Climate Change and ICT Standardization

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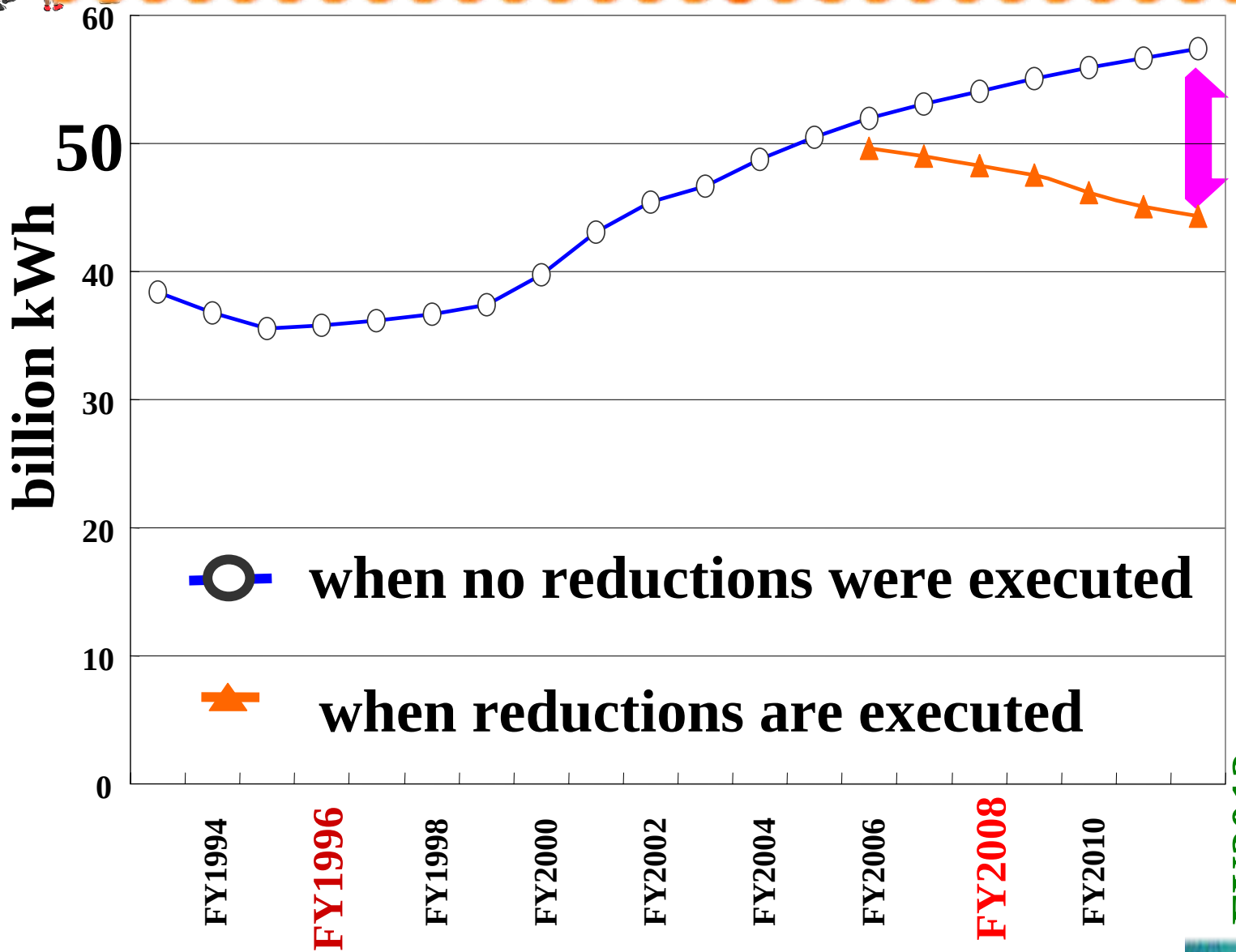
ICT vs. CO2

#1 ICT emits CO2

Note: Recycling is another important factor.
But hereafter mainly on CO2.

