GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

#SMARTer2030:
ICT solutions for 21st Century Challenges

Stephen Jordan
8 December 2015

ACEEE
American Council for an Energy-Efficient Economy

Overview

- Background on the Global e-Sustainability Initiative and the SMARTer series of reports
- Summary Findings from SMARTer 2030
- Examples of ICT and Energy Sector Engagement
- US and International Policy and Project Outlook

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

ABOUT GESI

About GeSI

- Founded in 2001
- Our mission: to be the globally recognized thought leader, partner of choice and **proactive driver** of the **ICT sustainability agenda**
- Our vision: A sustainable world through responsible, **ICT-enabled** transformation

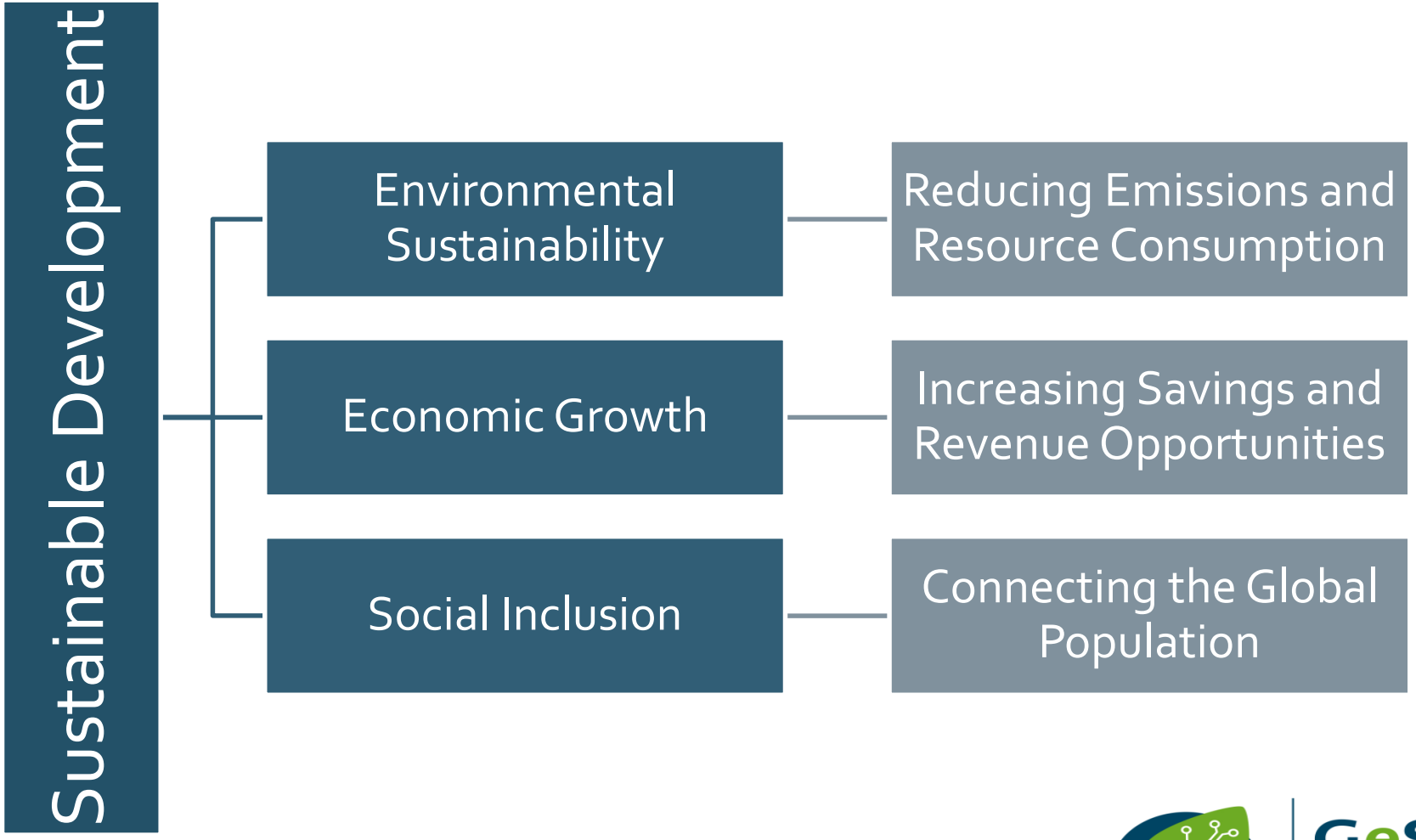
GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

