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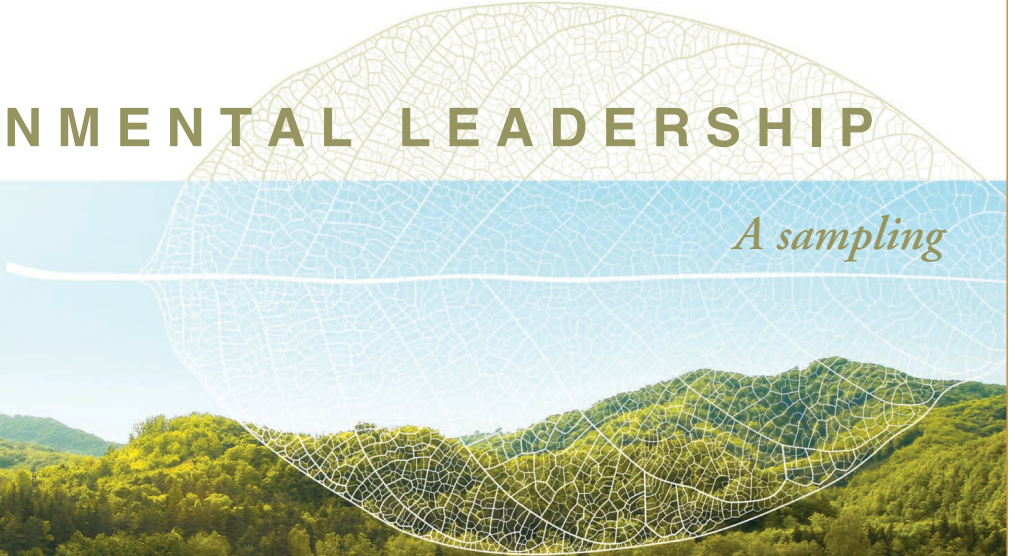
years of  
environmental  
leadership

IBM

*40 years of*

**IBM ENVIRONMENTAL LEADERSHIP**

*A sampling*



## EXECUTIVE LETTER:

IBM has had a long and unwavering commitment to sustainability. In 1965, founding family member Thomas J. Watson, Jr., then CEO, included the following commitment among IBM's Basic Beliefs & Principles:

“We accept our responsibilities as a corporate citizen in community, national and world affairs; we serve our interests best when we serve the public interest.... We want to be at the forefront of those companies which are working to make our world a better place.”

As this excerpt from the Principle demonstrates, IBM recognized its responsibility to sustainability—both business and societal—more than two decades before the term was defined in the 1987 World Commission on Environment & Development Report, “Our Common Future.”

In 1971, Thomas J. Watson, Jr. formalized the company's environmental programs and commitment with the issuance of its Corporate Policy on IBM's Environmental Responsibilities. The policy called for IBM to address not only the waste that results from producing its products but also to consider the consequences of processes that are established during product development—what became, decades later, a regulatory focus known as “pollution prevention.”

Over these past four decades, hundreds of thousands of IBMers in diverse roles have been actively engaged in driving and implementing the company's environmental programs and requirements. This brochure provides a sampling of the leadership, goals and performance these IBMers have enabled the company to achieve.

The initiatives described herein are actions IBM took voluntarily, ahead of regulatory requirements and/or beyond compliance. IBM has always recognized that accomplishments, not intentions, form the substance of leadership. Leadership also requires continued attention to remedial responsibilities. In spite of facing some significant financial challenges at times over the past 40 years, and regardless of how popular the topic of environmental protection has been over these years, IBM has shown there is never a time to stop or step back.

IBM is proud of the 40 years of environmental leadership highlighted in this document—and proud of all the IBMers whose vision, expertise and unwavering dedication and commitment sustain that leadership every day.

