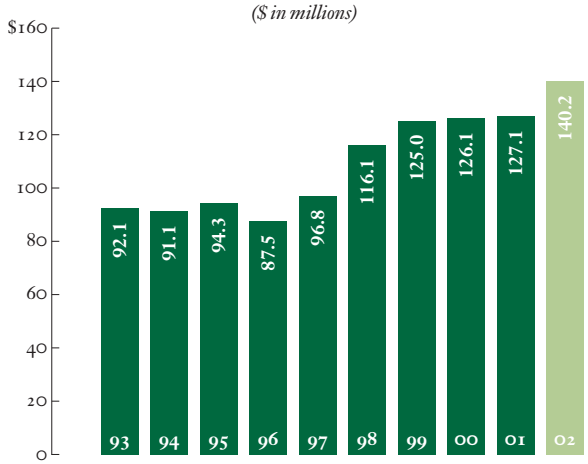
Frankly, we believe a company with IBM's wherewithal is expected to handle these changes, by investing in their solution, and by applying its resources, expertise and the discipline of its management systems to step up to the tough issues and the coming generation of unknowns.

We believe that a leader leads — guided by principles that endure, and a willingness to change everything else.

28% of all IBM's corporate community giving takes place **OUTSIDE THE UNITED STATES**

GLOBAL CORPORATE CONTRIBUTIONS

($ in millions)



By the end of 2003, Reinventing Education will touch **80,000 TEACHERS AND MORE THAN 8 MILLION STUDENTS** in the United States and nine other countries

#1 RANKING: FOR WORKPLACE PRIVACY POLICIES in a 2003 *Wired* magazine survey of organizations including the Privacy Foundation and the American Civil Liberties Union

$934 MILLION

invested over the past five years to build, maintain and upgrade infrastructure for environmental protection and to manage worldwide environmental programs

CONTRIBUTING TO COMMUNITIES

Over the last decade, IBM's contributions of cash and technology to worthy organizations exceeded $1 billion — considerable, by any definition. Yet even that's overshadowed by the impact of the broad-based volunteerism that saw IBM employees contribute 4 million hours of their time in 2002.

In the decades of the 1980s and '90s, IBM's philanthropic programs were the largest in the world. But as in business, investment is important, but results are what matter. So we've reoriented our community investments from just cash contributions to an approach that more fully integrates cash with technology and our people to drive sustained and meaningful change.

In terms of company giving, in 2002 IBM contributed $140.2 million at market value in cash, equipment and technical services to nonprofit organizations and educational institutions worldwide — an increase of $13.1 million from 2001.

The $140.2 million represents 1.9 percent of IBM's 2002 income from continuing operations before income taxes. Our total level of giving continues to place IBM among the very top corporate contributors.

Of the total contributed, $108.9 million, or 78 percent, represents donations of IBM technology and technical services; the rest is cash. IBM contributed another $1.8 million to local nonprofit organizations and K-12 schools where 1,250 employees and retirees have volunteered.

In addition, $18 million was given by IBM employees and retirees through our Matching Grants and Pre-K/K-12 Matching Grants Programs. Those individual contributions were matched by IBM with $23.5 million in cash and equipment at market value.

Those employee gifts came on top of more than $30 million that employees and retirees contributed to more than 10,000 health and human services agencies through our Employee Charitable Contribution Campaign.

GLOBAL CORPORATE CONTRIBUTIONS
($ in millions)

	98	99	00	01	**02**
Cash	37.1	43.0	39.4	35.6	**31.3**
Technology	62.0	82.0	64.9	62.2	**78.3**
Services	17.0	—	21.8	29.3	**30.6**
Total	**116.1**	**125.0**	**126.1**	**127.1**	**140.2**

GLOBAL CORPORATE CONTRIBUTIONS BY GEOGRAPHY
($ in millions)

	98	99	00	01	**02**
U.S.	103.6	114.1	110.5	102.3	**100.7**
Europe, Middle East, Africa	6.3	6.3	9.9	12.5	**11.8**
Canada	1.8	1.0	1.8	2.7	**14.1**
Latin America	1.9	1.7	1.4	2.3	**1.2**
Asia Pacific	2.5	1.9	2.5	7.3	**12.4**
Total	**116.1**	**125.0**	**126.1**	**127.1**	**140.2**

In the fall of 2003, IBM formalized its support for employee volunteerism with an initiative called the "On Demand Community." The initial goal is to mobilize 25,000 volunteers within two years and equip them with the tools and technologies to improve education and community organizations worldwide.

Reinventing Education

For years, companies have sent computers of all kinds into the schools. And for years, hopes and expectations have exceeded what those mix-and-match donations could achieve.

So, about 10 years ago, former IBM Chairman and CEO Lou Gerstner pulled together experts from IBM's research and consulting groups, educators, policy makers and administrators to look for ways that people and technology could be used to achieve positive changes in our schools.

That effort led to the creation of IBM's flagship philanthropic grant program, Reinventing Education, which puts IBM's technologies and expertise to work to improve schools throughout the world.

The program started in 1994 with $25 million in grants. Based on its early success, IBM announced another series of U.S. grants, valued at $10 million, through Reinventing Education 2, in October 1997. International grants in Europe, Asia and Latin America, valued at $10 million, were added to the program in 1998. In 2002, $15million in grants were awarded as part of a new $25 million Reinventing Education 3 commitment, bringing IBM's total investment in Reinventing Education to $70 million.

While money is a critical element, Reinventing Education is not just a grant program. From its inception, the program has sent IBM researchers, educational consultants and technology into schools to improve learning and teacher preparation.

REINVENTING EDUCATION 3 GRANTS

- Teacher Education: Nine collaborations with colleges of education and school districts or state departments of education to improve teacher education and professional development.
- Data to Improve Instruction: Projects in two school districts to give teachers and educators at all levels of the system access to instructional tools and educational data that can enrich learning.
- Reinventing Education Change Management Toolkit: With the support of many educational organizations, IBM adapted the work of Harvard professor Rosabeth Moss Kanter to create our interactive Internet technology guide. Since its introduction in 2002, the program has been used by more than 1,000 educators in 37 U.S. states, the U.K., Mexico and Australia. www.reinventingeducation.org

Additional information on Reinventing Education can be found at www.ibm.com/ibm/ibmgives/grant/education.

Metrics and Results

IBM's Reinventing Education programs now reach 65,000 teachers and more than 6 million students. By the end of 2003, plans call for that to grow to 80,000 teachers and more than 8 million students in the United States and nine other countries—Australia, Italy, Ireland, Japan, Singapore, the United Kingdom, Vietnam, Mexico and Brazil.

An independent evaluation by the Center for Children and Technology found that students in grades 7–11 who were exposed to Reinventing Education programs made significant gains in core academic areas. The evaluation also found that many of the technological and educational changes induced by the grants are becoming institutionalized.

The *Harvard Business Review* characterized Reinventing Education as "a new paradigm" for partnerships between business and schools, and the Harvard Business School prepared Reinventing Education case studies that are being used in three courses.

Reinventing Education achievements in 2002 included:

- Ireland adapted a localized version of IBM's Learning Village for schools in Dublin, Cork and Dundalk. Teachers use the technology to create, share and search for standards-based lesson plans; and parents can now see their children's assignments online and electronically communicate with teachers.
- West Virginia made the IBM Learning Village available to all state high schools. Teachers not only access existing materials in core subjects such as math, social studies and languages, but also are able to submit their own lessons for rigorous review and improvement suggestions by subject experts. A federal grant will help West Virginia extend the program to elementary grades and programs for teacher training.
- Japan's Mitaka Prefecture has extended IBM Learning Space throughout its 15 schools and registered more than 2,000 users to encourage problem solving, independent thought, and broader understanding of various cultures.

PHILANTHROPY BACKED BY EMPLOYEE ACTIVISM

BY STANLEY LITOW

Vice President, Corporate Community Relations;
President, IBM International Foundation

CORPORATIONS THRIVE ONLY in communities that thrive. No matter how strong the business plan, if the social structures surrounding a company are weak, there's very little opportunity for sustainable business success.

So it's enlightened self-interest — not merely reputation enhancement — that leads businesses to invest in making sure that people are well-educated, safe, have good jobs, and can enjoy and participate in the community's artistic vitality. That's the traditional role of corporate giving — so-called "checkbook philanthropy."

IBM has written and will continue to write our share of checks. Most of our $140 million global corporate contribution programs, however, come in the form of technology and talent directed at solving pressing educational and social problems. In addition to the corporate programs, IBM employees and retirees contributed nearly $50 million of their own money to thousands of schools, universities, cultural and environmental organizations, hospitals, hospices, nursing homes and other human services agencies in 2002 alone.

Yet, over decades of community work, we've come to the deeper realization that money alone isn't enough. In fact, giving by individuals and government funding always will outstrip what corporations give in support of schools or community organizations. What individuals can't do — but what corporations can and must do — is mobilize volumes of expertise, time or technology on behalf of these efforts, and then roll up their sleeves and work as full partners.

In 2002, IBM employees volunteered millions of hours of their time and talents to social causes in their communities — a quarter of them working in schools. The multiplier effect of corporate giving — integrated with the full spectrum of our resources, skills and technical innovation — is enormous.