What Motivates Us?

- Social Responsibility
- Commitment to Innovation
- Business Development

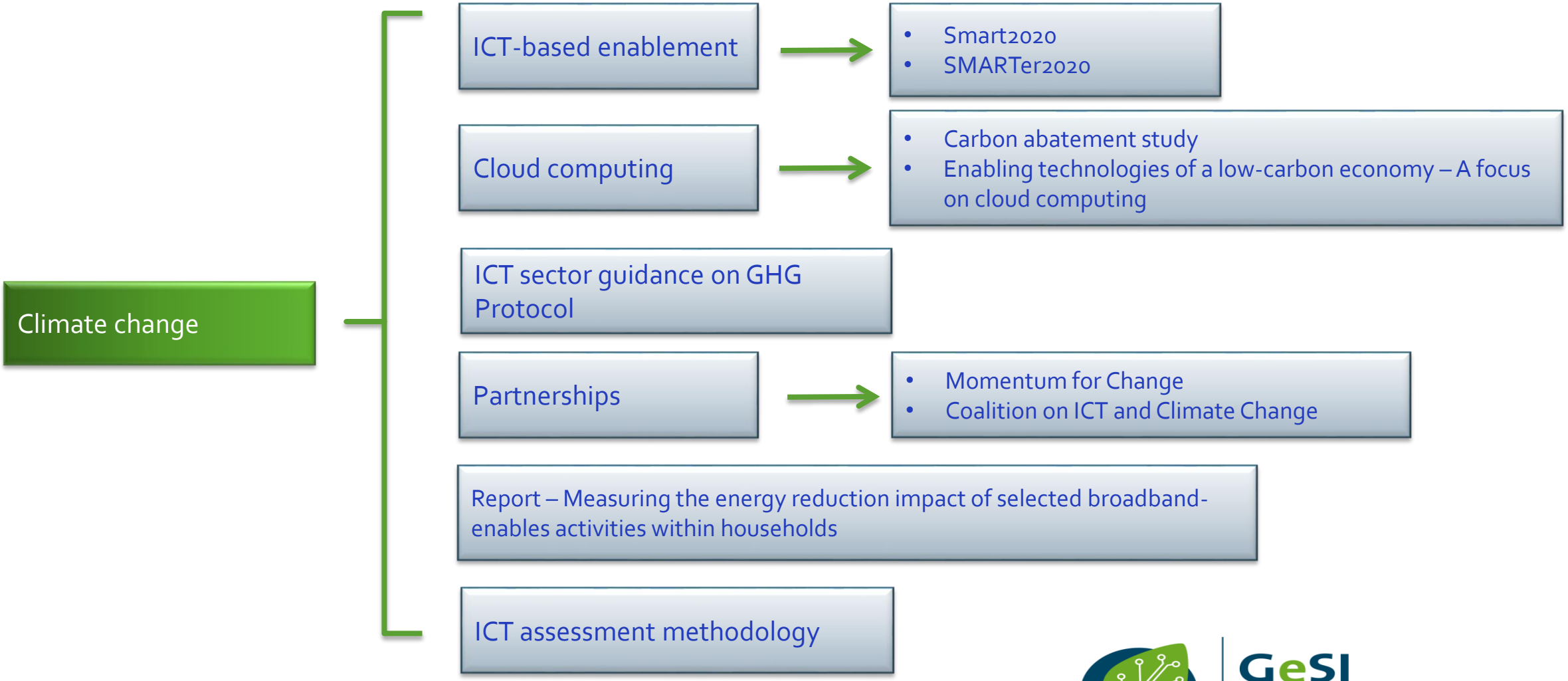
GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

