INTERNATIONAL TRADE ADMINISTRATION

Why is Green Important? Impact of ICT on the Environment and Energy Use

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Office of Technology and Electronic Commerce

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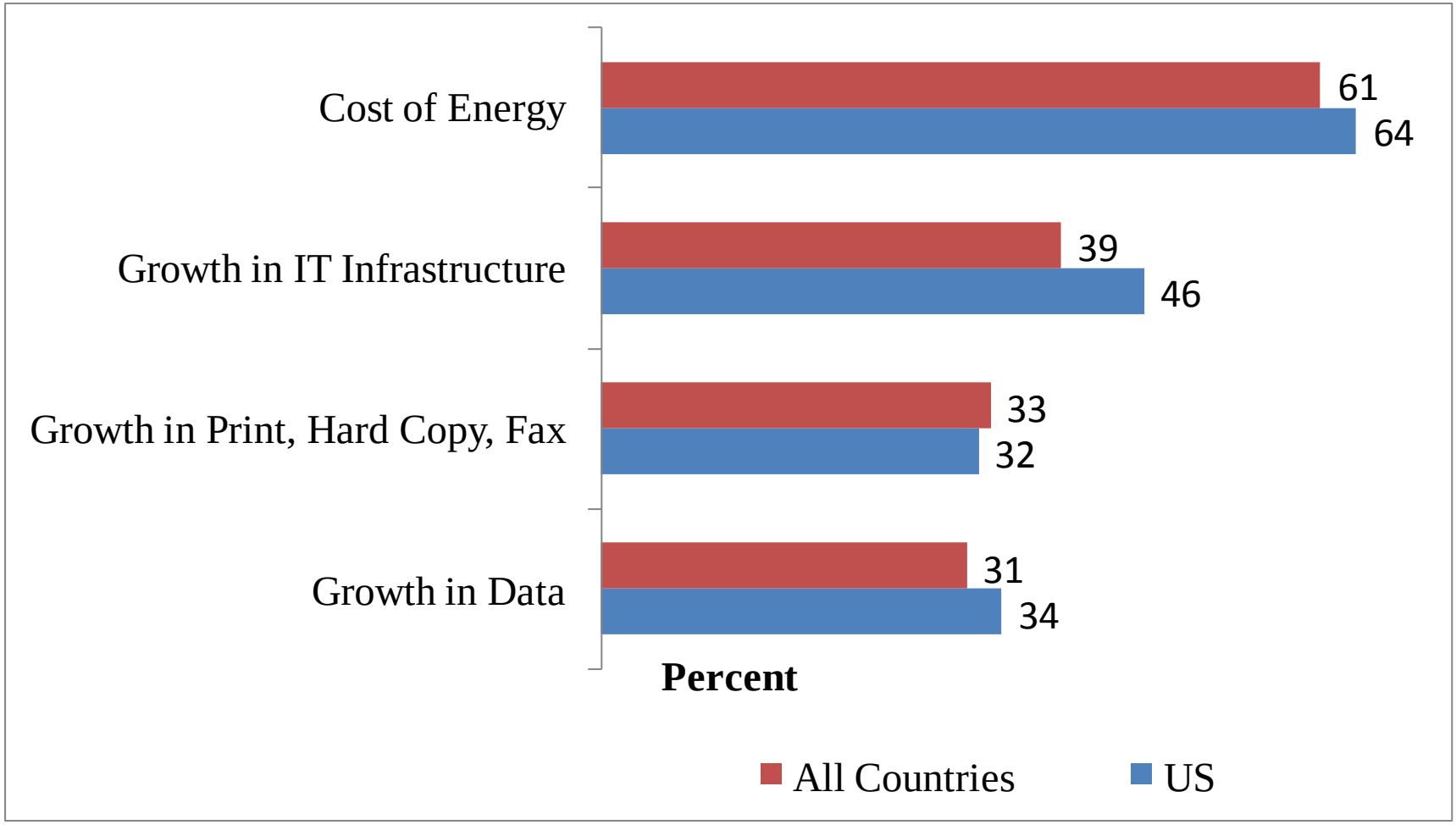
Green ICT Initiative Objectives

Energy Efficiency and Conservation

- Improve U.S. industry's competitiveness with foreign firms
- Deal with global warming
- Reduce U.S. dependence on fossil fuels

Most Pressing Issues for Industry in Adopting Green ICT: Why Is It Important?



