

Standards-setting opportunities for eco-design in electronics

November 15, 2009
Shenzhen, China

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Japan Electronics & Information Technology Industries Association
(JEITA)

I. Eco Design in Electornics

1. IEC TC111 (Environmental standardization for electrical and electronic products and systems)

TC111 Chairman: Mr. Yoshiaki Ichikawa (Japan)

Secretary: Mr. Andrea Legnani (Italy)

WG1 (Material declaration)

Convenor: Mr. Robert Friedman (USA)

WG2 (Environmentally conscious design)

Convenor: Mr. Yoshiaki Ichikawa (Japan)

WG3 (Test methods of hazardous substances)

Convenor: Mr. Scott Macleod (USA)

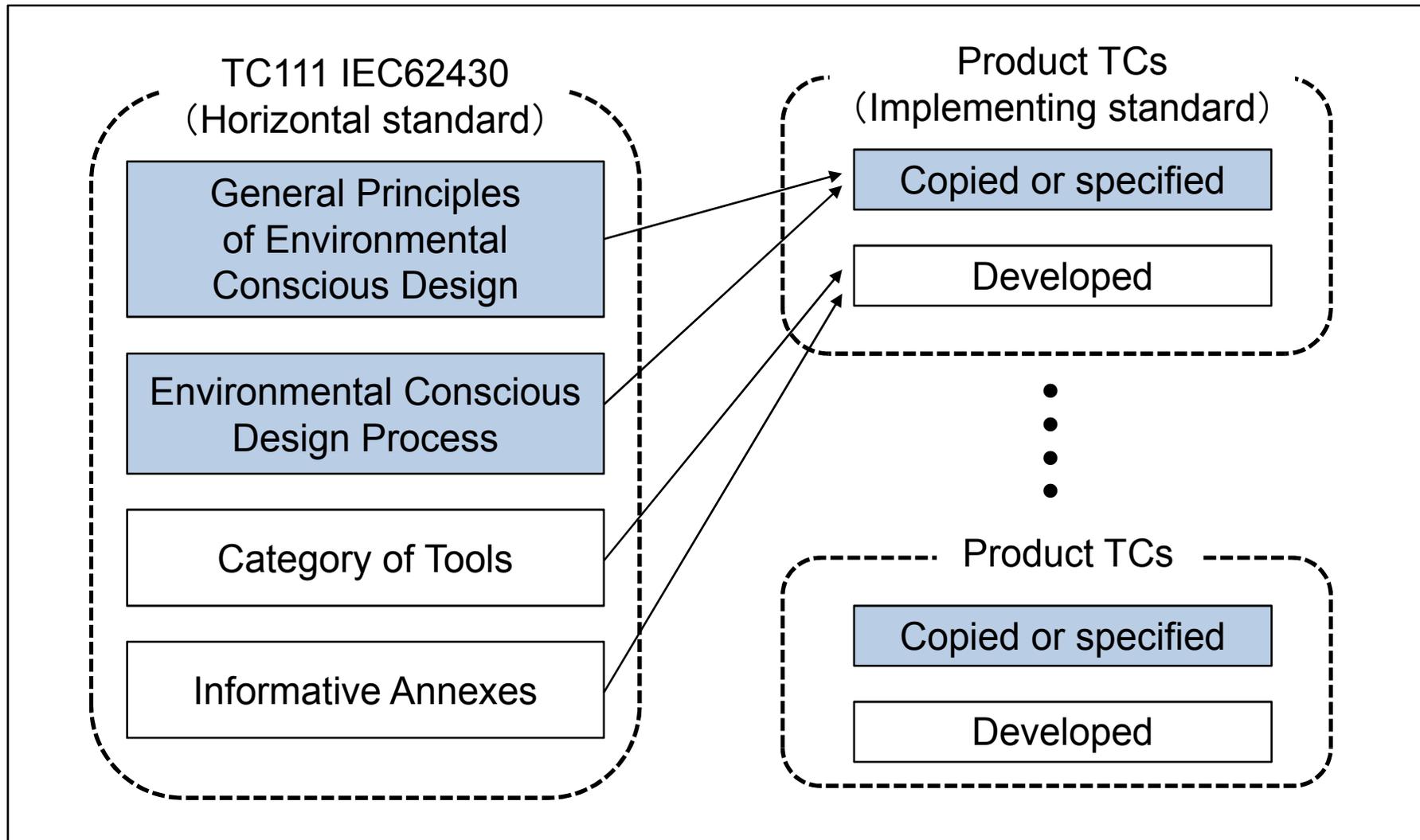
Convenor: Mr. Joachim Zietlow (Germany)

2. Scope of IEC62430

- This International Standard specifies requirements and procedures to integrate environmental aspects into design and development processes of electrical and electronic products, including combination of products, and the materials and components of which they are composed.

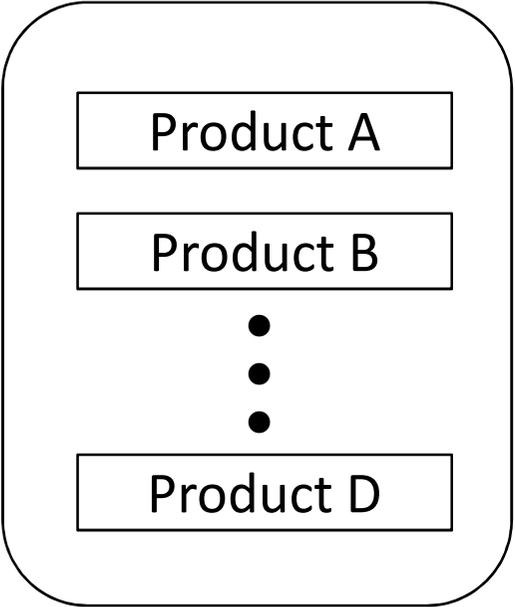
NOTE: The existence of this standard does not preclude particular sectors from generating their own, more specific, standards or guidelines. Where such documents are produced it is recommended that they use this document as the reference in order to ensure consistency throughout the electrotechnical sector.