Our Concept of Sustainability Is Multi-Dimensional



GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

GeSI activities at a glance (1/2)



GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

GeSI activities at a glance (2/2)

- Energy efficiency
  - KPIs for fixed network operators
  - Universal power adapter, common charger
- Supply chain
  - Materiality reports (2008, 2014)
  - E-TASC
- Human rights
  - Conflict minerals
- Public policy
  - EU Commission ICT Advisory Group
  - Guadalajara Declaration
- E-waste
  - StEP e-waste Academy

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

GeSI Realized Industry Interdependencies Were a Key Opportunity

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

THE SMARTER 2030 FINDINGS

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

ICT can decrease global carbon emissions, stimulate economic growth and deliver benefits to society

SMARTer2030 main findings

- ICT has the potential to enable a 20% reduction of global CO_{2e} emissions by 2030, holding them at 2015 levels
- At the same time, ICT can reduce the consumption of scarce resources

ICT is good for growth. An assessment of eight economic sectors* shows that it could generate:

- Over 6 trillion USD in new revenues in 2030
- Close to 5 trillion USD in cost savings in 2030, including 2.3 trillion USD from energy efficiency

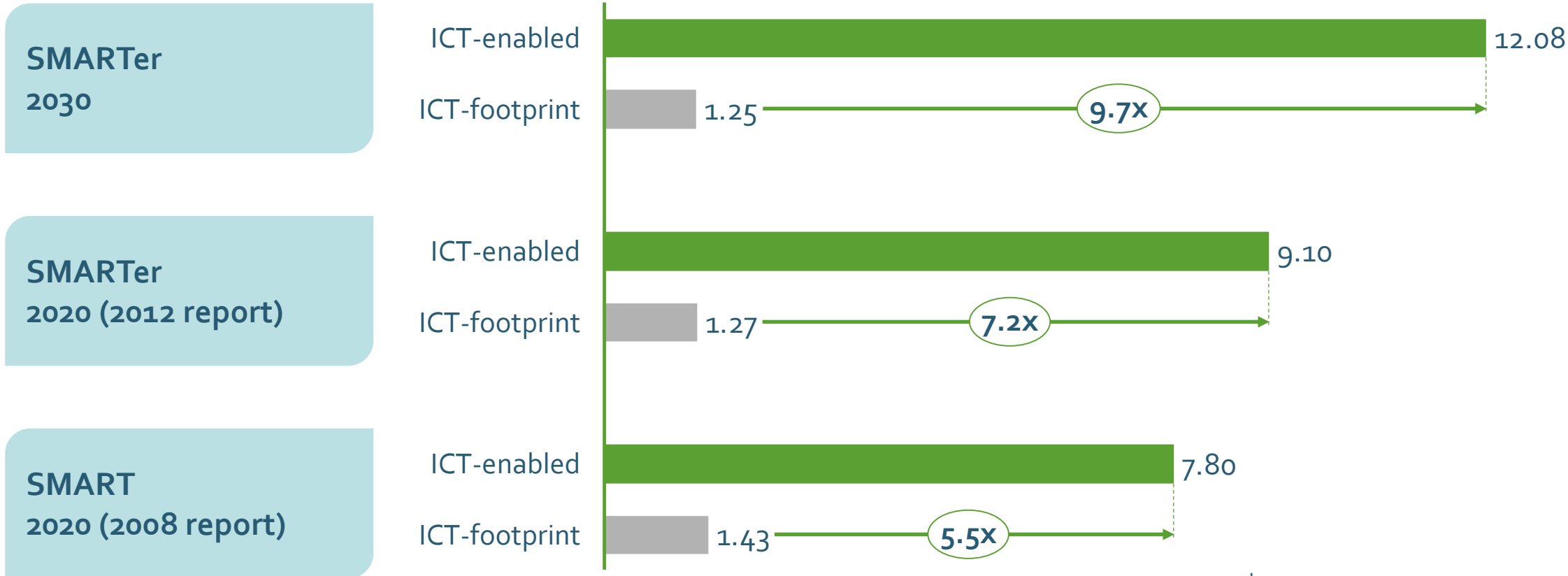
* Energy, food, health, learning, buildings, mobility & logistics, work & business, manufacturing

