Promoting the Green IT Initiative in Japan

11 July 2013

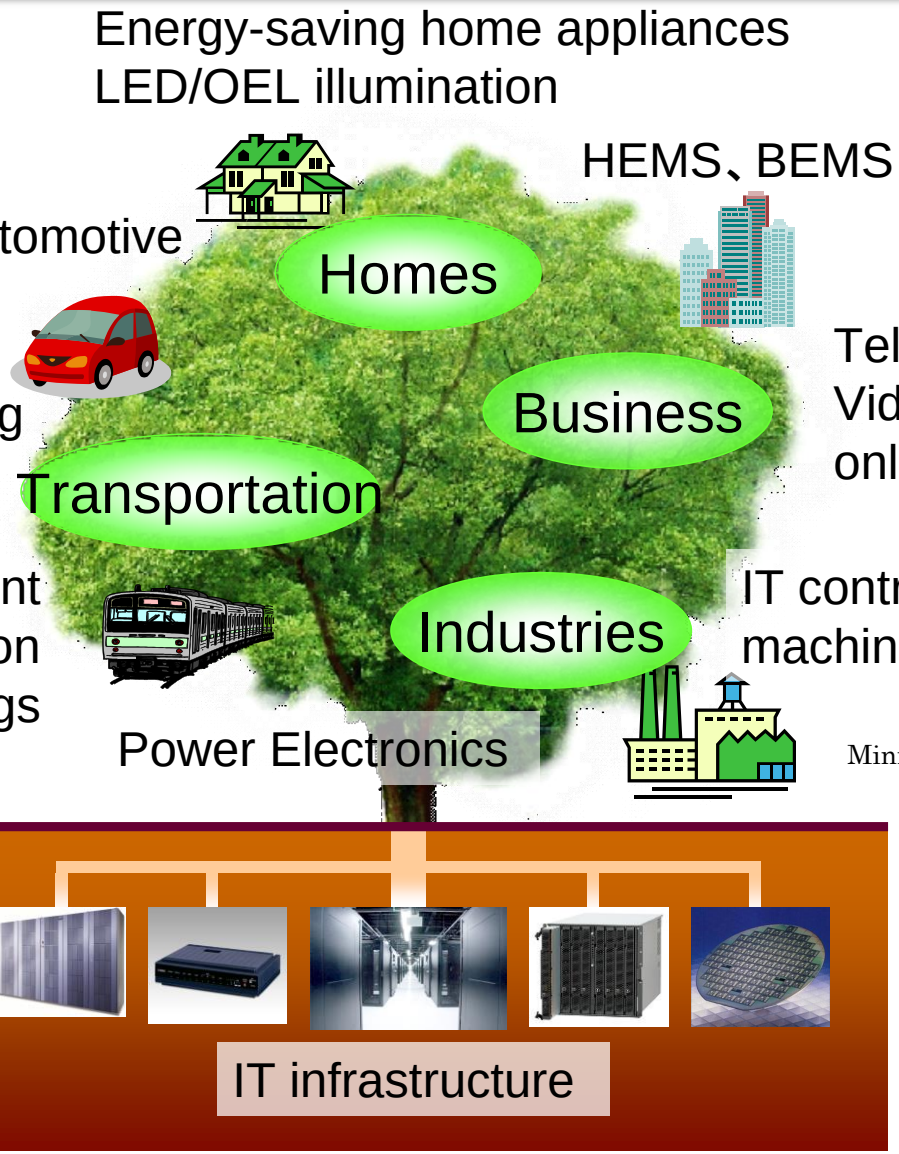
Japan Electronics and Information Technology Industries Association(JEITA) /

Green IT Promotion Council

1. Introduction
– The Significance of Green IT –

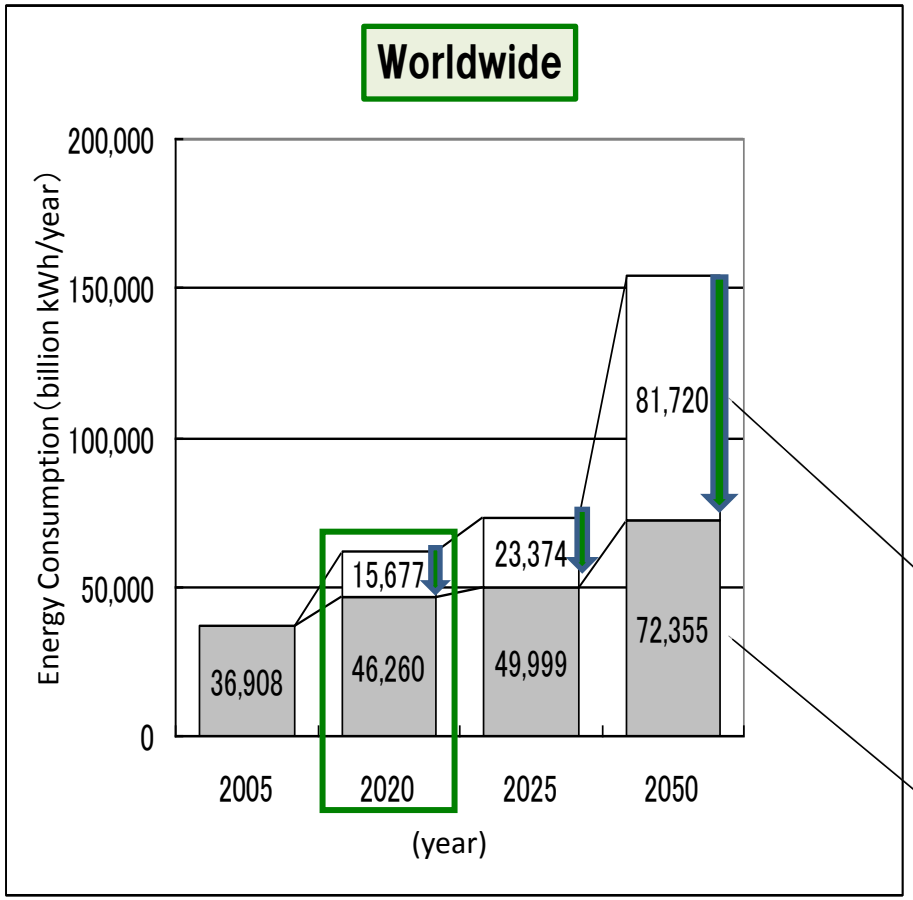
Concept of Green IT

IT equipment in every field has great potential to help save energy



Estimation of Energy saving Effects of 10 IT equipments(Worldwide 、2020.2025.2050)

