Corporate Environmental Affairs

Energy Efficiency & Climate Protection at IBM

- Operational results
- Innovation that matters

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ICTs and Climate Change– April 16, 2008

A Longstanding Commitment

The Corporate Policy on environmental affairs

(Formalized in 1971 and last revised in 1997)

- ●CEO's Commitment to the society
- ●Every employee has to follow the policy

- ・Lowering the environmental risk and load in business activities
- ・Environmental social contribution
- ・Environmental information disclosure

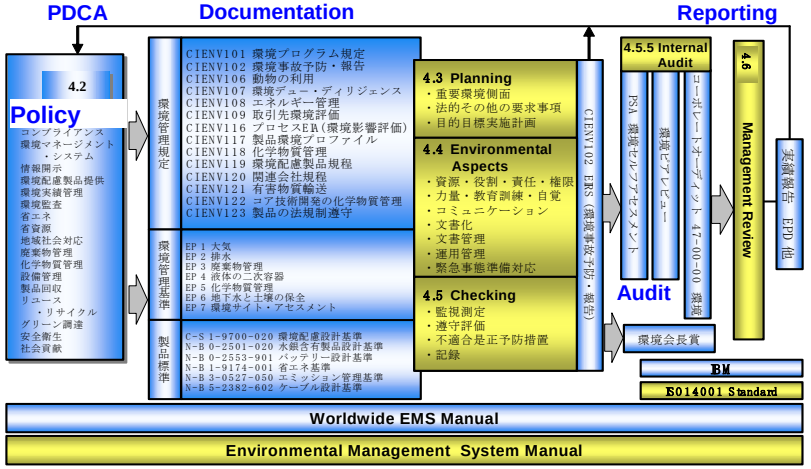
Transparency, Reporting, Verification

IBM led the world in disclosing consistent environmental information, including environmental accidents and administrative punishments.

Phase 1 1990-1998	Phase 2 1999-2002	Phase 3 2003-
＊IBM JP published the first report in 1993.		
'90	'99	Corporate Responsibility Report (CRR)
Environment Progress Report	Environment & Well Being Progress Report	
Global Environment	Global Environment +Human beings	Global Environment+ Human beings+ Society

Global Environmental Management System

The first single global Registration to ISO 14001 in 1997



Energy & Climate: IBM's Global Operations

- Early Action and Results
  - Energy Conservation & CO2 Emissions Reduction
  - Perfluorocompound (PFC) Emissions Reduction
  - Support for Renewable Energy
  - Pioneer of Flexible Workplace & Telecommute Options
- External Collaboration with Industry, Government and NGOs
- Transparency, Reporting and Verification
- External Recognition for Leadership

Energy & Climate: Early Action and Results

CO2 Emissions Reduction

- From 1990 through 2006, IBM's energy conservation actions:
  - Avoided app. 3 million metric tons of CO2 emissions (**equivalent to 44% ww、58% in J)**
  - Saved $290 million

PFC Emissions Reduction

- Led voluntary efforts to reduce PFC emissions from semiconductor manufacturing
  - Reduced PFC emissions 55% from 2000-2006
  - 1st semiconductor manufacturer to announce numeric goal for reducing PFC emissions (1998)

Renewable Energy

- Significantly increased procurement of renewable energy
  - 368 million kWhrs in 2006 (7.4% of IBM's global electricity purchases)

Employee Mobility

- Pioneer of employee telecommuting and work-at-home programs
  - Nearly 1/3 of global workforce participates (>100,000 employees)
  - Avoided over 68,000 tons of CO2 emissions in the U.S. alone in 2006

Energy & Climate: Looking Ahead

Next Generation Goal

- Notwithstanding early action and results, IBM has established a "next generation" CO2 emissions reduction goal:
  - Extend existing achievements in CO2 emissions reduction by reducing CO2 emissions associated with IBM's energy use by 12% between 2005 and 2012 based on conservation, use of renewable energy, and/or funding RECs.

