



**GeSI**  
GLOBAL e-SUSTAINABILITY  
INITIATIVE

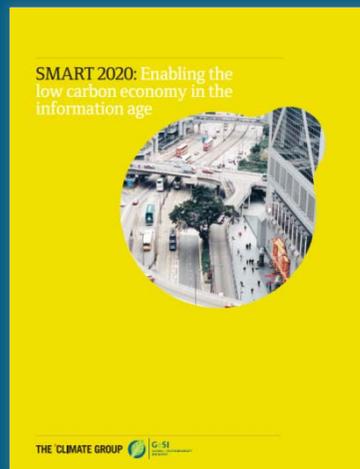
# GeSI SMARTer 2020: the Role of ICT in Driving a Sustainable Future

GreenTouch Workshop  
Brussels, June 26, 2013

# GeSI SMARTERer 2020 report re-evaluates ICT's potential to enable a low-carbon economy

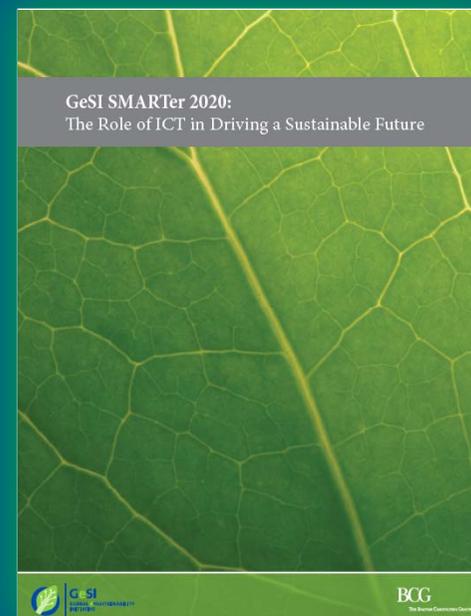
*SMARTer 2020 follows up the SMART 2020 study, which first evaluated ICT's potential to enable a low-carbon economy in 2020*

*In 2008*



**SMART2020**

*Today*



**SMARTer 2020**

## The potential for information technology to reduce global carbon emissions has been under-estimated until now

**9.1 GtCO<sub>2</sub>e**

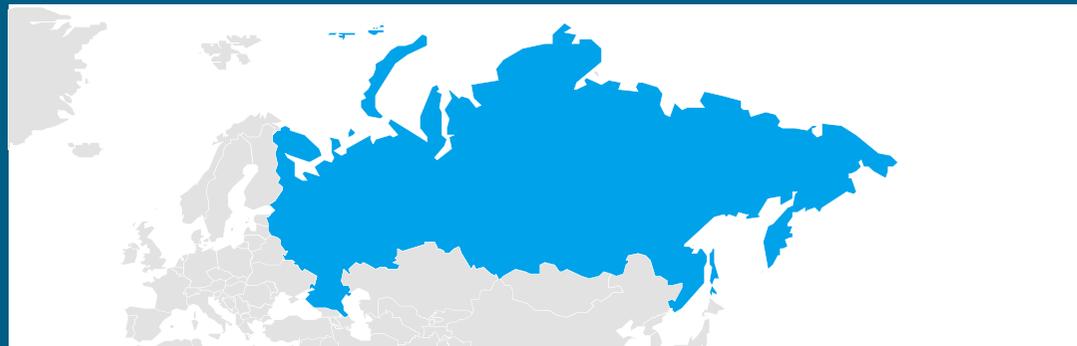
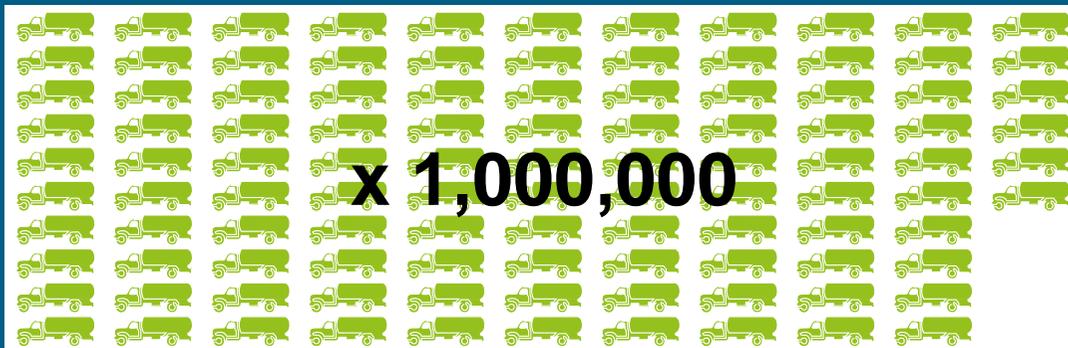
Total abatement potential of  
ICT-enabled solutions in 2020

