

Section Three

Environment: Minimizing IBM's Impact on the Planet

OUR CHALLENGES

Increasing energy efficiency and reducing greenhouse gas emissions

Using environmentally preferable materials in our manufacturing processes, products and services

Minimizing waste and maximizing reuse and recycling

Ensuring we do business with environmentally responsible suppliers

Helping the world develop in a more sustainable manner

OUR OPPORTUNITIES

Conserving energy and producing products that maximize energy efficiency

Designing and manufacturing products and services to minimize environmental impact

Helping suppliers succeed by setting clear expectations

Developing innovative solutions to the world's energy and environmental challenges

OUR STRATEGY

Maintaining IBM's single global environmental management system

Integrating environmental responsibility throughout the fabric of IBM's business

Setting goals, measuring performance, adjusting accordingly, and disclosing results

Collaborating with industry peers regarding common supplier expectations

Integrating IBM's technical expertise and cross-industry business acumen for innovation that matters

The way the world works is changing. The systems and processes that enable billions of people to work and live; physical goods to be developed, manufactured, bought and sold; and services to be delivered are becoming increasingly instrumented, interconnected and intelligent.

This presents both an opportunity and a challenge to the development of better and more innovative approaches to managing environmental impacts.

At IBM, we apply this thinking to two overarching aspects of our business: minimizing the potential impact of our own operations and products, and applying our technology, products and services to help our clients and partners reduce theirs. Our environmental policy is supported by a comprehensive global environmental management system that governs our operations worldwide.

This section summarizes IBM's environmental programs in the following areas:

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1

Climate Protection

"The world's leading scientists and economists have painted two simple visions of a globally warmed future. In one, we see a world addressing climate change and continuing to prosper; in the other, a world that ignores the threat and faces devastating losses. Choosing our preferred vision is easy. Making it a reality is more challenging.

A recent report by The Climate Group on behalf of the Global e-Sustainability Initiative (GeSI), found that smarter use of technology could reduce global emissions by 15 percent and save global industry over \$946.5 billion in annual energy costs by 2020.

To share in the multi-billion dollar savings and unlock longer-term efficiency gains, mature businesses and economies need to invest in upgrading and improving entrenched systems and infrastructures. While smart technology exists already, it requires critical investment to be taken to scale and can only be unleashed with support from other industry leaders and policy makers around the world. I am confident IBM, given its track record, will be among those leading this vital progress."

Steve Howard,
Chief Executive Officer,
The Climate Group

At IBM, we recognize climate change as one of the most critical global environmental challenges facing the planet. We believe that businesses, governments and civil societies throughout the world need to work together to stabilize the atmospheric concentration of greenhouse gases (GHGs).

Our climate strategy includes a comprehensive effort to create products and develop solutions that enable clients to become more energy efficient (see pages 72-77). To reduce our company's operational environmental impact, we have a three-part strategy to reduce GHG emissions:

- 1 Designing, building, updating and operating our facilities and manufacturing operations to optimize our use of energy and materials and minimize GHG emissions
- 2 Purchasing electricity generated from low CO₂-emitting, renewable energy-generating sources where feasible
- 3 Efficiently utilizing the perfluorocompounds (a family of GHG materials) needed in our semiconductor manufacturing to minimize their emissions

IBM's goals and performance in these areas are summarized on pages 45-49.

Energy Conservation

IBM's Global Energy Management team has developed energy efficiency best practice checklists for lighting, heating, ventilating and air conditioning systems, data centers and central utility plants. The top 200 energy using locations, representing over 80 percent of IBM energy use, assessed their conformance to the best practices. Based on this analysis, IBM committed \$9 million per year for 2007 and 2008 to energy projects beyond those funded through the regular operational budget process.

KEY PERFORMANCE INDICATOR
Energy and Climate

ENERGY CONSERVATION
(2007 Percentage of Total Energy Use)



Goal: To achieve annual energy conservation savings equal to 3.5 percent of IBM's total energy use.

