Green IT Initiative in Japan

METI, Japan

February, 2010

IT's contribution to conserving energy in Society

Energy-saving home appliances
LED/OEL illumination

HEMS、BEMS

Green by IT

Advanced automotive electronics

Homes

Telecommuting, Videoconferencing, online sales, etc.

Ecological driving with ITS, ETC

Business

Transportation

More efficient distribution with RFID tags

Industries

IT control systems of machines/factories

Power Electronics

Introduction of more energy efficient IT devices/systems

Green of IT

IT infrastructure

The Potential of Green IT

○ One calculation in Japan says・・・
Green IT can reduce 130million tons in 2025 from BAU in Japan.

Green IT = Green of IT + Green by IT

130 million tons   20 million tons   110 million tons

(cf. Japan's Emission(exclude LULUCF) was
1,374 million tons CO2 equivalent in 2007)

Green IT Initiative in Japan

- Establishment of the Green IT Promotion Council (February,2008)

  IT-related industry groups, research institutes, universities, government bodies, and others work together to promote Green IT

Strengthen Cooperation among Industry, Academia, and Government

Government's Role

- Assist the development of innovative technologies
- Promote the dissemination of energy-efficient technologies and products
- Standardization of measuring environmental contributions

International Partnerships and Collaborations

- Hold international symposiums
- Collaboration with overseas organizations

- Government and industries of U.S. , Europe and Asia

"Green IT Project"

Internet Data Centers (iDC)

30% or more reductions in power consumption of data centers (servers, storages, etc.)

Organizations

In-house data centers

Networks (such as the Internet)

30% or more reductions in power consumption of routers

SMEs
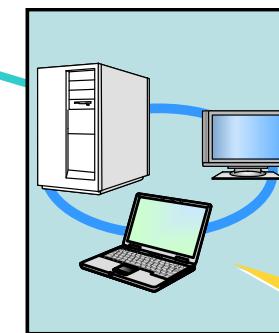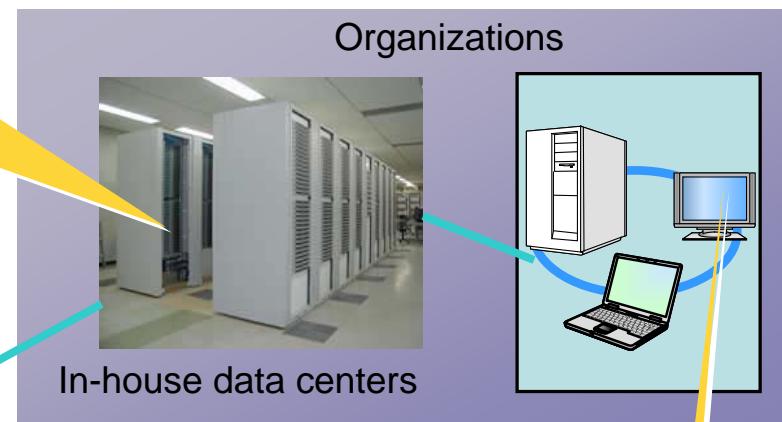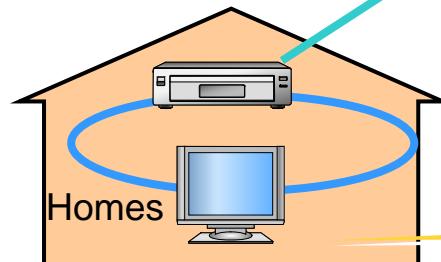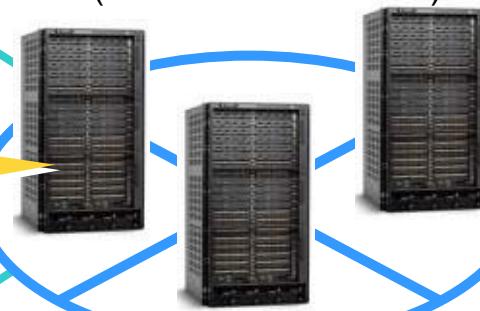
Halving power consumption of FPDs by developing innovative OLED displays

Homes

Top Runner Program

Example of Top Runner Program

Fuel
Economy
(km/L)

16

19km/L

18km/L

17km/L

15km/L

15km/L

14km/L

13km/L

12km/L

Standard Setting FY

Target FY

Achievement is judged by weighted average per product category.