2020 : Reduction of 1,600 billion kWh（CO2: 320~640million ton）

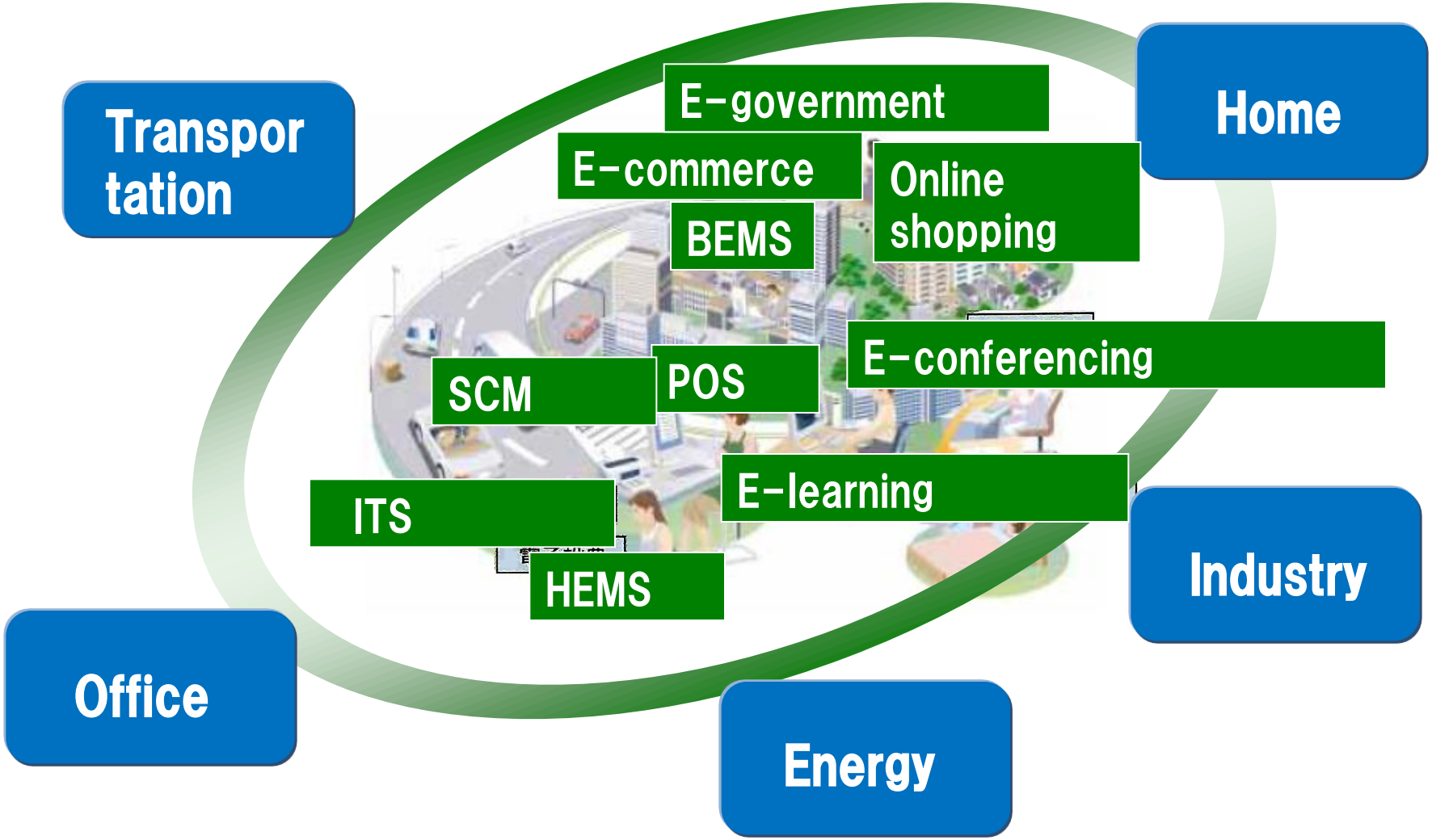


Energy saving of IT & electronics equipments

- PC, Server, Storage, Router, Display
- TV, DVD, Lighting, Refrigerator, Air conditioner

Power consumption of IT & electronics equipments

Energy Conservation Effect, Through IT, for Society as a Whole (By IT)