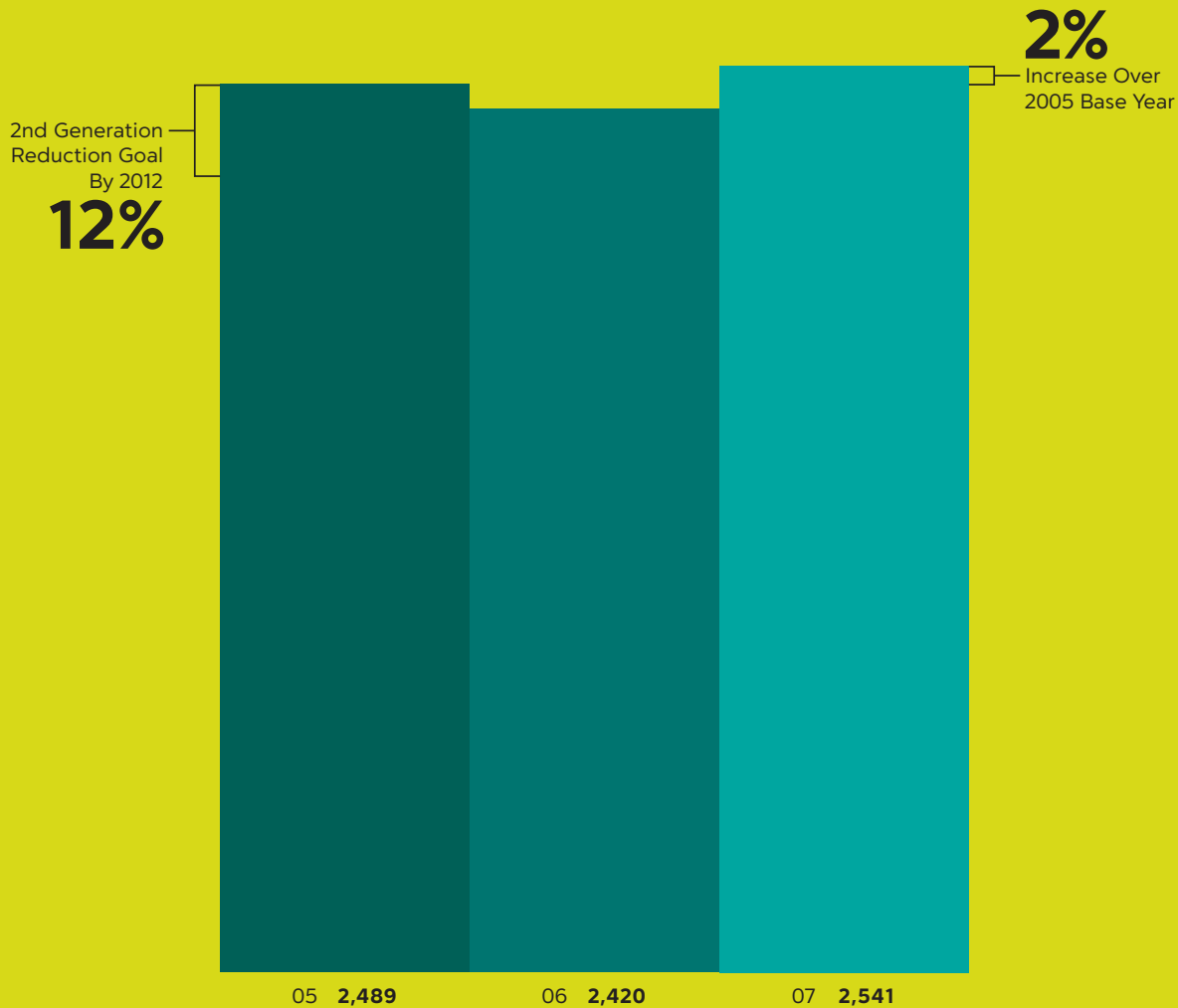
Between 1990 and 2007, IBM saved 4.6 billion kilowatt hours (kWh) of electricity consumption, avoided nearly 3.1 million metric tons of CO₂ emissions (equal to 45 percent of the company's 1990 global CO₂ emissions) and saved over \$310 million through its annual energy conservation actions.

Results: In 2007, IBM's energy conservation projects across the company delivered savings equal to 3.8 percent of its total energy use versus the corporate goal of 3.5 percent.

These projects avoided the consumption of 179 million kWh of electricity and 2.7 million gallons of fuel, representing the avoidance of 111,000 metric tons of CO₂ emissions. The conservation projects also saved \$19.3 million in energy expense. Reductions in energy consumption from downsizings or the sale of operations are not included in the energy conservation goal.

KEY PERFORMANCE INDICATOR Energy and Climate

CO₂ EMISSIONS REDUCTION (Metric Tons x 1,000)