And the impact on communities goes beyond the application of information technology. IBM managers help schools and community organizations set expectations, establish accountability, manage for high performance, and yes, develop technology plans.

These are skills we may take for granted. But they are in high demand in schools and community organizations that need creative solutions and must husband scarce resources and time for work that's core to their mission — building communities that thrive.

BRIDGING THE DIGITAL DIVIDE

BY DORIS GONZALEZ
Program Manager, Corporate Community Relations

DOES CLOSING the "digital divide" involve more than access to information technologies and the Internet? We think it does.

The debate about the gap between the world's information "haves" and "have nots" typically centers on whether information technology is the culprit — an expensive and complex barrier between people and the world of information and enlightenment — or whether the technologies that created the divide also happen to be our best chance for bridging it.

Here, there is hope, as one barrier — the cost of the Net access device — plummets. Half of all Internet users in 2005 — about a billion people worldwide — are expected to connect to the Net using wireless, handheld, low-cost devices like Web-enabled cell phones and PDAs (rather than full-blown personal computers). China alone is currently adding 5 million new cell phone users per month.

But as the technical trifecta of low-cost IT devices, increasing telecommunications penetration in emerging nations, and reductions in telecommunications rates creates more prevalent and affordable access, we must not lose sight of an equally serious source of disparity.

No amount of bandwidth and processing power will close the gap between the advantaged and disadvantaged until every child has access to a high-quality education. Only by addressing the disparities in the world's systems of education can we ensure that the extraordinary opportunities of the networked world are available to all.

As just one example, Americans with a college degree are more than eight times as likely to have access to a computer as those without a high school education, and more than 16 times as likely to have Internet access. The gaps are even more dramatic globally, and for the one-fifth of the world's people who live in extreme poverty, Net access is of little immediate consequence, or likelihood. Education is often subordinated to the requirement to earn a living wage.

Yet even in the United States, where there have been dramatic increases in the numbers of students using IT, access doesn't necessarily lead to increased educational attainment. The challenge is to use the technology to advance education, to break down barriers to non-English speaking people or people with disabilities, and move people from the wrong side of the digital divide, to access, and then to digital opportunity.

The access issue is critical and must continue to be pushed forward aggressively at all levels and in all societies. But let's not delude ourselves into believing that technical price points are the answer.

Technology is seldom a silver bullet. And it's certainly not on an issue as intensely human as whether all people — rich or poor, citizens of developing nations or those of advanced industrial nations — have affordable access to the Internet and the quality education needed to fully benefit from it.

Beyond Reinventing Education

IBM KIDSMART LEARNING PROGRAM

More than 13,000 Young Explorer computers (encased in kidproof plastic) have been donated to 5,500 nonprofit childcare centers and preschools serving about 2 million children in 450 cities throughout the United States. Over the next two years, IBM will invest $56 million to donate another 15,000 early learning centers and expand the program to more than 50 countries in Europe, Asia, Latin America and Africa, bringing the program to an estimated 4 million more preschoolers.

TRYSCIENCE

The first online, global science museum makes it easy and fun for kids ages 8 to 15 to explore the world of science. More than 600,000 patrons of 450 science museums around the world have visited www.tryscience.org, which is a collaborative effort by IBM, the New York Hall of Science, and the Association of Science-Technology Centers. IBM also sponsors the complementary "TryScience Around the World" kiosk donation program in more than 25 countries.

TEAMING FOR TECHNOLOGY

Since 1997, IBM has teamed with the United Way of America and AmeriCorps*VISTA to assist nonprofits with technology plans, using technology and software and developing special applications.

PROMOTING ACCESS FOR HISPANICS

In 2002, IBM launched ¡TradúceloAhora! Automatic Translation Project to help fill the void created by the low number of Spanish language Web sites. IBM will work with some 30 nonprofit organizations serving the Hispanic community while continuing to develop and refine English-to-Spanish automatic translation online.

ADDRESSING ADULT LITERACY

IBM will donate Reading Recognition software to more than 100 adult literacy sites across the United States under a two-year program started in June 2003. The state-of-the-art speech recognition program gives emerging readers support and practice to improve their reading skills.

JAPAN'S 'E-ELDER' INITIATIVE

A national program using training materials and other support from IBM Japan will hire and train seniors as instructors for other seniors in an effort to help elder citizens (expected to make up one-fifth of Japan's population by 2008) more fully participate in a Web-based society.

MENTORING

The IBM-sponsored MentorPlace (www.mentorplace.org) is a site for IBM employees who want to apply their talents in local schools. The site provides training and support for volunteers, and matches IBM employees with interested students.

More than 5,000 IBM employees in 11 countries currently participate in the MentorPlace program, which has won awards from such organizations as the National Mentoring Partnership, Points of Light Foundation and Calgary Educational Partnership Foundation.

UNIVERSITY PROGRAMS

IBM invested $49 million in 2002 to promote the programs and scholars that are preparing students to enter the global workforce, and to encourage research into promising information technology fields that deal with some of society's most complex challenges.

IBM centers its efforts around these worldwide competitive programs:

- IBM Scholars University Web Portal: This site provides university faculty members in 60 countries with software downloads, hardware discounts, access to training and other information regarding IBM products and open source initiatives. More than half of the faculty participants are from outside the United States.
- Shared University Research: In 2002, this 10-year-old program awarded equipment to 55 universities. Thirty-nine percent of the awards went to institutions outside the United States.
- Faculty Awards: For eight years, this program has recognized exceptional faculty with cash awards — with 214 research or curriculum development projects receiving awards in 2002.
- Ph.D. Fellowships: Since 1962, IBM has awarded more than 6,000 Ph.D. Fellowships, which enable recipients to work closely with leading IBM technologists around the world. For the 2002-2003 academic year, IBM supported 60 doctoral candidates.
- Diversity Programs: IBM assigns more than 40 executives to act as Diversity Campus Executives, with nine executive women serving as university partnership executives. More than 400 IBMers, both men and women, volunteered to participate in university-based diversity programs in 2002-2003.

"*Line management in IBM* must be continuously on guard against adversely affecting the environment. This effort must include constant attention not only to the waste incident to producing a product but also to the consequences of the processes established during product development."

IBM CHAIRMAN THOMAS J. WATSON, JR.
FROM IBM'S FIRST ENVIRONMENTAL POLICY IN 1971

It's a nontrivial fact that IBM has had a worldwide environmental management system for decades, especially as a more global and more culturally interconnected world wrestles with questions about who can be trusted to operate in ways that respect and protect an increasingly networked planet.

Chemicals needed for research, development and manufacturing processes must be properly managed from purchase through storage, use and disposal. Some processes are energy- and/or water-intensive. Obviously, we have to design products so that they are efficient in their use of energy and can be reused, recycled or disposed of safely at the end of their useful lives.

As discussed in the Our Company section of this report, as IBM outsources more of its manufacturing and makes greater use of the supply chain, the environmental responsibility of suppliers and the environmental attributes of their products become more important.

Global Environmental Management System

IBM's corporate environmental affairs policy calls for environmental affairs leadership in all of the company's business activities. Its objectives range from workplace safety, environmental programs and energy conservation to environmentally conscious products, audits, continual improvement and applying IBM's products and expertise to help address some of the world's most pressing environmental problems.

The policy is supported by corporate instructions that govern IBM's worldwide operations. These instructions cover areas such as chemical and waste management, energy management, environmental evaluation of suppliers, environmentally conscious products, and incident prevention and reporting.

Every employee is expected to follow this policy and report any environmental, health or safety concern to IBM management. Managers are expected to take prompt action.

IBM's environmental policy and more information on the company's environmental management system may be found at www.ibm.com/ibm/environment.

ISO 14001

In 1997, IBM became the world's first major multinational to earn a single worldwide registration to the ISO 14001 Environmental Management System Standard. The registration covers IBM's manufacturing, product design and hardware development operations across its business units worldwide.

IBM has since expanded its global ISO 14001 registration to include chemical-using research locations, and several IBM country organizations have obtained ISO 14001 registration covering nonmanufacturing locations. IBM was able to earn the single worldwide registration to ISO 14001 based on the effectiveness of our long-standing global environmental management system.

VOLUNTARY PARTNERSHIPS & PROGRAMS

IBM has joined a number of voluntary performance initiatives with governments and nongovernmental organizations.

Governmental partnerships: U.S. EPA's Project XL, National Environmental Achievement Track, Climate Leaders and ENERGY STAR programs.

Nongovernmental partnerships: Membership in the Pew Center on Global Climate Change and the World Resources Institute's Green Power Market Development Group; charter member of the World Wildlife Fund's Climate Savers program.

IBM is also managing its own lands in ways that enhance habitats. Six sites, including corporate headquarters, have had their land management and wildlife habitat programs certified by the Wildlife Habitat Council.

Support of environmental organizations: IBM has matched contributions made by U.S. employees to more than 575 environmental groups ranging from international organizations such as the Nature Conservancy and the World Wildlife Fund to smaller groups preserving lands and habitats in local communities.

IBM also works with and supports organizations such as the Alliance to Save Energy, the Conservation Fund, the Environmental Law Institute, the World Environment Center and the World Resources Institute.

