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THE BOSTON CONSULTING GROUP

## **ICT can cut global greenhouse gas emissions by 16.5%, saving up to \$1.9T annually**

***Potential reduction in harmful gases is even larger than thought a few years ago,  
according to study by BCG and GeSI***

***Doha, Qatar 3 December 2012: Increased use of information and communication technology (ICT) such as video conferencing and smart building management could cut global greenhouse gas (GHG) emissions by 16.5% by 2020, amounting to \$1.9 trillion in gross energy and fuel savings. SMARTer2020, a new study unveiled today, shows that concerted action by policy-makers to encourage the use of ICT can save 9.1 Gigatonnes carbon dioxide equivalent (GtCO<sub>2</sub>e) of harmful greenhouse gases from being emitted.***

The study was conducted by The Boston Consulting Group (BCG), a leading management consulting firm, on behalf of the Global e-Sustainability Initiative (GeSI), an ICT industry partnership for sustainability. It concludes that the potential for information technology to reduce global carbon emissions has been under-estimated until now, and that the abatement potential of ICT is seven times the size of the ICT sector's own carbon footprint. The findings are being released today in a report titled "SMARTer2020".

SMARTer2020 follows up the SMART2020<sup>1</sup> study, which first evaluated ICT's potential to enable a low-carbon economy in 2008. The updated in-depth research in SMARTer2020 now concludes that up to 16.5% of global GHG emissions can be slashed by implementing ICT solutions throughout the economy – over 16% more savings than was calculated in the earlier study four years ago.

The new research study identifies GHG abatement potential from ICT-enabled solutions ranging across six sectors of the economy: power, transportation, manufacturing, consumer and service, agriculture, and buildings. Emission reductions come from virtualization initiatives such as cloud computing and video conferencing, but also through efficiency gains such as optimization of variable-speed motors in manufacturing, smart livestock management to reduce methane emissions, and 32 other ICT-enabled solutions identified in the study. Some ICT-driven solutions such as smart electricity grids reap benefits at the national level, whilst others like intelligent building management systems can result in energy – and cost - savings for individual households and businesses.

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<sup>1</sup> SMART2020: Enabling the low carbon economy in the information age, 2008 (<http://gesi.org/portfolio/project/5>)

Alongside the sectoral analysis, *SMARTer2020* includes detailed national studies of the GHG abatement potential of ICT in seven countries, identifying for each country the best strategies for policy-makers to pursue. The countries studied were Brazil, Canada, China, Germany, India, the United Kingdom and the United States.

The launch of the study took place during the United Nations Framework Convention on Climate Change (UNFCCC) COP18 meeting in Doha. Welcoming the report, Christiana Figueres, Executive Secretary of the UNFCCC stated,

*"It is critical that the world captures every last bit of energy efficiency, if we are to reduce greenhouse gas emissions enough to keep below dangerous rises in temperature. I am pleased that this important new study shows how information and communication technology can play an essential role in saving energy. Now we need more and effective government policies that reward such action and penalize delayed responses."*

Speaking at the launch of the report, Luis Neves, GeSI Chairman, said,

*"The ICT revolution is powering even more innovations than we had imagined, leading to greater potential to cut GHG emissions, and a smaller ICT footprint. SMARTer2020 shows the abatement potential of ICT is seven times the size of the ICT sector's direct emissions. Information technology can drive the transition to a low carbon economy, with greater efficiency, and the preservation of our environment."*

Philipp Jung, a San Francisco-based partner at BCG, added,

*"This study shows that information and communications technology can achieve even greater savings than we previously thought — as much as \$1.9 trillion annually by 2020. The research also shows that country-specific approaches, coordinated within a global framework, are essential to realizing this potential given the diverse country-specific circumstances."*

The study, entitled **SMARTer2020**, is available for download at <http://gesi.org/SMARTer2020>

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## **Background note to editors**

In 2008, GeSI commissioned and published *SMART2020: Enabling the low carbon economy in the information age*. The report identified the potential for ICT to deliver 7.8GtCO<sub>2</sub>e cuts in greenhouse gases by 2020.

The new study, *SMARTer2020*, updates and significantly expands on the *SMART2020* analysis with new analysis and data, and covers the broader use of ICT in other industries. The report includes analysis of the barriers to adoption of ICT solutions, practical recommendations for policy-makers, as well as sectoral analysis, case-studies and individual country reports with recommendations. It calculates that ICT could save 9.1GtCO<sub>2</sub>e in GHG emissions by 2020.

## **About GeSI (Global e-Sustainability Initiative)**

The Global e-Sustainability Initiative (GeSI) is a strategic partnership of the Information and Communication Technology (ICT) sector and organisations committed to creating and promoting technologies and practices that foster economic, environmental and social sustainability. Formed in 2001, GeSI's vision is a sustainable world through responsible, ICT-enabled transformation. GeSI fosters global and open cooperation, informs the public of its members' voluntary actions to improve their sustainability performance, and promotes technologies that foster sustainable development. GeSI has 32 members representing leading companies and associations from the ICT sector. GeSI also partners with two UN organizations - the United Nations Environment Program (UNEP) and the International Telecommunications Union (ITU) - as well as a range of international stakeholders committed to ICT sustainability objectives. These partnerships help shape GeSI's global vision regarding the evolution of the ICT sector, and how it can best meet the challenges of sustainable development. For more information, see [www.gesi.org](http://www.gesi.org).

## **About The Boston Consulting Group**

The Boston Consulting Group (BCG) is a global management consulting firm and the world's leading advisor on business strategy. We partner with clients from the private, public, and not-for-profit sectors in all regions to identify their highest-value opportunities, address their most critical challenges, and transform their enterprises. Our customized approach combines deep insight into the dynamics of companies and markets with close collaboration at all levels of the client organization. This ensures that our clients achieve sustainable competitive advantage, build more capable organizations, and secure lasting results. Founded in 1963, BCG is a private company with 77 offices in 42 countries. For more information, please visit [bcg.com](http://bcg.com).

## **About the SMARTer2020 Report**

The study was undertaken by The Boston Consulting Group and funded by ICT sector group the Global e-Sustainability Initiative (GeSI). The supporting analysis was conducted independently by The Boston Consulting Group with the assistance of additional industry experts. Input was provided by GeSI member companies, ICT users, and the global experts consulted regarding alternative methodologies and application.

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