Telecom Power Consumption in Japan



13 bkWh expected

20 mTN CO2 emission in total

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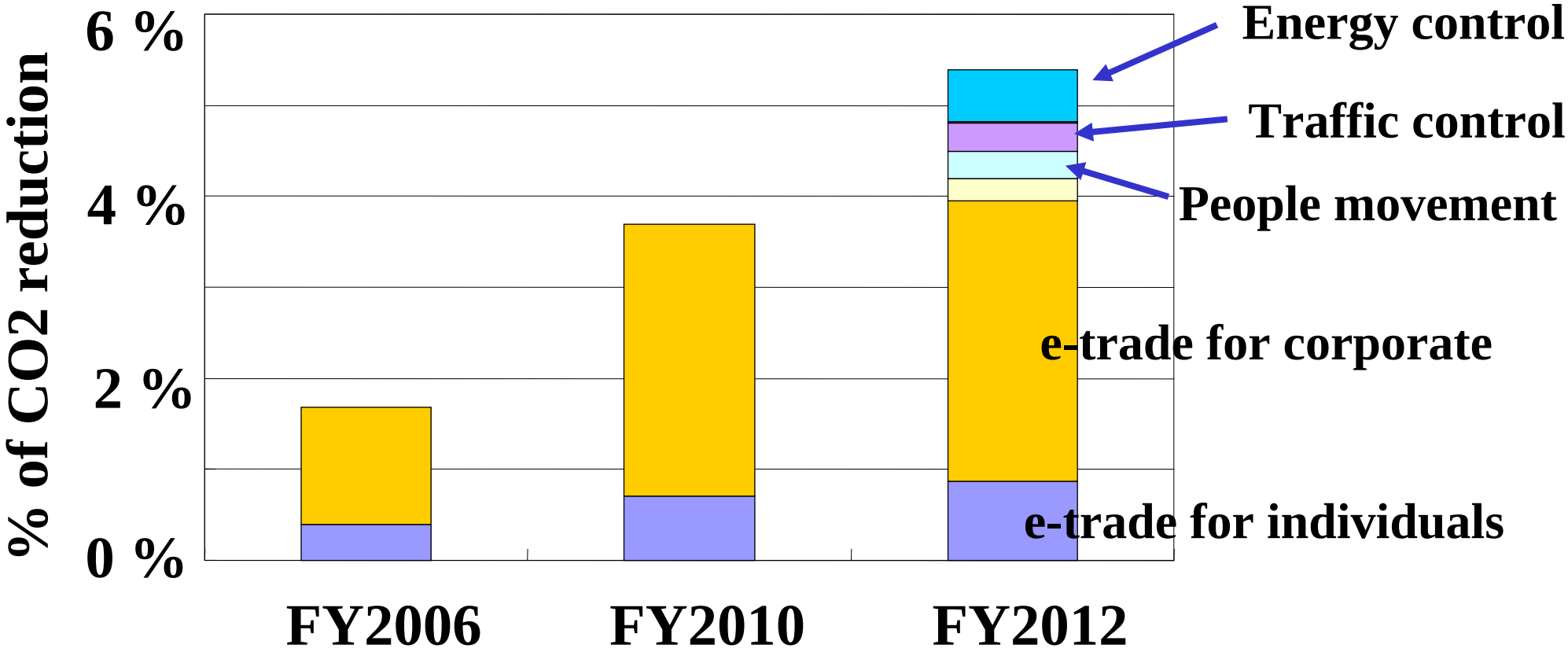
ICT vs. CO2

#1 ICT emits CO2

#2 ICT reduces CO2 in various social activities

- Paper reduction by electric display,
- Car Traffic control,
- Peoples movement reduction by TV conference, Tele-working, etc,
- Increase of Business efficiency by SCM, CRM, e-Trade, Power control, etc , and
- Ubiquitous Monitoring of natures, …..

Estimated Reduction of CO2 in Japan



Reference is the FY1990 according to Kyoto Protocol:
Japan expected to reduce 6%.

Estimated ICT Achievement in Japan

In 2012 application of ICTs to other sectors will contribute to reduction of 68 million tons of CO2, which is equivalent to 5.4% of CO2 emission in 1990 in Japan.