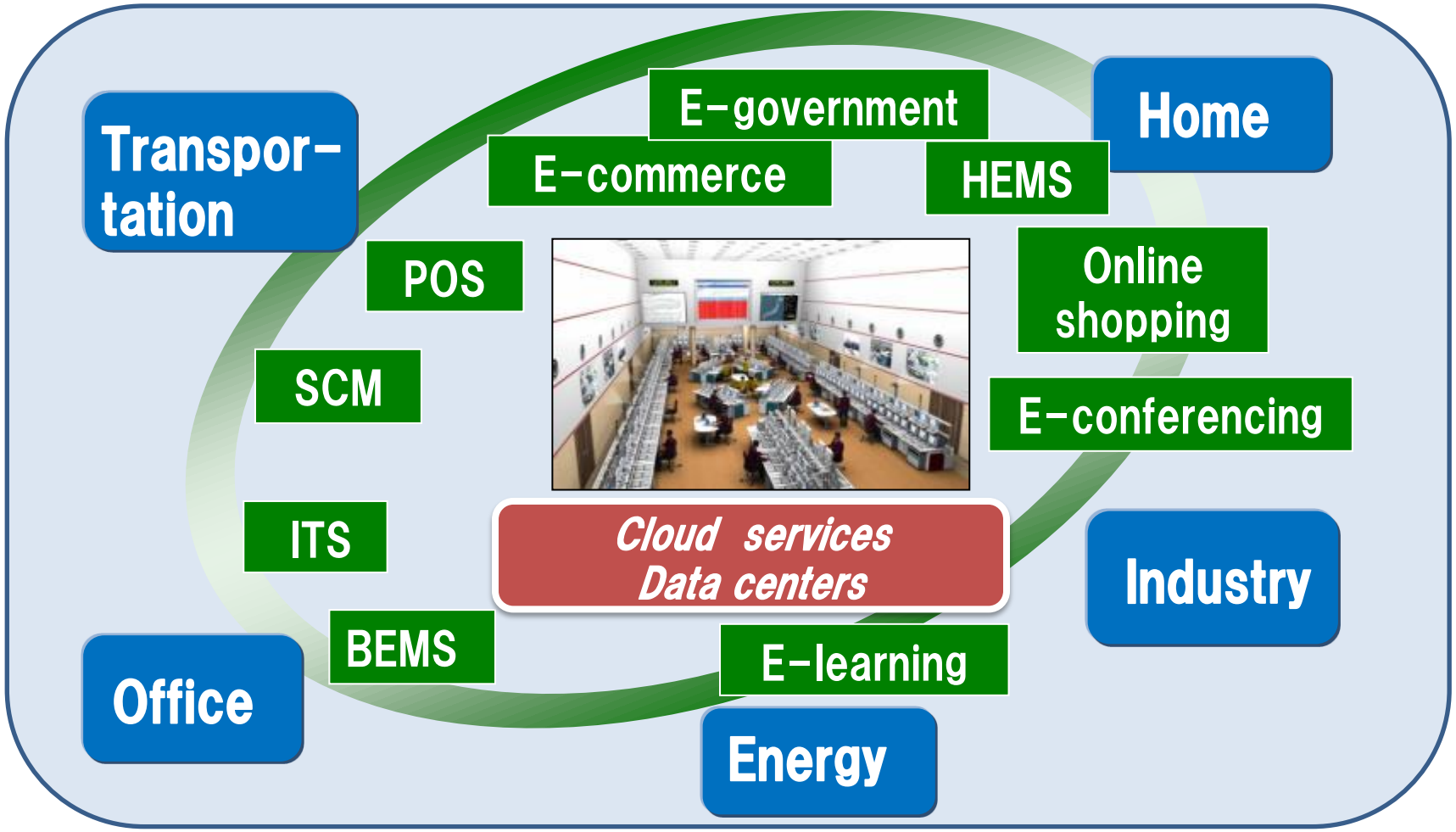


“Green by IT” effect in 2020

Million ton-CO2/year

Sector	Major solutions	2020 GIT effect (Worldwide)
Industry	・High-performance boiler, energy efficient facilities ・Energy management, energy conservation business, etc.	**140～276**
Business	・BEMS（Buildings Energy Management System） ・Tele-work, TV conference, paperless office	**122～239**
Home	・HEMS（home energy management system including digital home appliances） ・On-line shopping, electronic content ・Introduction of renewable energy, smart grids	**200～393**
Transpor-tation	・Improvement of fuel efficiency for automobiles ・ITS（ETC, VICS）, Eco-drive ・Improvement of efficiency of distribution（SCM・Improvement of loading ratio, etc.）	**1,578～3,101**
TOTAL		**2,041～4,009**

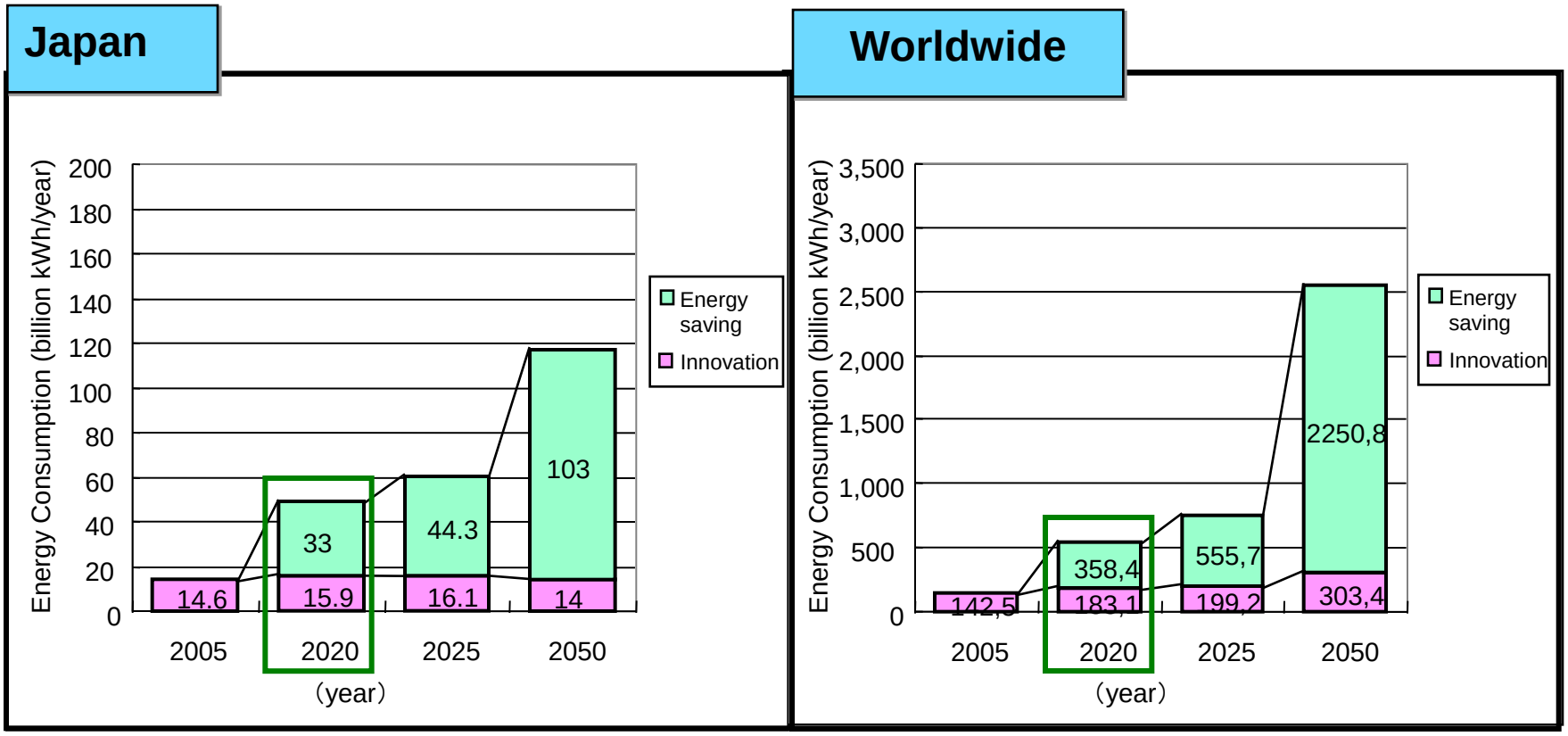
Importance of cloud services/data centers