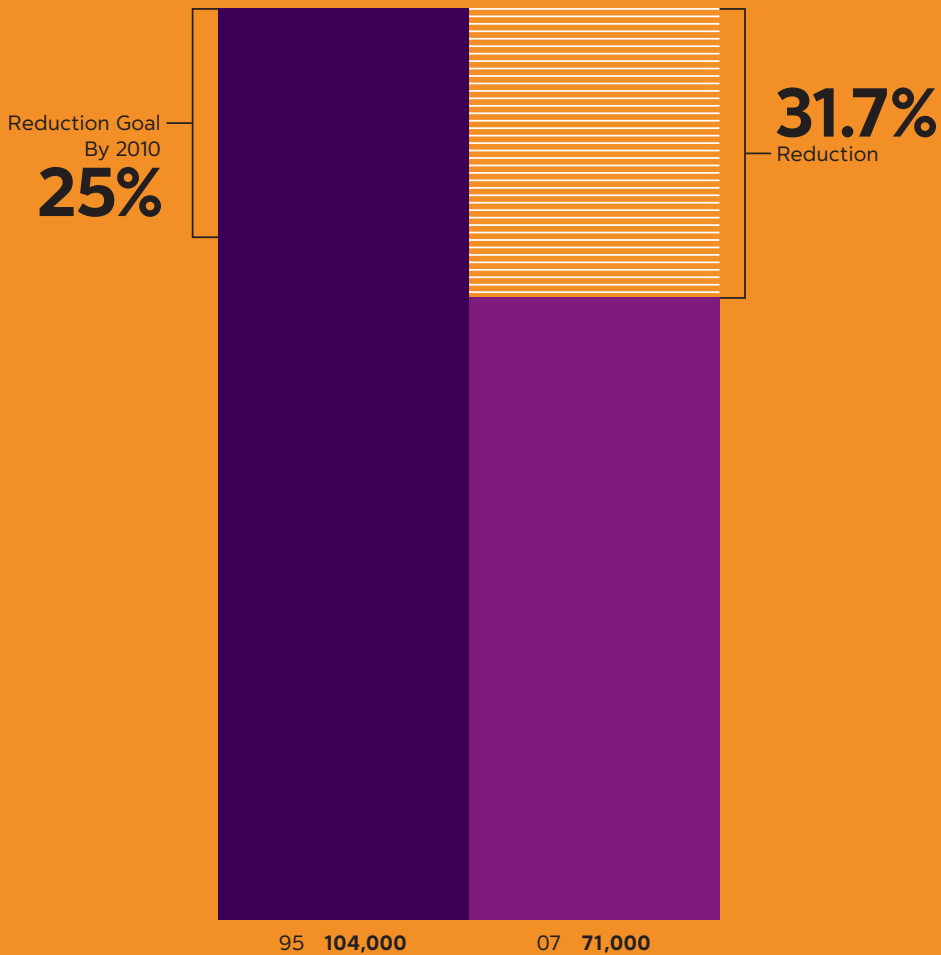


Goal: To further extend the significant reductions in CO₂ emissions IBM had achieved from 1990 through 2005, IBM set a "second generation" CO₂ emissions reduction goal: to reduce the CO₂ emissions associated with IBM's energy use 12 percent between 2005 and 2012 through: a) energy conservation, b) use of renewable energy, and/or c) funding an equivalent CO₂ emissions reduction by the procurement of Renewable Energy Certificates (RECs) or comparable instruments.

Results: In spite of outstanding conservation efforts and use of renewable energy, IBM's net CO₂ emissions increased by 5 percent between 2006 and 2007 as a result of business growth. This is a 2 percent increase when compared with the 2005 base year of IBM's goal.

KEY PERFORMANCE INDICATOR
Energy and Climate

PFC EMISSIONS REDUCTION (IN CARBON EQUIVALENTS)
(Metric Tons)



Goal: To reduce perfluorocompound (PFC) emissions from semiconductor manufacturing 25 percent by 2010 against a base year of 1995.

Results: As of year-end 2007, IBM's emissions were 31.7 percent below the 1995 baseline amount of 104,000 metric tons of carbon equivalent.

We also expanded our building recommissioning program which “fine tunes” building energy management systems to improve efficiency. In 2007, recommissioning projects saved nearly \$1.8 million and 24,000 megawatt hours (MWh). In 2008, 25 sites globally will be evaluated under this program and we expect to capture an estimated \$1.5 million of savings.

In spite of our significant energy conservation in 2007, our net energy use and CO₂ emissions increased by five percent over 2006 as a result of business growth.

The table at the right includes estimates for portions of IBM's office space that are leased. CO₂ emissions are calculated for all energy use, including electricity, fuel oil and natural gas.

IBM uses the greenhouse gas reporting protocol developed by the World Resources Institute and the World Business Council for Sustainable Development to gather and report its CO₂ emissions.

**ELECTRICITY AND FUEL USE AND RELATED CO₂ EMISSIONS
(SCOPE ONE AND TWO)**

	2003	2004	2005	2006	2007
Electricity and Fuel Use (Thousand MMBTU)	21,695	21,360	22,630	22,491	23,638
CO ₂ (Est) (Metric Tons × 1,000)	2,334	2,192	2,489	2,420	2,541

Using Renewable Energy

In 2007, we increased our total purchase of renewable energy to 455,000 MWh, representing 8.5 percent of our worldwide electrical usage—up from 7.3 percent in 2006. This represents a CO₂ emissions avoidance of 232,000 metric tons which was achieved through:

- › **INCREASING RENEWABLE ENERGY PURCHASES IN THE U.K.** from 250,000 MWh in 2006 to 311,000 MWh in 2007 and adding 16,000 MWh and 3,865 MWh in the Netherlands and Australia respectively
- › **RENEWABLE ENERGY PURCHASES IN THE U.S.** (direct purchases or purchases of RECs) totaled 110,103 MWh, placing IBM in the top 25 renewable energy purchasers on the year-end 2007 U.S. EPA Green Power Partners list and the top 15 on the Fortune 500 list

Voluntary Climate Initiatives

IBM is a charter member of the Chicago Climate Exchange (CCX), a voluntary emissions trading system with binding commitments for GHG emissions reduction by its member companies. IBM's participation in CCX covers scope one and two GHG emissions from the company's operations in Canada, Mexico and the U.S. By the end of 2007, IBM had reduced its GHG emissions 16.5 percent compared to the commitment of a 4.25 percent reduction.

