

Invited paper

SMART 2020: Enabling the low carbon economy in the information age

Molly Webb

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Abstract

Climate change is a global challenge affecting all sectors. What are the climate change impacts of Information and Communications technologies and what is their role enabling the transition to a low carbon economy?

Extended Abstract

The role of Information and Communications technologies in climate change has become a widely discussed topic relevant to both product policy and energy efficiency targets. In order to understand and compare the direct impact of ICT products and services and their enabling role in climate change solutions, the analysis set out to answer three main questions: (1) What is the direct carbon footprint of the ICT sector? (2) What are the quantifiable emissions reductions that can be enabled through ICT applications in other sectors of the economy? (3) What are the new market opportunities for ICT and other sectors associated with realising these reductions? The analysis found that the sector's current contribution to global Greenhouse Gas Emissions is around 2% of the total and is set to double (0.83 Gt CO₂e to 1.4 Gt, but that ICT could reduce global emissions by a significant amount through enabling energy efficiency and/or the dematerialisation of goods in the economy (7.8 Gt CO₂e out of 52 Gt business as usual in 2020, or 15% of total emissions). This is an opportunity 5 times greater than the size of the sector's footprint of its own products and services, including manufacturing, use and end of life impacts. The value of these opportunities is more than EUR 500 billion globally in 2020 - identified in four areas – efficient power grids, building automation, improved logistics and motor systems efficiency. The report also identified the hurdles to be overcome if the solutions are to be realised where the case studies were conducted in China, India, the US and Europe.

Molly Webb



CV

Molly is responsible for developing and coordinating The Climate Group activities across the ICT sector. Current work includes managing a global ICT study on the sector's impact and opportunities for enabling climate change solutions. She directed and co-authored the report SMART 2020: Enabling the low carbon economy in the information age (June 20, 2008).

Prior to joining The Climate Group, Molly was a Researcher at Demos, a London based think tank, where she focused on science, innovation and environmental policy. She led the Korea research for an 18-month study funded by 14 government and corporate partners on emerging trends in biotech, nanotech and ICT, and the implications for scientific collaboration with the UK. She recently co-authored The Disrupters: Lessons for low-carbon innovation

from the new wave of environmental pioneers, a NESTA-funded report.

Molly has over five years experience in website production and development, and has worked in the US and Japan. Molly moved to London in September 2003 for an MSc course in Environmental Policy, Planning and Regulation at the London School of Economics, where her dissertation focused on the environmental and societal implications of nanotechnology. Prior to the course, Molly worked on e-commerce and content websites in Japan and the US, most recently as Director of Interactive Production at Oxygen Media in New York. She majored in Japanese at Georgetown University, graduating with a BSc in Languages and Linguistics.