Energy & Climate: External Collaboration

1992 Charter Member of U.S. EPA ENERGY STAR computer program

1995 One of first three manufacturers to start reporting under U.S. DOE Voluntary GHG Emissions Reporting (1605b) program

2000 Charter Member of World Wildlife Fund's Climate Savers program

2000 Charter Member of World Resources Institute's Green Power Market Development Group

2002 Charter Member of U.S. EPA Climate Leaders program

- ✓ 2007: Achieved initial goal. Extended participation by setting second generation goal (7% reduction in GHG emissions [CO2 & PFC] from 2005-2012)

2003 Charter Member of Chicago Climate Exchange (CCX)

- ✓ 2007: Achieved Phase I commitment. Extended participation to CCX Phase II, committing to 6% reduction against CO2 and PFC emissions baseline by 2010

2006 Joined U.S. EPA's SmartWay Transport Partnership

2007 Founding member of the Green Grid Consortium

2008 Charter Member of The Eco-Patent Commons

Ecosystem Collaboration in Japan

Global Environmental Action Program

- Intended to foster employees' volunteer spirit and environmental consciousness through tree plantation, forest conservation, and agricultural work.
- Adopt Forest Tkatsuki Nariai in Osaka

・Collaborative tree plantation, forest conservation and agricultural work with the people and companies in the place where the Environment Symposium is held.

IBM Environment Symposium

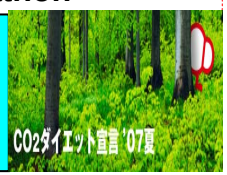
Co-sponsored by local governments

2000	Tokyo
2001	Kitakyushu
2002	Yokkaichi
2003	Morioka
2004	Sapporo
2005	Takamatsu
2006	Kumamoto
2007	Takatsuki

Participation in CO2 Diet Declaration Project

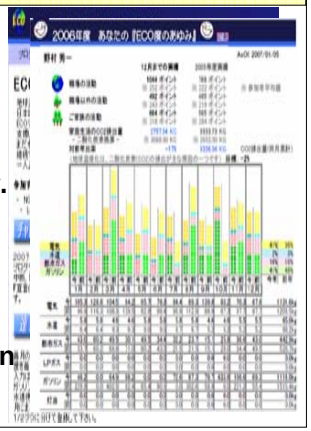
- Seedlings are donated to communities depending on the number of ECO Marathon

CO2 Diet Declaration (Secretariat：TEPCO)



ECO Marathon

- Stimulate and enhance employee's participation in ECO Action not only in company, but also at home and in community.
- 21% of the employees participate.
- Reporting and monitoring of the participant's contribution to energy conservation.



Participation in Team Minus 6%.

- Practice Team Minus 6%'s actions as a part

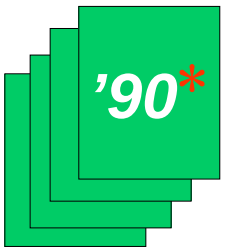
Team Minus 6% (Ministry of the Environment)

Development of environmental conservation activities and social action programs in collaboration with governments, NPOs, NGOs, and other companies.

Energy & Climate: Transparency, Reporting, Verification

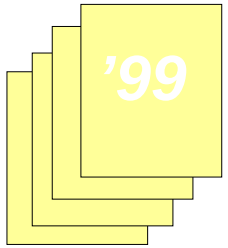
IBM led the world in disclosing consistent environmental information, including environmental accidents and administrative punishments.

Phase 1
1990-1998



Environment Progress Report

Phase 2
1999-2002



Environment & Well-Being Progress Report

Phase 3
2003-

Corporate Responsibility Report (CRR)

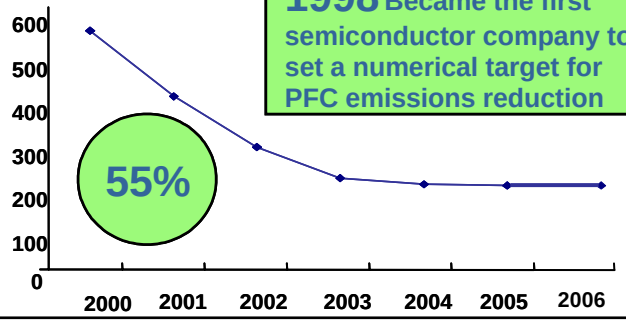
Global Environment	Global Environment + Human beings	Global Environment + Human beings + Society

Highlights of IBM's Operational Leadership in Climate Protection

Early Results

44% Between 1990 and 2006, IBMs global energy conservation actions reduced or avoided CO_2 emissions by an amount equal to 44% of its 1990 emissions.

