Promoting the Green IT Initiative in Japan

26 August 2013

Japan Electronics and Information Technology Industries Association(JEITA) /

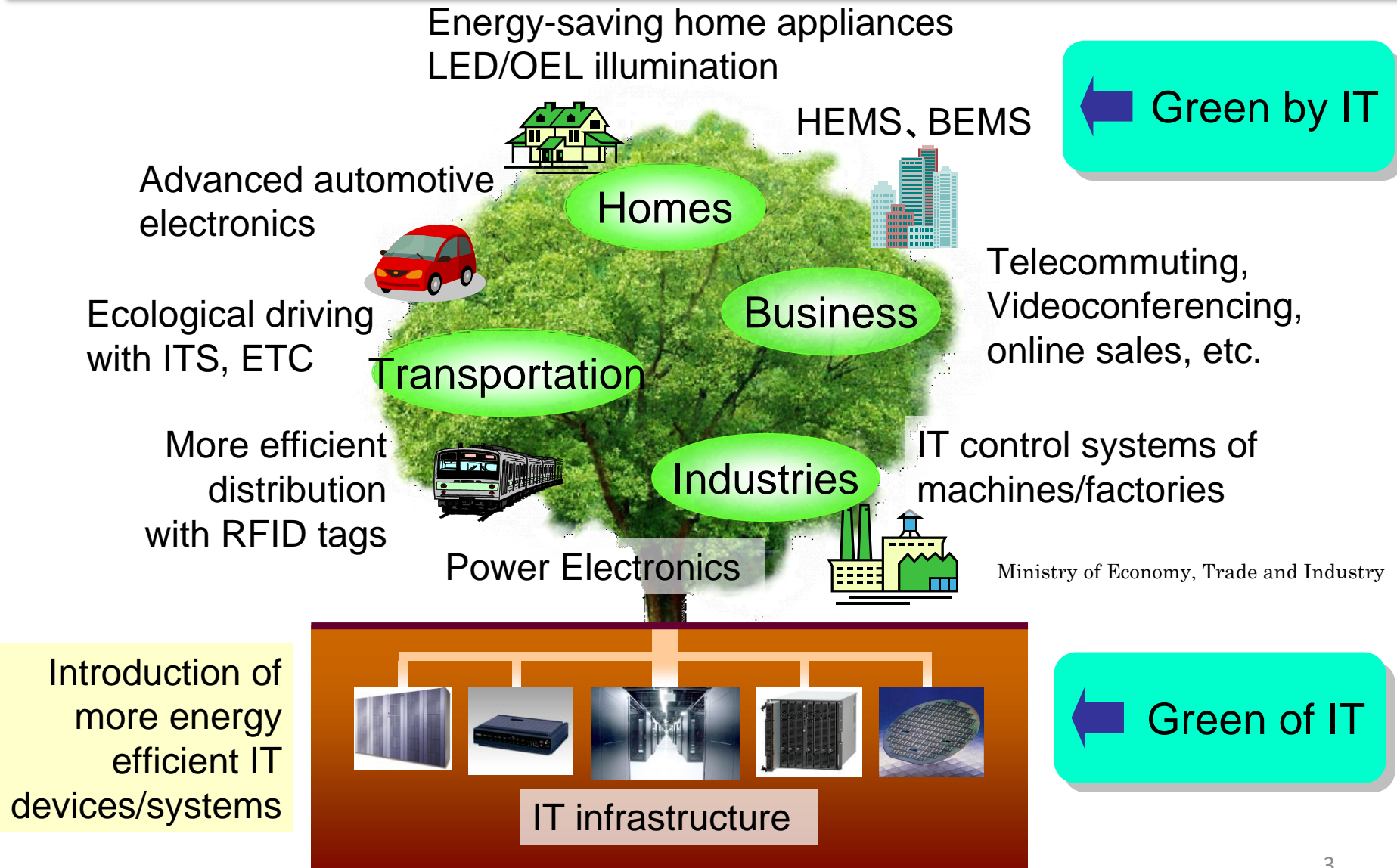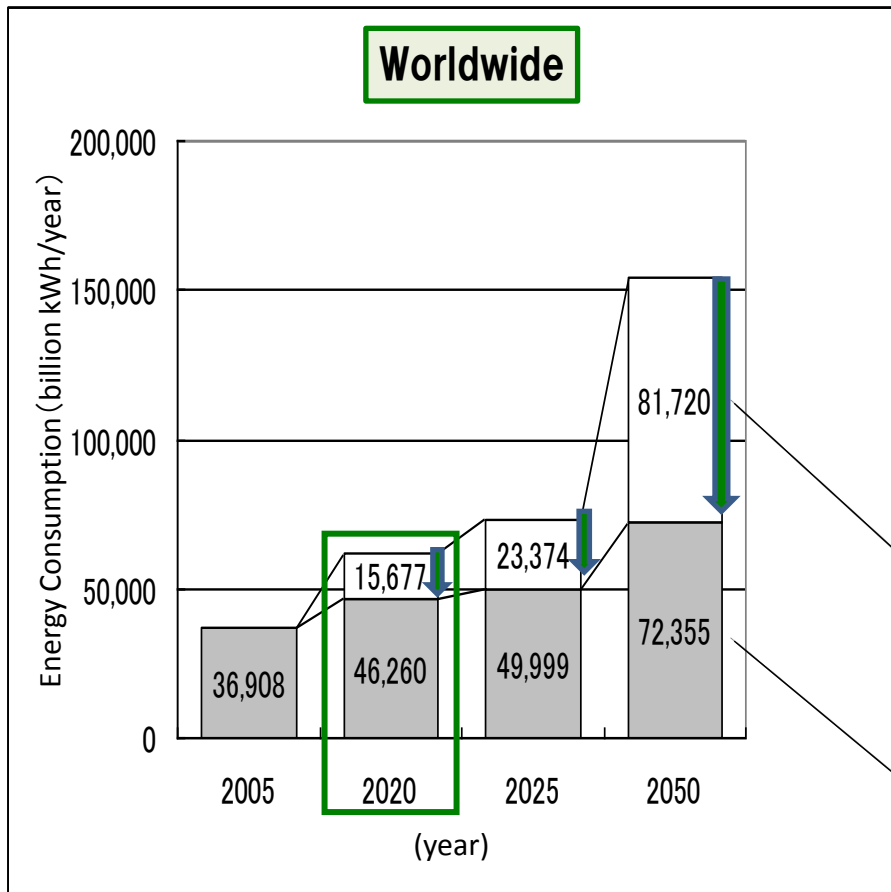Green IT Promotion Council(GIPC)