**16.5%**

% of global GHG emissions  
in 2020

# 9.1 gigatons of GHG emissions amounts to USD1.9 trillion in gross energy and fuel savings

Savings of 21.6 billion barrels of oil<sup>1</sup>



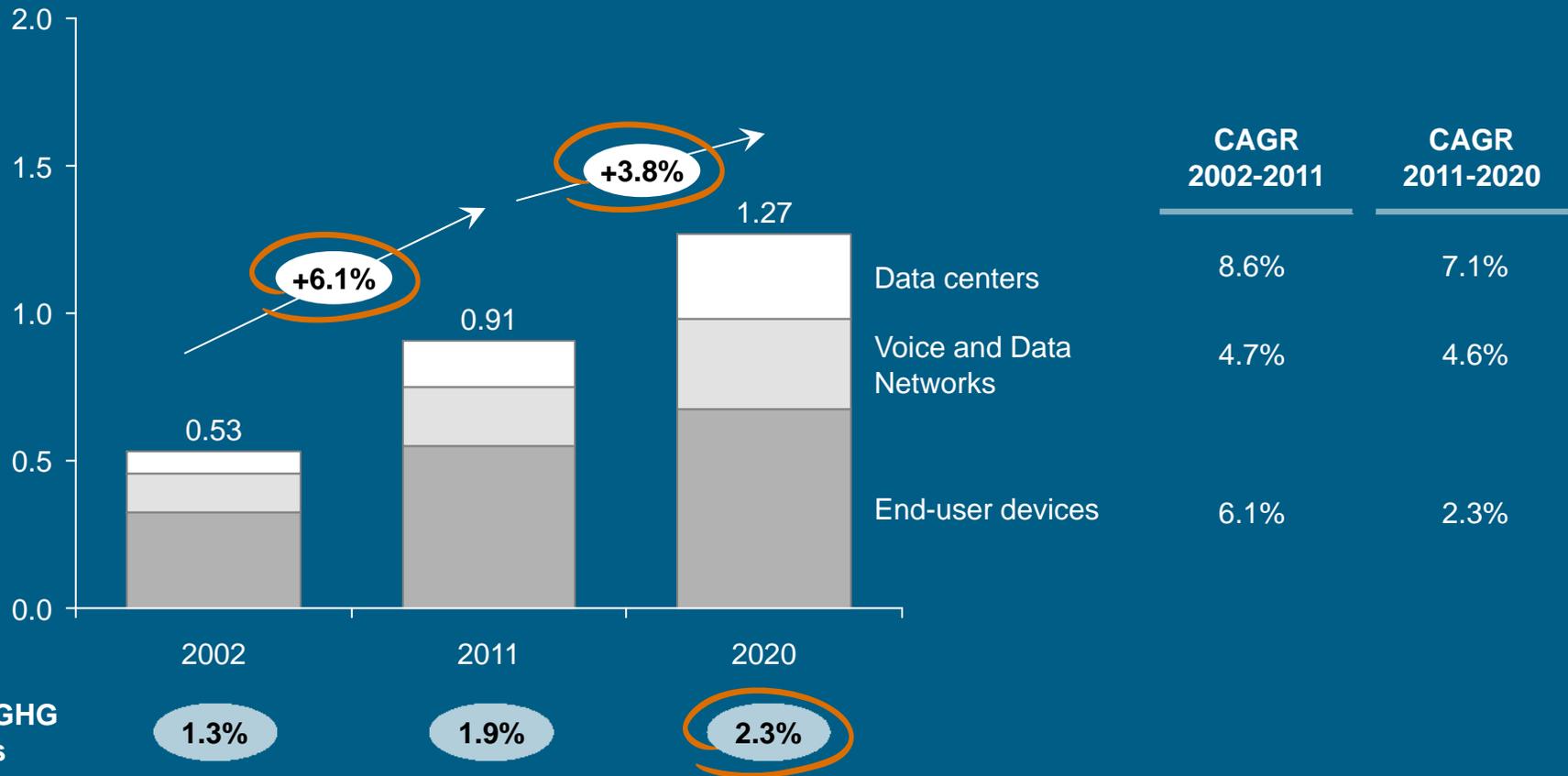
Equivalent to GDP of the Russian economy<sup>2</sup>