1998 Became the first semiconductor company to set a numerical target for PFC emissions reduction



Charter member 2000

Business Environmental Leadership Council

Computer Program Charter member 1992

CHARTER MEMBER 2002

Awards & Recognition

USEPA Climate Protection Award 1998 and 2006

2005

The Climate Group 2005

CLIMATE LEADERS 2005

'98, '99, '01

BEST Workplaces for Commuters℠

FORTUNE 500 Top 20 2004, 2005, 2006

Green Power Purchaser Award 2006

Present Goal

Further extend IBM's early accomplishments by reducing CO_2 emissions associated with IBM's energy use 12% from 2005 to 2012 via energy conservation, use of renewable energy, and/or funding CO_2 emissions reductions with Renewable Energy Certificates or comparable instruments.

Early Support for Disclosure

WRI GREEN POWER MARKET DEVELOPMENT GROUP Charter member 2000

CARBON DISCLOSURE PROJECT

Since inception

Charter member 2003 Chicago Climate Exchange

1605(b) voluntary emissions reporting Since 1995

“Innovation That Matters” for Energy & Climate Protection

- green data centers
- Big Green Innovations

InnovationJam*

Innovation for Energy Efficient Data Centers

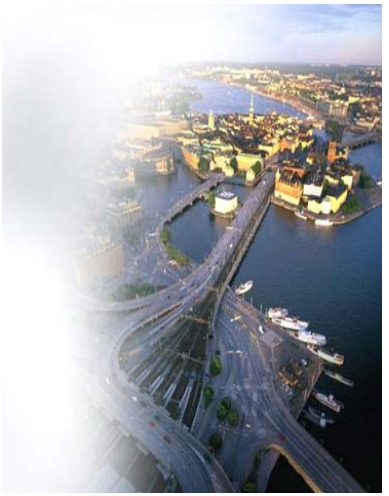
- Reallocating $1B per year to accelerate green technologies & services and dramatically improve data center energy efficiency
- IBM expects to double the computing capacity of its data centers by 2010 without increasing power consumption
- Five key steps: Diagnose, Manage & Measure, Cool, Virtualize, Build
- Nov 2007: Launched industry's 1st corporate-led Energy Efficiency Certificate program. Provides clients with third party documentation of energy savings and tradable energy efficiency certificates.

Innovation for Intelligent Utility Networks

- Provide processes, technology and partners to deliver informed decision-making through an IP-enabled continuous sensing network that connects all parts of a utility (equipment, control systems, applications, employees)
- A new level of enterprise information and integration
- Enables continuous monitoring & feedback about a utility's assets and operations to improve situational awareness, reliability, efficiency, flexibility, and environmental stewardship