3. Approach for Eco-design Standardization



4. Eup Directive and IEC standards

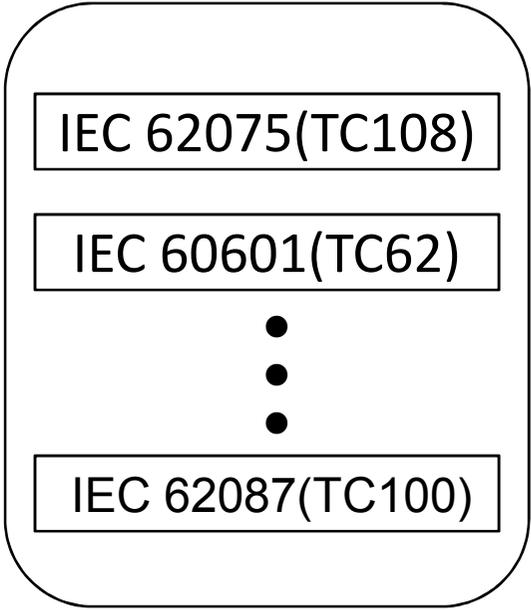
Implementing Measures



Eup Directive

CENELEC

Product TCs



IEC 62430 (TC111)



5. Eco Design Requirements

1. ON-MODE POWER CONSUMPTION

2. STANDBY/OFF MODE POWER CONSUMPTION

3. INFORMATION TO BE PROVIDED BY
MANUFACTURERS

(For the purposes of conformity assessment pursuant to
Article 5, it shall contain the technical documentation)

II . Green IT





1. Establishment of the Green IT Promotion Council

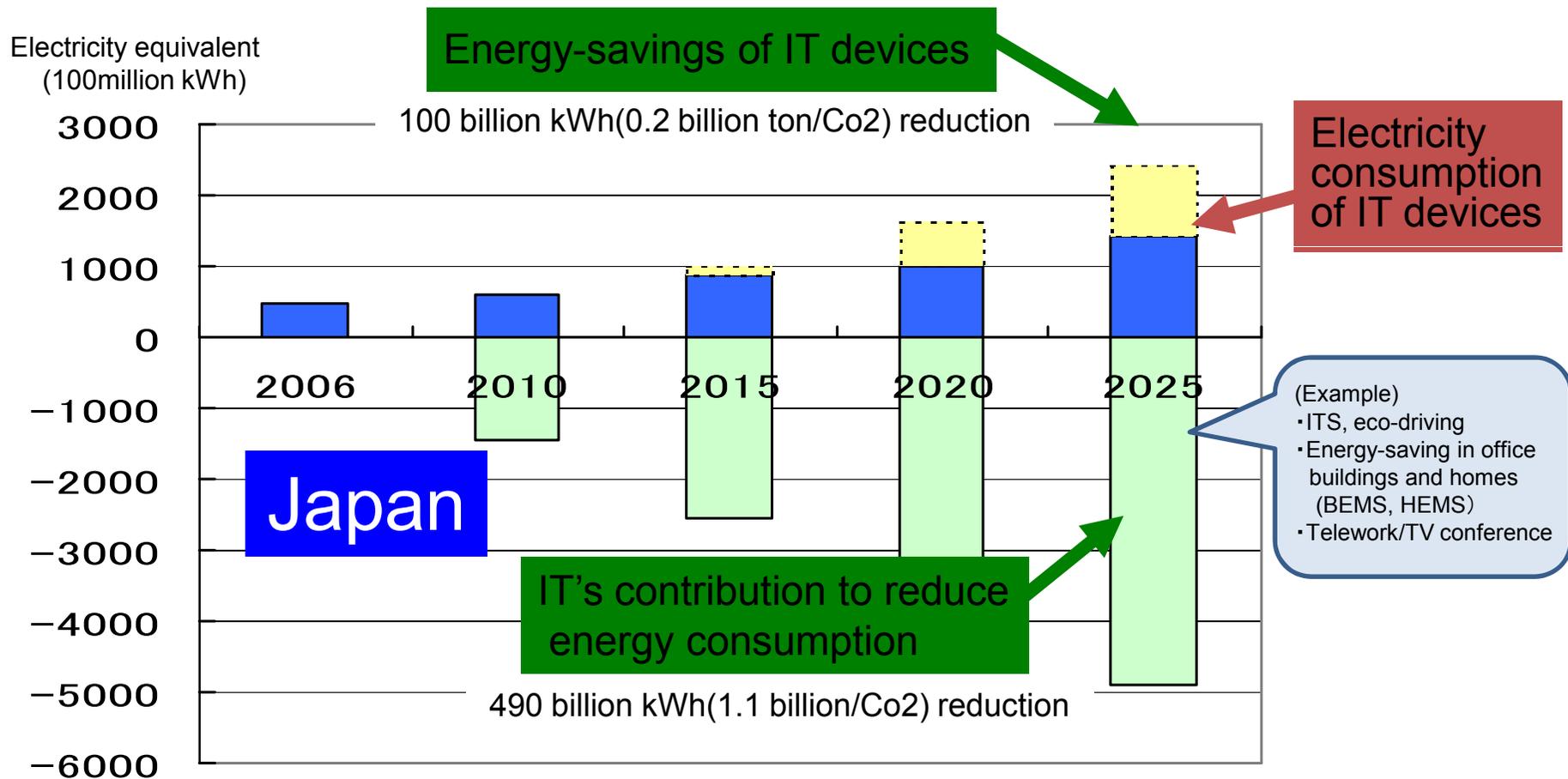
Created as a venue where IT-related industry groups, technology development bodies, universities, government bodies, and others can come together to work on Green IT

- Establishment: 1 February 2008
- Member companies, institutions and groups: 290 (also includes foreign firms)
- Secretariat: Japan Electronics and Information Technology Industries Association (JEITA)

- ✓ **Strengthening linkages with relevant offshore groups, Organization of International Symposium**
- ✓ **Contribution of new technologies and IT to the environment, education and awareness-raising concerning environment/IT management**
- ✓ **Identification of IT and Electronics technologies thought to be highly effective in energy-saving, etc., and roadmap formulation**
- ✓ **Quantitative surveys and analysis on the contribution to reduction of the environmental burden(possible CO2 emission reductions,etc.)**

2. Growing expectations for green IT

Green IT is expected to reduce electricity consumption by 590 billion kWh via energy-saving IT equipment and IT usage to reduce overall energy consumption in all. (Correspond to 10 percent of Japan's total energy consumption in 2025)



Source: METI / Green IT Promotion Council

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3-1. Sending information to the world

- **International standardization of energy-saving evaluation index of data centers**
 - Held workshop in Japan, the US and Europe with government and companies to discuss energy-saving index of data centers
- **Asia green IT forum**
 - Governments in Asia and party exchanged their ideas in CEATEC for Green IT promotion around Asia.
- **Asia green IT initiative(Activities for energy-saving evaluation)**
 - Evaluate energy saving of data centers, held seminar of best practise in Japan

3-2. Conference on Asia Green IT Forum

Tuesday, October 6, 2009 13:30~17:50



3-3. Participating countries and organizations

● Government Institution ◆ Industry-sector Organization



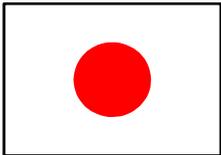
China

- Ministry of Industry and Information Technology (MIIT)
 - ◆ China Electronic Chamber of Commerce (CECC)
-



India

- ◆ Manufacturers' Association for Information Technology (MAIT)
-



Japan

- Ministry of Economy Trade and Industry (METI)
 - ◆ Green IT Promotion Council (GIPC)
-



Korea

- National IT Industry Promotion Agency
 - ◆ Korea Green Business IT Association
-

3-4. Participating countries and organizations

● Government Institution ◆ Industry-sector Organization



Malaysia

- Ministry of Energy, Green Technology and Water (KeTTHA)
- ◆ Malaysia Energy Center (Pusat Tenaga Malaysia (PTM))



Singapore

- Infocomm Development Authority (IDA)
- ◆ Singapore Infocomm Technology Federation (SITF)



Thailand

- Ministry of Industry
- ◆ The Electrical and Electronics Institute of Thailand (EEI)



Vietnam

- Ministry of Information and Communications (MIC)
- ◆ Vietnam Electronic Industries Association (VEIA)

3-5. Asia Green IT Forum Joint Statement

Global warming is a critical issue requiring a global response.