Waoo! 5.4% out of 6%

Easy Calculation for ICT vs. CO2 in Japan

% of CO2 emission

30 mTN

Including Broadcasting and TV sets

68 mTN

In 2012 ICTs will contribute to reduction of 38 (= 68-30) million tons of CO2 in ICT and broadcasting sectors, which is equivalent to 3% of CO2 emission in 1990 in Japan.

Easy BUT ……..

Who believes the calculation?
Why?

- **Is the Method valid?**
- **Even so, is it common to other countries?**
- **Even so, is it acceptable for other sectors?**

YES, we DO need Standard for the Method!

Roles of ITU-T

1) how to **reduce** energy consumed by ICT equipment and services,

2) how to **evaluate** energy savings of various social activities by ICT power,

3) how to **measure** climate change,

4) how to **encourage** society to reduce energy by ICT power **including *CDM***, Clean Development Mechanism, and

5) how to **promote** enlightenment of ICT power.

A new group in ITU-T

A new "Focus Group" specified in ITU-T Rec. A.7 [2] should be established within ITU-T to play her roles

- **Expertise on both climate change and standardization should be integrated in this group.**
- **Experts of climate change from non-ITU member organizations should also be welcomed to make the discussions in the group efficient and effective.**
- **Several items to be discussed in this group may expand the ITU-T's traditional scope.**

Activities in TTC

1. Establishment of Task Force on ICT & Climate Change early this year, and

2. Proposed and agreed on A new HIS in GSC

- **"ICT & Climate Change (*)" for discussion at the coming 13th GSC (Global Standards Collaboration) Meeting in Boston in July 2008**
  (*) Title is tentative at this moment.

Thank you for your attention !