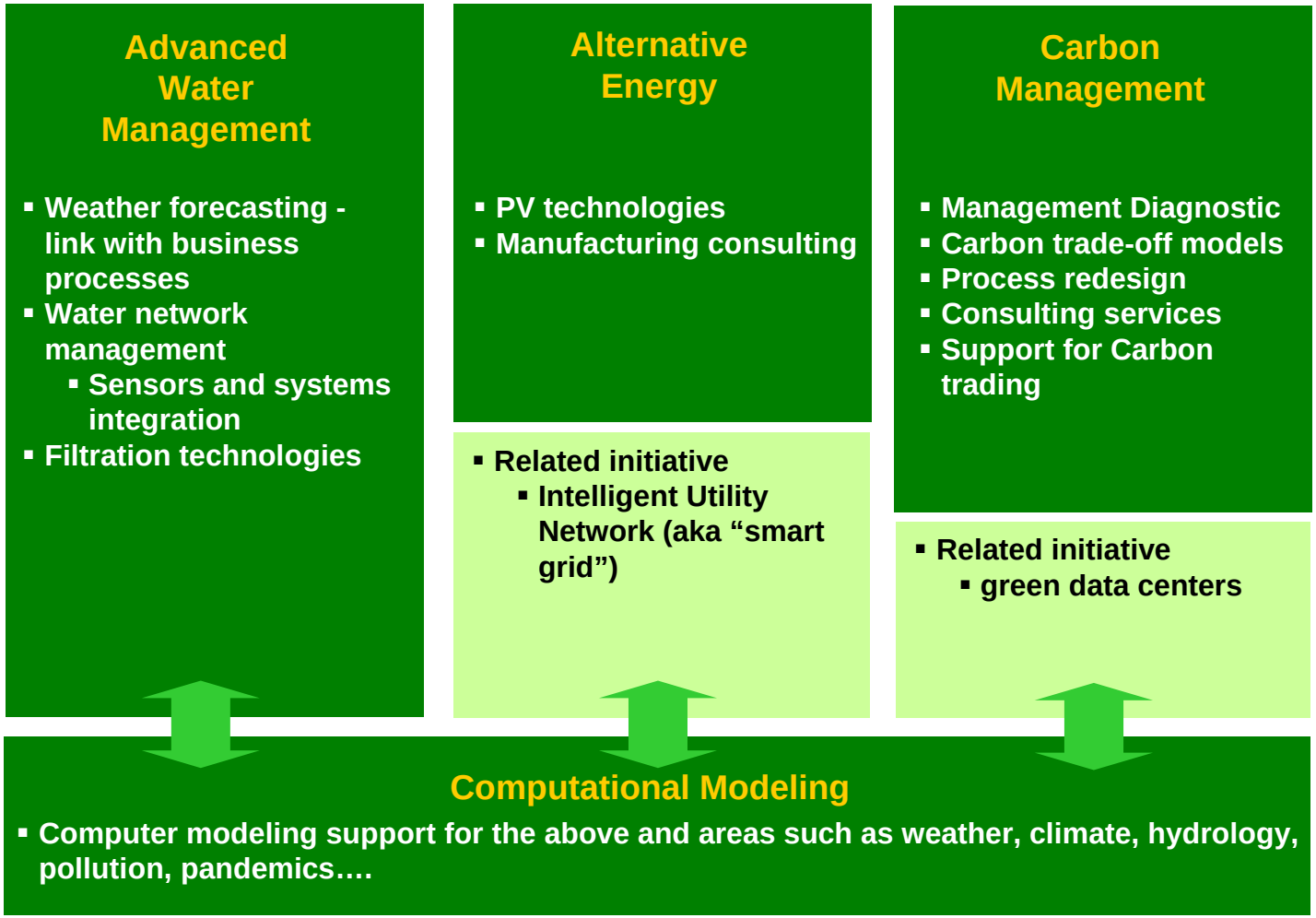
Innovation for Intelligent Transport Systems

- Real time monitoring & forecasting of congestion in cities enables real time action to reduce traffic and emissions
  - Can charge drivers at point of use for access to city centers
- Stockholm Congestion Tax Project
  - Involves 18 barrier-free control points
  - Allows differentiated pricing by time of day, congestion level, and potentially emissions level
  - 1st month pilot results:
    - Traffic reduced by 100,000 vehicle passages per day (25%)
    - Public transportation passengers increased by 40,000 / day
    - Congestion during peak hours dramatically reduced
    - Corresponding reductions in CO2 emissions



Big Green Innovations unit

Applying I/T for emerging needs and grand challenges facing the environment



Energy Efficiency & Climate Protection at IBM:
Operational Leadership and Innovation That Matters

- Critical issue for IBM, our clients and the environment

- Leadership through
  - via corporate responsibility in our own operations
  - by designing and deploying ever more energy efficient technologies and products
  - by helping others use the remarkable tool of information technology for constructive solutions to the world's environmental challenges.

Thanks for your attention