1. Significance of Green IT

Concept of Green IT

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

Energy-saving home appliances
LED/OEL illumination

HEM、BEMS

Green by IT

Homes

Advanced automotive electronics

Telecommuting,
Videoconferencing,
online sales, etc.

Business

Ecological driving with ITS, ETC

Transportation

More efficient distribution with RFID tags

Industries

IT control systems of machines/factories

Power Electronics

Ministry of Economy, Trade and Industry

Introduction of more energy efficient IT devices/systems

IT infrastructure

Green of IT

Estimation of Energy saving Effects of 10 IT equipment (Worldwide, 2020.2025.2050)

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

Worldwide

Energy Consumption (billion kWh/year)

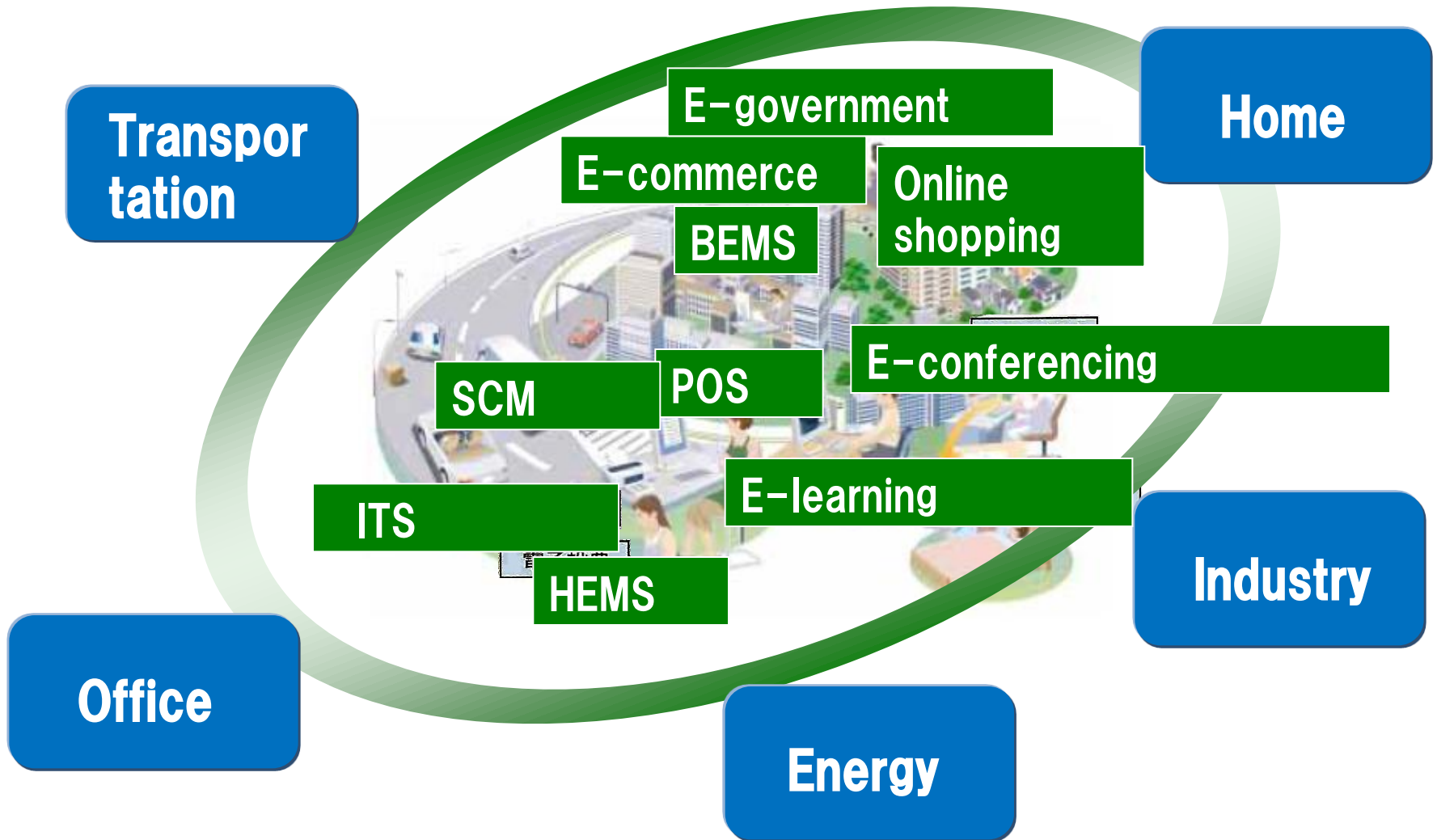| Year	Value (bottom bar)	Value (top)
2005	36,908	
2020	46,260	15,677
2025	49,999	23,374
2050	72,355	81,720