Source: IDC Survey, 9/09

ICT Energy Paradox

Great Energy Consumer

- Spread and enormous growth of ICT infrastructure worldwide.
- Development and adoption of new ICT devices and technologies in the future.

Great Energy Efficiency Enabler

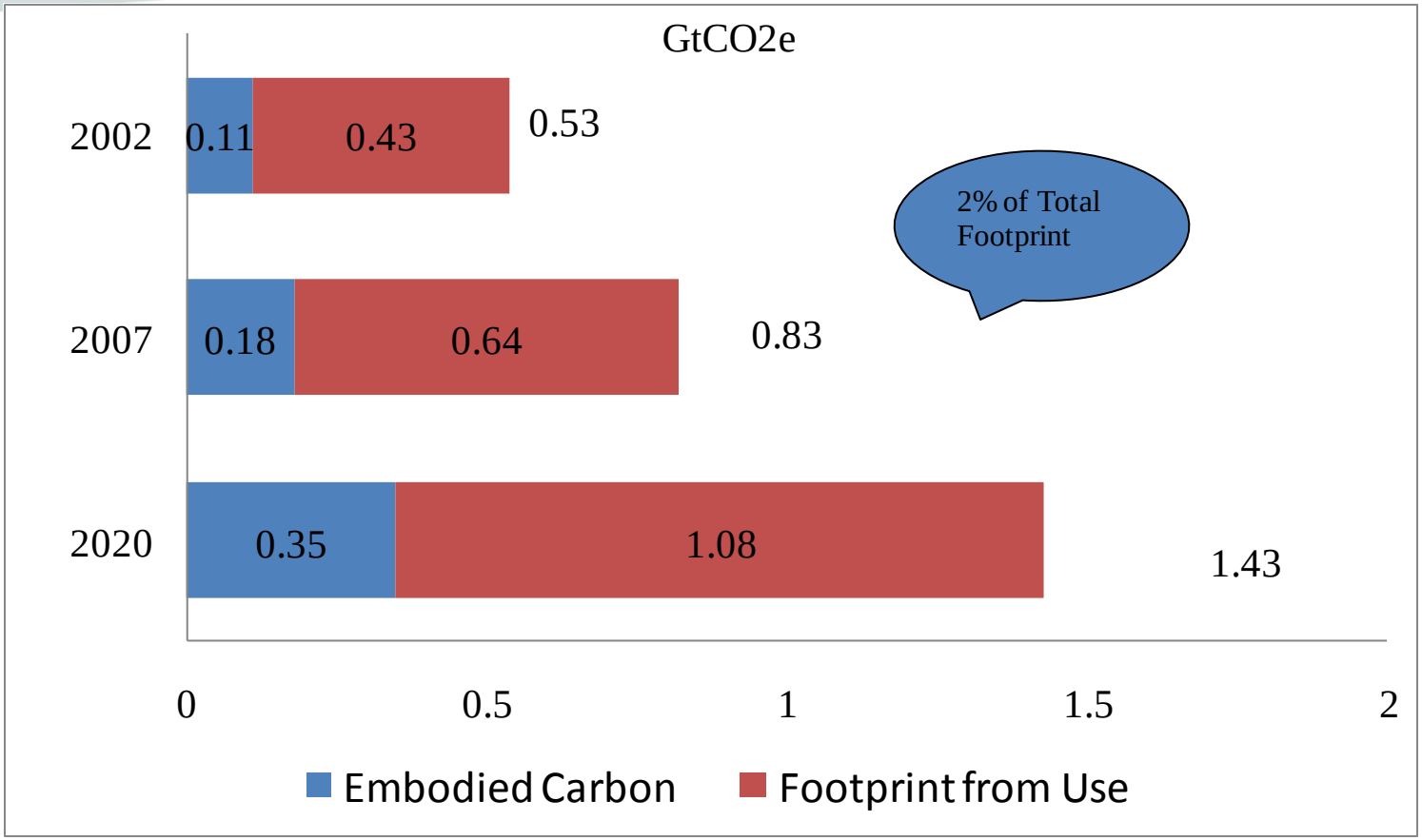
- Use of more energy efficient ICT equipment and solutions throughout government, industry, and the home.