We also announced a new U.S. EPA Climate Leaders program goal in 2007: to reduce total global GHG emissions by 7 percent between 2005 and 2012. We achieved our first Climate Leaders goal by reducing our total global energy-related GHG emissions an average of six percent per year and PFC emissions by 58 percent from 2000 to 2005.

Transportation

Employee Commuting

At IBM, we have been active in promoting programs that reduce our employees' commute. We have two flexible work programs:

- › **WORK-AT-HOME:** Enables many employees to have their office be their home
- › **MOBILE EMPLOYEES:** Enables many other employees to work from home a designated number of days each week

Last year, in just the U.S. alone, our work-at-home program conserved approximately 7.75 million gallons of fuel and avoided more than 64,000 metric tons of CO₂ emissions as a result of reduced employee commuting. Globally, many IBM locations provide support for the use of public transit systems, including shuttles from locations to mass transit stations, and alternate transportation or "loaner" cars for business trips during the workday.

Business Travel

We have developed a suite of IT collaboration tools to enable real-time collaboration without travel, including e-meetings, Web conferencing capabilities, advanced audio conferencing, video conferencing and instant messaging. During 2007, on average, there were approximately 1,000 Web conferences involving 5,000 participants each business day. Sixteen percent of these conferences involved clients and business partners.

Logistics

We have been working to make our logistics operations more efficient, and are a member of the U.S. EPA's SmartWaySM Transport program, a voluntary initiative to improve fuel efficiency and reduce GHG emissions associated with our logistics operations. In 2007, 85 percent of our spending for shipping goods within the U.S. and from the U.S. to Canada and Mexico was spent with SmartWay carriers. In recognition of its leadership, IBM received a 2007 SmartWay Excellence Award. We have also extended specific SmartWay requirements to our global distribution operations.

2

Product Stewardship

The objectives of our product stewardship program, which was established in 1991, are to develop, manufacture and market products that are increasingly energy efficient; can be upgraded and reused to extend product life; incorporate recycled content and environmentally preferable materials and finishes; and can be recycled and disposed of safely.

Our environmental requirements for our products are integrated into our global environmental management system (EMS) and are included in our *Integrated Product Development* process.

Environmentally Preferable Substances and Materials

As an integral part of its EMS, IBM routinely and consistently monitors and manages the substances it uses in its manufacturing and development processes and in its products. Our precautionary approach includes the careful scientific review and assessment of certain substances prior to their use in IBM's processes and products. We have proactively banned or restricted substances used in our processes and products when sound science has determined an adverse effect on human health or the environment—and have often taken these steps in advance of any legal or regulatory intervention. Some examples:

- › **WE PROHIBITED** the use of polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) in our product designs during the early 1990s and in purchased commodities in 1993.
- › **WE BANNED** the use of cadmium in inks, dyes, pigments and paints in 1993, in plastics and plating in 1994, and in CRT monitors along with nickel cadmium batteries in the mid-1990s.
- › **WE DISCONTINUED** the use of polyvinyl chloride (PVC) in IBM IT system enclosures in 2000 and prohibited it from OEM system enclosures in 2007.
- › **WE PROHIBITED** the use of nonreacted tetrabromobisphenol A (TBBPA) as a flame-retardant in IT system enclosures in 2007.

KEY PERFORMANCE INDICATORS

Product Stewardship

RECYCLED PLASTICS



Results: In 2007, 10.6 percent of the total plastic IBM procured under its corporate contract for use in IBM products was from recycled content versus our goal of 5 percent or more.

Since the inception of this program in 1995, 11.8 million pounds of recycled resins have been procured under IBM's corporate contracts for use in IBM products.

PRODUCT PERFORMANCE AND POWER IMPROVEMENT

Range of percent increase in computing capability per kWh of electricity used in servers, point-of-sale terminals, optical storage



Goals and Results: IBM's product energy goal is to continually improve the computing power delivered for each kWh of electricity used with each new generation or model of a product. New models in 2007 delivered 14 percent to 73 percent more computing capability for each kWh of electricity used.