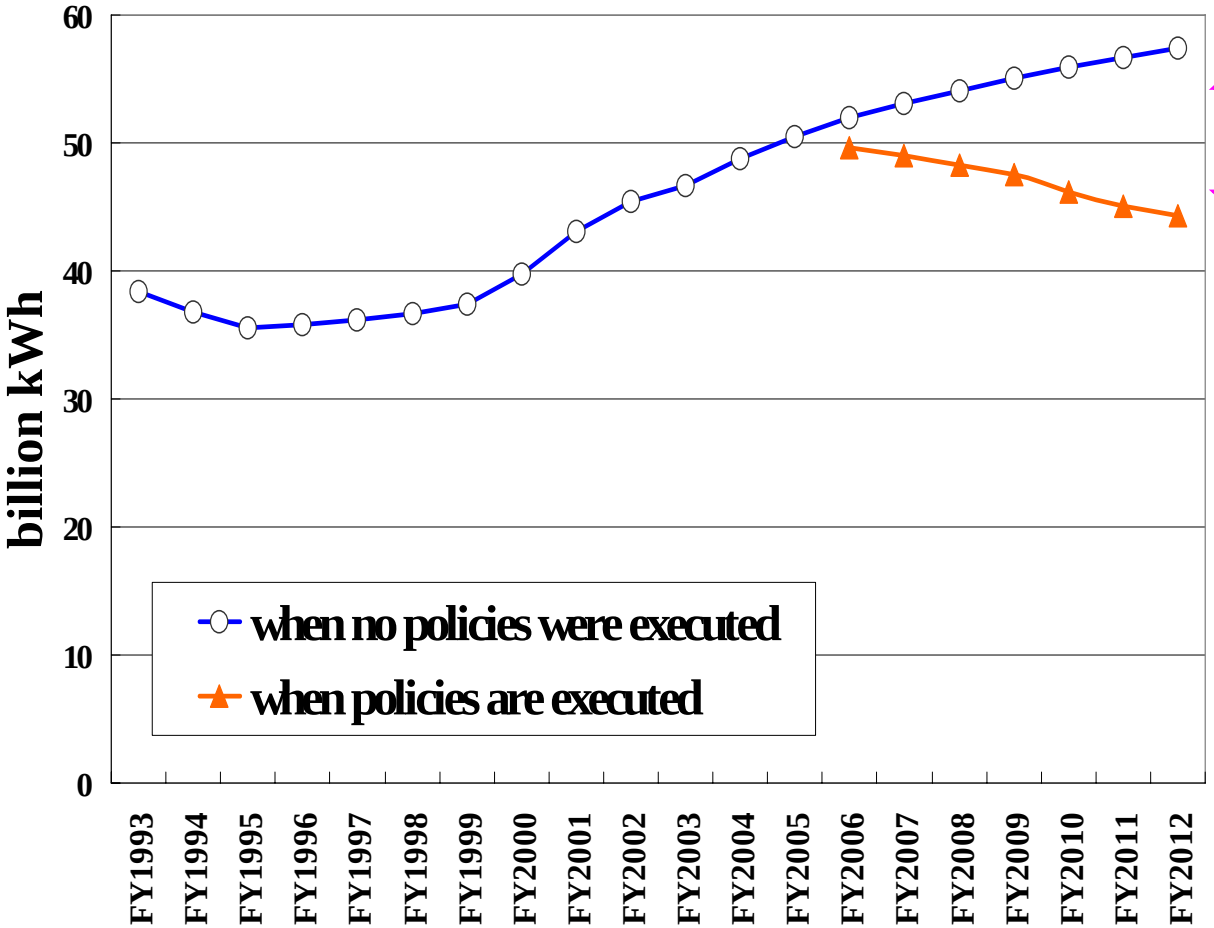
Appendix

CO2 reduction effects by use o of ICTs

Table 1 Examples of CO2 reduction effect by use of ICTs [1]

Effects	Details
(1)Consumption of goods	By reducing goods consumption (consumption of paper, etc.), CO_2 emissions related to goods production and waste and waste generation can be reduced.
(2)Power consumption/energy consumption	By enhancing the efficiency of power and energy use to reduce consumption, CO_2 emission related to power generation and power transmission can be reduced.
(3)Movement of people	By reducing the movement of people, CO_2 emission and consumption of energy required for transportation means can be reduced.
(4)Movement of goods	By reducing movement of goods, CO_2 emission and consumption of energy required for transportation means can be reduced.
(5)Improved efficiency of office space	By using office space efficiently, CO_2 emission and consumption of power for lighting and air-conditioner, etc. can be reduced.
(6)Storage of goods	By reducing storage space of goods, CO_2 emission and consumption of power for lighting and air-conditioner, etc. and can be reduced.
(7)Improved work efficiency	By enhancing work efficiency, resource and energy consumption can be reduced, thus reducing CO_2 emission.
(8)Wastes	By reducing waste emission, consumption of energy required for environment preservation and waste disposal, etc. can be reduced, thus reducing CO_2 emission.

Power consumption



13 bkWh (= 57-44) reduction in FY2012 can be achieved when power saving policies are executed

Policies

1. **Electric power saving in ICT equipment and air-conditioning systems located in data centers**
2. **Electric power saving in ICT customer premises equipment located in homes such as PCs and routers**

Fig.1 Electric power consumption of ICT (telecommunication) [1]

Power consumption (cont'd)