In this context, with the full-scale introduction of IT expected to greatly increase the number of IT devices in use, saving energy in IT devices themselves has become vital.

At the same time, IT and electronics technologies open the way for the sophisticated control and management needed to boost efficiency in production, logistics and administration, and this in turn is expected to generate greater productivity in all economic and social activities, contributing substantially to reducing environmental impact.

3-6. Asia Green IT Forum Joint Statement

Particularly in Asia, which is already a world production and service center, and which is expected to sustain strong growth into the future, green IT could have a substantial effect.

In light of this situation, representatives from East Asian and ASEAN governments and industrial groups (China, India, Japan, Korea, Malaysia, Singapore, Thailand, Vietnam) met in Makuhari, Chiba on 6 October 2009 to examine how green IT could be utilized to counter global warming. They exchanged views on initiatives in this regard, and discussed future directions. Participants affirmed that maximum efforts would be made to use green IT to resolve global warming as a key challenge for the human race, and that Asia as a whole would accelerate the promotion of green IT.

3-7. Asia Green IT Forum Joint Statement

Specific items of common understanding were as follows.

1. Importance of green IT in combating global warming

* Participating countries will utilize green IT to counter global warming.

2. Mutual cooperation in Asia for green IT activities

* Participating countries will cooperate with each other in organizing seminars, symposia and other green IT activities in Asia.

3. Forum continuation and sharing information among countries

* Further Forum meetings will be convened and participation expanded, with next year's meeting again held in Japan.
Information will be shared among countries as appropriate.

4-1. Green IT Awards 2009 “Energy saving of IT”

	Winner	Products & Slutions
METI Minister's Awards	NTT DATA CORPORATION / NTT FACILITIES,INC.	Green Data Center® Service
Director-General's Awards	Alaxala Networks Corp.	Dynamic Energy Saving System for Communication Networks
Chairman's Awards	Toshiba Corporation	Contribution to the prevention of global warming by providing environmentally conscious PCs to global market
Judging Committee Special Awards	Hitachi,Ltd.	Energy Conservation of Servers by Hitachi Virtualization Technology
	FUJITSU LIMITED	Blade server system designed for less power consumption and less load on the air-conditioning of data centers
	AMD Japan,Ltd.	Six-core AMD Opteron™ Processor

4-2. Green IT Awards 2009 “Energy saving by IT”

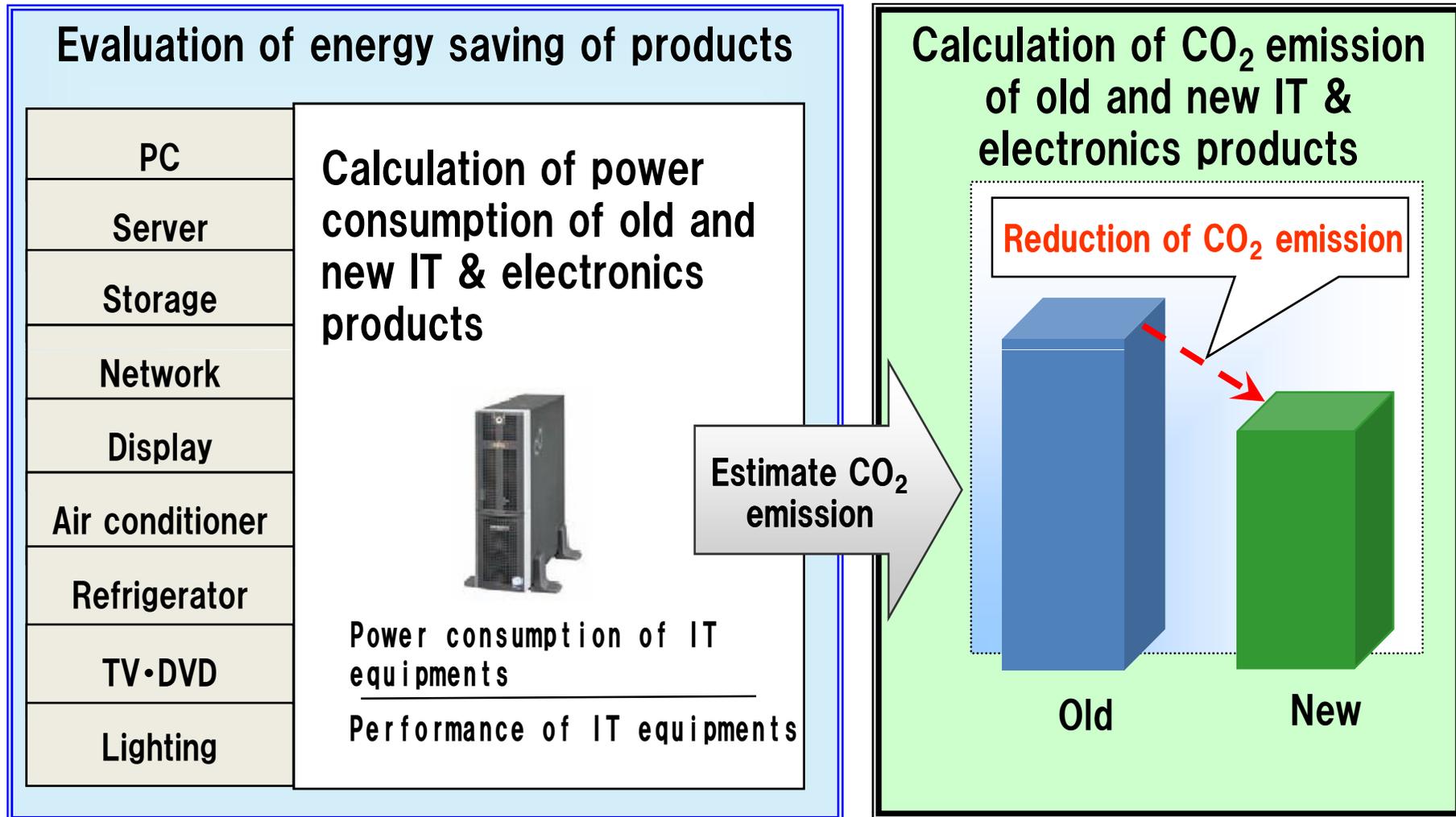
	Winner	Products & Slutions
METI Minister's Awards	Yokogawa Electric Corporation	Use of IT to Eliminate Energy Waste on Production Lines
Director-General's Awards	Suzuyo & Co.,Ltd. / FUJITSU LIMITED	Logistic System for CO2 Reduction by Modal Shift
Chairman's Awards	KOJIMA PRESS INDUSTRY CO.,LTD.	The reduction of CO2 by Green-IT for user companies
Judging Committee Special Awards	NEC Corporation	Co2 emission visualization and reduction service for household and region “Carbon Diet”
	Green University of Tokyo Project	The Green University of Tokyo Project: Field Experiments of “Green by IT/ICT” at Faculty of Engineering Bldg.2
	Sumitomo Mitsui Banking Corporation /NEC Corporation /Oki Electric Industry Co., Ltd.	The Next Generation Banking Terminal System (CUTE)