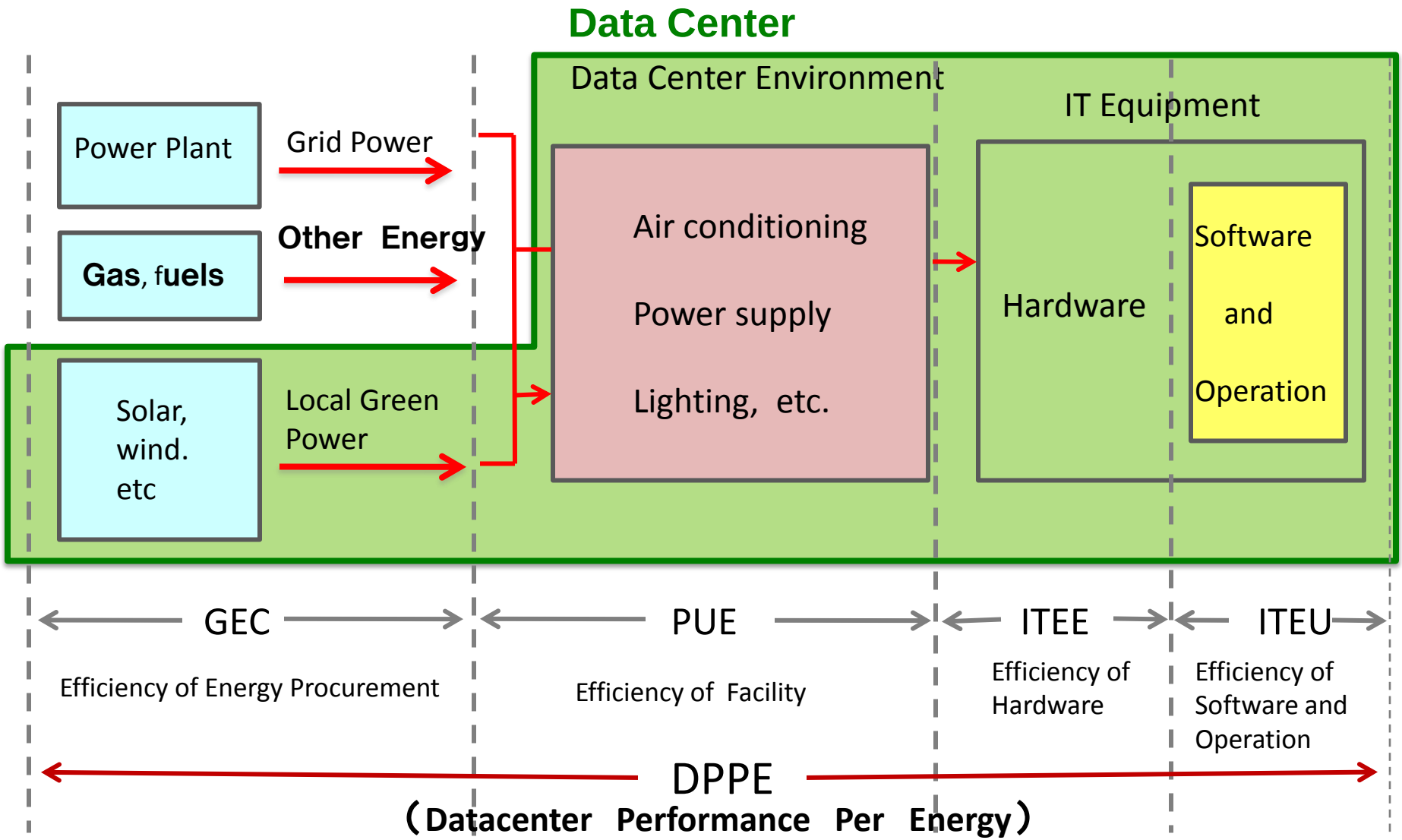
Cloud services and data centers have a critical role to play in ‘smart communities’, which aim to save energy across society as a whole.

Potential Energy-Saving in Data Centers Through Green IT

2020：
Japan: Reduction of 33.0 billion kWh （CO_2: 6.6-13.2 million tons)
Worldwide: Reduction of 358.4 billion kWh （CO_2： 70-140 million tons）



Datacenter Energy Flow and Metric Boundaries



International Coordination on Metrics (Japan-US-EU International Workshops)

GIPC and US and EU organizations (both private and public sector) have held a succession of Japan-US-EU workshops toward the global harmonization of metrics for data center energy efficiency.
GIPC has proposed the DPPE metric at the workshops.

◆**Members**

JAPAN: METI, GIPC, JEITA
US: DOE, EPA, TGG
EU: EC, BCS

◆ **Discussions on DPPE**

1st WS	March 2009	Washington DC
2nd WS	Feb. 2010	San Jose
3rd WS	Oct. 2010	Milan
4th WS	Feb. 2011	Tokyo (Scheduled)
5th WS	Oct. 2011	Washington DC
6th WS	Feb. 2012	Milan
7th WS	Oct. 2012	Tokyo

Agreement reached on the Green Energy Coefficient (GEC), Energy Reuse Factor (ERF), and Carbon Usage Effectiveness (CUE) metrics, as well as a holistic framework for comprehensive assessment of facility efficiency, the efficiency of IT equipment and green energy utilization; public statement released