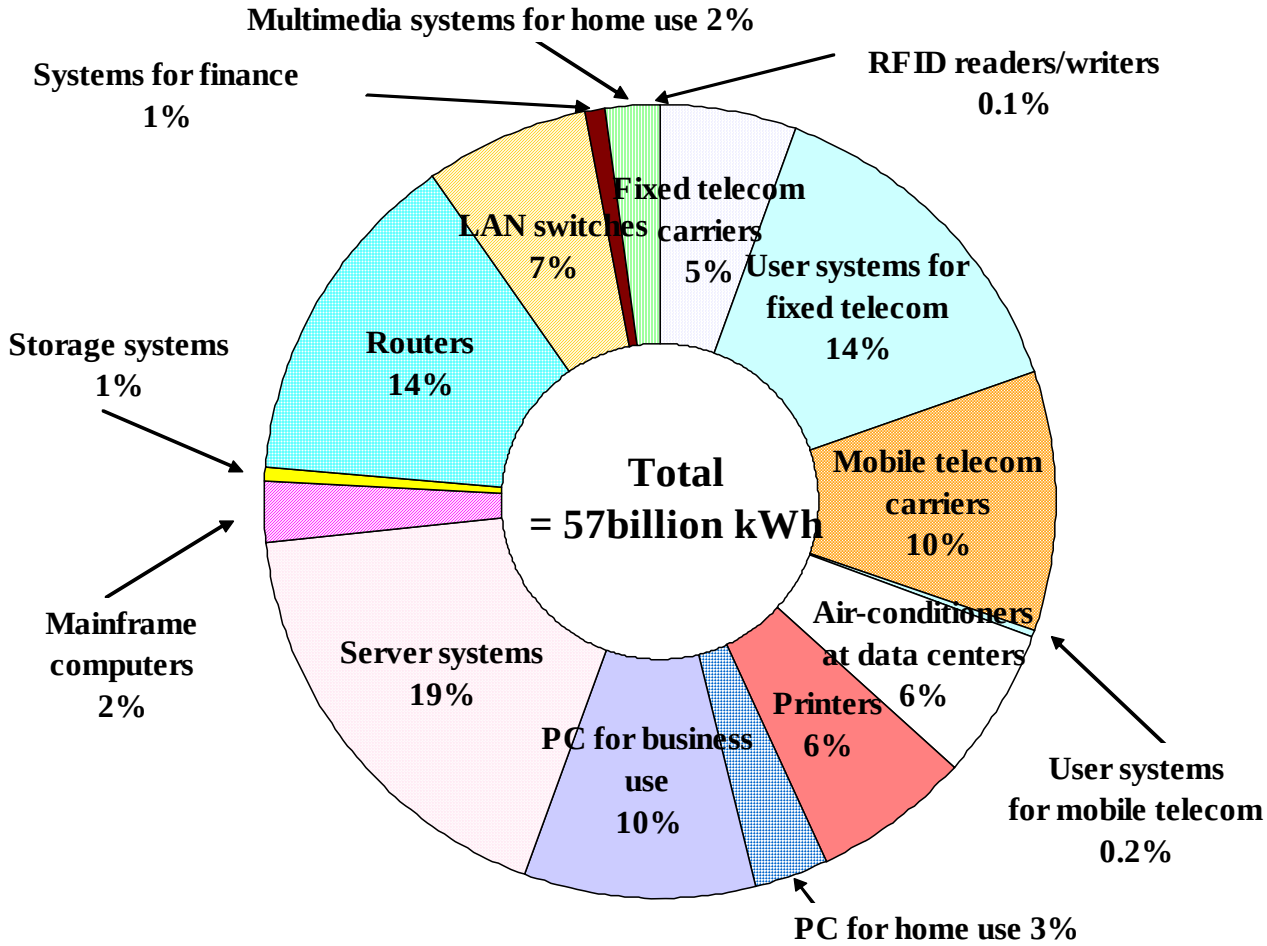


Fig.2 Breakdown of electric power consumption of ICT (Telecommunication) in 2012 [1]