(year)

【Evaluation targets】

Energy saving of IT & electronics equipment
- PC, Server, Storage, Router, Display
- TV, DVD, Lighting, Refrigerator, Air conditioner

Power consumption of IT & electronics equipments

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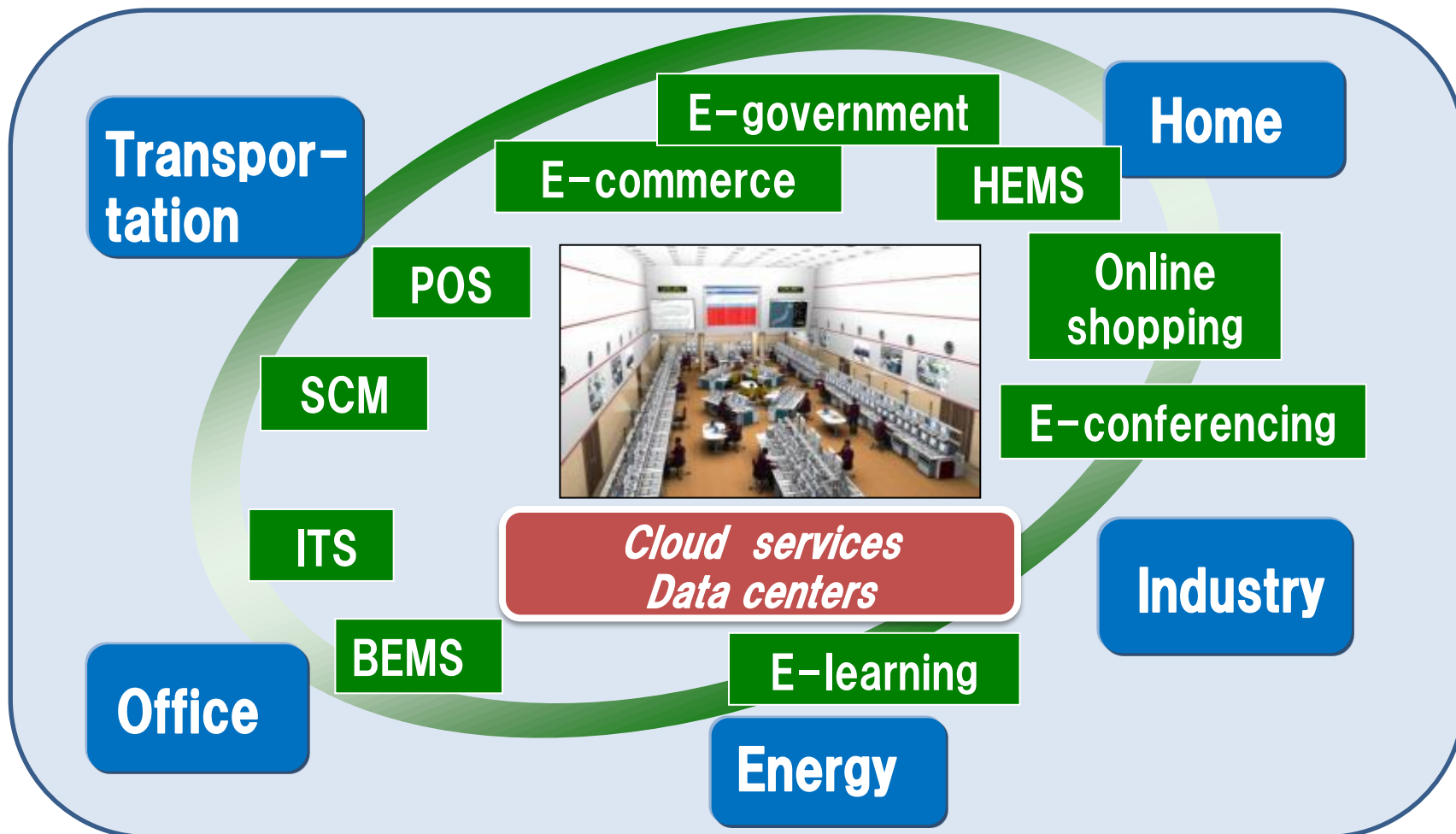# Energy Conservation Effect, Through IT, for Society as a Whole (By IT)