8th WS	Feb. 2013	Washington DC

Details discussed of energy efficiency metrics for IT equipment

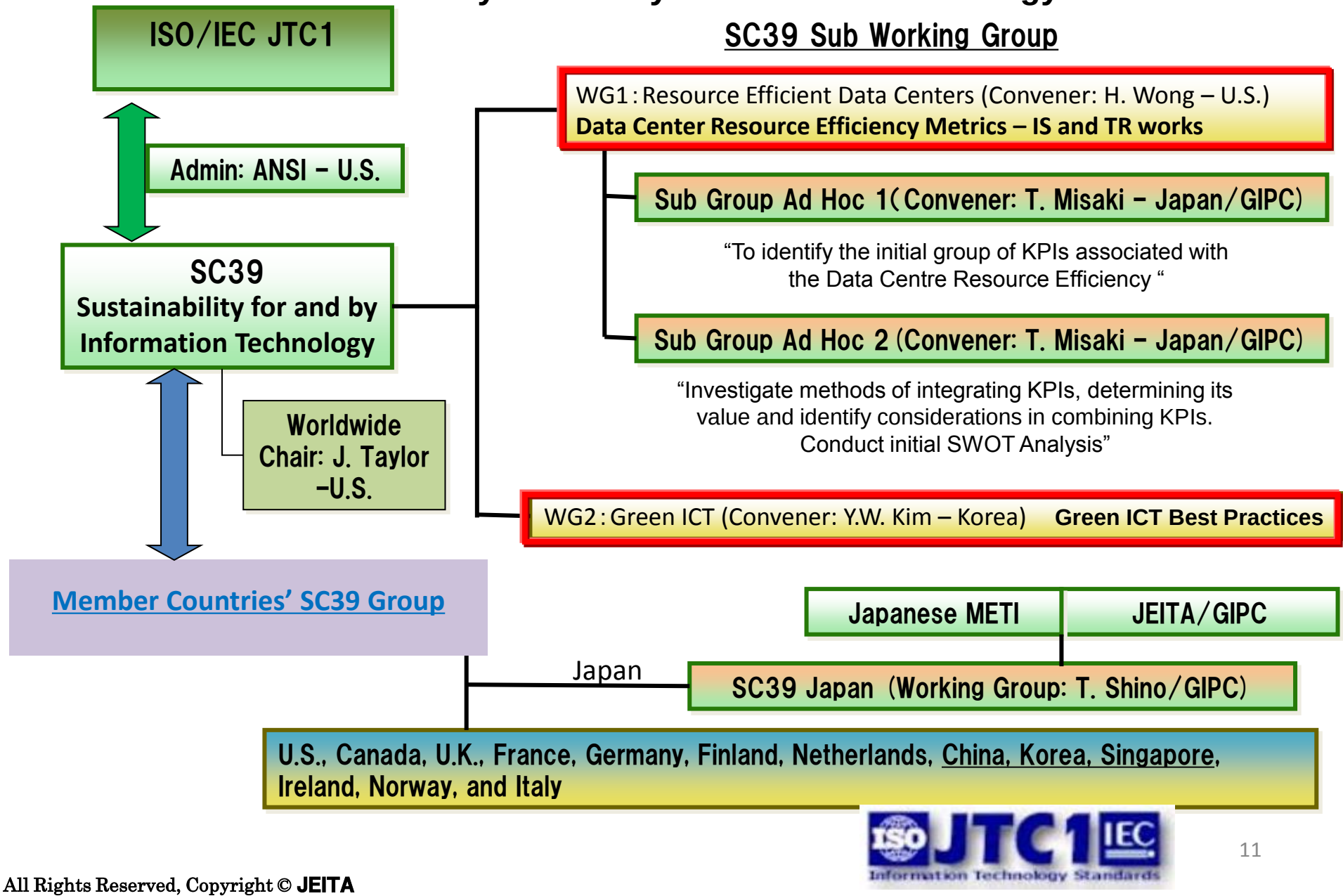
［Next meeting］

9th WS	Oct. 2013	Europe

Release of public statement presenting all those items agreed to date

ISO-IEC JTC1/SC39

Sustainability for and by Information Technology



Metrics for Data Center Energy Efficiency (DPPE)（Website）

http://www.greenit-pc.jp/e/topics/release/100316_e.html

Green IT Promotion Council

Japanese

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Topics

Activities

- Asia Green IT Forum
- Symposium
- The Best Practice collection
- RENKEI Controle Guidebook
- Report
- Datacenter Performance Per Energy【DPPE】

About Us

- Establishment Outline
- Governing Structure
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the green grid

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Press release

Green IT Promotion Council

New Metrics for Data Center Energy Efficiency (DPPE)

【 DPPE (Datacenter Performance per Energy) 】

Survey and Evaluation committee of Green IT Promotion Council (GIPC) is working to make DPPE International Standard Metrics discussing with governments of US, Europe and Japan, and organizations such as The Green Grid. The following is the concept and constitution of DPPE.

New Metrics for Data Center Energy Efficiency

DPPE Measurement Guidelines

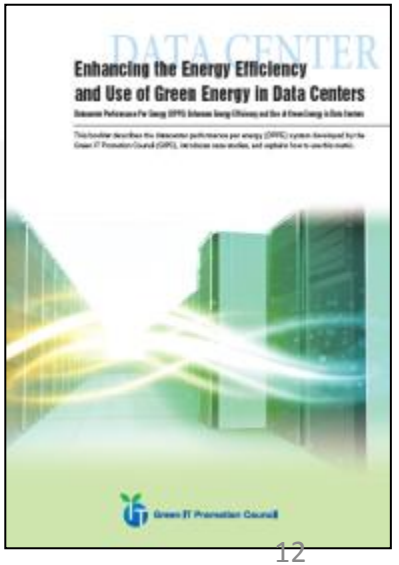
DPPE Measurement Guidelines

ENERGY-BLOCK-CHART

DPPE table

PUE&EC table

ITEU/TEE table



2. Various Efforts in Japan

Green IT International Symposium at CEATEC JAPAN 2012

October 4-5　Room201 International Conference Hall, Makuhari Messe

Presentations at Green IT International Symposium 2012

経済産業省 Ministry of Economy, Trade and Industry

NEDO

National Institute of Advanced Industrial Science and Technology AIST 産総研 独立行政法人産業技術総合研究所

グリーンIT推進協議会 Green IT Promotion Council

Green IT AWARD 2012 経済産業大臣賞 受賞

FUJITSU

NEC

SONY

HITACHI Inspire the Next

KOREA GREEN BUSINESS/IT ASSOCIATION

KeTTHA KEMENTERIAN TENAGA, TEKNOLOGI HIJAU DAN AIR

dessc digital energy & sustainability solutions campaign

DIGITALEUROPE

the green grid™ get connected to efficient IT

bcs The Chartered Institute for IT

European Commission

intel

Green IT International Symposium at CEATEC JAPAN 2012

Energy-Saving effort in ASIA Session

Dr. Paeng Jung Kook
Chairman, Korea Green Business Association（KGBA）

Mr. Ahamad Zairin Ismail
Senior Vice President
Malaysian Green Technology Corporation（Green Tech）

Energy-Saving by IT Session

Mr. Stephen Harper
Global Director of Environment and Energy Policy, Legal & Corporate Affairs, Intel Corporation,Co-Chair,
Digital Energy & Sustainability Solutions Campaign (DESSC)

Mr. John Higgins CBE
Director-General DIGITALEUROPE

Green IT International Symposium at CEATEC JAPAN 2012

Day1: October 4, Room 201, International Conference Hall, Makuhari Messe

Energy-Saving Efforts in Asia (Session 2)

Dr. Paeng Jung Kook, Chairman, Korea Green Business Association

Recognizing the possibility of an energy crisis when Korea is almost entirely dependent on energy imports, the Korean government is working on a range of initiatives using green IT as a national strategy.