5-1. Energy-saving of IT

【Evaluation targets】



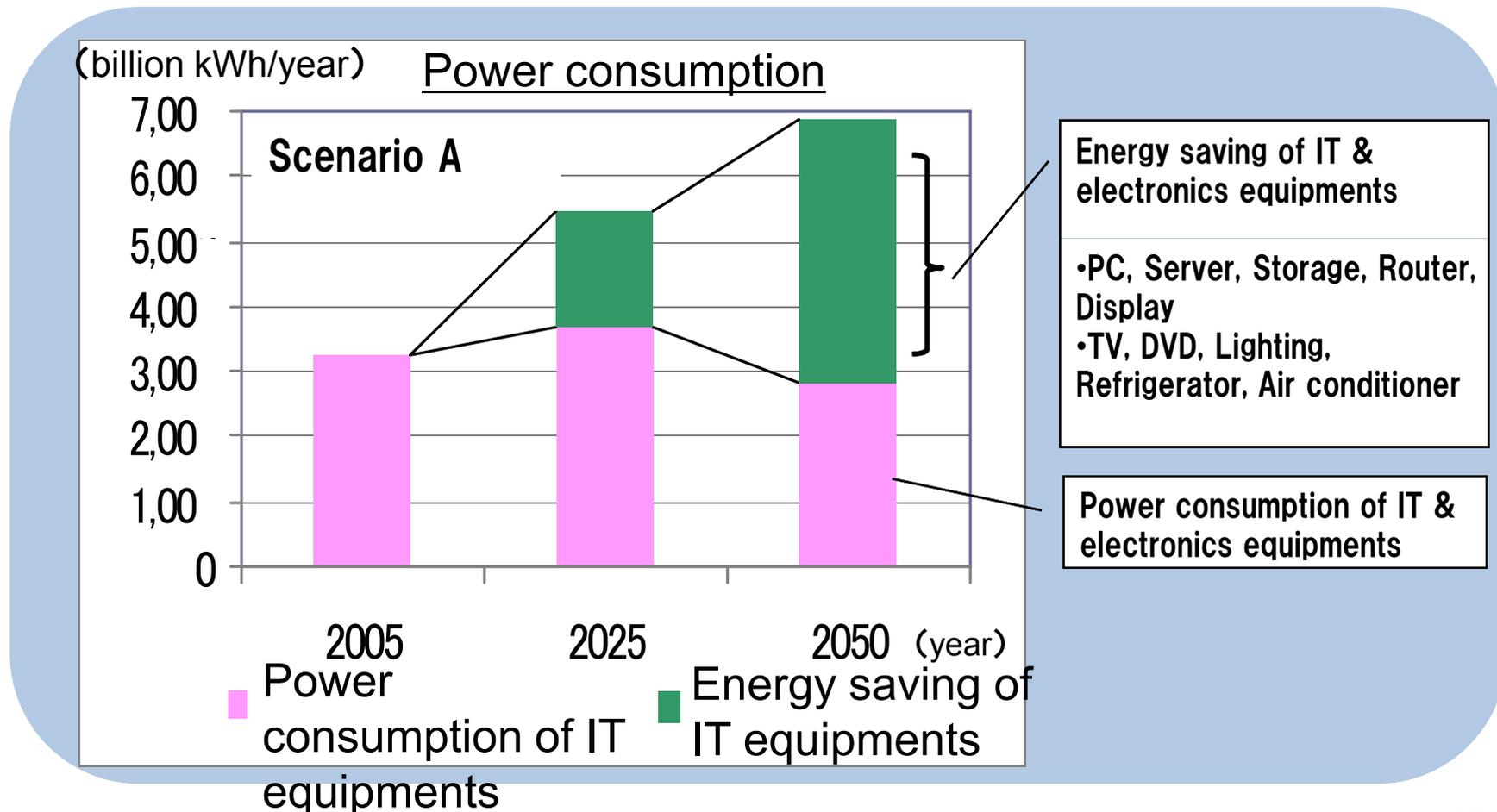
5-2. Index for energy saving of IT equipment



5-3. Energy saving of 10 IT equipments(Japan)

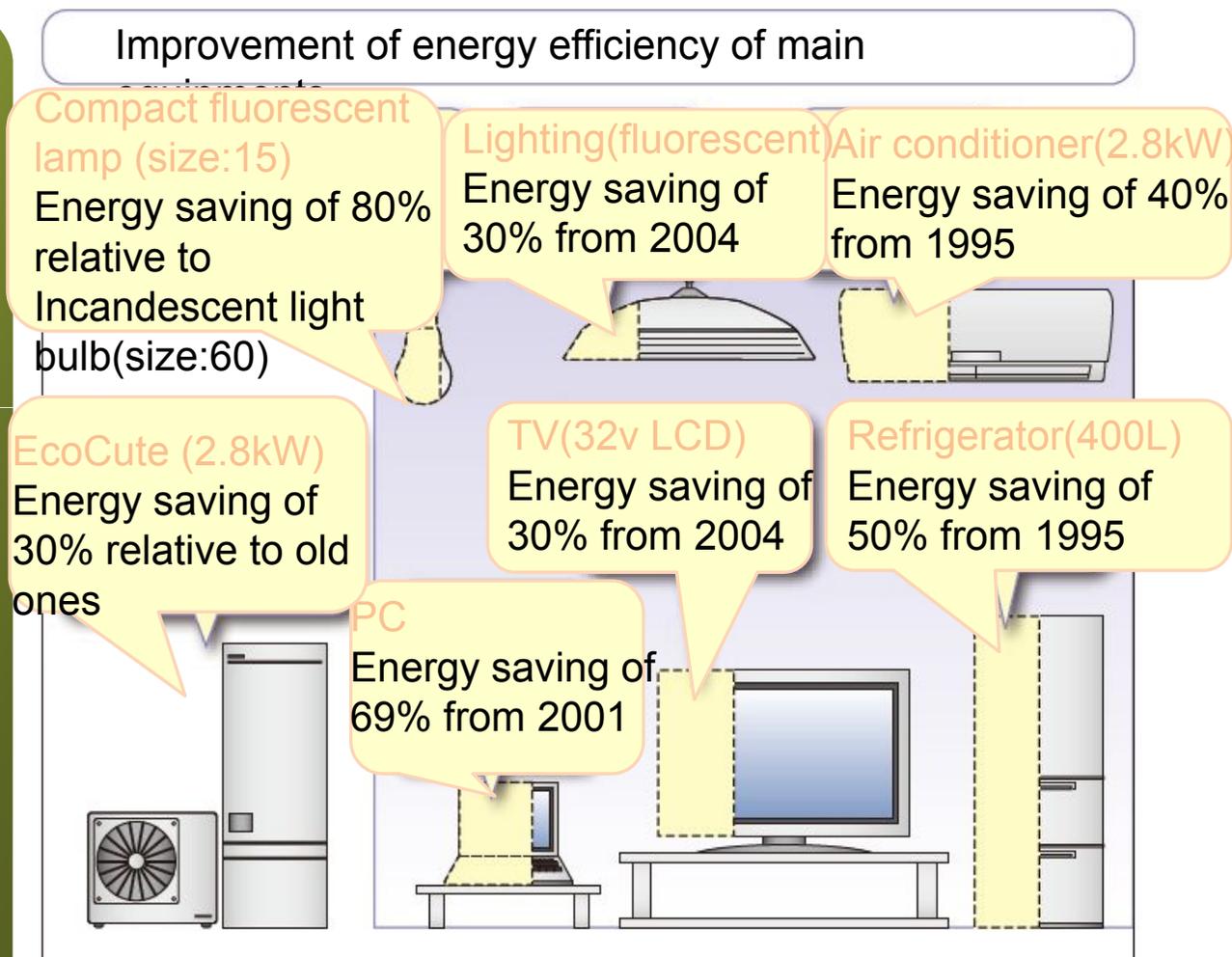
2025:Japan Reduction of 170 billion kWh (CO₂:34~68 million ton)