Reduction of CO2

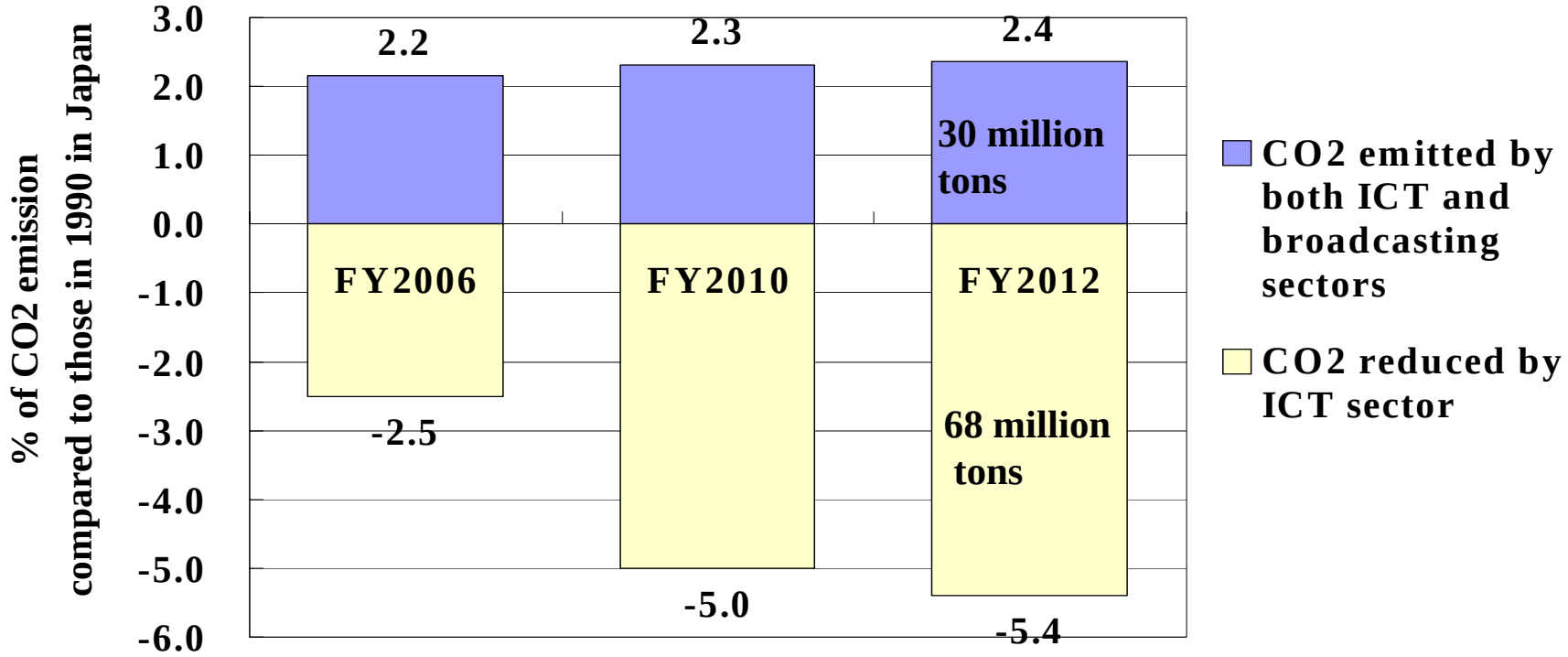


Fig.3 Emission & reduction of CO2 by ICTs [1]

In 2012 ICTs will contribute to reduction of 38 (= 68-30) million tons of CO2 in ICT and broadcasting sectors, which is equivalent to 3% of CO2 emission in 1990 in Japan.

Reduction of CO2 (con'd)