1. Number of barrels of oil with equivalent emissions assuming Barrel of oil emits 0.43 metric tons of CO<sub>2</sub> 2. At today's crude oil price, value of the oil that would be saved (\$87.99 per barrel of crude oil as of Nov 6, 2012)

# ICT emissions growth expected to slow down from 6% to ~4%

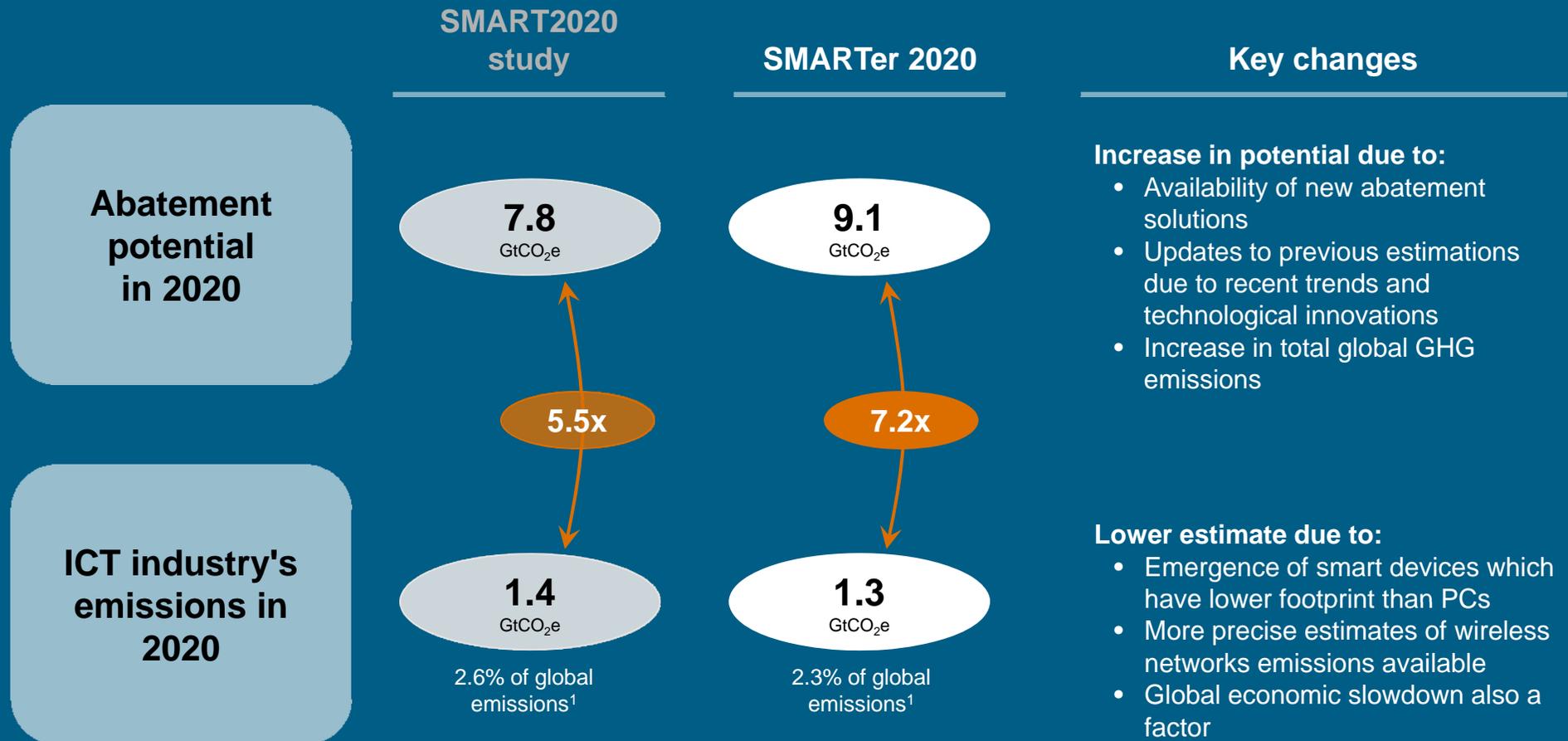
ICT emissions 2.3% of global emissions by 2020