Transportation

Home

E-government

E-commerce

Online shopping

BEMS

E-conferencing

SCM

POS

E-learning

ITS

HEMS

Office

Energy

Industry

"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

Transportation · E-government · Home · E-commerce · HEMS · POS · Online shopping · SCM · E-conferencing · Cloud services Data centers · ITS · Industry · BEMS · E-learning · Office · Energy
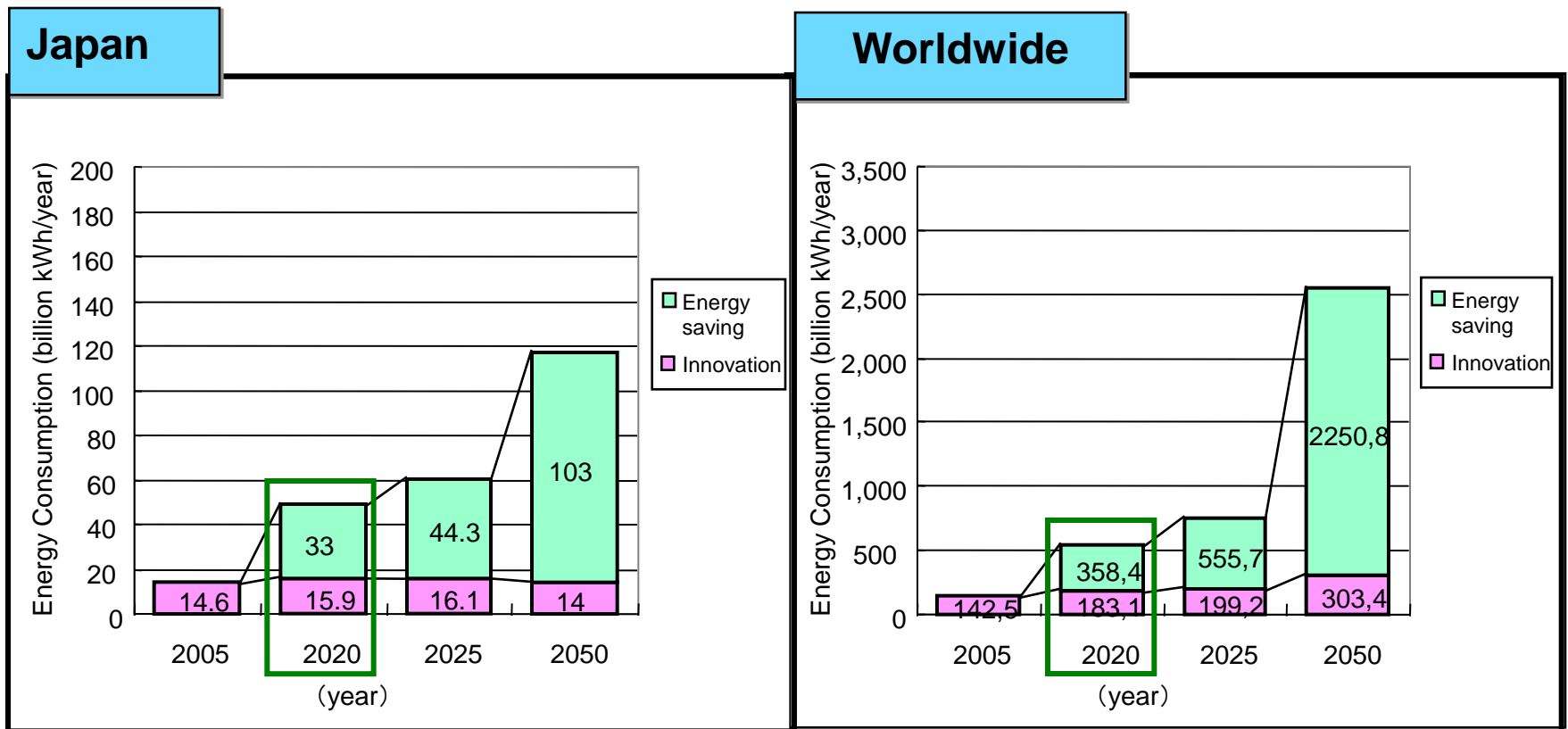
Cloud services and data centers have a critical role to play in 'smart communities', which aim to save energy across society as a whole.