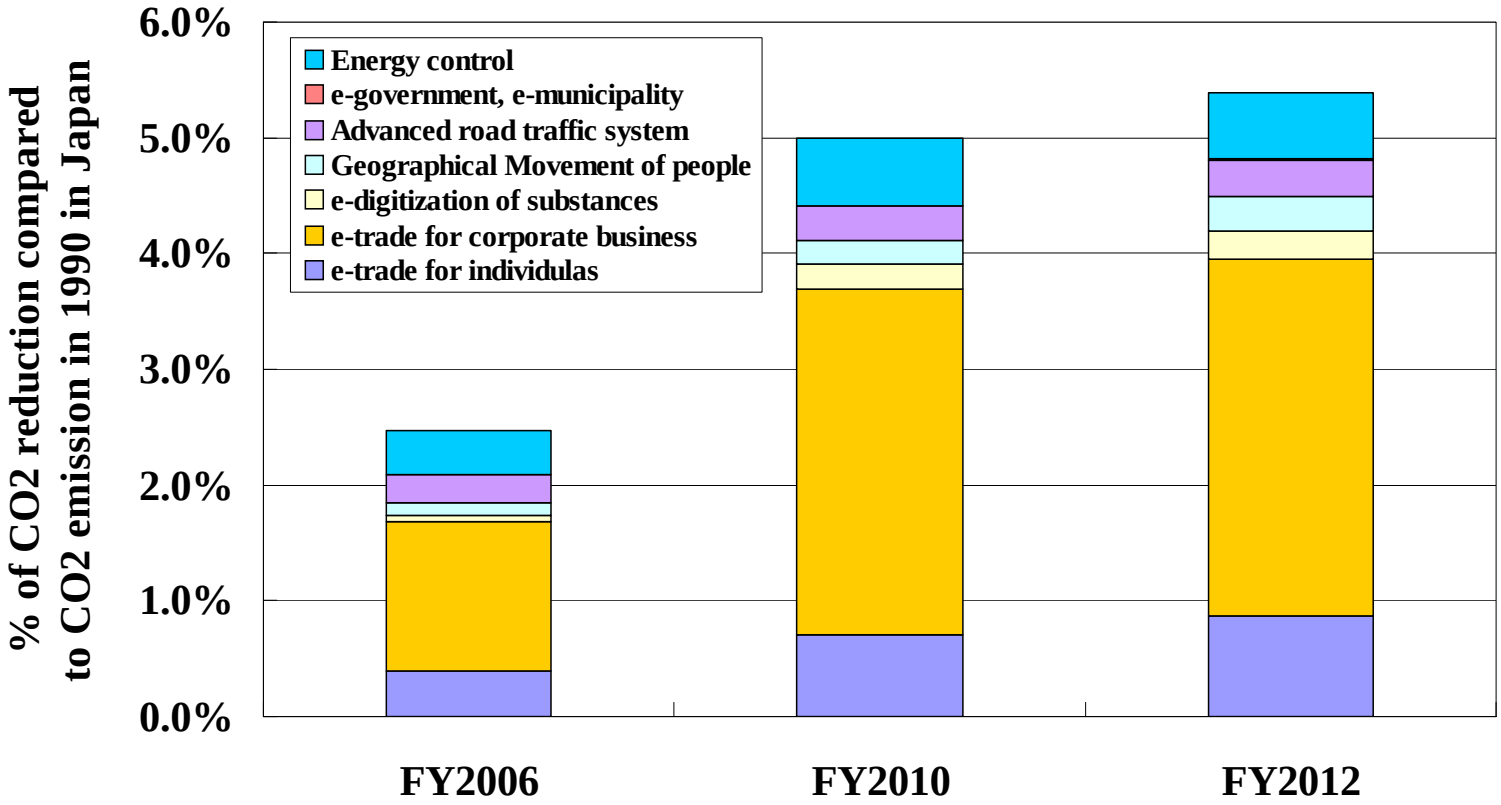


Fig.4 Reduction of CO2 by use of ICTs in Japan [1]

In 2012 application of ICTs to other sectors will contribute to reduction of 68 million tons of CO2, which is equivalent to 5.4% of CO2 emission in 1990 in Japan.

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Contributions by ICTs for Climate Change

1. to assist in monitoring the degree of climate change in effective manners
2. to reduce the amount of energy consumed by ICT equipment & services and improve energy efficiency
3. to mitigate the effects upon climate change caused by energy consumption in various sectors of economy through utilization of ICTs such as tele-working

Activities in TTC (1)

1. Establishment of Task Force on ICT & Climate Change

- **Chair: Mr. Shiro Nishi (NTT Labs)**
- **Members: eleven members from telecom operators, vendors, and MIC**
- **main ToR (tentative):**
  a. **What are the measures and evaluation tools which should be standardized globally and domestically**
  b. **What organization should be established to accelerate the study within TTC**
  c. **How to collaborate with other bodies such as ITU-T**

Activities in TTC (2)

2. Promotion and Climate Change

- **Challenge to various issues of social concern in developing countries; especially to the issue that fuels climate change, such as illegal deforestation and peat land degradation**
- **To develop environment-related (ICT's) businesses for economic growth in developing countries**
- **To raise awareness concerning environmental issues in developing countries**
- **To reduce meteorological disaster to a minimum**
- **To establish the environmental (Asia-Pacific) standards**

References

1. **"Report of Study Group on ICT Policy for Addressing Global Warming" (to be posted at the following MIC's website http://www.soumu.go.jp/)**
2. **ITU-T Recommendation A.7 "Focus Group: Working methods and procedures"**