Growth of Global ICT Infrastructure

ICT Infrastructure (Millions of Units)	**1996**	**2008**	**CAGR 1996-08**
Mobile Phones	145	4000	35.2
Internet Users	50	1,500	36.2
Desktop PCs	215.5	784.1	12.4
Portable PCs	31.6	414.2	26.4
Servers	5.6	32.6	17.4

Sources: ITU and IDC

ICT's Direct Footprint*



*ICT includes PCs, telecom networks and devices, printers, and data centers.

- 2% GLOBAL EMISSIONS – 830 Mt CO2e (2007)
- Set to grow 6% each year until 2020

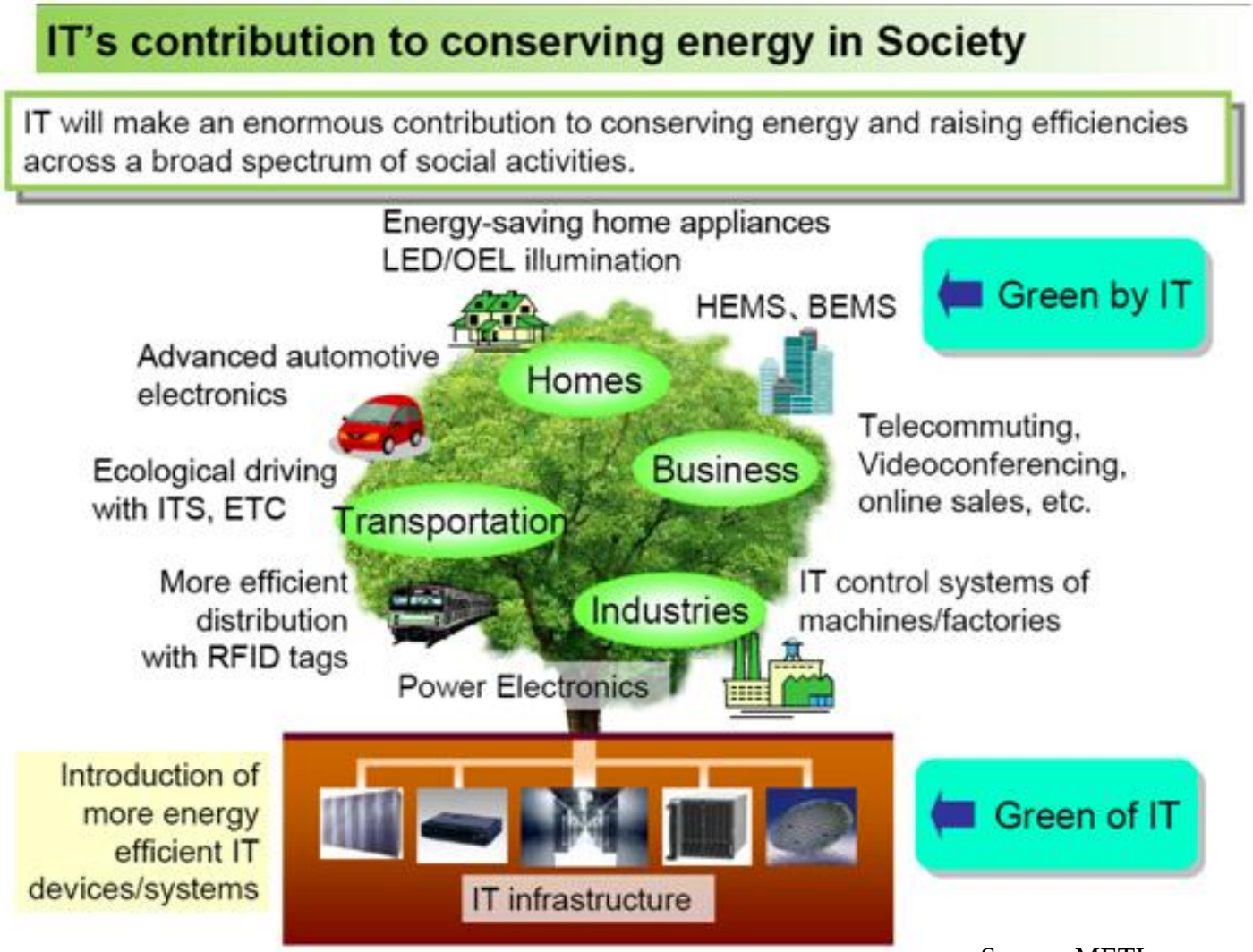
Source: The Climate Group and GeSI

Annual Electricity Use of ICT (2005)

ICT Equipment	World Consumption (Billion kWh)	U.S. Consumption (Billion kWh)
Data Centers (includes cooling)	112.5	45
PCs & Monitors	588	235
Modems/routers/etc.	167	67