INVESTMENT AND RETURN

Over the past five years, IBM has spent $382 million in capital and $552 million in operating expense to build, maintain and upgrade the infrastructure for environmental protection at its plants and labs and to manage its worldwide environmental programs.

ENVIRONMENTAL CAPITAL AND EXPENSE WORLDWIDE
($ in millions)

	98	99	00	01	**02**
Capital	64	80	54	132	**52**
Expense	101	107	110	115	**119**
Total	**165**	**187**	**164**	**247**	**171**

For the past six years, IBM has compared its environmental expenses to estimated savings resulting from the pursuit of environmental leadership. These expenses include items such as personnel, laboratory testing, waste treatment and disposal, water and wastewater management, groundwater protection, remediation and other environmental system operations.

The savings come from reductions in chemical use and waste; recycling; energy, material and water conservation; reusable packaging initiatives; and process improvements from pollution prevention. Ongoing savings from previous years' initiatives are not carried over in this comparison, yielding very conservative estimates.

IBM also realizes savings through the avoidance of costs that likely would occur in the absence of its environmental management system. These savings are not measurable in the same way that expenses are, but avoiding these environmental-related costs does result in savings for IBM, and a reasonable attempt has been made to quantify them, as shown in the tables on the following page.

Since initiating this effort, IBM's estimated annual savings from its focus on pollution prevention and design for the environment have exceeded environmental expenses by an average of approximately two to one.

2002 ENVIRONMENTAL EXPENSES WORLDWIDE
($ in millions)

Personnel	**46.8**
Consultant Fees	**3.7**
Laboratory Fees	**3.1**
Permit Fees	**0.7**
Waste Treatment & Disposal	**18.2**
Waste & Wastewater Management Operations	**23.5**
Air Emission Control Operations	**0.6**
Groundwater Protection Operations	**2.1**
Other Environmental Systems Operations	**1.9**
Waste & Materials Recycling	**3.0**
Superfund & Former IBM Site Remediation	**11.4**
Miscellaneous/Other	**3.8**
Total	**118.8**

2002 ESTIMATED ENVIRONMENTAL SAVINGS AND COST AVOIDANCE WORLDWIDE
($ in millions)

Site Pollution Prevention & Operations	**80.0**
Corporate Operations	**5.6**
Packaging & Packaging Waste Reductions	**6.2**
Recycled Materials Usage Savings	**2.9**
Energy Conservation & Cost Avoidance	**36.7**
Superfund & Site Remediation Efficiencies	**0.5**
Insurance Savings*	**8.0**
Spill Remediation Cost Avoidance**	**32.0**
Compliance Cost Avoidance**	**66.5**
Total	**238.4**

** Savings achieved through the use of RCRA financial assurance in lieu of environmental impairment insurance.*

*** These savings are estimates based upon assumptions. The figure for spill remediation cost avoidance is estimated from IBM's actual experience with remediation costs. Compliance cost avoidance includes consideration of potential penalties, legal fees and business interruptions that are avoided. A figure for potential penalties and legal fees was estimated from an analysis of 2002 U.S. EPA data. An estimate for business interruption was based upon potential impact of a plant shutdown.*

Product Stewardship

IBM's Environmentally Conscious Products program was established in 1991. Its objectives are to:

- *Develop products with consideration for upgrading to extend product life.*
- *Develop products with consideration for their reuse and recyclability at the end of product life.*
- *Develop products that can safely be disposed of at the end of product life.*
- *Develop and manufacture products that use recycled materials where they are technically and economically justifiable.*
- *Develop products that will provide improvements in energy efficiency and/or reduced consumption of energy.*
- *Develop products that minimize resource use and environmental impacts through selection of environmentally preferred materials and finishes.*

IBM's environmental product design requirements are integrated into our environmental management system and are also part of the Integrated Product Development Guide used by process and product development engineers.

PROGRAM PERFORMANCE

Progress is measured against specific goals that address IBM's focus on the use of recycled plastics, powder coatings (versus liquid paint), landfill use for end-of-life product waste and product energy efficiency.

Recycled Plastics

Recycled resins accounted for 6.64 percent of the volume of plastics purchased for IBM products in 2002 against a 10 percent goal. Price, sourcing and available applications affected results.

Powder Coatings

IBM suppliers used 877,727 pounds of powder coatings in 2002 for the decorative metal finishing of IBM products. This represents a 10.4 percent increase in powder usage (based upon total surface coverage) versus a 10 percent target. Last year, 93.4 percent of all decorative metal finishing of IBM products was achieved using powder coatings. Use of powder coatings in lieu of liquid paint avoided an estimated 458,358 pounds of volatile organic compound emissions and the generation of significant solid waste.

Product Landfill Use

Of the 51,173 metric tons of end-of-life products and product waste processed by IBM's 73 Product End-of-Life Management locations included in the company's year-end 2002 landfill use metric, IBM sent only 2.92 percent to landfills, compared to the corporate not-to-exceed objective of 4.5 percent for the year. This represents an 11.25 percent reduction in landfill use from 2001.

WHERE DO OLD COMPUTERS GO?

BY WAYNE BALTA

Vice President, Corporate Environmental Affairs and Product Safety

THE CURRENT DEBATE around "e-waste" — or the management of the "end of life" of IT products — comes down to two very concrete questions, demanding very concrete responses.

One is whether these products are being dumped into the world's landfills. The other is whether the products are being exported to places where their recycling and disposal is done in ways that expose workers and the environment to harmful substances and untreated chemical waste.

These are important questions, as some studies suggest that as many as 500 million computers will have become obsolete in the 10 years ending in 2007.

To help address the landfill concern, in 2002, IBM handled more than 51,000 metric tons of end-of-life equipment and product waste, and sent only 2.92 percent of the materials collected to landfills (mostly packaging and mixed plastics).

But what happens to all the PCs and monitors that end up in the attics or basements of people who just don't know how to dispose of them properly? While some municipalities have begun to offer electronic products recycling programs, these programs cost money, and may be difficult for local governments to operate.

So, how should all these products be collected and recycled? We think the best and most workable framework will combine the efforts of government and industry.

IBM began offering recycling solutions, primarily to large commercial clients, in 1989. By the late 1990s, we began to extend these offerings to small businesses and households.

In November 2000, IBM became the first computer manufacturer to establish a product recycling service in the United States for consumers and small businesses.

In addition, IBM is among the supporters of legislation establishing "visible advanced recycling fees" collected at the time of sale to cover the costs of collection, transportation and recycling. Our experience in Europe with advanced recycling fees for PCs and monitors indicates that a nominal fee — $5 to $10 — collected at the time of sale can fund municipal product collection and recycling programs.

As for responsible recycling operations, for more than 10 years, IBM has evaluated the product end-of-life suppliers that carry out our product recycling and disposal to determine that their operations are environmentally responsible. But to address the new concerns about recycling operations in the extended supply chain, IBM is pushing those efforts further down the line.

This will include assessments and on-site evaluations of suppliers and certain subcontractors they may use to handle recycling and/or disposal operations in non-OECD countries.

Product Energy Efficiency

PRODUCT	PERFORMANCE
Personal computers, printers, monitors	One hundred percent of all applicable products announced in 2002 met ENERGY STAR criteria, versus the goal of 90 percent of personal computers and 100 percent of the other applicable products.
Servers	• pSeries models reported a 34 percent to 61 percent reduction in operating power consumption per unit of work against comparable previous-generation models. • For iSeries, a new model was introduced, the i890, which features mainframe-class technology and the POWER 4 microprocessor, while delivering a power consumption per unit of relative performance of 0.30 watts. It had no previous-generation model. • There were no new zSeries 900 models introduced in 2002.
Hard disk drives	• Ultrastar: 48 percent reduction in watts per gigabyte. • Deskstar: 23 percent reduction in watts per gigabyte. • Travelstar: 50 percent reduction in watts per gigabyte.
Point-of-sale terminals	Upgrades in energy efficiency ranged from 59 percent to 65 percent for the maximum power consumption in watts per composite theoretical performance.
Storage subsystems	Energy efficiency improvements in 2002 ranged from 54 percent to 92 percent in watts per gigabyte, depending upon the drive type and number of drives.
Storage area networks	Energy efficiency improvements in watts per gigabyte ranged from 23 percent to 66 percent, depending on the model.
Tape drives	Increased energy efficiency from 33 percent to 62 percent in watts per gigabyte, depending on the model.

Note: Product energy efficiency goals vary by product type but all are measured by their increase in energy efficiency over previous-generation products or models.

DESIGN FOR THE ENVIRONMENT

Initiatives in 2002 focused on three specific areas: materials substitution; harmonizing product design standards across the industry and IBM supply chain; and the application of life cycle assessment to understand the environmental consequences of certain material substitutions.

Materials Substitution

IBM's environmental design standards and corporate engineering specifications on environmental requirements for products prohibit the use of certain hazardous materials such as asbestos, polybrominated biphenyls (PBBs), polybrominated biphenyl oxides (PBBOs), polychlorinated biphenyls (PCBs), and ozone-depleting substances. They also restrict the use of potentially hazardous substances such as lead, chromium, cadmium and mercury in noncritical applications such as plastic housings, paints and packaging materials.