2050:Japan Reduction of 400 billion kWh (CO₂:80 million~0.16 billion ton)



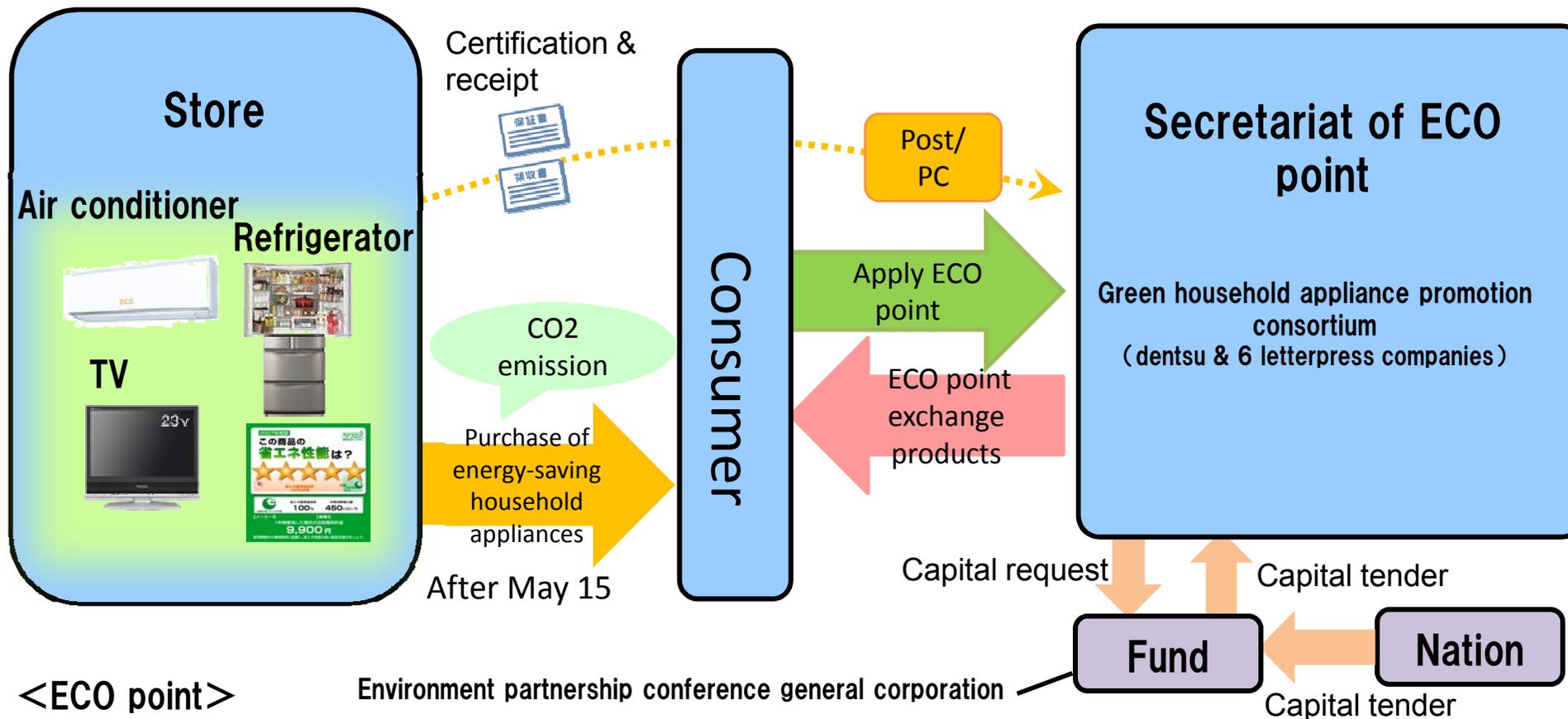
5-4. Developing energy saving of electronics equipments

In Japan, energy saving of electronics equipments is developing rapidly with the latest technology in recent years, contribution to energy saving in consumers is expected.



Reference: ECC, ECCJ

5-5. Promotion of energy-saving technologies and products: Promotion of green household appliances by using ECO point



<ECO point>

Environment partnership conference general corporation

	Air conditioner	Refrigerator	TV
Purchase of product of more than 4 energy-saving label ☆	6,000~9,000 (Depends on cooling performance, 3 levels)	3,000~10,000 (Depends on store volume, 4 levels)	7,000~36,000 (Depends on size, 5 levels)
With recycling	3,000	5,000	3,000

6-1. Reduce Environmental Load “BY” IT

E-learning systems



- Internet-based learning
- No travel
- Paperless

Bulk store POS systems



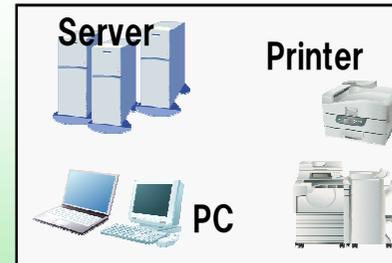
- Concentrate store servers in headquarters
- Shift journals on to an electronic basis
- Boost business efficiency