ICT could connect 2.5 billion previously unconnected people to ICT services by 2030, enabling a total of:

- 1.6 billion people connected to e-health
- 0.5 billion e-learning participants

ICT could realize a benefit 9.7 times higher than its own emissions in 2030, while its own footprint is expected to fall

ICT benefits factor in 2020 and 2030 (Gt CO_{2e})



Source: Source: WRI, IPCC, GeSI, SMARTer2020, Accenture analysis & CO2 models

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

ICT enables improved customer centricity and new business models building on increased digital density

Context 2015 – Main changes compared to SMARTer2020 in 2012

Improved user centricity

ICT is now genuinely putting people at the center, allowing for more compelling service offerings that "deliver it all": better experience, reduced cost, improved sustainability

New business models

The business case for ICT-enabled business is now stronger than ever. Digital disruptors have grown into multibillion dollar businesses, far beyond what seemed possible in 2012

Increased digital density

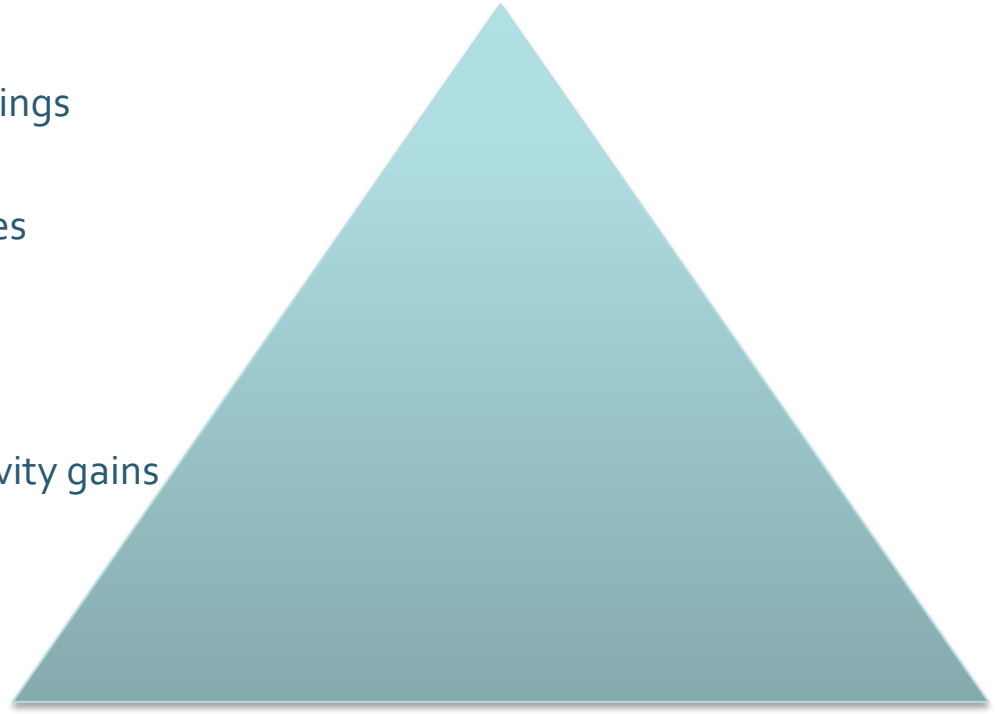
Internet access and smartphone ownership are at much higher levels and the number of connected devices is expected to grow to 100 billion by 2030

Source: International Energy Agency, More Data Less Energy, 2014

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

How Are Gains Realized?