The further reduction and feasible elimination of hazardous materials — particularly in critical applications — requires the help of suppliers and the evaluation and identification of suitable replacements that are environmentally preferable. Two examples of material substitutions follow, and more on this subject may be found at www.ibm.com/ibm/environment/products/materials.shtml.

Lead: Lead is used in computers primarily in solder for interconnections between components and printed wiring boards. The European Union passed legislation restricting the use of lead, based on its concern that lead may leach from products when landfilled. IBM is addressing this concern through a program developed to reduce lead in its products.

IBM's Microelectronics Division is investigating a variety of lead-free materials for components, developing lead-free assembly processes, and testing to assess the reliability of lead-free interconnections. This is particularly important for the high-end products used in mission-critical client applications where reliability is imperative, yet field reliability data on lead-free alternatives is unavailable. We continue to work aggressively to identify reliable lead-free alternatives and to create appropriate specifications for multiple lead-free applications.

In addition to our internal development program and interaction with clients and suppliers, we're working with several universities, including Northwestern, Michigan State, Cornell and the University of California Los Angeles; with consortia; and with Sandia National Laboratory in the United States to help define lead-free development directions, specifications and standards.

Hexavalent Chromium: IBM has qualified hexavalent chromium-free sheet metals with acceptable corrosion resistance and electrical shielding properties for product housings. Initially, these alternatives must be qualified in each potential design application — a process that is now under way — and worldwide sources of acceptable material will be established. Selected product lines have begun a worldwide transition to the hexavalent chromium-free sheet steels.

In Pursuit of Standards Harmony

Growing legislative attention on electronic product design criteria has emphasized the need for coordinated recognition and adoption of requirements across the industry and its supply chains.

IBM led a technical working group within ECMA International, the former European Computer Manufacturing Association, to draft requirements for electronic product attributes that demonstrate environmentally conscious design. ECMA-341, "Environmental Design Considerations for Electronic Products" was approved and released by ECMA in January 2003. The standard is available at www.ecma-international.org/publications/standards/ecma-341.html. In addition to mandatory criteria, the standard includes numerous design recommendations and offers a model design checklist to assist companies wanting to integrate environmental aspects into product design.

Life Cycle Assessment

IBM supports the use of Life Cycle Assessment (LCA) to examine the potential environmental consequences and tradeoffs of material substitutions. We recognize the need to characterize the environmental impacts of alternatives to lead-based solder to determine expected environmental improvements, as well as possible concerns, with replacement materials. So we have joined other electronics companies, industry associations and the U.S. EPA's Office of Pollution Prevention and Toxics in a voluntary, cooperative project to fund a comprehensive LCA of selected lead-free solders.

The project is presently investigating the life cycle impacts of lead-free solder candidates for both reflow and wave solder applications, comparing their results to the LCA baseline of tin-lead bar and paste solders. Additionally, the project is supplementing life cycle impact evaluations with assessments of recyclability and leachability of tin-lead solder and lead-free alternatives.

The results of the project will be published through the U.S. EPA's Design for the Environment Program, making this data available across the IT industry.

LOW-POWER INITIATIVE

IBM's product-energy-efficiency objective is supported by a worldwide Low-Power Initiative based at the company's Austin Research Laboratory. The lab focuses on high-performance/low-power VLSI (very large scale integration) design and tools, system-level power analysis, and new system architectures. In addition to its own research, the center is leading a companywide energy efficiency team, which is helping to coordinate low-power and energy-efficiency activities across IBM.

PRODUCT END-OF-LIFE MANAGEMENT

As part of its product end-of-life management activities, IBM began offering product takeback programs in 1989 in Europe and has extended and enhanced the programs over the years. IBM currently offers commercial clients and/or consumers solutions for the end-of-life management of their computer equipment in 35 countries across Asia, Europe and the Americas through voluntary IBM programs or country programs in which IBM participates.

ENGINEERING SPECIFICATIONS FOR SUPPLIERS

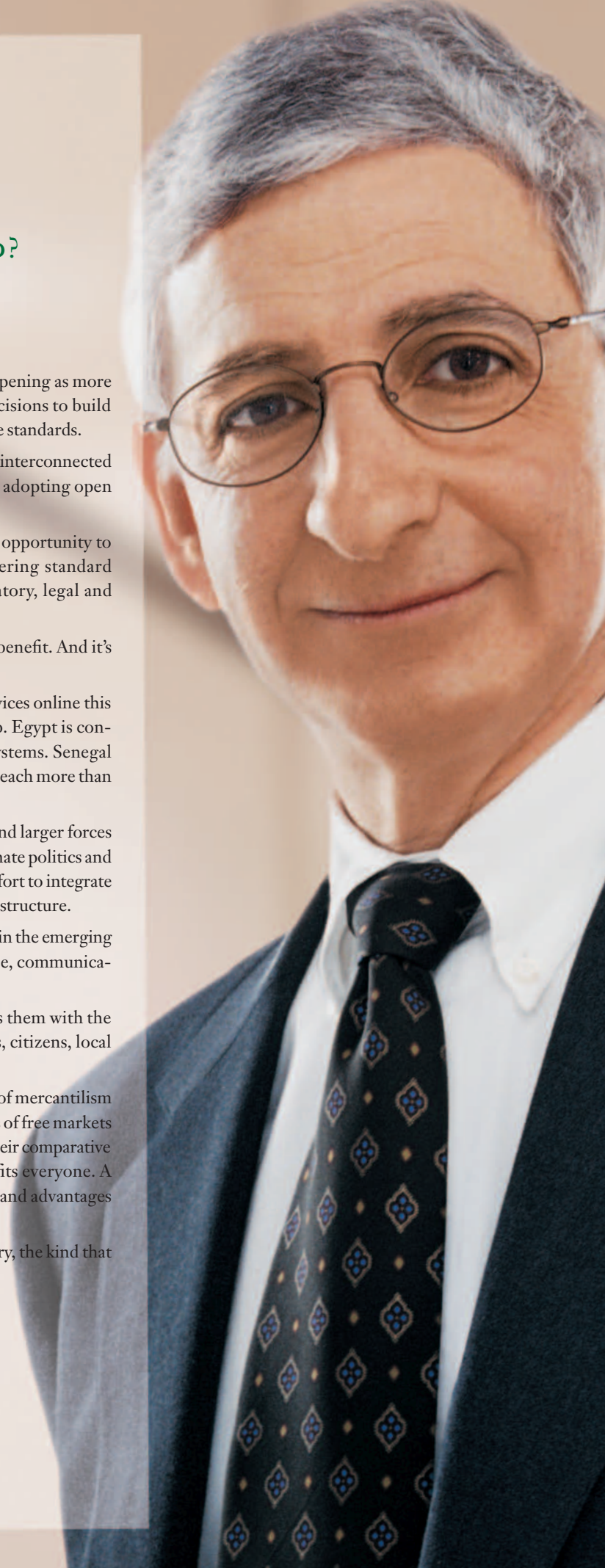
IBM extends its product environmental requirements to its supply chain through an engineering specification for materials, parts and products used for IBM hardware applications. This specification covers substances prohibited from use, documentation of product content, battery labeling, plastics coding and other requirements. Compliance to this specification is required to help IBM products meet applicable legal and client requirements. This specification may be found at www.ibm.com/ibm/environment/products/especs.shtml.

ENVIRONMENTAL REQUIREMENTS FOR PRODUCT PACKAGING

IBM's packaging guidelines, developed in 1990 and periodically updated, prohibit the use of ozone-depleting chemicals, heavy metals, polybrominated biphenyls and polybrominated biphenyl oxides. They also provide direction on minimizing toxic elements in packaging, identifying methods and designs to reduce packaging volume, and promoting the use of materials that are reusable, recyclable or contain recycled content.

GO OPEN OR STAY CLOSED?

BY IRVING WLADAWSKY-BERGER
Vice President, Technology and Strategy



THERE'S SOMETHING tremendously positive and hopeful happening as more and more governments — local, state and federal — make decisions to build their national computing infrastructures around open software standards.

In effect, they are casting a vote for freedom — embracing the interconnected nature of the world and joining the networked revolution by adopting open computing standards like Java, Linux and Web services.

Why does that matter? The answer goes beyond the obvious opportunity to achieve traditional definitions of "e-government" — delivering standard services to underserved constituencies, or providing regulatory, legal and policy-making oversight more efficiently and more broadly.

That's important. It's efficient government at work. Citizens benefit. And it's happening all over the world.

Brazil's government will have all over-the-counter federal services online this year, and is connecting 16,000 rural communities to the Web. Egypt is connecting 3,000 post offices, and is setting up postal banking systems. Senegal has instituted a three-year "digital inclusion" project that will reach more than 7,000 villages.

As valuable as this kind of effort is, I believe larger objectives and larger forces are at work. Just as the principle of openness has come to dominate politics and economics, openness is now beginning to inform the world's effort to integrate information technologies into a new economic and social infrastructure.

Governments are seeing, and seizing, the chance to participate in the emerging planetary infrastructure — the place where the economy, trade, communications and culture increasingly live and are being transformed.

To do that, they need a national infrastructure that integrates them with the world — not to mention all their national agencies, processes, citizens, local businesses and systems.