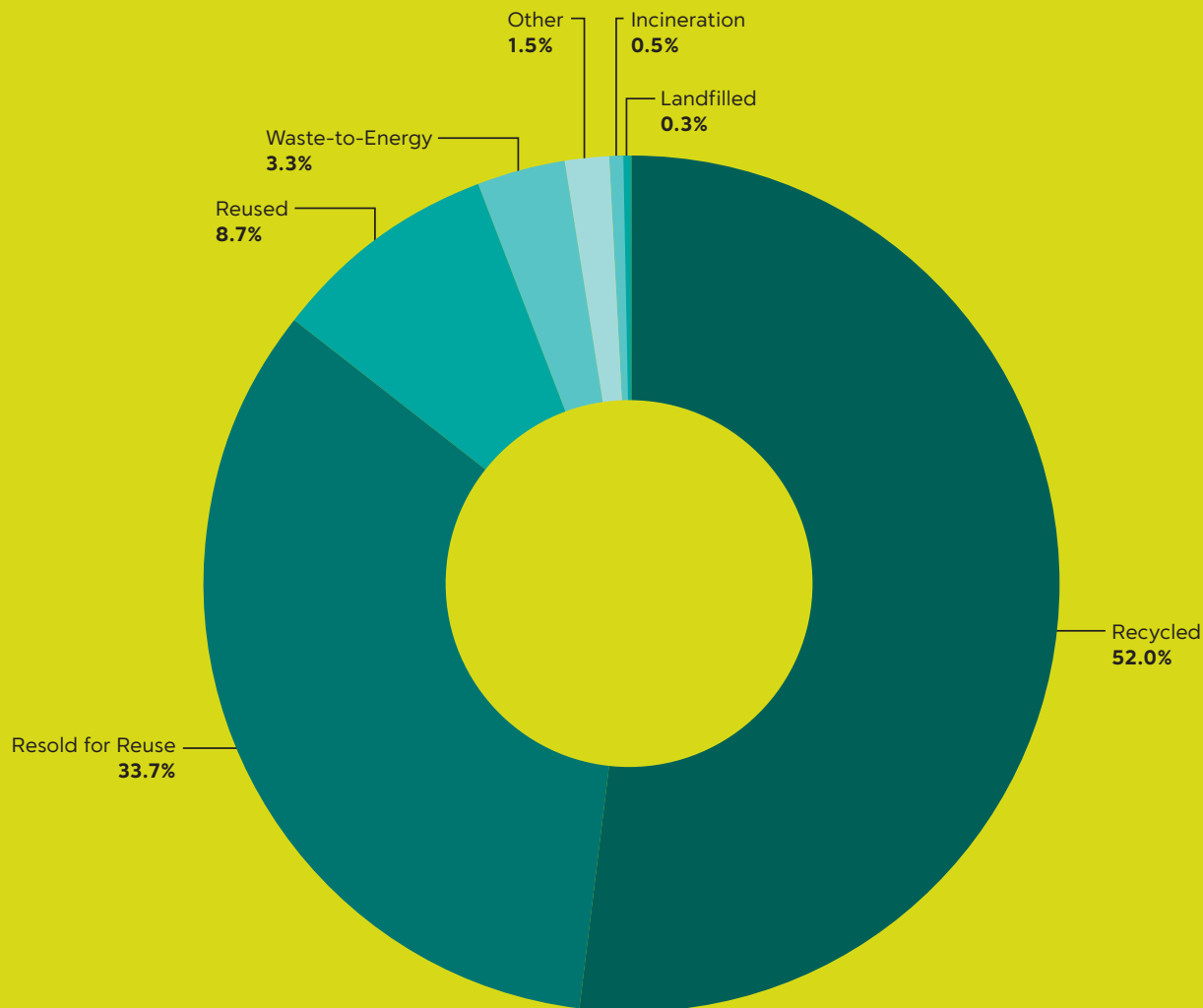
Note: IBM sold its Printing Systems Division in 2007. No new monitors or DASD subsystems were released in 2007.

KEY PERFORMANCE INDICATOR

Product End-of-Life Management Operations

LANDFILL AND INCINERATION MINIMIZATION

(Percentage by Weight 2007)



Goal: Reuse or recycle end-of-life products so that the amount of product waste sent by IBM to landfills or to incineration for treatment does not exceed 3 percent of the total amount processed.

Results: In 2007, our Product End-of-Life Management (PELM) operations worldwide processed 44,332 metric tons of end-of-life products and product waste. This represents 42.4 percent of the estimated 104,592 metric tons of new IBM IT equipment manufactured and sold in 2007. IBM's PELM operations sent only 143.7 metric tons (0.3 percent) of the total amount processed to landfills. When combined with incineration, these PELM operations sent only 346.5 metric tons (0.8 percent) of the total amount processed to incineration facilities for treatment or to landfills.

Product End-of-Life Management

Our Global Asset Recovery Services organization offers Asset Recovery Solutions to commercial customers in 57 countries, including:

- › **MANAGEMENT OF DATA SECURITY** and disk overwrite services
- › **WORLDWIDE REMARKETING NETWORK** for product resale
- › **STATE-OF-THE-ART REFURBISHING AND RECYCLING CAPABILITY** for IT equipment
- › **OPTIONAL LOGISTIC SERVICES** such as packing and transportation

By the end of 2007, IBM's Product-End-of-Life Management (PELM) operations had documented the recovery and processing of more than 1.5 billion pounds (686.9 million kilograms) of product waste worldwide since 1995, the year we began reporting this metric.

3

Pollution Prevention and Waste Management

Whenever possible, IBM designs processes to eliminate or reduce chemical use and substitute more environmentally preferable chemicals. We understand how important it is for chemicals that are used for research, development and manufacturing to be managed properly—from selection and purchase through storage, use and disposal.

IBM has developed comprehensive programs and practices for review and authorization of chemical usage and for the storage and utilization of chemicals. The company also has a comprehensive and proactive waste management program that ensures that materials disposed of by IBM are managed in a responsible manner.