ITS systems



- Reveal transport data
- Eco-driving
- Optimal transport management

IT resource management services



- Integrate functions to save space
- High-performance, low-power CPUs

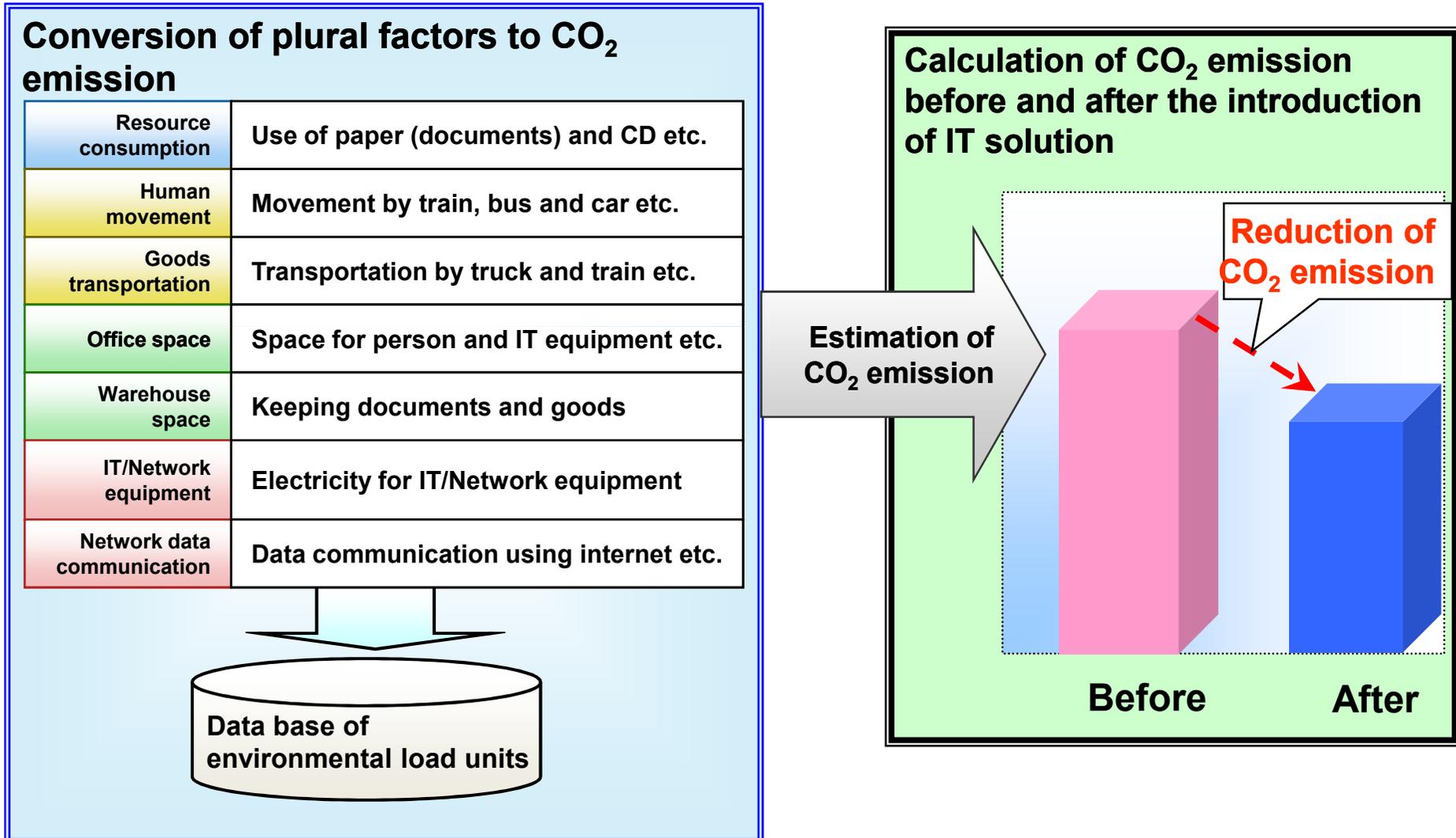


6-2. Energy-Saving IT Solutions

IT Solutions			IT Solutions			
Industry	Production process	Boosting efficiency of lighting, air conditioning, motors and generators	Households	Rooms (continued)	Music and software downloads	
		Boosting production process efficiency			Online shopping	
Offices	Buildings	BEMS	Transport	Infrastructure	Use of LED lights for traffic signals	
	Rooms	RFID tags and distribution systems		ITS		
		Paperless offices		Better car fuel efficiency		
		Introduction of IT into business		More efficient means of transport		
		Telework		Eco-driving		
		Teleconferencing, e-learning		SCM		
		Remote medical care, electronic medical records		Introduction of renewable energies		
		Electronic tenders and applications		Use of heat sources		
		Buildings		HEMS	Energy	More efficient power transmission
	Rooms (continues)	Electronic money		Power system control		
Electronic publishing and paper						

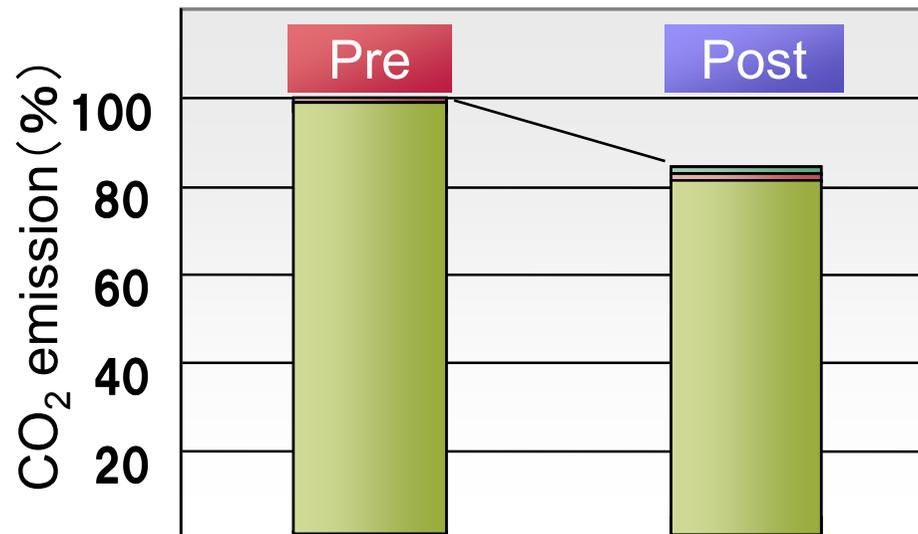
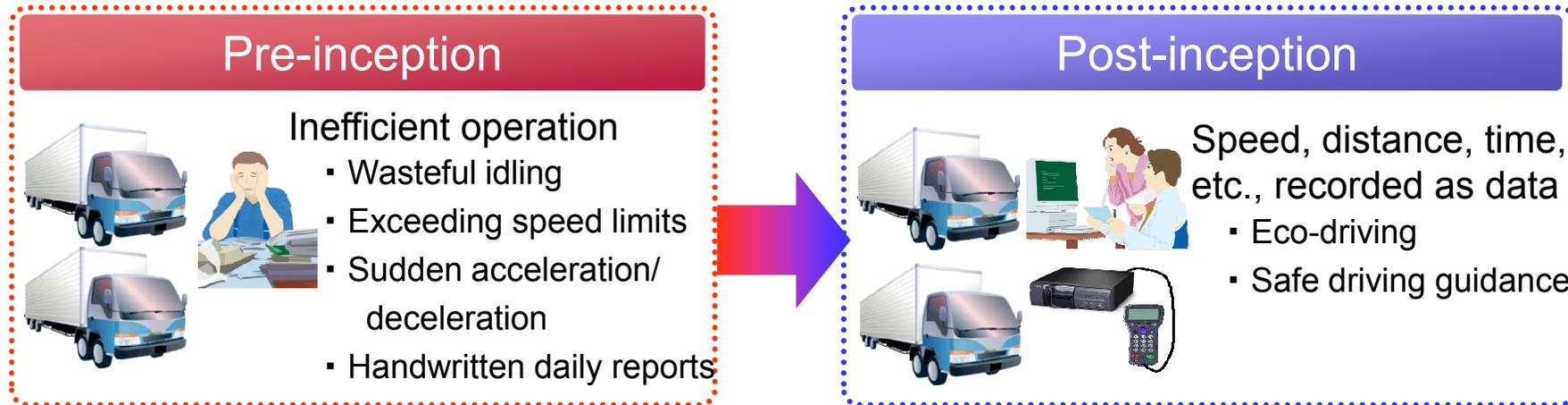