This isn't unlike what happened when the major practitioners of mercantilism were forced to acknowledge that Adam Smith and the devotees of free markets were right: An open system — in which all participants exploit their comparative advantage — stimulates commerce and innovation and benefits everyone. A closed, exclusive system limits productivity, stifles innovation and advantages only the few.

Openness may be one of those fundamental dynamics of history, the kind that sooner or later sweeps away all barriers.

In the end, openness may be destiny.

Key elements of the guidelines are included in engineering specifications, which extend their reach to the supply chain and other suppliers. IBM requirements go beyond legal mandates for packaging to ban polyvinyl chloride (PVC) and "free flow cushioning." Packaging suppliers also must eliminate the use of permanently commingled but dissimilar materials except in cases where they are part of reusable packaging designs or are technically required for product quality (example: static shielding bags). IBM also requires that wood-based packaging be sourced from forests managed in an ecologically sound and sustainable manner.

Recent accomplishments include:

- Eliminating chemicals that would make wooden packaging unsuitable for recycling or energy recovery, even though such chemicals are legally permitted.
- Assisting with the development of a pallet marking program for international commerce that prevents pest migration via wooden packaging materials.
- Replacing wood pallets with "slipsheets" for shipment of computer shells from China to Japan, which addresses pest migration and reduces shipping volumes.
- Replacing expanded foam cushions for some PC options with several all-paper-based packaging designs on which patents are pending.
- Using "foamless" cushions made from 100 percent recycled HDPE plastic — many of which can be reused — for disk drive shipments on some routings.
- Quadrupling the effective reuse percentage on packages for our largest mainframe servers.

IBM is working with contract manufacturers and other supply chain partners to expand the usage of environmentally preferable packaging solutions.

PRODUCT SAFETY

Our product safety requirements are included in various steps of the product design, development, manufacture and test process, and include the supply chain. Required reviews by IBM Product Safety Review Boards help product and project managers comply with applicable standards and national regulations, and obtain third party certifications where required.

Programs for continual improvement include client assessments of a product's safety, which are fed back into the evaluation and planning cycle. This process is augmented by incident management tools that provide effective capture and management of any product-safety-related incident.

Energy Conservation

IBM's corporate policy on environmental affairs calls for the company to use energy responsibly throughout its business, including conserving energy, improving energy efficiency and giving preference to renewable over non-renewable energy sources when feasible.

311 MILLION KILOWATT HOURS:
electricity saved in 2002

CORPORATE ENERGY CONSERVATION GOAL

IBM's energy goal is to save the equivalent of 4 percent of IBM's actual annual electricity and fuel use by improving energy efficiency and giving credit to renewable energy use. Only savings from identified energy conservation projects count toward this goal. Reductions in energy consumption from consolidations, downsizings, the sale of operations or cost avoidance actions are not included in the energy conservation goal.

In 2002, IBM's energy conservation efforts reduced electricity use by more than 311 million kilowatt hours, and fuel use by the equivalent of about 2.73 million gallons of oil. This performance exceeded the 4 percent corporate energy conservation goal, conserving energy equivalent to approximately 6.1 percent of total energy use.

These results avoided the worldwide emissions of approximately 173,500 tons of carbon dioxide and other combustion-related gases, at a cost savings of $17.3 million.

Since 1990, IBM has conserved a cumulative 12.79 billion kilowatt hours of electricity and, as a result, has avoided the emissions of more than 7.7 million tons of carbon dioxide. The total percent reduction in global emissions of CO_2 attributable solely to IBM's energy conservation actions since 1990 is 33 percent.

IBM ELECTRICITY USE AND CO_2 EMISSION DATA

YEAR	Electric Use *Million kWhrs*	CO_2 (est) *Tons (000)*
98	5,898	4,085
99	5,800	3,951
00	5,325	3,412
01	5,228	3,247
02	**5,031**	**2,902**

These figures include estimates for portions of IBM's office space that are leased. CO_2 emissions are calculated for all energy use, including electricity, fuel oil and natural gas.

IBM ENERGY CONSERVATION AND AVOIDED CO_2 EMISSIONS

YEAR	Cumulative Electric Savings *Million kWhrs*	Cumulative Avoided CO_2 (est) *Tons (000)*
98	633	301
99	842	409
00	965	464
01	1,211	568
02	**1,339**	**600**

These annual figures represent results from each year's new conservation programs, plus results from programs of previous years (which are discounted by 25 percent per year). Savings prior to 1997 are not included.

Climate Change

IBM believes the most constructive approach it can take to address the complex issue of climate change is to apply its technical and engineering expertise to reduce emissions associated with its own operations, and to create products that are increasingly energy efficient.

IBM operations do not release significant quantities of so-called greenhouse gases, so the company's greatest potential impact is an indirect one, through the release of carbon dioxide by the utility companies providing the electricity used by IBM. This drives the company's focus on energy conservation.

IBM does directly release some perfluorocompounds (PFCs) from its semiconductor manufacturing operations. Although they are in relatively small amounts (in carbon equivalents, when compared to indirect carbon dioxide emissions), in 1998 IBM became the first semiconductor manufacturer to set a numeric emissions reduction target for PFCs.

That goal was to reduce PFC emissions from semiconductor manufacturing by 40 percent worldwide by year-end 2002, indexed to production against a base year of 1995. IBM beat that goal, achieving the targeted reduction in August 2002.

We continue voluntary efforts to further reduce PFC emissions. In 2000, IBM's Microelectronics Division, together with other U.S. semiconductor manufacturers, signed a new Memorandum of Understanding with the U.S. EPA, continuing a voluntary agreement that began in 1996 and committing the companies to reduce PFC emissions from semiconductor manufacturing by an absolute 10 percent between the base year 1995 and 2010.

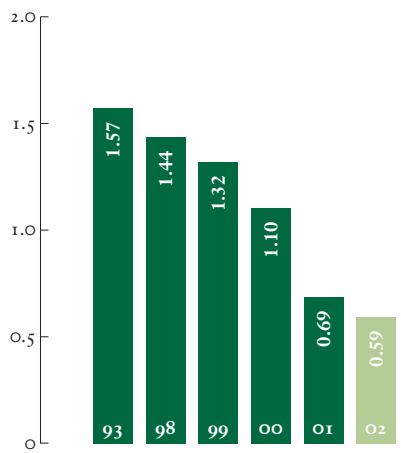
Since 1990, IBM's energy conservation efforts have avoided more than **7.7 MILLION TONS** of carbon dioxide emissions

In 2002, IBM joined the U.S. EPA's Climate Leaders program, which challenges businesses to set aggressive, corporatewide greenhouse gas emissions reduction goals that exceed business-as-usual performance in any company's industry sector. As part of its participation in Climate Leaders, IBM will pursue two emissions reduction goals that cover virtually all direct and indirect IBM greenhouse gas emissions:

- Achieve an absolute 10 percent reduction in PFC emissions from IBM's semiconductor manufacturing processes by 2005, using 2000 as the base year.
- Achieve average annual CO_2 emissions reductions equivalent to 4 percent of the emissions associated with IBM's annual fuel and electricity use over the six-year period from 2000 through 2005. IBM intends to achieve these reductions through further energy conservation actions.

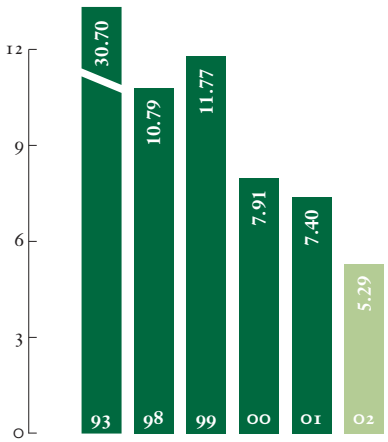
IBM TOTAL RELEASES TO ENVIRONMENT AND WASTES TRANSFERRED OFF-SITE FOR TREATMENT AND DISPOSAL WORLDWIDE

(as defined by U.S. SARA section 313)
(metric tons x 1,000)



IBM TOTAL CHEMICAL QUANTITIES* WORLDWIDE

(as defined by U.S. SARA Section 313 and PPA)
(metric tons x 1,000)



** Includes recycling, treatment, energy recovery, releases and off-site transfers*

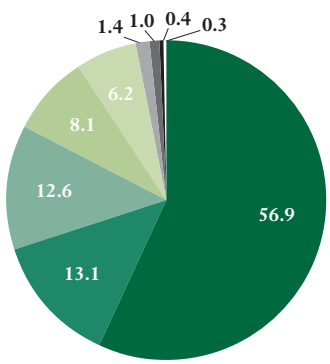
IBM TOTAL CHEMICAL QUANTITIES WORLDWIDE

2002 Reportable Quantities
(as defined by U.S. SARA Section 313 and PPA)

Chemical	Metric Tons
Copper Compounds	1,847
n-methyl-2-pyrrolidone	795
Xylene	700
Nitrate Compounds	664
Ethylene Glycol	238
All Others	1,041
Total	5,285