Global ICT emissions (GtCO<sub>2</sub>e)



1. Data for 2010 2. Previous study used an incorrect number for the wireless network emissions (50 vs. 24kWh/yr) and therefore ended up with higher total emissions  
 Source: Gartner; Forrester ; U.S. Census Bureau; IEA; Greentouch; CEET; CDP; Ovum; GSMA; CERN; Cisco; CEET; SMART 2020: Enabling the low carbon economy in the information age; academic publications; industry experts; academic experts; manufacturer websites; GeSI Smart2020 Refresh team members; BCG analysis

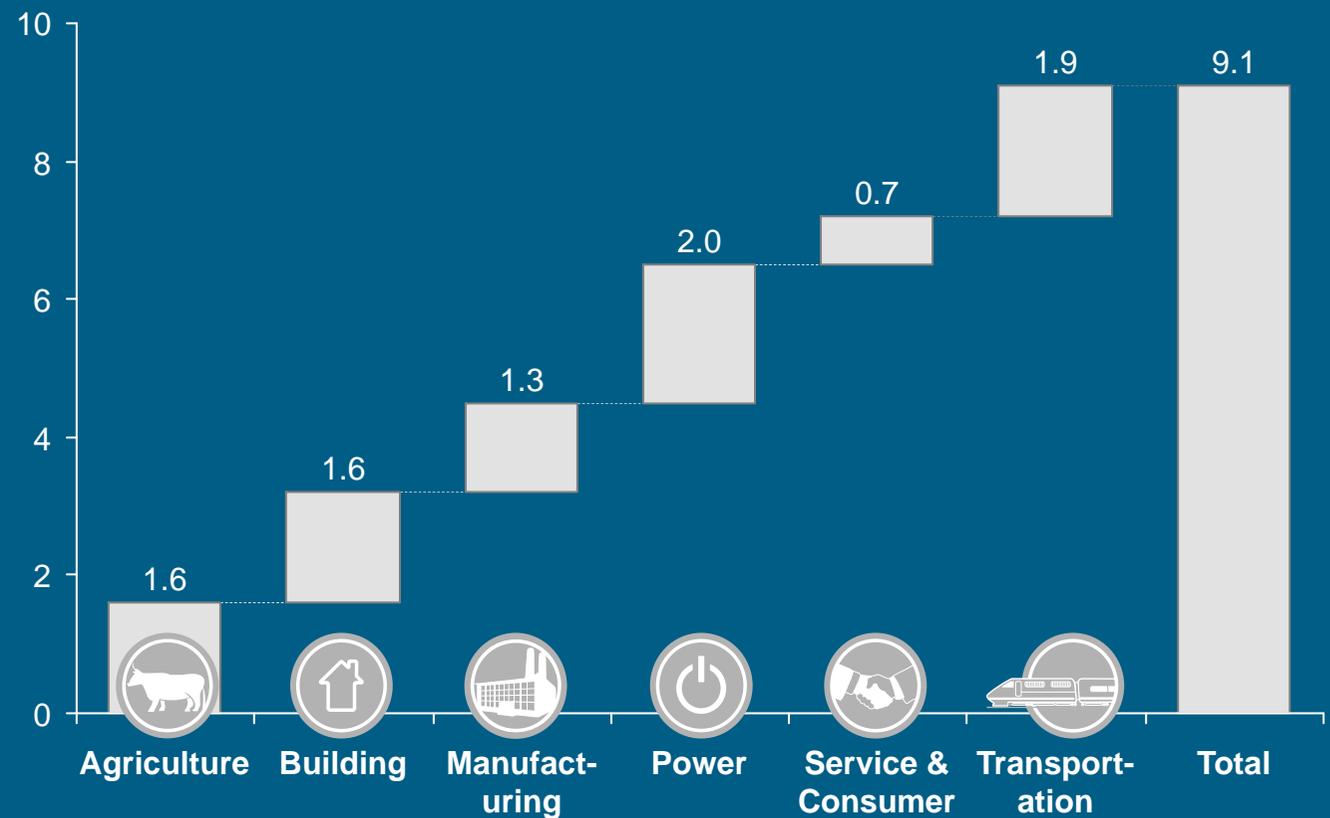
# The abatement potential of ICT is seven times the size of the ICT sector's own carbon footprint