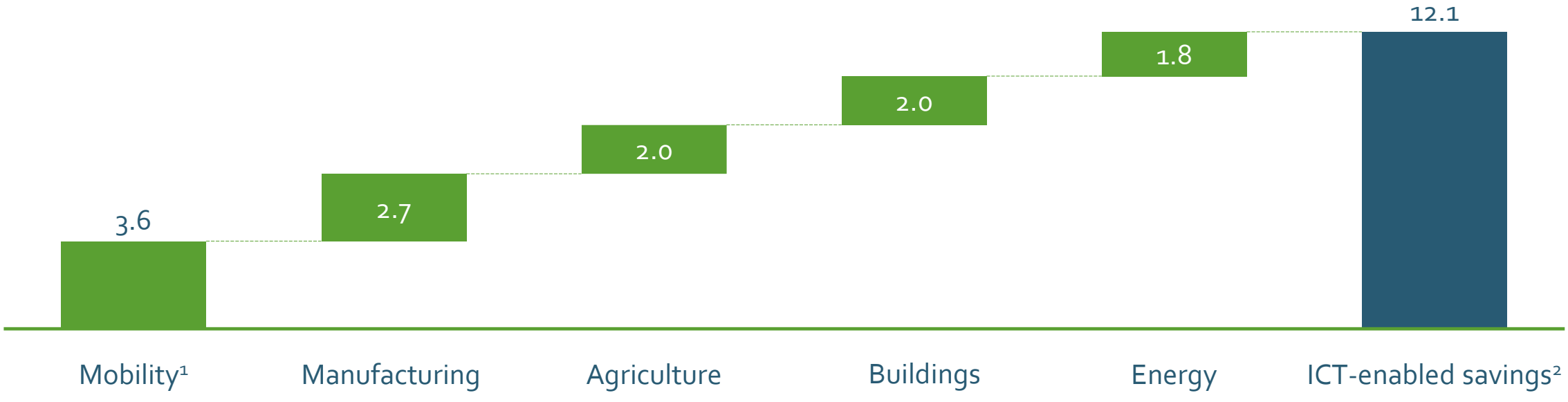
- User Empowerment
- Substitution
- Automation of Efficient Behaviors/Internet of Things
- Dematerialization
- Smarter Supply Chains and Operational Processes
- Smarter Product Designs
- Smarter Urban and Regional Planning
- Market Incentives
- R&D and Innovation lead to continuous productivity gains



GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

Smart solutions to mobility, manufacturing, agriculture, building and energy deliver ICT's potential of 12Gt CO_{2e}

CO_{2e} abatement potential by sector (Gt CO_{2e})



ICT has the potential to maintain global CO2e emissions at 2015 levels, decoupling economic growth from emissions growth