KEY PERFORMANCE INDICATOR
Pollution Prevention

HAZARDOUS WASTE GENERATION

Reduced

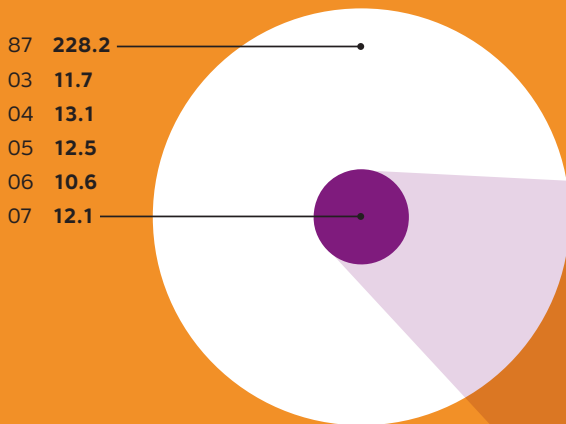
8.4%

Indexed to Output

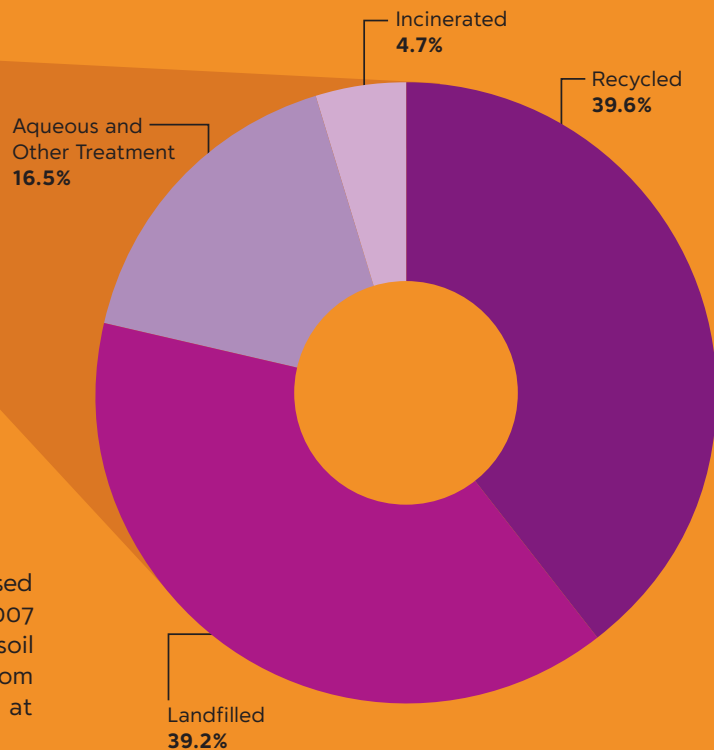
Goal: Achieve year-to-year reduction in hazardous waste generation from IBM's manufacturing processes indexed to output.

Results: In 2007, IBM's hazardous waste generation indexed to output was reduced by 8.4 percent. This means that source reduction efforts avoided the generation of hazardous waste by 302 metric tons. This goal covers approximately 90 percent of IBM's manufacturing and hardware development-related hazardous waste, which comes from four manufacturing sites.

HAZARDOUS WASTE QUANTITIES WORLDWIDE
(Metric Tons × 1,000)



HAZARDOUS WASTE MANAGEMENT WORLDWIDE
(2007 Quantities 12,054 Metric Tons)



Commentary: Our hazardous waste generation increased by 1,423 metric tons, or 13 percent, from 2006 to 2007 — which was the result of managing contaminated soil from remediation work at one IBM site and sludge from a periodic cleaning of emergency holding tanks at another site.

In 2007, IBM recycled 39.6 percent of our hazardous waste, and 39.2 percent was sent to landfills. Of the total amount that went to landfill, 53 percent was sludge from industrial wastewater treatment plants. Local government regulations require disposition of this sludge in secure hazardous waste landfills.