6-3. Evaluation Method of IT Solutions





6-4. Example: ITS Vehicle Station



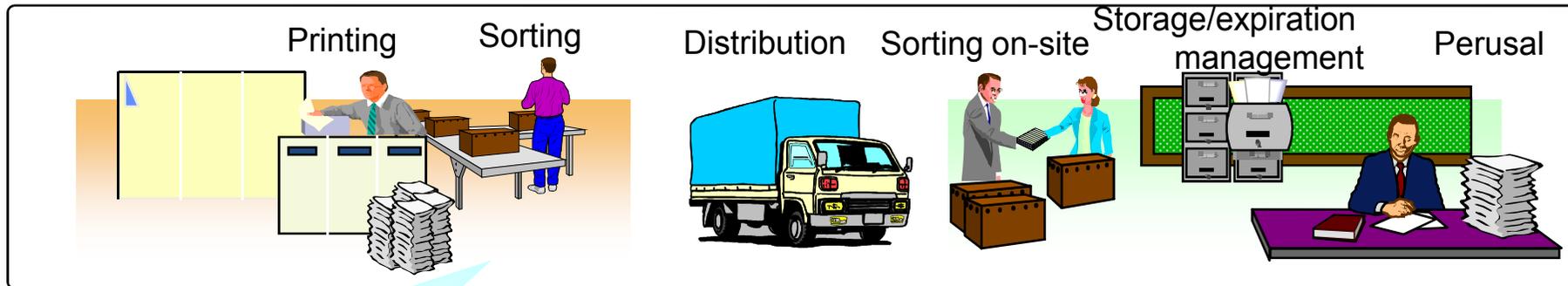
CO₂ emission reduction
19%

- IT/network equipment
- Office space
- People movement
- Object consumption



6-5. Example: Automated Form System

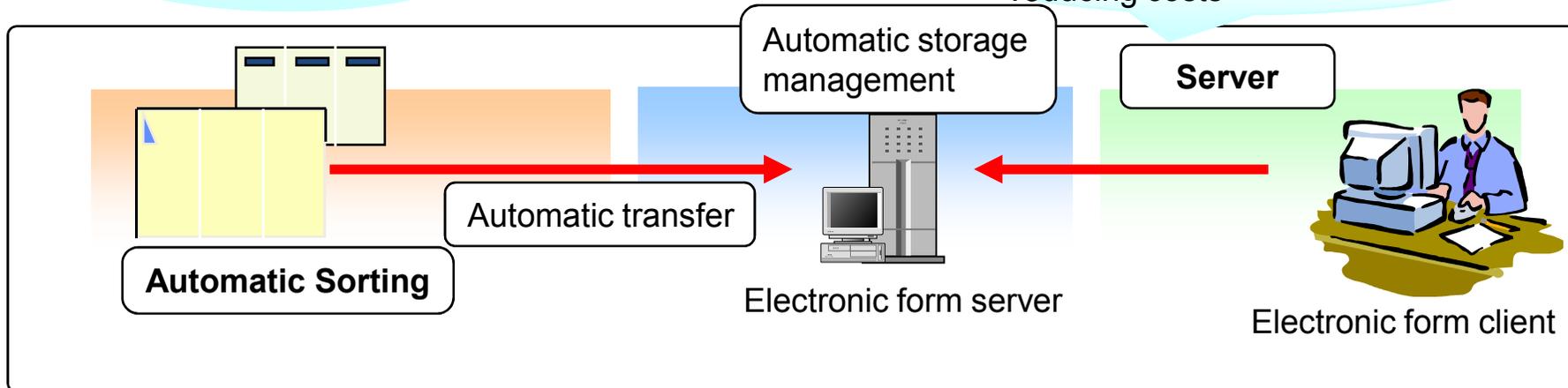
By digitizing operations in which large volumes of forms are handled, form printing is reduced, resulting in more efficient processing, distribution, searching and storage