Mr. Ahamad Zairin Ismail, Senior Vice President, Green Tech:

Importance of trial projects in the energy efficiency initiatives being pursued in Malaysia's various industrial sectors.

Energy Saving 'by IT' (Session 3)

Mr. Stephen Harper, Co-Chair, Digital Energy & Sustainability Solutions Campaign:

ICT solutions can help society to become more energy-efficient and combat climate change, but because marketing strategies are not going as well as they might, this potential is not sufficiently recognized.

Mr. John Higgins, Director-General, DIGITALEUROPE:

The EC's Environment Directorate-General is considering an LCA-based footprint policy but industry is concerned about the possible introduction of tight regulations.

Green IT Awards

○ The Green IT Promotion Council established the Green IT Awards in 2008 to encourage green IT efforts by industry and academic bodies. The awards include 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

Azbil Corporation

Energy- and power-saving solution that uses a remote server and data simulation technology

Commerce and Information Policy Bureau Director-General Award

Fujitsu Limited

FGCP/S5 cloud computing platform that helps conserve the global environment

of IT

Minister of Economy, Trade and Industry Award

NTT Data Intellilink Corporation, Japan Radio Co., Ltd. and NTT Data Corporation

Ultra-energy-saving power supply system for data centers

Commerce and Information Policy Bureau Director-General Award

Internet Initiative Japan Inc.

Matsue Data Center Park

Best Practices

A number of best practices were collected into a handbook to provide Information to those offshore about Japan's green IT products and examples of green IT in use. This is the third year that a handbook has been created.

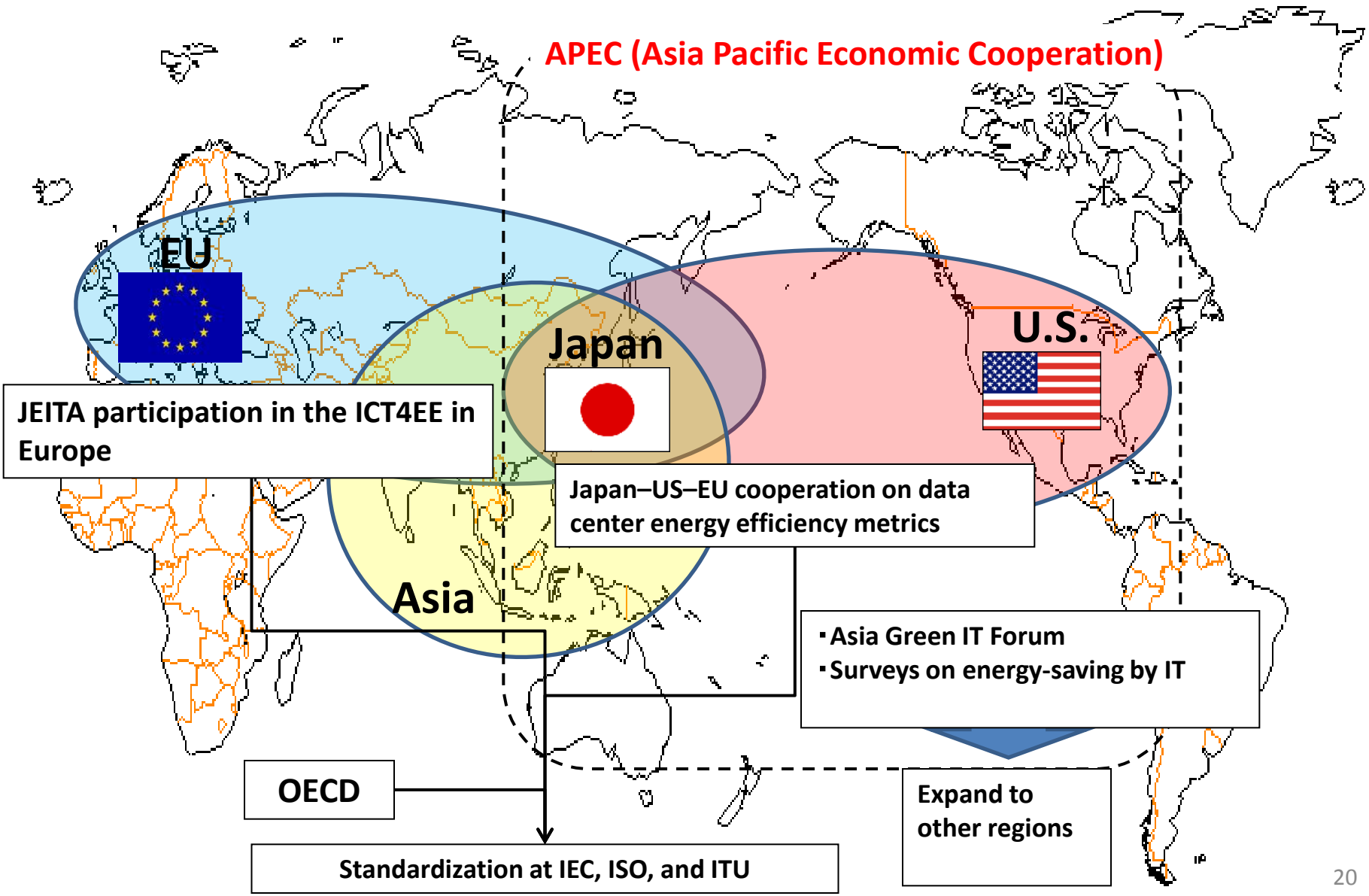
Example of green IT product information

Introduction of the latest green IT technologies and products from member companies through the GIPC website

http://home.jeita.or.jp/greenit-pc/bestpractice/

3. Enhancing International Cooperation

Japanese Policy Cooperation in the International Arena



Asia Green IT Forum

The Asia Green IT Forum consists of 11 Asian countries/regions, and has been held once a year since 2009. The members are government and industry representatives. They exchange information about policies and industrial trends related to Green IT in each country/region. We agree on a Joint Statement at each forum.