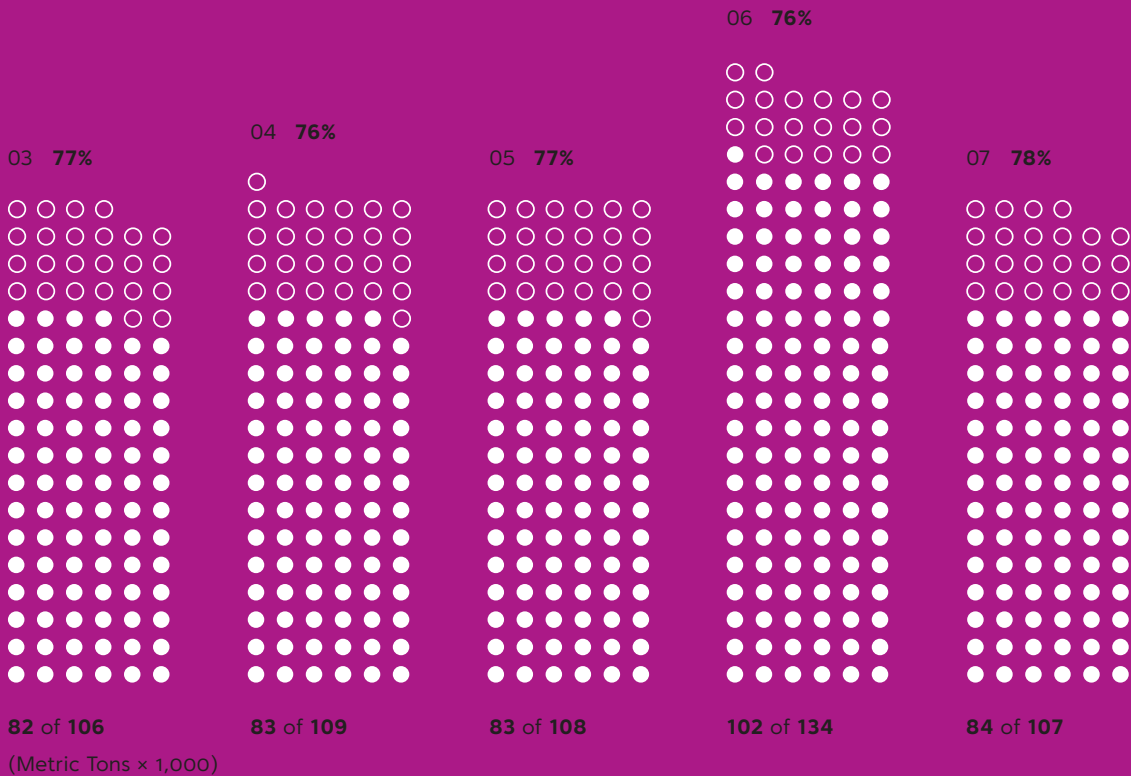
IBM's total hazardous waste has decreased by 94.7 percent since 1987, the base year of this metric.

Commentary: It is possible for IBM's total hazardous waste to increase year-to-year even when it was reduced relative to output in our metric. This is due to the fact that our total hazardous waste includes waste from operations other than manufacturing, such as facility operations and distribution.

KEY PERFORMANCE INDICATOR
Nonhazardous Waste Recycling

PERCENT RECYCLED

- Total Generated
- Total Recycled



Goal: Send an average of 75 percent of the nonhazardous waste generated at locations managed by IBM to be recycled.

Results: In 2007, IBM sent 78 percent of its nonhazardous waste to be recycled, with 52 percent of the locations achieving or exceeding the 75 percent recycling goal.

Note: Data for 2006 was revised. The recycling percentage was previously incorrectly reported as 74.3 percent.

KEY PERFORMANCE INDICATOR

Chemical Use and Management

WORLDWIDE USE OF CHEMICALS ON THE U.S. TOXIC RELEASE INVENTORY LIST*

2007 Reduction

22.3%

Goal: Continual reduction in worldwide use of chemicals on the U.S. Toxic Release Inventory (TRI) list of chemical quantities.

Results: From 2006 to 2007, IBM's total chemical quantities worldwide decreased by 1,207 metric tons to 4,208 metric tons.

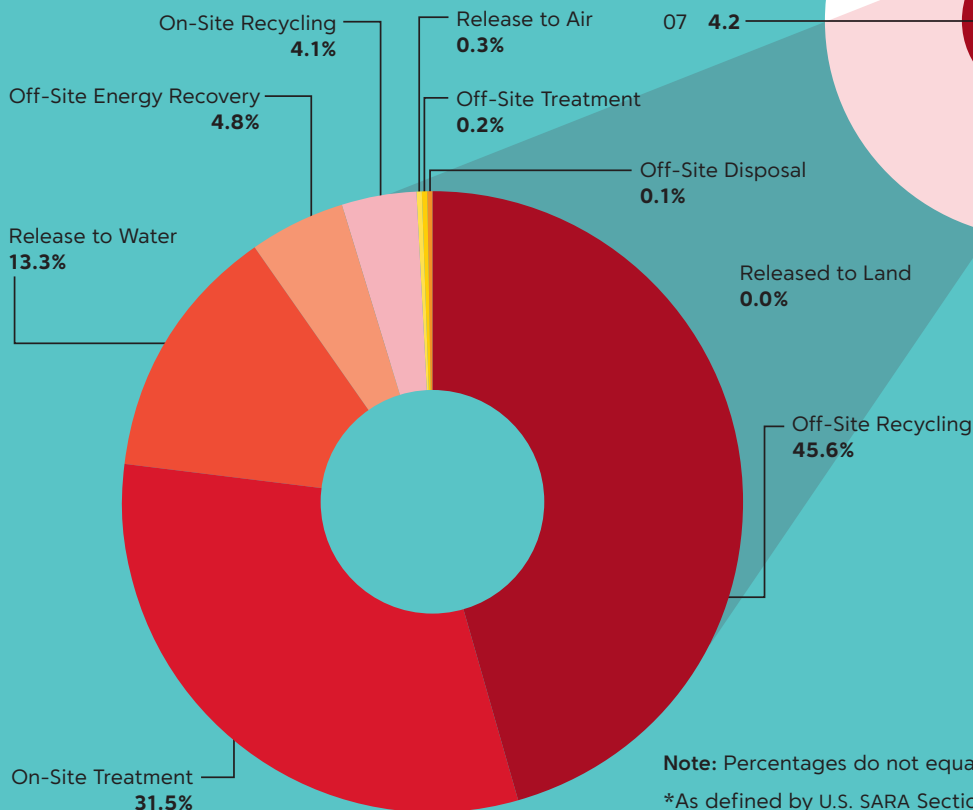
Commentary: Under the U.S. Superfund Amendments and Reauthorization Act (SARA) of 1986 and the U.S. Pollution Prevention Act (PPA) of 1990, companies are required to file an annual inventory of routine releases and off-site transfers in addition to recycling, treatment and energy recovery activities for more than 600 chemicals listed on the TRI list. IBM has used the TRI metric to measure its chemical quantities, releases and transfers for its operations globally since 1993. In 2007, IBM sites worldwide used 16 of these chemicals in quantities greater than the reporting threshold of 10,000 pounds (4.54 metric tons) of use per year. Since 1993, the base year of this metric, we have reduced our total TRI chemical quantities worldwide by 86.3 percent.