Energy conservation standard based on the Top Runner Program
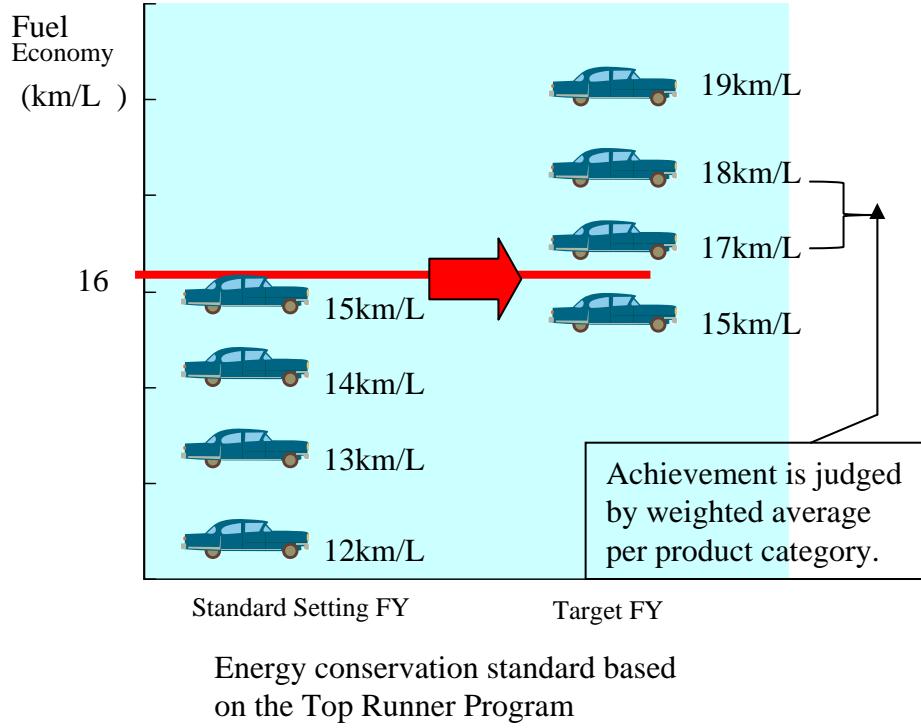
Specific Equipment (21)

1. Passenger vehicles
2. Freight vehicles
3. Air conditioners
4. TV sets
5. Videocassette recorders
6. Fluorescent lights
7. Copying machines
8. Computers
9. Magnetic disk units
10. Electric refrigerators
11. Electric freezers

12. Space heaters
13. Gas cooking appliances
14. Gas water heaters
15. Oil water heaters
16. Electric toilet seats
17. Vending machines
18. Transformers
19. Rice cookers
20. Microwaves
21. DVD recorders

＊) Routers/Switches will be added to the list soon.

Establishment of the Green IT Award

〇 Green IT Promotion Council established the Green IT Award in 2008 to promote Green IT efforts by industry and academic bodies. The award consists of "The Minister of Economy, Trade and Industry Award" and "Commerce and Information Policy Bureau Director-General Award", etc. for "of IT" and "by IT"

by IT

Minister of Economy, Trade and Industry Award

Yokogawa Electric Corporation :
Use of IT to eliminate energy waste on production lines

Commerce and Information Policy Bureau Director-General Award

Suzuyo&Co.,Ltd. and FUJITSU LIMITED :
CO_2 reduction proposal by simulation of modal shift

of IT

Minister of Economy, Trade and Industry Award

NTT DATA CORPORATION and NTT FACILITIES,INC.:
Green Data Center® Service

**Commerce and Information Policy Bureau Director-General Award**

ALAXALA Networks Corporation :
Dynamic Energy Saving System for Communication Networks

Green IT
AWARD
2009

Green IT Promotion Council

Cooperation with the U.S. and EU

○ Japan's Green IT Promotion Council exchanged a MOU with U.S.'s three groups for cooperation.
○ In February 2010, Japan, the U.S. and EU held the second government-private sector joint work shop for establishing new standards for a data center.