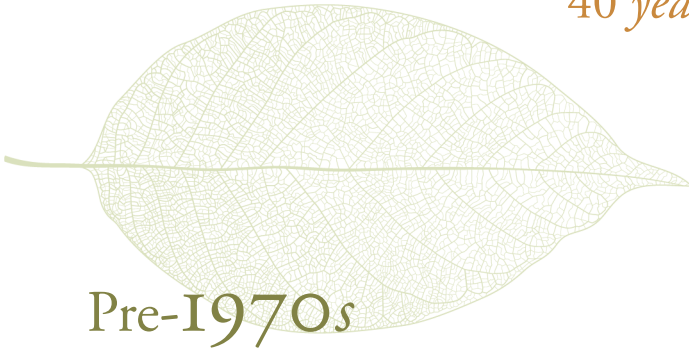
**Wayne S. Balta**

*Vice President, Corporate Environmental  
Affairs & Product Safety*

40 years of

## IBM Environmental Leadership

*A sampling*



### Pre-1970s

Though this document highlights the four decades from 1970-2010, the decades for which IBM has had a formal corporate policy on environmental protection, many of IBM's environmental initiatives pre-date that policy. Some examples from the 1960s are included to provide this earlier context.



● **1967:** Issued corporate directive regarding pollution control, disposal of liquid wastes and wastewater treatment

■ **1969:** Leveraged the capabilities of its new System/360® computers to conduct research on atmospheric pollution

■ **1969:** Issued purchasing directive requiring the environmental assessment of IBM's chemical waste disposal suppliers

● **1972:** Amendments to the U.S. Federal Water Pollution Control Act

# 1970s

## 1970-1974:

• **1971:** Issued IBM's first corporate policy on environmental protection, pursuant to which the company's existing environmental programs and requirements were consolidated under a management system

• **1971:** Issued corporate directive establishing solid waste disposal criteria

• **1972:** Integrated IBM's Supplier Environmental Evaluation Program into the company's environmental management system

• **1973:** Established requirements for hazardous waste management and the assessment of waste management service providers and their operations

• **1973:** Established IBM's global energy conservation program and developed the methodology leading to its first conservation goal in 1975

• **1973:** Established product and manufacturing process environmental impact assessment requirements

• **1974:** Issued corporate policy on energy and materials conservation and recycling

• **1974:** Initiated multi-year effort to eliminate polychlorinated biphenyls (PCBs) from use in IBM's products (Achieved elimination in 1978)

■ **1989:** The Valdez Principles, created by Ceres, prescribed a 10-point code of corporate environmental conduct

■ **1976:** The U.S. Resource Conservation and Recovery Act (RCRA) governing the disposal of solid waste and hazardous waste

■ **1976:** The U.S. Toxic Substances Control Act

■ **1979:** U.S. EPA regulation banning the manufacture of PCBs and requiring the phasing out of most PCB uses

## 1975-1979:

**1975:** Established corporate air emissions criteria

**1976:** THINK™, the company magazine, devoted an entire issue to IBM's energy conservation program and its 1973-1976 performance

**1977:** Established requirements for conducting environmental assessments when locating facilities and plant sites

**1977:** Joined the World Environment Center and its International Environment Forum

**1978:** Began global program to monitor groundwater quality at IBM's manufacturing and development locations and perform groundwater remediation as needed

**1978:** Created a dedicated toxicology function with the mission of performing chemical and materials assessments for IBM products and processes

**1979:** Introduced the first ARBO crate – heavy duty reusable crates for shipping IT equipment – that are still in use in the electronics industry today

• **1979:** Established requirements for secondary containment for underground tanks

**1985:** The U.S. EPA created the Office of Underground Storage Tanks (UST) to develop and implement a regulatory program for UST systems



# 1980s

## 1980-1984:

**1980:** Expanded Supplier Environmental Evaluation Program to include evaluations of certain production-related suppliers

**1981:** Introduced the unit card box (UCB), one of the most pervasive reusable packaging programs ever developed (The UCB was a reusable protective case for electronic circuit cards and was in use for nearly 20 years.)