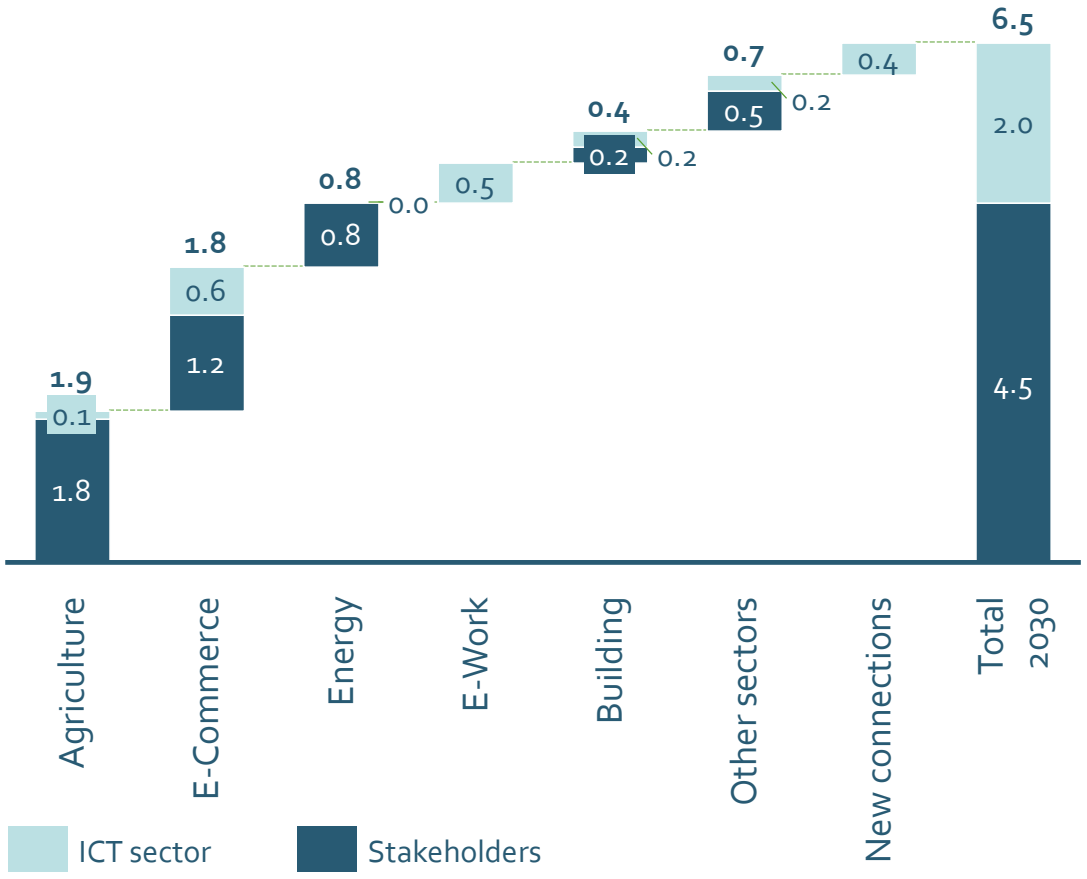
1 Smart mobility solutions consider improved driving efficiency but also the reduced need to travel from various sectors, including health, learning, commerce, etc.
2 12 Gt CO2e reduction in 2030 enabled by ICT include 2 Gt CO2e abatement from integration of renewable energy production into the grid. In its business as usual emissions forecast for 2030 the Intergovernmental Panel on Climate Change (IPCC) already considers the CO2e abatement potential from renewable energy. Therefore, the additional ICT-enabled CO2e reduction against the IPCC emissions forecast for 2030 is 10 Gt CO2e