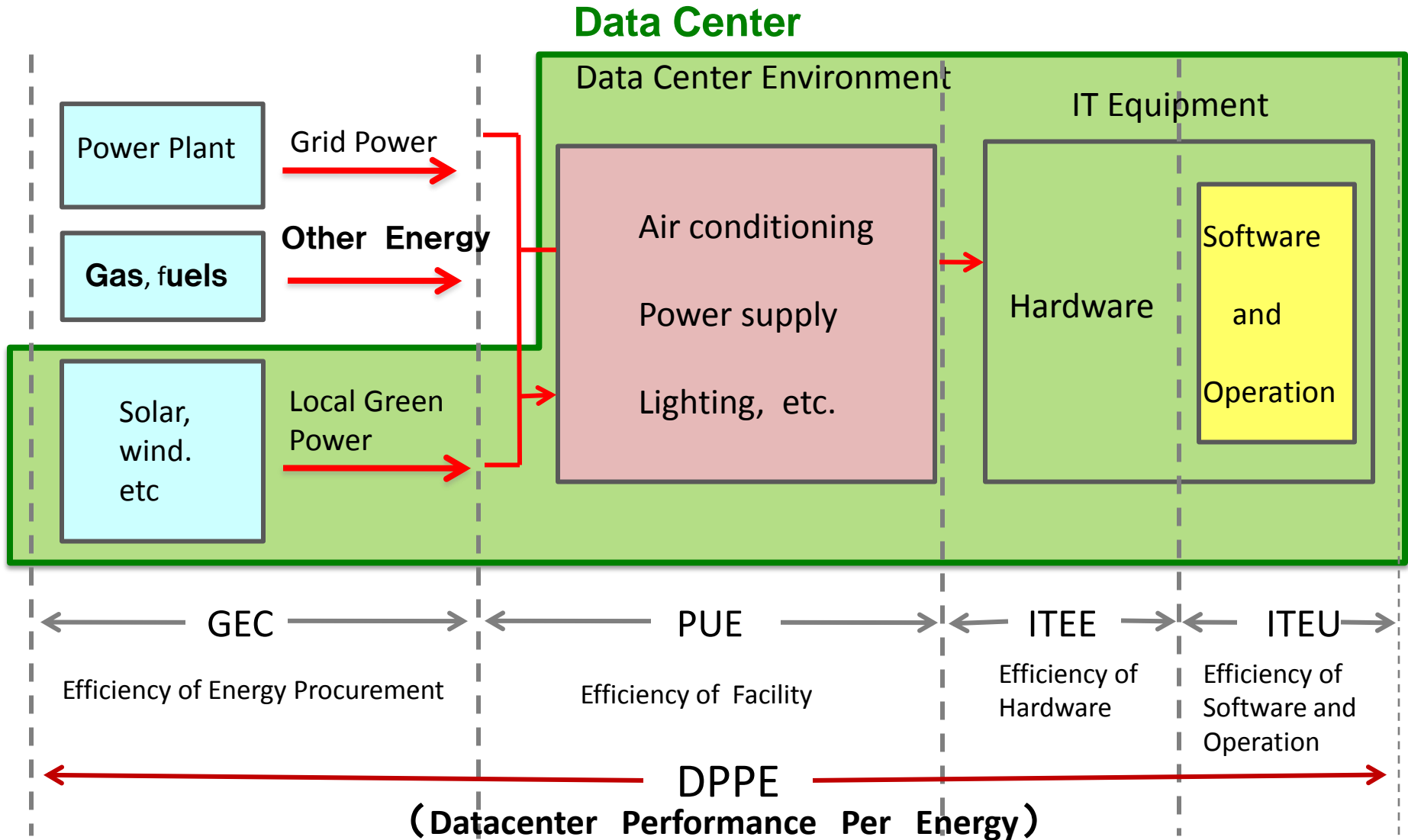# Potential Energy-Saving in Data Centers Through Green IT

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）

Japan

Energy Consumption (billion kWh/year)

- □ Energy saving
- □ Innovation

	2005	2020	2025	2050
Energy saving		33	44.3	103
Innovation	14.6	15.9	16.1	14

(year)

Worldwide

Energy Consumption (billion kWh/year)

- □ Energy saving
- □ Innovation

	2005	2020	2025	2050
Energy saving		358,4	555,7	2250,8
Innovation	142,5	183,1	199,2	303,4

(year)

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DPPE metric for data center energy efficiency

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/

Promoting ITA Expansion

- ITA formed in 1996 to
  eliminate duties on IT products
- ITA 76 member countries and regions
  97% of trade of IT products
- ITA contributes to an advanced information society, improves myriad conveniences in our daily lives, and spurs growth and innovation
- ITA expansion will further promote the unimpeded distribution of IT and electronics products with a strong environmental performance and consequently contribute substantially to green IT promotion

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Products outside current ITA coverage

- Product scope of the agreement has not been expanded for the past 15 years.
- Many new and innovative products are not covered by ITA