**1982:** Extended secondary containment requirements to cover all storage tanks (above and below ground) and associated piping and delivery systems containing industrial liquids

**1984:** Issued corporate directive regarding control of chemicals used by contractors performing work at IBM locations

## 1985-1989:

**1985:** Migrated IBM's environmental metrics collection process to an IT-based global system with improved capability and consistency in data collection, storage and retrieval

**1988:** Established first non-hazardous waste recycling goal: recycle 50% of waste generated by IBM by 1992; achieved in 1990 (IBM's current goal is to recycle 75% of waste generated annually)

● **1989:** Established goal to eliminate CFCs and carbon tetrachloride from all its products and manufacturing processes by the end of 1993; goal updated in 1991 to include the elimination of 1,1,1-trichloroethane from all its products and manufacturing processes by the end of 1995

**1998:** The Montreal Protocol set 1998 as the deadline for a 50% reduction from 1986 levels in the production of CFCs and carbon tetrachloride



# 1990s

## 1990-1994:

**1989:** Issued corporate policy to minimize the use and ensure proper care of any required or unavoidable use of laboratory animals for research or testing

- **1989:** Offered first IBM product take-back and recycling program

**1990:** Established the Corporate Environmental Affairs staff, integrating IBM's environmental, energy, safety and industrial hygiene staff functions into a dedicated corporate organization

**1990:** Enhanced internal audit procedures and established the IBM corporate environmental audit program

**1990:** Joined the Industry Cooperative for Ozone Layer Protection (ICOLP) to actively share IBM's CFC-free technologies with suppliers, businesses and governments around the world

**1990:** Received the World Environment Center's Gold Medal for International Corporate Environmental Achievement

**1990:** Issued IBM's Corporate Packaging Design Guide to provide suppliers with IBM's environmental requirements for product packaging

- **1990:** Began annual corporate environmental reporting with issuance of the first "IBM and the Environment" report

**2005:** The effective date for implementing the 2002 EU Waste Electrical and Electronic Equipment (WEEE) Directive

**2000:** The Global Reporting Initiative (GRI) released its first version of guidelines for environmental, social and governance reporting



## 1990s

### 1990-1994: *cont.*

**1990:** Initiated programs to reduce employee work-related commuting. These programs paved the way for today's flexible workplace options, including working from home

- **1990:** Prohibited ozone-depleting chemicals, polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) and heavy metals from use in product packaging

**1994:** The effective date for implementing the EU Packaging and Packaging Waste Directive which banned certain heavy metals in product packaging

**1991:** Consolidated IBM's various Design for the Environment objectives into the company's Product Environmental Stewardship Program

**1991:** Founded the IBM Engineering Center for Environmentally Conscious Products

**1991:** Further expanded IBM's Supplier Environmental Evaluation Program to include product recycling and disposal suppliers

**1991:** Established the annual IBM Chairman's Environmental Award to recognize IBM organizations for environmental leadership

**1991:** Established the IBM Corporate Environmental Excellence Awards to recognize IBMers for environmental innovations

**1991:** Announced the IBM Environmental Research Program, which provided \$16 million in grants to 14 university and research institutions around the world. Research topics included urban/regional air quality, new methods for groundwater remediation, "green" product design, conserving biodiversity, protecting coral reefs and modeling climate change



• **1991:** Became one of the first companies to participate in the U.S. EPA's 33/50 Voluntary Toxics Reduction Program (Due to its early pollution prevention efforts, IBM had met the 1995 goal in 1989.)