IBM TOTAL CHEMICAL QUANTITIES WORLDWIDE

2002 Total Reportable Quantities — 5,285 metric tons
(as defined by U.S. SARA Section 313 and PPA)

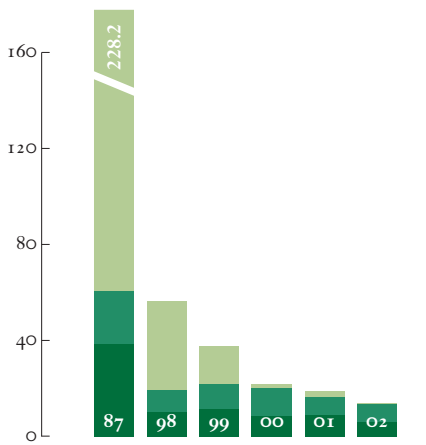


Percent reported in each category

- *Off-site recycling*
- *On-site treatment*
- *Off-site energy recovery*
- *Release to water*
- *On-site recycling*
- *Publicly owned treatment works*
- *Release to air*
- *Off-site treatment*
- *Off-site disposal*

IBM HAZARDOUS WASTE QUANTITIES WORLDWIDE

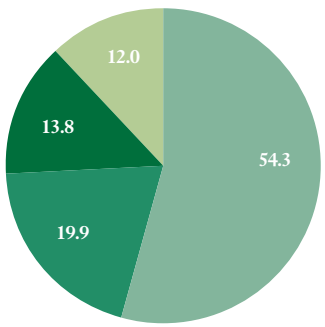
(metric tons x 1,000)



- *Closed-loop on-site recycling (annual throughput)*
- *Off-site recycling*
- *Treatment, incineration, landfill*

IBM HAZARDOUS WASTE MANAGEMENT WORLDWIDE

2002 quantities—13,671 metric tons



Percent reported in each category

- *Recycling*
- *Landfill*
- *Aqueous and other treatment*
- *Incineration*

Hazardous waste generation indexed to output

DECLINED

14.2% IN 2002

Releases

IBM's manufacturing and development operations rely on the use of some chemicals on the U.S. Toxic Release Inventory (TRI) list. Over the past 10 years, IBM has reduced its total TRI chemical quantities worldwide 82.8 percent as shown on page 63. Given the reductions that already have been achieved, and the resulting decrease in opportunities for further reductions, IBM's objective in this area is one of continual improvement in minimizing its global TRI chemical quantities, including its releases and transfers off-site for treatment and disposal.

INTERNATIONAL PERFORMANCE MEASURES

Under the U.S. Superfund Amendments and Reauthorization Act (SARA) of 1986 and the U.S. Pollution Prevention Act (PPA) of 1990, companies are required to file an annual inventory of routine releases and off-site transfers in addition to recycling, treatment and energy recovery activities for more than 600 chemicals. IBM uses this U.S. metric to track these activities globally. In 2002, IBM sites worldwide used 22 of these chemicals in quantities greater than the reporting threshold of 4,536 metric tons (10,000 pounds).

IBM's **TOTAL CHEMICAL QUANTITIES WORLDWIDE,** as defined by U.S. SARA and PPA, **DECREASED 28.6%** from 2001

As shown in the charts on page 63, in 2002 the total releases to the environment and waste transferred off-site for treatment and disposal from IBM's worldwide operations decreased 14 percent from the previous year, to 590 metric tons.

IBM realized a 28.6 percent decrease from 2001 of the total quantities covered by both SARA and PPA worldwide to a total of 5,285 metric tons. Much of the decrease came through source reduction, though changes in production also played a part.

Pollution Prevention and Waste Management

Since 1971, IBM's objective has been to identify and eliminate potential pollution before it becomes a problem, often by reducing the generation of hazardous waste at its source. Where possible, IBM has redesigned processes to eliminate chemical use or substitute environmentally preferable chemicals. For the waste that is generated, IBM focuses on preventing pollution through a comprehensive, proactive waste management program.

POLLUTION PREVENTION THROUGH SOURCE REDUCTION

In 2002, IBM's hazardous waste generation indexed to output was reduced 14.2 percent. This means that source reduction efforts reduced the generation of hazardous waste by 1,268 metric tons. This measurement covers 90 percent of IBM's manufacturing and hardware development-related hazardous waste, which came from nine sites.

WASTE MANAGEMENT

IBM manages the waste that it generates (both hazardous and nonhazardous) according to a waste hierarchy that requires, in order of preference:

- reduction
- reuse
- recycling
- chemical or physical treatment
- disposal (as a last resort)

HAZARDOUS WASTE

From 2001 to 2002, IBM's total hazardous waste decreased by 5,444 metric tons or 28.5 percent, primarily the result of pollution prevention efforts. In 2002, IBM recycled approximately 54.3 percent of its hazardous waste.

As is shown by the chart on the previous page, over the past five years IBM's total hazardous waste decreased by 75.7 percent, and was decreased by 94 percent since 1987.

IBM's total hazardous waste calculation includes waste from both nonmanufacturing and manufacturing operations. Waste from manufacturing operations includes waste recycled in closed-loop systems in which process chemicals are recovered for subsequent reuse, rather than disposing of the waste and using new chemical supplies.

NONHAZARDOUS WASTE

IBM's nonhazardous waste recycling is divided into Category 1 and Category 2 waste, with recycling goals of 67 percent and 35 percent, respectively.

Category 1 waste consists of the more recyclable waste: cardboard, paper, metal, plastic, wood, glass, computer equipment, construction debris and ordinary trash.

Category 2 waste includes all nonhazardous waste not defined as Category 1 waste. Examples of Category 2 waste are batteries, deionized water plant resin and nonhazardous chemicals.

IBM TOTAL NONHAZARDOUS WASTE GENERATED AND RECYCLED WORLDWIDE

(metric tons x 1,000)

	98	99	00	01	**02**
Total Recycled	136	142	142	127	**120**
Total Generated	185	190	185	167	**154**
Percent Recycled	74%	75%	77%	76%	**78%**

Last year, both of these goals were surpassed with recycling rates of 81 percent and 61 percent, respectively. Sixty-eight percent of IBM's locations met their recycling goal for Category 1 waste, and 62 percent met their goal for Category 2 waste. Over the past several years, some of IBM's global sites with mature waste management programs have been able to recycle virtually all nonhazardous waste generated. In addition, as a result of conservation efforts, the total quantity of nonhazardous waste generated in 2002, including both waste categories, declined 7.8 percent.

Conserving Water

Water conservation projects frequently involve the recycling of ultrapure water used in electronics manufacturing. They may also include such initiatives as manufacturing process innovations to reduce water use and water reuse projects such as the substitution of treated water for well water or city water in certain applications.

WATER SAVINGS GOAL

Past data from IBM manufacturing, development and research facilities worldwide indicated that IBM's Microelectronics Division used approximately 70 percent of the total water consumed at these locations. As a result, in 2000 the division established an annual water savings goal of 2 percent of total water usage, based on the water usage of the previous year and measured as an average over a rolling five-year period. Water savings credited toward the goal always include water use reduction. Also included are water reuse and water recycling savings when those results are greater than the previous year.

In 2002, the division achieved a 7.5 percent savings rate against its goal of 2 percent, translating to a savings of more than 1,000 thousand cubic meters (TCM) of water. The water savings rate is based on savings from water reduction activities only. An additional 1,650 TCM of water was reused and recycled at Microelectronics Division facilities. Over the past three years, the IBM Microelectronics Division has achieved an average annual water savings of 5.2 percent.

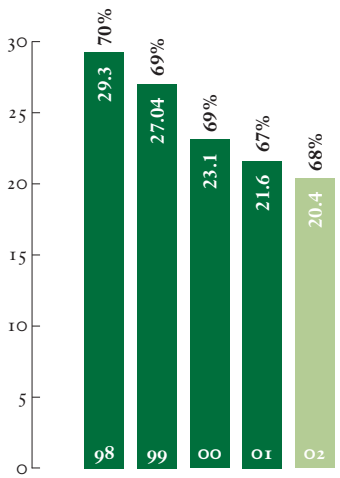
Examples of water savings projects and activities include 550 TCM from using treated wastewater for cooling tower supply water in East Fishkill, N.Y.; 76 TCM from reduced manufacturing water use in Yasu, Japan; and 79 TCM from the reuse of wastewater generated during the production of ultrapure water in Burlington, Vt.

IBM's Microelectronics Division achieved a **7.5 PERCENT WATER SAVINGS RATE** in 2002 — against its goal of 2 percent

Although not subject to the 2 percent water savings goal, other IBM divisions also continued their water conservation initiatives in 2002. Treated wastewater was reused for cooling tower supply water, reducing the demand for city or well water at several IBM locations, including Mainz, Germany; San Jose, Calif.; and Yorktown Heights, N.Y. At IBM Guadalajara, Mexico, all treated wastewater is used for irrigation at the facility. Treated groundwater from groundwater remediation projects is used for irrigation in San Jose, Calif., and Austin, Texas.

IBM WATER CONSERVATION
PLANTS AND LABS WORLDWIDE

(water consumption in thousand cubic meters x 1,000 and percent manufacturing use)



Audits and Compliance

IBM measures its environmental and health and safety performance against both external and internal requirements. Each manufacturing and hardware development and research site completes a standard annual self-assessment, and some operations and functions are assessed even more frequently.

In addition, five to seven sites are audited to environmental, health and safety requirements by IBM's Corporate Internal Audit staff each year. Audit results are communicated to top management. Follow-up, accountability and actions are all clearly delineated.