Video cameras/camcorders

Products outside current ITA coverage

Multi-chip IC

Multi-component IC

BD/DVD recorders and players

Digital Network

Car navigation systems

Digital TVs

Digital Media

Digital Editing

Digital Wireless Network
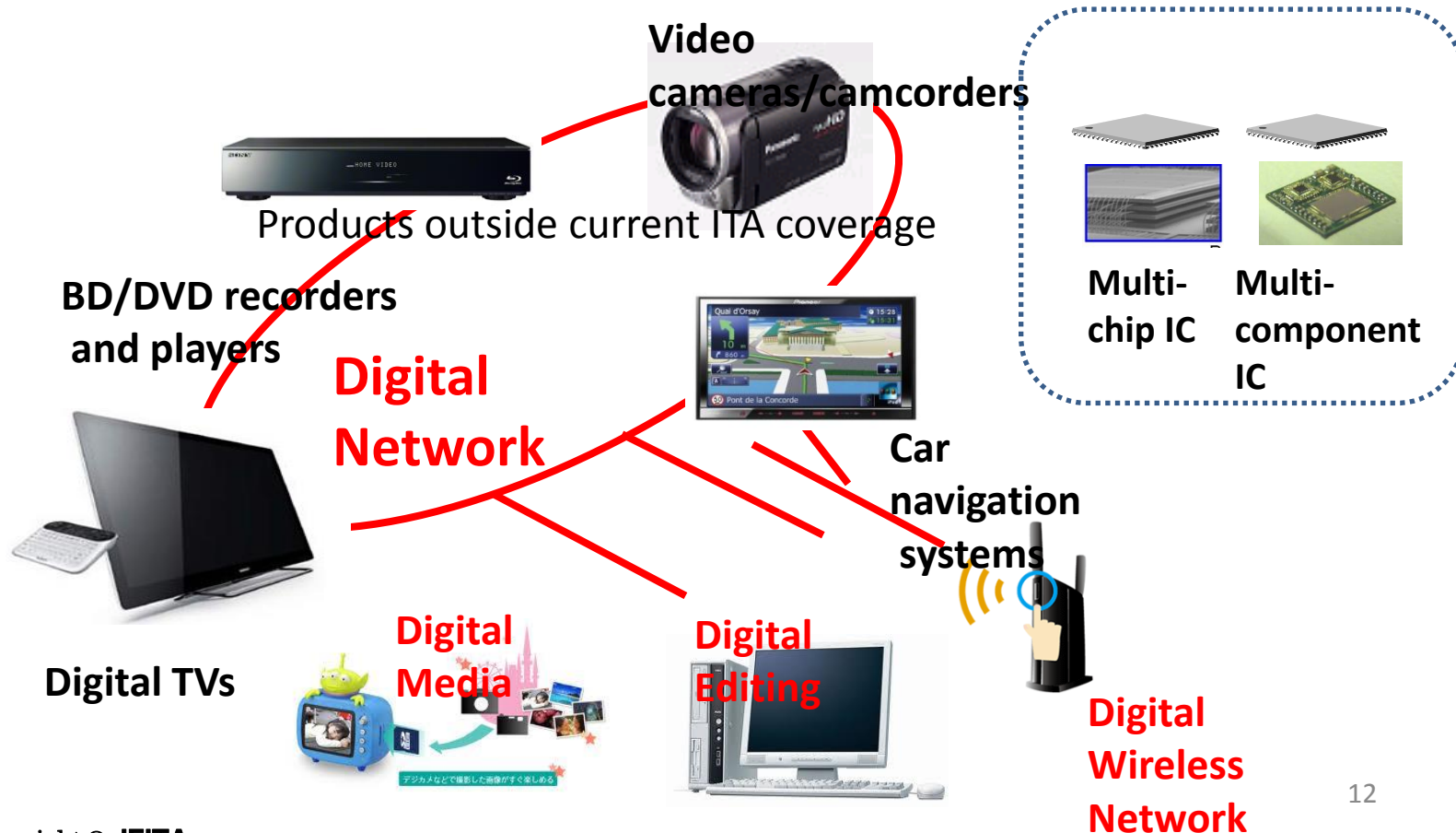
ITA membership

ITA members (77 nations/regions)

Japan, US, EU(28), Taiwan, Korea, Costa Rica, Malaysia, Australia, Canada, Thailand, Norway, China, Switzerland, Liechtenstein, Singapore, Hong Kong, Philippines, NZ, Israel, Croatia, Mauritius, Montenegro, Turkey, El Salvador, Guatemala, Iceland, Dominica

ITA Expansion negotiation by 53 nations/regions

India, Columbia, Indonesia, Macao, Oman, Peru, Saudi Arabia, Ukraine, Bahrain, UAE, Vietnam, Nicaragua, Panama, Albania, Egypt, Georgia, Honduras, Jordan, Kuwait, Kyrgyzstan, Moldova, Morocco, Tajikistan
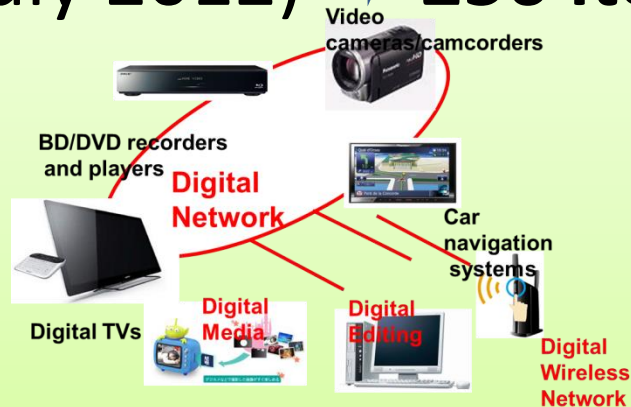
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Current status of negotiations

Planned target

- Substantial agreement by July 2013 ???
- Adoption of final agreement at the WTO Ministerial Meeting in Bali in December 2013