◆ Participating countries/regions

China / Chinese Taipei / India (MAIT) / Indonesia / Japan / Korea / Malaysia / Philippines / Singapore / Thailand / Vietnam

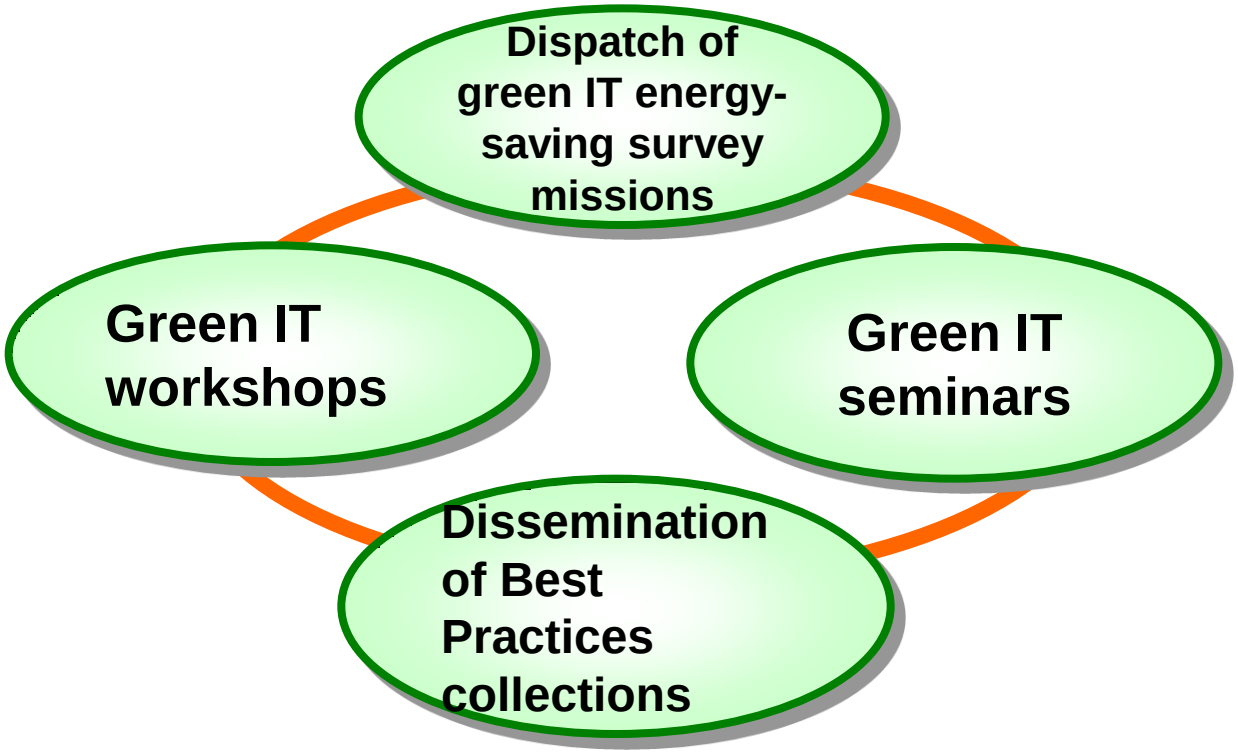
◆ History

2009 : 1st Forum (Japan)
2010 : 2nd Forum (Japan)
2011 : 3rd Forum (Korea)
2012 : 4th Forum (Korea)
2013 : 5th Forum (Philippines)

Enhancing International Cooperation (in Asia): Surveys on Energy-Saving "by IT" in Asia

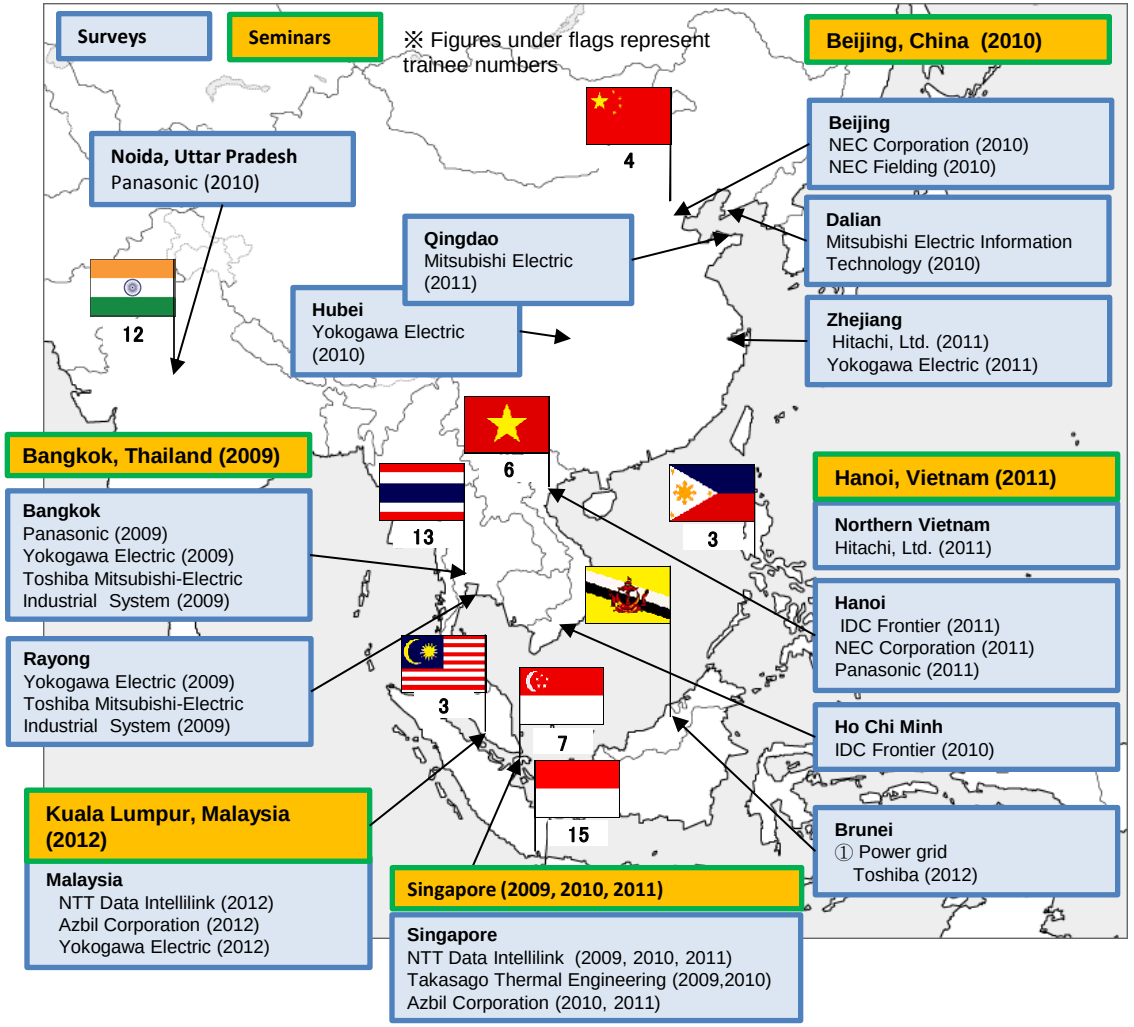
The government of Japan arranges surveys on energy saving "by IT" which utilize advanced Japanese energy saving/control technologies in Asian countries.