**1992:** Became charter member of the U.S. EPA's ENERGY STAR® Computer Program and helped the EPA define criteria for computers and monitors

**1992:** Received the U.S. President's Environment and Conservation Challenge Award

**1992:** Instituted a methodology to correlate hazardous waste and production; began using it at IBM's U.S. sites and expanded to sites worldwide in 1993

**1992:** Received first of many U.S. EPA Stratospheric Ozone Protection Awards

• **1993:** Eliminated CFCs, carbon tetrachloride and 1,1,1-trichloroethane from use in manufacturing processes, and prohibited them from use in IBM products

• **1993:** Prohibited polybrominated biphenyls (PBBs) and polybrominated diphenyl ethers (PBDEs) from use in IBM products

**1993:** Prohibited hexavalent chromium in inks, dyes, paints and pigments used for IBM products

**1995:** U.S. EPA 33/50 goal: Achieve 33% reduction in the 17 TRI chemicals by year-end 1992 and 50% reduction by year-end 1995

**1995:** The accelerated phase-out date for CFCs, carbon tetrachloride and 1,1,1-trichloroethane per the 1992 Copenhagen Amendment to the Montreal Protocol

**2003:** PBB, PBDEs and hexavalent chromium were among the substances banned under the EU's Restriction on Hazardous Substances Directive



## 1990s

### 1990-1994: *cont.*

- **1993:** Established the Directors & Corporate Governance Committee of the IBM Board of Directors with responsibility for reviewing and considering IBM's positions and practices on significant issues of corporate responsibility including protection of the environment

- **1993:** Issued the first IBM engineering specification on baseline environmental requirements for parts and assemblies provided to IBM by its suppliers

- **1994:** Helped establish the SWICO Electronic Recycling System in Switzerland – first comprehensive national recycling system for electronic products in the world

- **2010:** A Board Committee with this responsibility is one of 20 Key Expectations for 21st Century Corporations in the 2010 Ceres Roadmap for Sustainability

### 1995-1999:

- **1995:** Established goal for the use of recycled plastic resins in IBM products

- **1995:** Began publicly reporting the amount of IT product waste recovered and recycled annually

- **1994:** Established IBM's network of Global Materials Recovery Centers for IT product reuse and recycling

- **1994:** Published the Public Environmental Reporting Initiative (PERI) Guidelines for voluntary corporate environmental reporting, created in partnership with nine other companies

- **2005:** The effective date for implementing the 2002 EU WEEE Directive

**1995:** Was one of the first three manufacturing companies to participate in the U.S. Department of Energy Voluntary Greenhouse Gas Emissions (1605b) Reporting program at its inception

- **1995:** Eliminated HCFCs from use in development and manufacturing processes, and prohibited their use in products

**1996:** Revised IBM's corporate-wide energy conservation goal from a cost-based to a consumption-based goal to better focus on energy use reduction

**1996:** Signed first Memorandum of Understanding with the U.S. EPA to voluntarily report PFC emissions – and extended this U.S. commitment to IBM's operations globally


**1996:** Developed methodology to assess IBM products on their environmental attributes

**1996:** Established program for the use of powder coatings in lieu of liquid paints for product decorative finishes to reduce the emissions of volatile organic compounds

**1997:** Developed Corporate Standard for Environmentally Conscious Design applicable to all IBM products

**1997:** Began publicly reporting environmental expenses versus estimated savings related to IBM's environmental programs

**2004:** The Montreal Protocol called for a 35% reduction in production of HCFCs by 2004 against a baseline of 1989



## 1990s

### 1995-1999: *cont.*

**1997:** Awarded the U.S. EPA Best-of-the-Best Stratospheric Ozone Protection Award

• **1997:** Was first major multinational company to earn a single global registration to the ISO 14001 Environmental Management System Standard. Achieved within just one year of the release of the Standard

**1998:** Was first semiconductor manufacturer to set a numerical goal for perfluorocompounds (PFCs) emissions reduction

**1998:** Developed IBM's Master Packaging Database, an internal tool to track environmental packaging data for all IBM products