⇒ Need more support from Asian countries
for successful conclusion

Refine items list

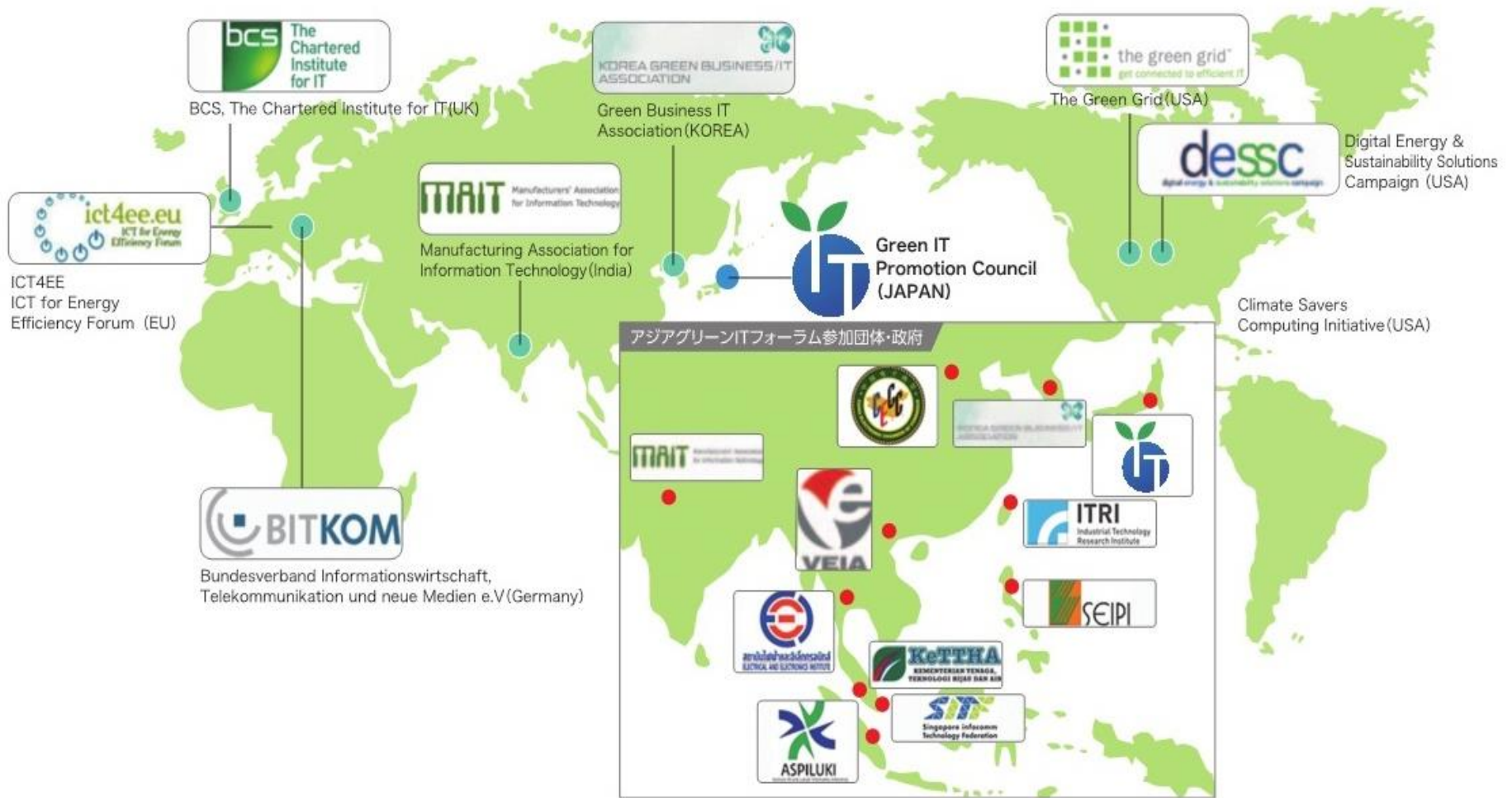360 items (July 2012) **256 items (July 2013)**

Video cameras/camcorders

BD/DVD recorders and players **Digital Network**

Car navigation systems

Digital TVs **Digital Media** **Digital Editing** **Digital Wireless Network**

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2. 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**

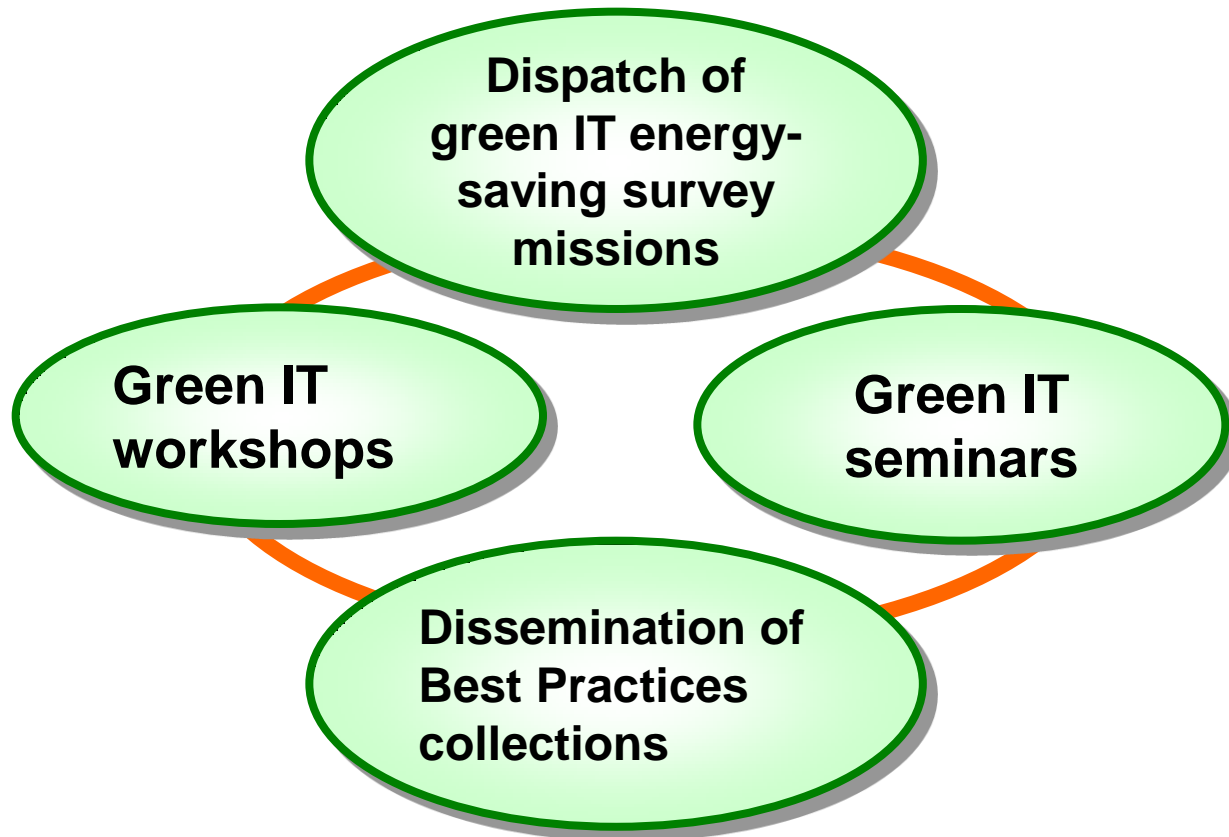**China / Chinese Taipei / India (MAIT) / Indonesia / Japan / Korea / Malaysia / Philippines / Singapore / Thailand / Vietnam**