1. On a base of 55 Gt CO<sub>2</sub>e GHG emissions (IEA)

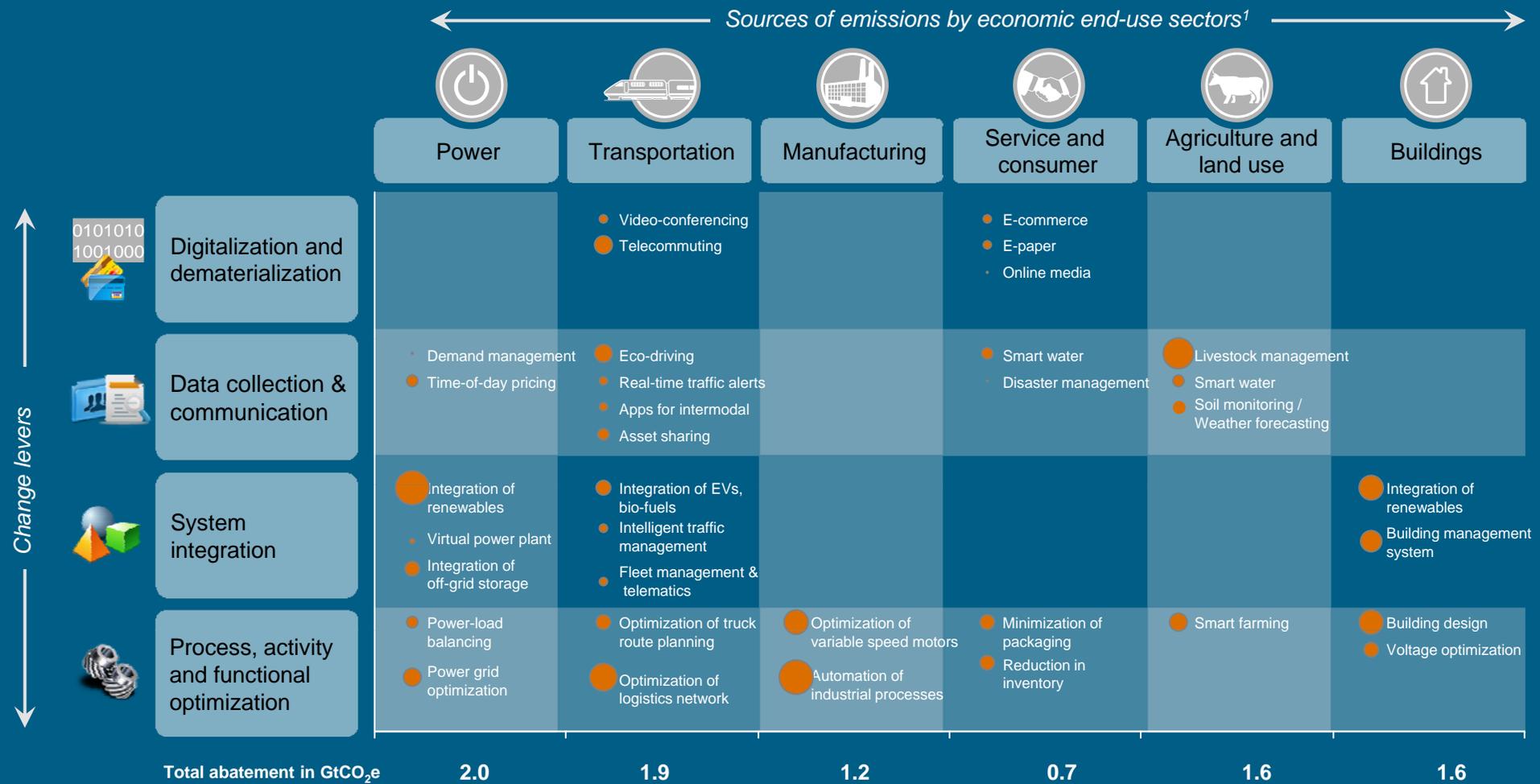
# SMARTer 2020 study identifies GHG abatement potential from ICT-enabled solutions across six sectors