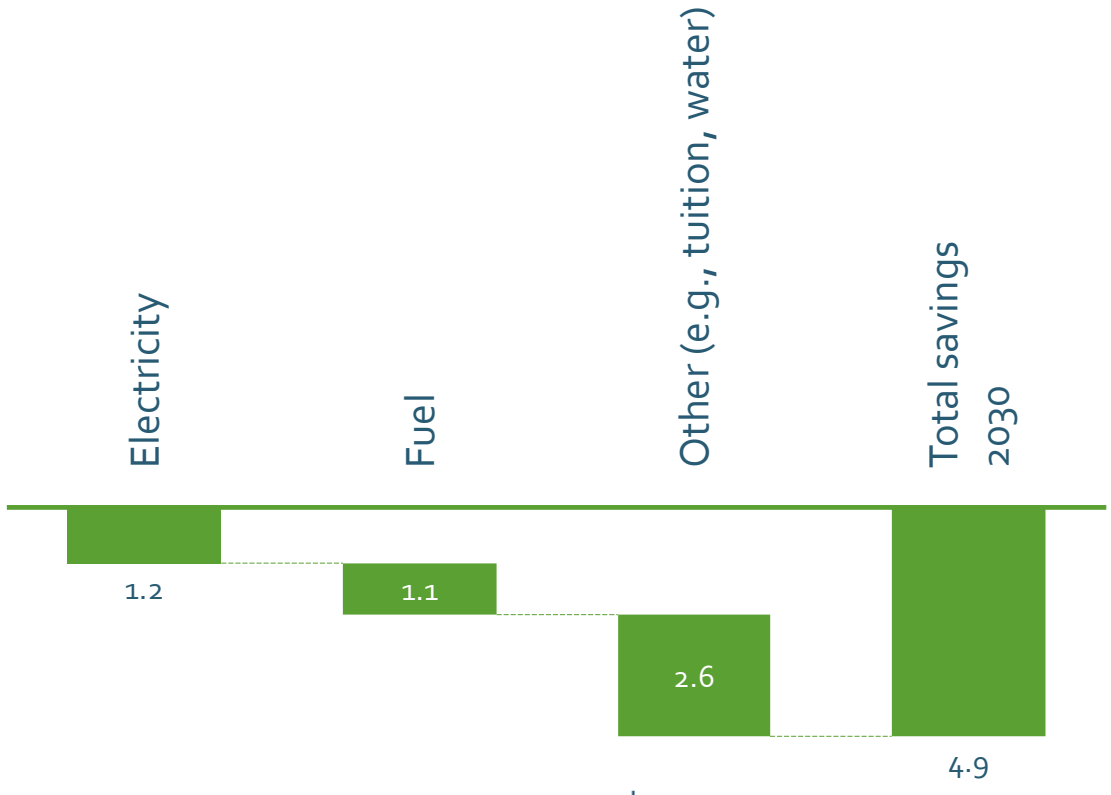
Source: WRI, IPCC, World Bank, GeSI, Accenture analysis & CO2 models

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

ICT is good for growth and could deliver over $6 trillion in revenues and close to $5 trillion USD in cost savings

ICT-enabled revenues and cost savings p.a. (2030, USD trillion)





Source: WRI, IPCC, Gartner, FAO, GeSI, Accenture analysis & CO2 models

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

CASE STUDIES

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

Case Study: Building Whisperers

- Data Collection
- Sensors
- Feedback Loops
- Learning Systems
- Usage Optimization
- Focus not just on efficiency
  - Productivity
  - Health

- Microsoft
- Google
- IBM
- Etc.

Case Study

- Verizon Arkansas NetworkFleet Project
  - Deployed Verizon GPS-based solution
  - Across 2,500 AHTD vehicles
  - Saved $500,000 in bulk fuel expenses
  - Reduced maintenance and increased efficiencies of deployments

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

Case Study

- Deutsche Telekom
  - Will install almost 8 million smart meters by 2020 (10% of German population)
  - Will reduce energy consumption by up to 8%
  - Reduction of 1.2M MT of CO_2e annually

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

POLICY OUTLOOK

To fully realize ICT's potential, stakeholder action is required with policy action as a key priority

Prioritized policy action areas

National CO_2 targets

Set national CO_2 targets and recognize ICT solutions as an effective and necessary tool to decrease carbon emissions while enabling continued economic growth and sustainable living

Investment incentives in infrastructure deployment

Create investment incentives in infrastructure deployment to connect the unconnected and enable more people across all income segments to have access to ICT solutions

Fair, balanced & consistent regulatory approach

Establish a fair, balanced and consistent regulatory approach to ICT solutions that promotes innovation and investment, protects intellectual property rights and ensures consumer privacy and security

INITIATIVE

The Future is Both Public and Private

Clean Power Plan

Green Climate Fund

Breakthrough Energy Coalition

COP 21

Complicated by:

-- Market Conditions

-- Politics and Elections

-- Access to capital

-- Country dynamics

GeSI
GLOBAL e-SUSTAINABILITY INITIATIVE

Thank you!

Stephen Jordan

+ 202 550 0277

Global e-Sustainability Initiative

info@gesi.org

+32 2 282 84 42