◆ **History**

2009 : 1st Forum (Japan)

2010 : 2nd Forum (Japan)

2011 : 3rd Forum (Korea)

2012 : 4th Forum (Korea)

2013 June : 5th Forum (Philippines)

2014 June : 6th Forum (Philippines)

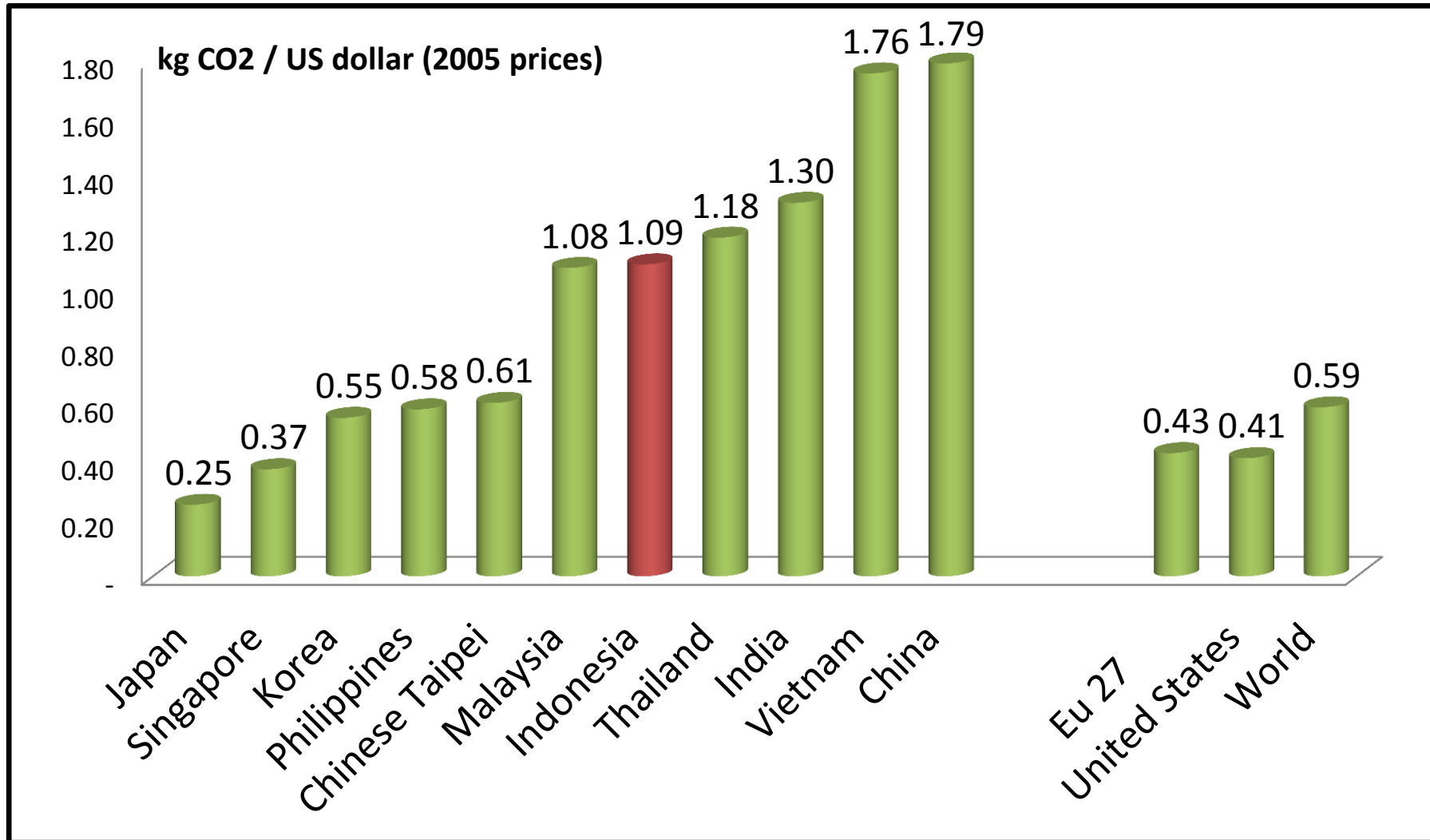2015 Feb. : 7th Forum (Indonesia)

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Enhancing International Cooperation in Asia

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

- Dispatch of green IT energy-saving survey missions
- Green IT workshops
- Green IT seminars
- Dissemination of Best Practices collections

CO2 emissions / GDP using exchange rates（2010）

kg CO2 / US dollar (2005 prices)

Country	Value
Japan	0.25
Singapore	0.37
Korea	0.55
Philippines	0.58
Chinese Taipei	0.61
Malaysia	1.08
Indonesia	1.09
Thailand	1.18
India	1.30
Vietnam	1.76
China	1.79
Eu 27	0.43
United States	0.41
World	0.59

Source： IEA

Thank you

http://home.jeita.or.jp/greenit-pc/e/index.html