Abatement potential (GtCO<sub>2</sub>e)



# 35 ICT-enabled abatement solutions identified in the study

Abatement potential modeled individually for each sublever

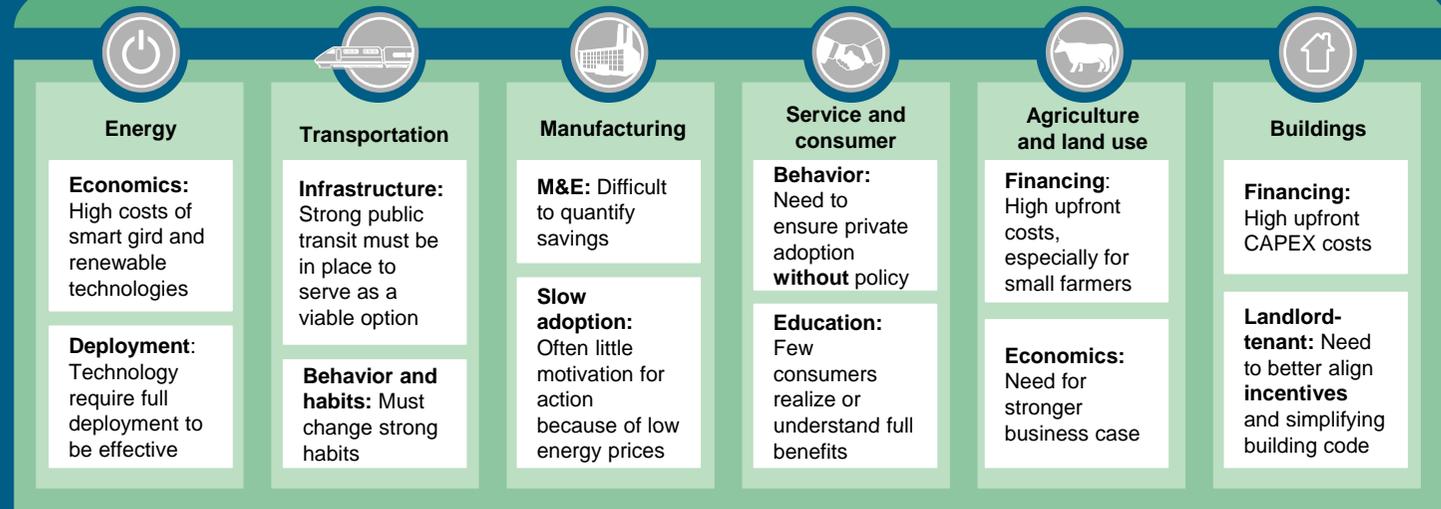


1. Based on 2008 data – EDGAR

# Policies at the national level have the most significant potential to drive sub-lever adoption



Individual behaviors, attitudes, and habits



Barriers to be addressed at national level



Global policies



Establish **carbon market** to monetize emissions

Develop financial **aid** programs for developing countries

Ensure **fair IP** licensing of abatement technology

Create "**Center of Excellence**"

Set and **enforce** global cascading **targets** for GHG emission reduction

**Recognize** ICT solutions as part of a global strategy to reduce emissions

# Country deep-dives provide context to demonstrate how national and local policies can yield higher abatement



Brazil



Canada



China



Germany



India



U.K.



U.S.

**All countries have unique circumstances that impact their ability to abate GHGs**

**Those differences drive which end-use sectors and which sub-levers deserve most attention**

**Policies at the national level are the most effective drivers of change in all countries**