In addition, as part of IBM's single, global registration to ISO 14001, approximately 15 sites are audited each year by an independent ISO 14001 registrar. All major manufacturing and development sites are audited, by either the corporate audit team or the external ISO 14001 registrar, at least once every two years.

ACCIDENTAL SPILLS AND RELEASES

IBM sites around the world use the company's Environmental Incident Reporting System (EIRS) to report environmental incidents and accidental releases to IBM management. Every event meeting IBM's environmental incident reporting criteria, which equal or surpass legal reporting requirements, must be reported through EIRS. Each IBM location must also have a documented incident prevention program (including provisions for preventing environmental incidents or their recurrence) and reporting procedures.

In 2002, a total of 67 accidental releases were reported through EIRS. Eight releases went to secondary containment and did not actually involve any release to the environment, leaving 59 actual releases to the environment. Fifty-one of these releases included 13 refrigerants; 14 petroleum products such as fuel, hydraulic oil or motor oil; 13 diluted or treated wastewater or cooling tower water; and 11 releases of untreated industrial or sanitary wastewater.

The remaining eight releases included eight gallons of antifreeze, 0.5 pounds of gas from a lab test vial, one gallon of chemical stripper, air emissions from open paint cans, 885 pounds of CF_4, five gallons fiberglass resin, one minor vapor release from a lime storage facility, and 24 pounds of sodium hypochlorite.

Corrective action was taken for releases that could be contained and did not immediately dissipate. Those that could not be contained and remediated were either instantaneous air emissions or discharges to water conveyances. The releases to water were minor and had minimal impact on the environment. The releases to air immediately dissipated. None was of a duration or concentration to cause long-term environmental impact.

FINES AND PENALTIES

In 2002, IBM paid one $840 fine for some construction debris and nonhazardous office waste containing IBM's name that was found in an industrial park far from IBM's location in Monterrey, Mexico. Over the past five years, IBM has paid 12 environmental fines for a total amount of $14,796.

FINES AND PENALTIES WORLDWIDE

	98	99	00	01	**02**
Number	4	5	1	1	**1**
Fine *($ in thousands)*	$2.8	$9.3	$1.9	$0.01	**$0.8**

Among the resources IBM has developed to help safeguard client and employee privacy:

"Privacy in a Connected World," an executive-level white paper that explains this complex issue.

IBM Privacy Services that include a Privacy Workshop and a Privacy Strategy and Implementation Service that is based on IBM's Enterprise Privacy Architecture.

Tivoli Privacy Solutions, an access control solution developed for e-businesses needing to effectively implement privacy policies while helping protect the client's personally identifiable information.

Enterprise Privacy Architecture to provide an object-oriented methodology to implement an organization's privacy policy.

IBM Privacy Institute, an organization within IBM Research that promotes the advancement of privacy and data protection technology for e-business.

A MATTER OF TRUST

BY HARRIET PEARSON

Vice President, Human Resources, IBM Systems Group, and Chief Privacy Officer

THE INTERNET and other technologies didn't create the issue of personal privacy protection. Our human desire for privacy is as old as the emergence of society.

However, there's no doubt that today, the Net is where the open, global, liberating virtues of a networked world collide with more ancient concerns, and force a re-examination of the balance between individual privacy and the competing social interests — ranging from law enforcement to consumers' desires for all kinds of more personalized products and services.

If you believe, as I do, that privacy is basically the ability of individuals to determine how information about them is communicated to others, then it's obvious that the issue transcends information technology, and encompasses the full range of government regulation, local customs, and personal choices and actions.

For example, technology might allow an insurance company to search millions of pieces of data to find out more about me. But I expect the company's own standards of behavior, the regulations under which it operates, and the norms of the society in which I live to put a brake on inappropriate and harmful use of information about me. That's more than an entirely reasonable expectation. It's the bedrock of trust on which human-to-human and human-to-business relationships are premised.

Without question, there is a role for government on this issue, and it will vary by region of the world. Privacy protection, by definition, also entails significant individual responsibility and action. And the role of industry is unambiguous: Even in nations with strong data protection regulation, the private sector has the largest responsibility to develop workable processes to manage and secure data.

As one of the world's leading information technology companies, we believe we have a preeminent responsibility — on both the technical and policy fronts — to contribute to the evolution (if not creation) of thoughtful frameworks for privacy and data protection.

IBM recognized, even in the Internet's infancy, that privacy would play a pivotal role in the development of the networked world. In fact, three decades before that, we were among the first companies with a global privacy policy, focused on employee information.

We are still evolving our policies today, because the underlying issues are very much alive. Guiding us is the belief that the heart of this intensely human and complex question is trust. Earned trust. We develop our policy initiatives — and the solutions that help our business and government clients protect customer or citizen information — with that in mind.

IBM IMPLEMENTED ONE OF THE FIRST GLOBAL PRIVACY POLICIES FOR THE WEB, AND APPOINTED ONE OF THE INDUSTRY'S FIRST CORPORATE CHIEF PRIVACY OFFICERS

IBM INVENTED (AND DONATED TO THE WORLD WIDE WEB CONSORTIUM) AN XML-BASED PROGRAMMING LANGUAGE CALLED ENTERPRISE PRIVACY AUTHORIZATION LANGUAGE (EPAL) THAT ALLOWS COMPANIES TO TRANSLATE CLEARLY STATED PRIVACY POLICIES INTO TERMS A COMPUTER CAN READ AND ACT UPON

When Remediation Is Needed

Because pollution prevention technologies have changed so much since the 1950s, some measures that had been considered state-of-the-art then are now either ineffective or outmoded. IBM's response has been to recognize the need for corrective action wherever necessary, and to act responsibly and swiftly.

For example, IBM has vigorously remediated groundwater contamination ever since a problem was discovered in 1977 at its site in Dayton, N.J. Because of that discovery, IBM voluntarily began monitoring groundwater at its manufacturing and development locations around the world.

Worldwide, IBM has approximately 2,740 monitoring and 135 extraction wells. In 2002, approximately 15,200 pounds of solvents from past contamination were extracted while remediating, controlling and containing groundwater at 10 currently operating sites and nine former sites in three countries. At four of those sites, an additional 620 pounds of solvents were removed by soil vapor extraction or other methods.

As part of its groundwater monitoring program,
IBM has approximately
2,740 MONITORING WELLS
to measure water quality
at its plants and labs worldwide

As a result of the U.S. Superfund law, IBM is also involved in cleanup operations at some non-IBM sites in the United States to which wastes had been sent for disposal in the past. The Superfund law creates a retroactive responsibility for certain past actions even though they may have been technically and legally acceptable at the time, and requires that companies whose waste was sent to such sites share in the cleanup costs.

As of year-end 2002, IBM had received notification (through federal, state or private party) of its potential liability at 102 sites. Of these, 53 are on the U.S. National Priority List. Of those 102 sites, IBM believes it has or may have some involvement — resolved, ongoing or under investigation — at 71. The company believes that it has no responsibility at the others.

A Superfund site at which IBM is actively involved is one where the company began remedial activities in 2001. The site, known as the Shenandoah Road Groundwater Contamination Superfund Site in New York, was operated by a vendor with whom IBM did business about 30 years ago. The vendor's operations apparently caused soil and groundwater contamination that was discovered in 2000. The vendor is no longer in business and in May 2001 IBM voluntarily signed an agreement with the U.S. EPA to excavate and remove the contaminated soil. IBM has also provided water filtration systems for local homeowners with wells whose water may have been impacted. IBM is currently working on developing an alternative water source as a long-term reliable drinking water supply and is studying possible groundwater remediation solutions.

Groundwater vapor intrusion can occur when, under certain conditions, chemical vapors from groundwater rise and possibly enter buildings. Government agencies, scientists and professional engineers are studying this phenomenon to better understand it.

Following draft guidance issued by the U.S. EPA in December 2001, IBM identified its former facility at Endicott, N.Y., as a facility where this situation might occur. Upon further analysis, it was determined that low levels of some vapors from contaminated groundwater to which IBM contributed might be entering some homes and buildings off of IBM's former plant site.

The level of vapors was very low, and there are no national standards defining permissible amounts of these vapors in nonindustrial indoor air. IBM has been offering and installing ventilation systems for the structures meeting the criteria the New York State Department of Environmental Conservation established for this project.

When a cleanup program becomes likely, and its costs can be reasonably estimated, IBM accrues remediation costs for all known environmental liabilities. Estimated environmental costs connected with postclosure activities (such as removing and restoring chemical storage facilities) are accrued when the decision is made to close down a facility. As of December 31, 2002, the accrued amount was $247 million. Accrued amounts do not cover any site in a preliminary stage of investigation, when neither the extent of the cleanup nor the company's percentage of responsibility has been established.

Recognition Programs

In 1991, IBM established two internal programs to encourage and recognize environmental leadership.

The Corporate Environmental Affairs Excellence Award confers awards of up to $50,000 on individuals and teams of employees for innovative achievements contributing to IBM's environmental, energy and safety objectives. In 2002, four awards were presented to 22 employees from three countries.

The innovations recognized included new processes and technologies for pollution prevention, a new environmental information management tool, and an initiative that enabled IBM to obtain a significant amount of competitively priced green power in the U.K.