WORLDWIDE USE OF CHEMICALS ON THE U.S. TOXIC RELEASE INVENTORY LIST*

(Reportable Quantities in Metric Tons × 1,000)

WORLDWIDE USE OF CHEMICALS ON THE U.S. TOXIC RELEASE INVENTORY LIST*

2007 Reportable Quantities: 4,208 Metric Tons



Note: Percentages do not equal 100 percent due to rounding.
*As defined by U.S. SARA Section 313 and PPA

KEY PERFORMANCE INDICATOR

Water Conservation in Semiconductor Manufacturing Operations

WATER CONSERVATION

03 11.0%

04 10.3%

05 3.7%

06 2.3%

07 4.1%



Goal: To achieve an annual water savings equal to 2 percent of total annual water usage in our microelectronics manufacturing operations, based on the water usage of the previous year and measured as an average over a rolling five-year period.

Results: In 2007, water initiatives in IBM's microelectronics operations achieved a 4.1 percent savings rate, translating to a savings of 1,601 thousand cubic meters (TCM) of water. In addition, ongoing recycling and reuse activities in microelectronics manufacturing operations accounted for an additional 1,411 TCM of water conserved.

Over the past five years, IBM's microelectronics manufacturing operations had achieved an average annual water savings of 6 percent versus the 2 percent goal established in 2000.

5**Audits**

Every IBM manufacturing, hardware development and research site completes a comprehensive self-assessment every year, some more frequently. Each year, certain sites are also audited for environmental, health and safety compliance by our Corporate Internal Audit staff. In addition, as part of our global registration to ISO 14001, approximately 20 sites or registered entities are audited annually by an independent ISO 14001 registrar.

6**Remedial Activity**

When groundwater contamination was first discovered at one of our sites in 1977, we initiated groundwater monitoring at all of our manufacturing and development locations worldwide. Today, IBM has 2,752 monitoring and 114 extraction wells.

In 2007, 13,254 pounds of solvents from past contamination were extracted while remediating, controlling and containing groundwater at seven currently operating sites and 11 former sites in three countries. At four of these sites, an additional 546 pounds of solvents were removed by soil vapor extraction or other methods.

As a result of the U.S. Superfund law, IBM is also involved in cleanup operations at some non-IBM sites in the U.S. 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 2007, IBM had received notification of its potential liability at 109 sites. At the majority of these sites, it has been determined that IBM either never had liability or has resolved liability. As a result, IBM believes it presently may have potential liability at only 17 sites.

When investigation and/or remediation at an IBM location or an off-site facility is feasible, and its costs can be reasonably estimated, we establish accruals for loss contingency. Estimated costs connected with closure activities (such as removing and restoring chemical storage facilities) are accrued when the decision to close down a facility is made. At the end of 2007, the total accrual amount was \$261 million.

7

Environmental Partnerships

We are members of many voluntary initiatives and partnerships with governmental and nongovernmental organizations. Some examples:

- › U.S. EPA’s ENERGY STAR, Climate Leaders and SmartWay Transport programs
- › Carbon Disclosure Project
- › Chicago Climate Exchange
- › World Resources Institute’s Green Power Market Development Group
- › The Climate Group
- › Pew Center on Global Climate Change
- › World Wildlife Fund’s Climate Savers program
- › World Business Council for Sustainable Development
- › World Environment Center
- › Environmental Law Institute

8

Supply Chain Environmental Management

As part of IBM’s global EMS, we conduct environmental evaluations of a relevant subset of our suppliers, including all our hazardous waste services suppliers, certain production-related suppliers and all our product recycling and disposal suppliers. To address concerns about recycling in the extended supply chain, we also evaluate certain subcontractors our suppliers may use to handle recycling or disposal operations.

IBM encourages its suppliers to pursue ISO 14001 registration. We have also undertaken supplier training on environmental issues such as the relevant requirements of the E.U.’s RoHS and REACH Directives and the required information for IBM’s Product Content Declaration forms.

We are also members of the Electronic Industry Citizenship Coalition (EICC) and the CDP’s Supply Chain Leadership Collaboration (SCLC). These programs are helping to encourage environmental leadership in the supply chain.