



碳减排先锋  
Defensores do Clima  
クライメート・セイバーズ  
Climate Savers



## Innovating for emission reductions.

IBM is a global leader in technology manufacturing, integrated computer systems, software and I/T business services and solutions.



### The System x3950 M2

Designed with high efficiency power supplies and the capability to virtualize, consolidate and execute multiple applications.

### How IBM has promised to fight climate change

IBM has a long history of commitment to promoting energy efficiency in its operations and addressing climate change issues through participation in meaningful voluntary NGO and governmental initiatives. These efforts have generated measurable, reported activities since before 1990. As part of this commitment, IBM was one of the charter members of the Climate Savers program.

IBM made a Climate Savers commitment in 2000 to achieve annual average reductions in greenhouse gas emissions between 1998 and 2004 equivalent to 4% of emissions associated with the company's annual fuel and electricity use. IBM aimed to achieve these reductions through energy conservation actions.

### The IBM achievement – and ambitious new commitments

IBM met – and exceeded – its initial Climate Savers commitment, avoiding greenhouse gas emissions associated with the company's annual energy use by an average of 5.7% from 1998 to 2004, and generating energy cost savings of \$115 million. This achievement was the result of energy conservation efforts and the use of renewable energy sources alone, and does not reflect additional CO<sub>2</sub> emissions savings from consolidations and restructuring.

Savings from IBM's efforts since 1998 equal taking 51,600 midsize cars (travelling 10,000 miles a year) off the road.

IBM's achievements in reducing greenhouse gas emissions resulted in the award of the US EPA Climate Protection Award in 1998 and 2006 – making the company the only two-time corporate winner – and a US EPA / DOE Green Power Leadership Award in 2006.

Building on its success in achieving its first Climate Savers commitment, IBM announced a second generation CO<sub>2</sub> reduction commitment: to reduce IBM's CO<sub>2</sub> emissions associated with its total operational energy use by 12% by 2012 against a 2005 base year. This will be achieved through energy conservation, the use of renewable energy and/or funding an equivalent CO<sub>2</sub> emissions reduction by the procurement of Renewable Energy Certificates (RECs) or comparable instruments.

### Explaining the IBM achievement to the world

As befits the company known as 'The Innovator's Innovator', IBM is committed to communicating its approach to others who may benefit.

The company works with WWF on events providing education to other stakeholders. IBM publicly discloses its greenhouse gas emissions inventory through the Carbon Disclosure Project.

### Conserving energy, saving money and sharing ideas

IBM takes great pride in its long record of energy conservation and greenhouse

**“Energy conservation is a major component of IBM’s climate protection program because the release of CO<sub>2</sub> by utility companies that power our facilities represents the greatest potential climate impact from our operations .”**

2006 IBM Corporate Responsibility Report

gas emission reduction programs and its early results. These have transformed its own operations and enabled a suite of carbon management, IT, and data center energy efficiency offerings to assist its clients to implement strategies to manage and reduce their energy use and greenhouse gas emissions.

IBM constantly seeks new ways to conserve energy. Paths to energy conservation include installing motion detectors in bathrooms and copier rooms; changing temperature set points in office areas to rebalance heating and cooling systems; and rebuilding and resizing high purity water pumping systems in semiconductor manufacturing lines. Between 1990 and 2007, IBM avoided nearly 3.1 million metric tons of CO<sub>2</sub> emissions – equivalent to 45% of the company’s 1990 global CO<sub>2</sub> emissions – and saved over \$310 million through its annual energy conservation actions.

Data centers are estimated to use between 1.5 to 2% of global energy use. In May 2007, IBM announced Project Big Green, redirecting \$1 billion per year to increase the IT energy efficiency. The project’s new products and services for IBM and its clients are expected to sharply reduce data center energy consumption.

Using renewable energy is also part of the IBM suite of interventions. In 2007, IBM increased its total purchase of renewable energy to 455,000 megawatt hours (MWh), representing 8.5% of its worldwide electricity usage – up from 7.3% in 2006. This represents a CO<sub>2</sub> emissions avoidance of 232,000 metric tons which was achieved through increasing renewable energy purchases in the U.K. from 250,000 MWh to 311,000 MWh, adding purchases of 16,000 and 3,865 MWh in the Netherlands and Australia respectively and purchasing Renewable Energy Certificates in the U.S., where the scale of the purchase placed IBM among 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.

## Sorting out logistics

IBM is reducing the CO<sub>2</sub> emissions associated with transporting parts and products through the efficient design of packaging, working with suppliers on their packaging designs and optimizing logistics.

In 2006, the company joined the U.S. EPA’s SmartWay<sup>SM</sup> Transport Partnership, a voluntary initiative to improve fuel efficiency and reduce greenhouse gas emissions associated with logistics operations.

In 2007, 85% of IBM’s spending for shipping goods within the U.S. and from the U.S. to Canada and Mexico was spent with SmartWay<sup>SM</sup> carriers. In recognition of its leadership, IBM received a 2007 SmartWay<sup>SM</sup> Excellence Award. The company has also extended specific SmartWay<sup>SM</sup> requirements to global distribution operations.

In 2008, IBM committed to ship 100% of its System z and Supercomputer product families to customers in North America (within the U.S. and from the U.S. to Canada and Mexico) exclusively using a SmartWay<sup>SM</sup> carrier.

## A leader in reducing commuting emissions

IBM pioneered programs to reduce employee commuting and related emissions. IBM runs one of the largest global corporate work-at-home and mobile employee programs, involving nearly one-third of the global workforce. Last year, in the U.S. alone, the company’s work-at-home program conserved approximately 7.75 million gallons of fuel and avoided more than 64,000 tonnes of CO<sub>2</sub> emissions as a result of reduced commuting. In addition, more than 2,000 tonnes of CO<sub>2</sub> emissions were avoided by employees using other commute-choice programs such as carpooling, vanpooling, etc.

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.