Since the inception of IBM's Environmental Recognition Programs
64 AWARDS have been granted to **358 EMPLOYEES** for an amount totaling more than **$2.4 MILLION**

The IBM Chairman's Environmental Affairs Award was established to encourage leadership and recognize achievement and progress in environmental affairs on the part of manufacturing sites and organizations. Recipients are selected based upon the leadership, comprehensiveness, progress and results of their environmental, energy and safety programs within the framework of IBM's corporate policy on environmental affairs.

In 2002, IBM East Fishkill received the award in the competition among Manufacturing/Fabricator sites. IBM Brazil received the award in the competition among Sales & Distribution, Software and Services organizations.

More information on the recipients of these awards and their achievements may be found at www.ibm.com/ibm/environment/news.

A SAMPLING OF RECOGNITION

In 2003, IBM Japan took the top AAA rating in the Deloitte Touche Tohmatsu Environmental Corporate Rankings in Japan. IBM Japan also took first place in environmental activities and corporate ethics in a ranking compiled by Sustainability Management Rating Institute (SMRI) and sponsored by the Environmental Management Association with the backing of the Ministry of Economy, Trade and Industry and EPA Japan.

Number 1 in the U.K.'s Business in the Environment's 7th Index of Corporate Environmental Engagements in 2003. This was the second consecutive year in which IBM shared the top rating and was the only company to retain its position from the prior year.

IBM Canada's Bromont site won the 2002 CCME award for pollution prevention. The submission to the Canadian Council of Ministers of the Environment, Pollution Prevention Award won the large-business category.

IBM Burlington was recognized with three 2002 Governor's awards for environmental excellence and pollution prevention. They included two Environmental Excellence in Pollution Prevention awards and the Environmental Excellence in Environmental Stewardship and Resource Protection award.

IBM Zurich's new headquarters building received the Minergie Certificate of the Swiss Environmental and Energy Agency in 2002. The Minergie label is awarded for buildings that meet the very stringent energy conservation requirements of this government agency. IBM's building is the largest building in Switzerland to receive the label.

IBM Guadalajara received the 2003 Tlaloc Award for environmentally conscious water usage from the Guadalajara division of the Environmental Committee of the American Chamber of Commerce of Mexico and the Federal Enforcement Agency for Environmental Matters.

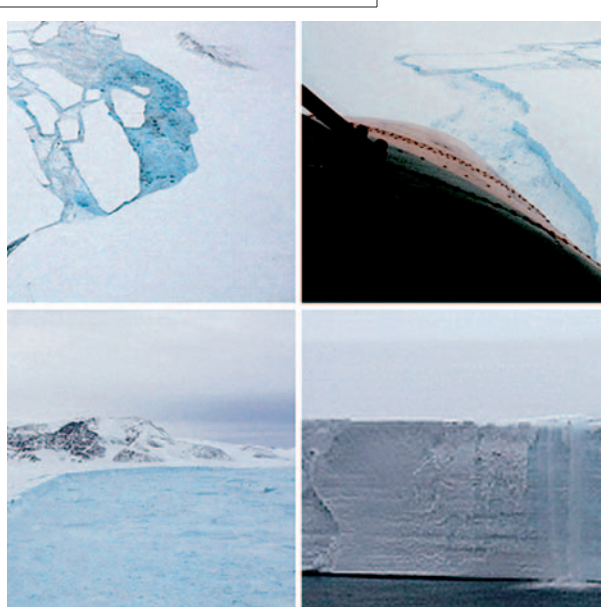
At one end of the spectrum, massive computing power, simulation capabilities and software advancements unlock new understanding of some of the world's most demanding problems. *At the other end*, the vast human capital of IBM unlocks the potential of future generations. In both cases, new understanding creates insight, which spawns solutions, which change our world.

HARNESSING THE POWER FOR EARLY DETECTION

IBM is working with universities and government agencies in the United Kingdom and the United States to build sophisticated computing "grids" that will enable early screening and diagnosis of breast cancer. Grids harness the computing power of hundreds or thousands of geographically dispersed systems. The two mammography projects, based at Oxford University and the University of Pennsylvania, will give physicians access to the processing power required for sophisticated analytics of digitized X-ray data — with the goal of improved detection of breast cancer and improved efficacy of treatments.

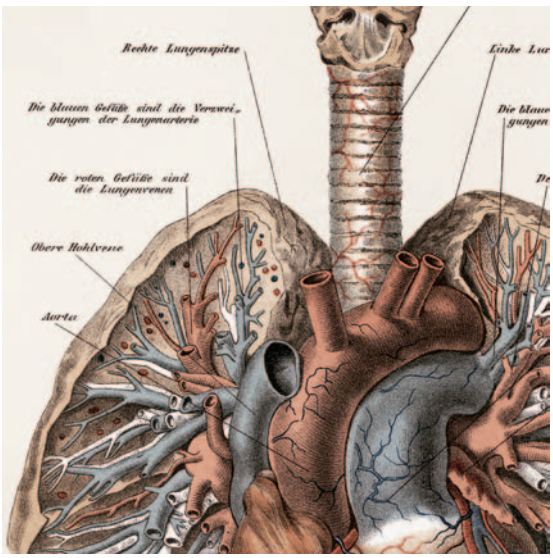
FINDING ANSWERS BLOWING IN THE WIND

IBM and the U.S. Department of Energy's National Nuclear Security Agency will use a supercomputer known as Blue Gene/L to research global climate change and the interaction between atmospheric chemistry and pollution.



STALKING KILLERS

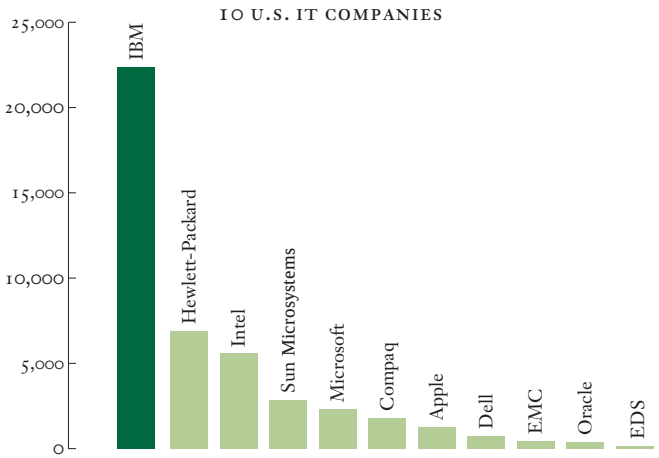
IBM and the iCapture Centre, a UBC-Providence Healthcare Research facility based in Vancouver, are collaborating on research into the link between genetic and environmental influences in heart, lung and blood vessel diseases, which are the leading causes of death in North America.



PRESERVING CULTURAL IDENTITY

A Reinventing Education project is developing the professional skills of more than 2,200 teachers in Brazil and teaching students to use technology to conduct research, document local history and preserve their local culture.

IBM'S 1993–2002 PATENT TOTAL VS. 10 U.S. IT COMPANIES



IF SMALLPOX RETURNS

IBM, United Devices and Accelrys are supporting a global grid research effort to develop new drugs that for the first time would combat the smallpox virus after infection. The project will provide leading smallpox researchers at Oxford and Essex Universities in the United Kingdom, the University of Western Ontario, and other locations with the computing horsepower needed to identify new drug targets.

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Note: At the end of 2002, IBM had sold to other companies some or all of the manufacturing operations at the following locations: Endicott, N.Y.; Rochester, Minn.; San Jose, Calif.; Guadalajara, Mexico; Mainz, Germany; Beijing, China; Shenzhen, China; Fujisawa, Japan; and Prachinburi, Thailand. The site at Szekesfehervar, Hungary, ceased operations at year-end 2002.

ABOUT THIS REPORT

This report combines and expands upon IBM's previous reporting on corporate philanthropy, diversity, employee well-being and environmental programs. The document describes these and other programs and provides data for 2002. Where appropriate, five years of data have been included to demonstrate trends and provide year-to-year comparisons. Environmental and selected financial data include that for IBM and its controlled subsidiary companies, which in general are majority owned. Other data is that of IBM.

We have included information on the areas of corporate responsibility we believe are the most relevant and meaningful with regard to IBM's global activities. Among the references used in preparing this report are the Global Reporting Initiative (GRI) *Sustainability Reporting Guidelines*, the corporate social responsibility surveys of a number of external organizations, and questions we are often asked by customers and other stakeholders.

We view this report as a valuable tool for maintaining dialogue with a variety of interested parties, including our employees, customers, investors, neighbors and regulators. We also realize we cannot address all the interests of all groups in a single document. For additional information, questions or comments on the report, call (800) IBM-4YOU or, outside the United States, (404) 238-1234.

Additional information about IBM and its business performance may be found in the company's annual report, available on the Internet at www.ibm.com/annualreport/2002/index_home.htm. Copies also may be obtained from EquiServe Trust Company, N.A., PO Box 43072, Providence, Rhode Island 02940-3072; (888) IBM-6700. Investors residing outside the United States, Canada and Puerto Rico should call (781) 575-2727.

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This report is also available at www.ibm.com/ibm/responsibility/