METI

Green IT Promotion Council

DOE

EPA

the green grid™
get connected to efficient IT

climate savers
smart computing™

DESC

Held a work shop in March 2009 and February 2010

Constructed a relationship for cooperation in May 2008

＜Example of Cooperation＞
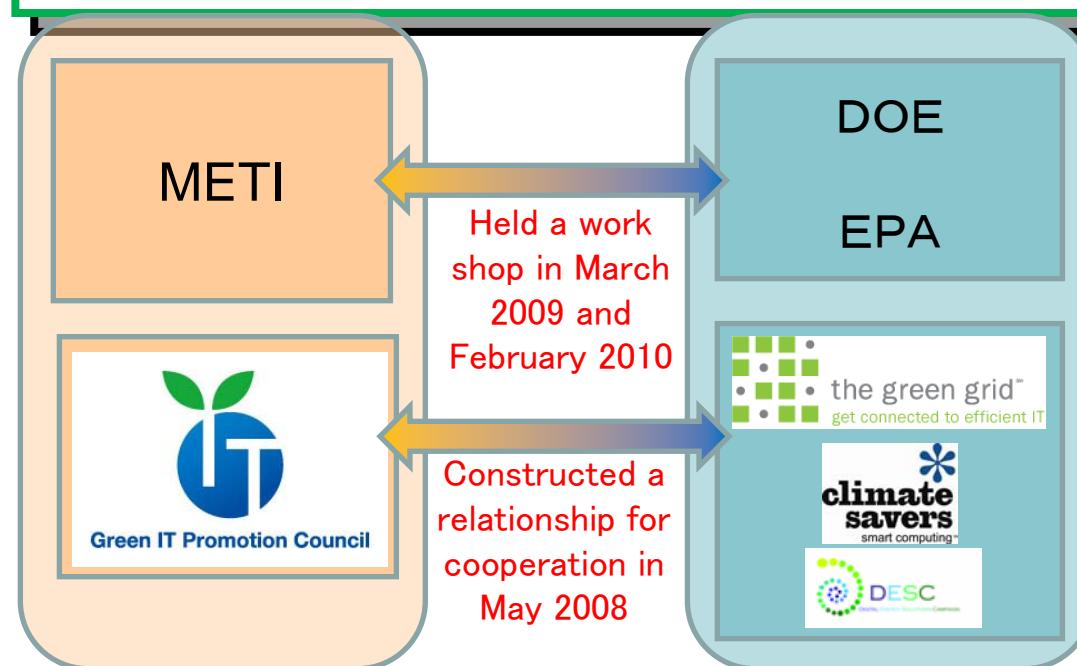
●Establishing new standards for a data center

●Harmonizing policies to prevail energy-saving home electronics

Japan

U.S.

Cooperation with Asia (1)

○ At the AEM-METI meeting in September 2008, METI proposed the Asia Knowledge Economy Initiative, which includes a future-oriented project on Green IT, making use of Japan's experience.

Asia Knowledge Economy Initiative(Sep.2008)
METI proposed this initiative as a mid-to-long-term framework for Japan-ASEAN cooperation following the Japan-ASEAN Economic Partnership.

• Dispatch a Green IT Mission
• Introduce best practices
• Measure the potential energy savings through IT for factories and buildings
• Hold seminars within Asia

Holding seminars

Introduction of best practice

Measurement of potential energy savings

Ensure corporate information security

Green IT

Assistance for IT personnel training

Common trustmark system

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Cooperation with Asia (2) Asia Green IT Forum

○ The First Asia Green IT Forum was held on October 6, 2009, bringing together delegates from governments and industries of eight Asian countries (Japan, China, Korea, India, Malaysia, Singapore, Thailand, and Vietnam).
○ The participants issued a joint statement to enhance their future cooperation.

【 Asia Green IT Forum 】

< Specific items of common understanding >

① Importance of green IT in combating global warming

② Mutual cooperation in Asia for green IT activities

③ Forum continuation and sharing information among countries

Cooperation with Asia (3)

【1】Last December, Japanese government issued
"New Growth Strategy Toward a Radiant Japan"

〇In Environment & energy,
・Create over ¥50 trillion in new markets and 1.4 million new jobs
・Reduce worldwide greenhouse gas emissions by 1.3 billion tCO2e using Japanese technology

【2】Support for developing countries under the
"Hatoyama Initiative"

〇Japan pledges $11 billion of public money for assistance up to 2012

Survey on Energy Saving by IT

The government of Japan provides "Survey on Energy Saving by IT" which utilizes Japanese high technology energy saving/control technologies in ASEAN countries.

● Japan side pays the cost.

● Member companies of Green IT Promotion Council conduct the survey.

● "The survey" is conducted on the following facilities.

No.	Facilities	Outlines of survey
1	Data Center	Facility survey / facility optimization planning / effectiveness monitoring / facility plan etc.
2	Public Facility (airport, school, hospital etc.)	Air-conditioning operation and maintenance control / ventilation facility control / lighting facility control etc.
3	Plant, Factory （petroleum industry, chemical industry, electric industry, paper/pulp industry, steel industry etc.）	Air-conditioning facility survey / fan & compressor survey / Operation and maintenance survey / efficiency survey / advanced control etc.

- In January, facility manager had an energy saving training in Japan.

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Cooperation with Asia (5) －Future Candidate

"Smart grid" and "Smart community" concepts have big potentials.

Solar power and Wind power combined with storage batteries

"Smart School"

"Smart parking"

Zero –Emission building

Building Energy Management System

co-generation

biomass

IT Network

Solar power and Wind power combined with storage batteries

Solar heat

Wasted heat recycling

Electric Vehicle and "Smart Station"

"Smart house"

"Smart meter"