GIPC member companies conduct surveys in the following facilities.



Which companies and where (FY2009-2012)

• Energy-saving missions, seminars and trainees intakes targeting the Asian region between FY2009 and FY2012 were as follows.



	Surveys	Seminars	Trainee intakes	Expert dispatch
2009	6	2	12 from 2 countries	-
2010	8	2	10 from 3 countries	-
2011	8	2	25 from 7 countries	Malaysia
2012	4	1	20 from 2 countries	India
Total	26	7	62 from 8 countries	2

Training Program on Green IT for Asia

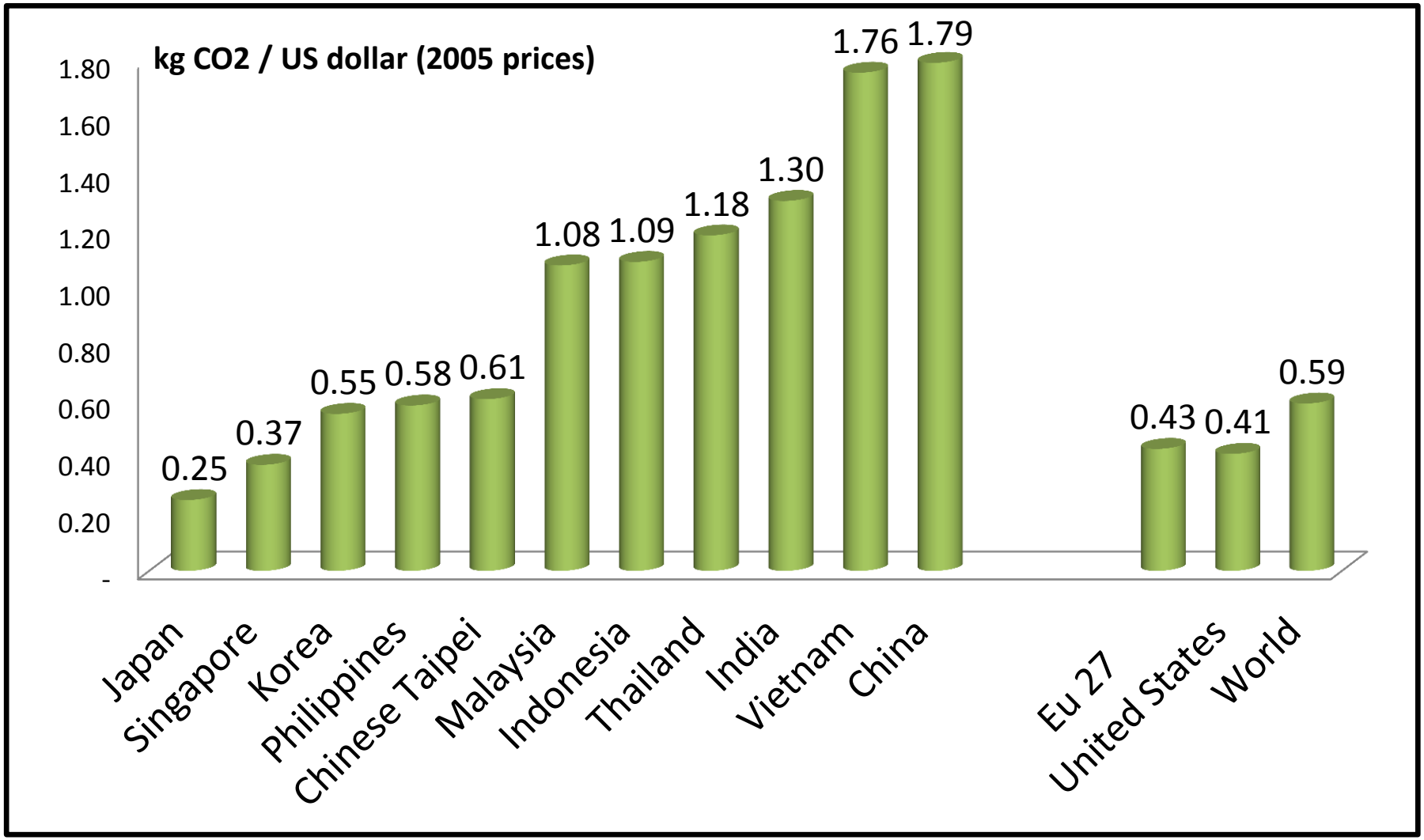
Training in Japan

Green IT professionals from industry, business and government sectors from Asian countries are invited to Japan to learn about green IT initiatives and cases.

<7-14 October 2011>
Trainees: 30 people
China, Singapore, Vietnam, Malaysia, Thailand, India, Indonesia and the Philippines

<1-5 October 2012>
Trainees: 20 people
Malaysia and India

CO2 emissions / GDP using exchange rates（2010）



Source： IEA