**1998:** Received the U.S. EPA Climate Protection Award in the program's first year

**1998:** Awarded Grand Prize in the Japanese Environment Agency's Environmental Action Plan Award

**1999:** Received the U.S. EPA Climate Wise Partner Achievement Award

**1999:** Named the U.S. EPA ENERGY STAR Computer Partner of the Year (for the second consecutive year)

**1999:** Became first company to produce a personal computer using 100% recycled resin for its major plastic parts

**1996:** Publication of the ISO 14001 Environmental Management System Standard



# 2000s

## 2000-2004:

**2000:** Established water conservation goal

**2000:** Helped the World Wildlife Fund create its Climate Savers program and became a charter member

**2000:** Became charter member of World Resources Institute's (WRI) Green Power Market Development Group

**2000:** Piloted WRI/WBCSD GHG Protocol for Corporate Accounting and Reporting

**2000:** Was first IT company invited to join the Pew Center on Global Climate Change Business Environmental Leadership Council

**2001:** Received U.S. EPA's ENERGY STAR Excellence in Corporate Commitment Award

**2002:** Ranked #1 in the Nikkei Environmental Management Corporate Ranking of Japan manufacturers for 2nd consecutive year

**2002:** Became charter member of U.S. EPA Climate Leaders program

**2003:** Participated in the Carbon Disclosure Project (CDP) at its inception and in every subsequent year

**2003:** Was first company to report recovering and recycling 1 billion pounds of IT products and product waste

**2003:** Became charter member of Chicago Climate Exchange®

**2003:** Initiated and led Joint Industry Group on the development of uniform product content reporting requirements

**2004:** Established environmental and social requirements for all IBM suppliers via IBM's Supplier Conduct Principles and supporting audit program

**2004:** Launched, with other companies, the Electronic Industry Citizenship Coalition (EICC) and Code of Conduct



2000s

## 2005-2009:

**2005:** Received Low Carbon Leaders Award from The °Climate Group

**2005:** Received the top, Premier ranking in the U.K. Business in the Environment Index for the 5th consecutive year

**2006:** Joined U.S. EPA's SmartWay<sup>SM</sup> Transport Partnership and began extending specific SmartWay requirements to IBM's distribution operations worldwide

**2006:** Established IBM's 2nd generation CO<sub>2</sub> emissions reduction goal, building upon its results between 1990 and 2005: IBM's energy conservation actions conserved 4.3 billion kWh of energy, avoided 2.7 million metric tons of CO<sub>2</sub> emissions (an amount equal to 40 percent of its 1990 emissions) and saved \$273 million in energy expense

**2006:** Received the U.S. EPA's Climate Protection Award – first company to receive the award twice

**2006:** Recognized by the U.S. EPA under the Climate Leaders program for attaining voluntary goals

**2006:** Recognized by the U.S. EPA's Green Power Partnership

**2007:** Prohibited the use of polyvinyl chloride (PVC) in IT system enclosures

**2007:** Prohibited the use of tetrabromobisphenol A (TBBPA) as an additive flame retardant in IT system enclosures

• **2007:** Prohibited the use of perfluorooctane sulfonate (PFOS) and perfluorooctanoic acid (PFOA) in new IBM manufacturing, development and research processes

To date: The use of PFOS and PFOA in semiconductor manufacturing is exempt from U.S. EPA regulation restricting their use in consumer products



2000s

## 2010:

**2008:** Joined the Carbon Disclosure Project's Supply Chain Project at its inception

**2008:** Initiated and launched the Eco-Patent Commons with the World Business Council for Sustainable Development (WBCSD), Nokia, Pitney Bowes and Sony

**2009:** Established, along with DuPont, Fluor Corporation, Pitney Bowes and the Switzer Group, the Coalition for Energy and Environmental Leadership in Leased Space. The Coalition hopes to make more environmentally sustainable leased spaces increasingly the standard rather than the exception in the marketplace

**2010:** Established requirement that all IBM suppliers develop, deploy and sustain a corporate responsibility and environmental management system, set voluntary environmental goals and disclose performance

**2010:** Published 20th annual Corporate Environmental Report

**2010:** Achieved elimination of all uses of PFOS and PFOA in the company's semiconductor manufacturing operations

**2010:** Was first company to qualify four-socket systems to the new ENERGY STAR requirements for servers



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IBM Corporate Environmental Affairs  
294 Route 100  
Somers, New York 10589

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IBM's environmental initiatives,  
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