Every process by hand until now

Reduction Effect for CO₂ : **82%**

Automating form management raises search efficiency while reducing costs

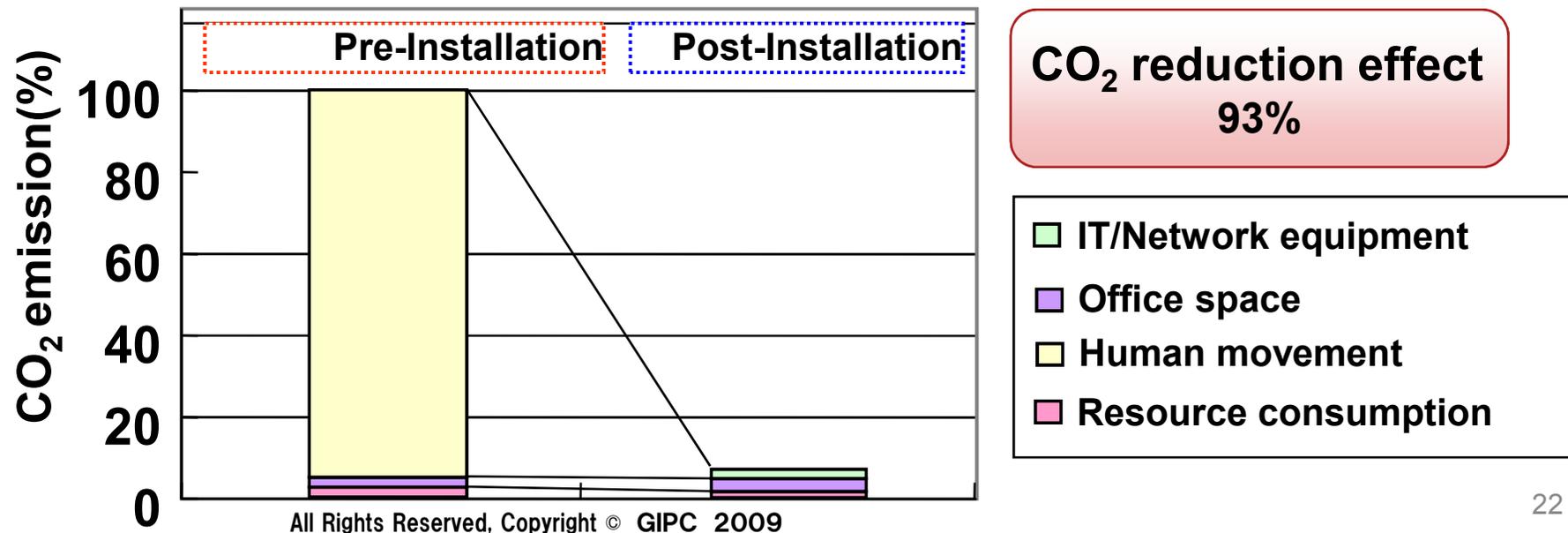
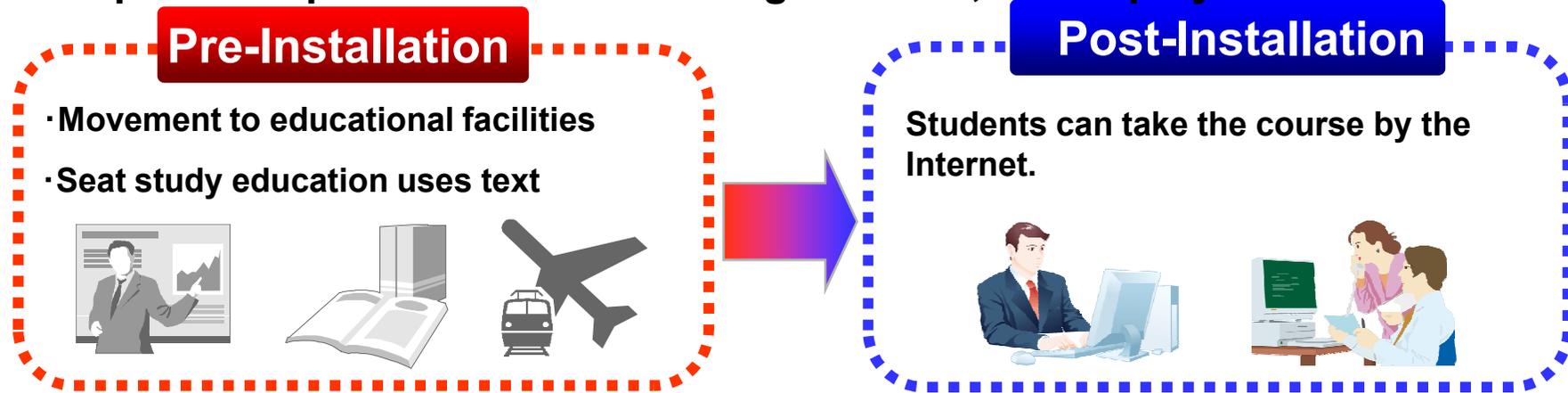




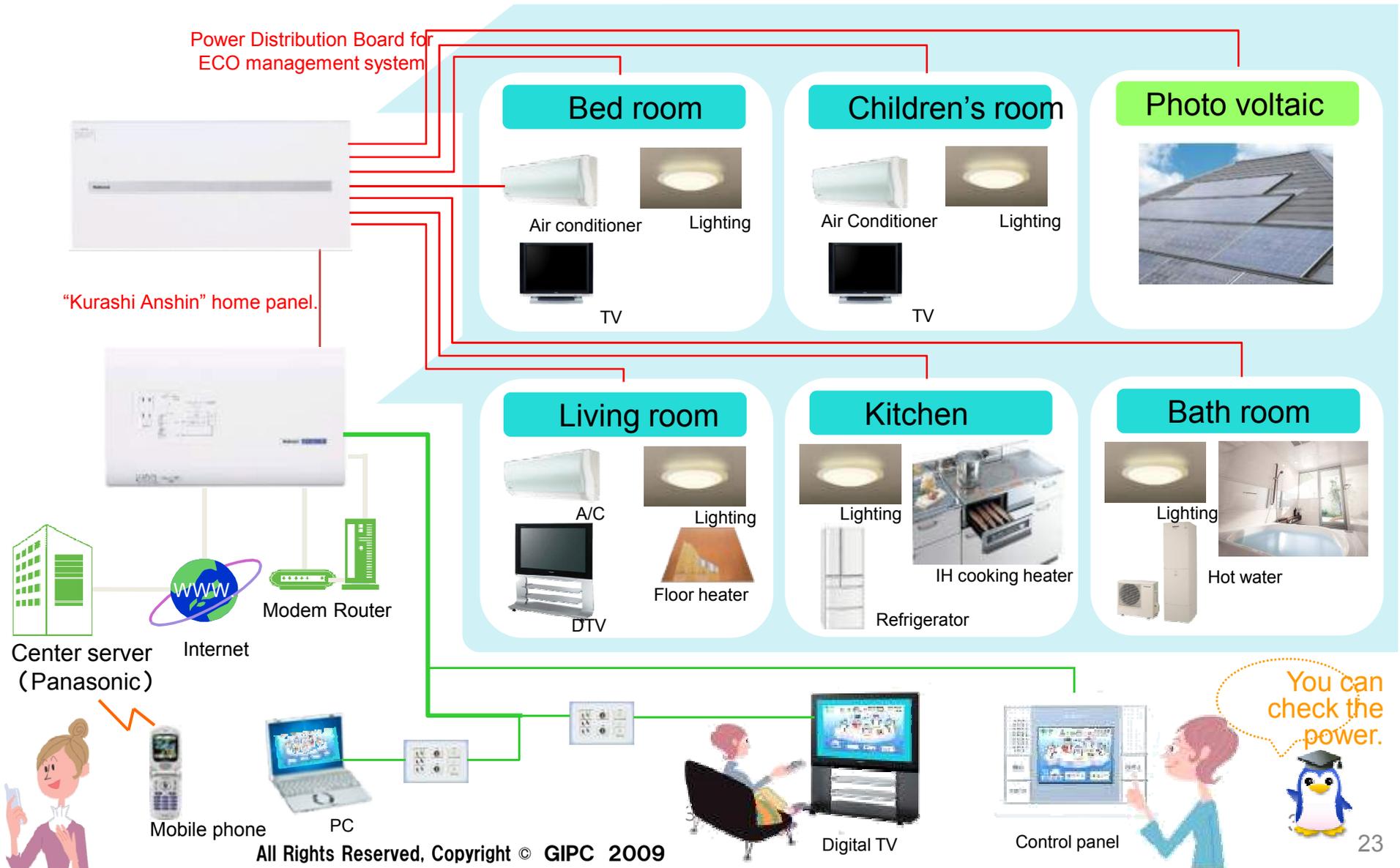
6-6. Example: e-learning

e-learning System “Internet Navigware”

Sample: Incorporated Education Program for 5,000 employees



6-7. Example: Home Energy Management System(HEMS)





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Green IT Promotion Council

<http://www.greenit-pc.jp>