Phone Network	1.0	0.4
Total ICT	868	350

Sarokin, D. et. al., *Energy Use of the Internet*, 2007

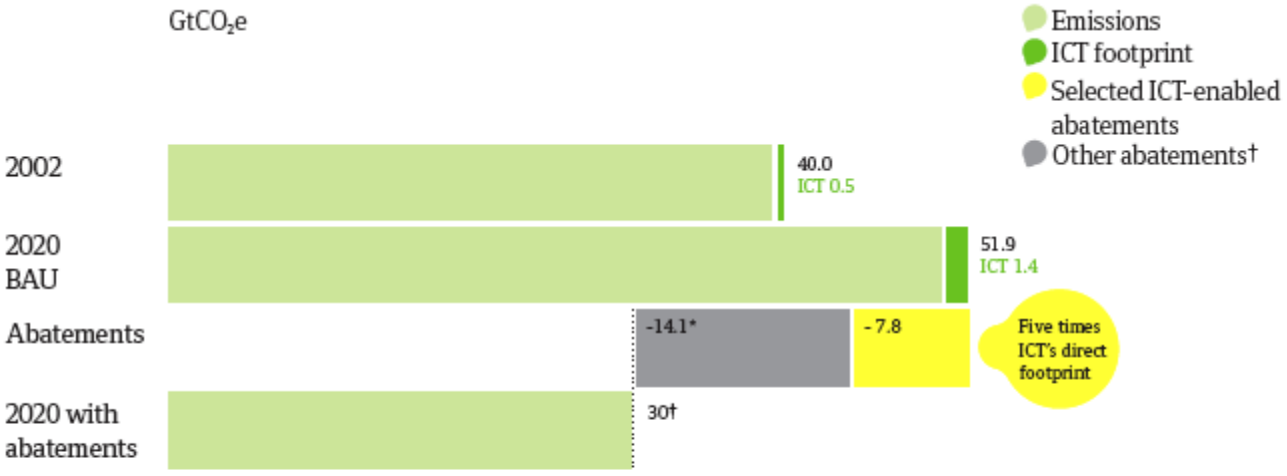
ICT as an Enabler of Energy Conservation and Efficiency



Source: METI

ICT Impact: The Global Footprint and the Enabling Effect

SMART 2020 identified savings of **7.8 Gt CO_2e** that could be delivered by ICT solutions in 2020 – **FIVE** times the sector's footprint and **15%** of global emissions.



* For example, avoided deforestation, wind power or biofuels.
† 21.9 $GtCO_2e$ abatements were identified in the McKinsey abatement cost curve and from estimates in this study. Source: Enkvist P., T. Naucler and J. Rosander (2007), *'A Cost Curve for Greenhouse Gas Reduction'*, The McKinsey Quarterly, Number 1.