Executive summary

Today, companies are facing pressure from shareholders, the marketplace and regulators to 1) enable more energy efficiency choices, 2) reduce expenses and 3) limit carbon emissions. Recent studies have examined how Information and Communications Technology (ICT) products and services can help business achieve these goals. Technological innovation will play a vital role in driving our transition to a low carbon economy. ICT solutions such as video conferencing and telepresence enable more energy-efficient choices and reduce the carbon emissions associated with business travel and daily commuting.

For example, a 2008 study[1] by the Climate Group (commissioned by the Global e-Sustainability Initiative) – SMART 2020 – found that ICT solutions could reduce greenhouse gas emissions by 15% by the year 2020. The study identified four areas in which the ICT sector would have the most significant impact on emissions. One area was travel substitution, which includes the use of telepresence – high definition video conferencing that creates a virtual in-person meeting experience. This technology reduces the need for physical travel, enabling greenhouse gas emission avoidance.

This study picks up where the SMART 2020 report left off, to examine the capabilities of today's travel substitution technology, telepresence, to help meet the demands that today's companies face in the global market. Telepresence allows collaboration between numerous different end points around the globe and harnesses the power of ICT to effectively achieve the goal of moving work to people, instead of people to work.

This qualitative study commissioned by CDP and sponsored by AT&T explores the business opportunities for companies that make product and service choices that accelerate the transition to a low carbon economy. It examines the environmental benefits and financial savings that immediately arise from using telepresence and projects the long-term environmental and economic benefits that would come from large scale adoption of the technology.

Key Findings

The study, produced by independent analyst firm Verdantix, used detailed case study evidence from 15 Global 500 companies that are early adopters of telepresence. This information was used to build a forecast model[2] which assesses the financial benefits and carbon reductions for a company[3] using four[4] telepresence rooms. The analysis also demonstrates how projected telepresence adoption would drive economy-wide business benefits from a financial and carbon reduction perspective in the US and the UK.

Telepresence can avoid millions of metric tons of CO_2

- An individual business implementing four telepresence rooms can reduce its CO_2 emissions by 2,271 metric tons over five years. These reductions are equivalent to the annual greenhouse gas emissions from over 400 passenger vehicles.
- From an economy-wide standpoint, US and UK businesses with annual revenues of more than $1 billion can cut nearly 5.5 million metric tons of CO_2 emissions by 2020 as a result of deploying a total of almost 10,000 telepresence units. These reductions are equivalent to the annual greenhouse gas emissions from over one million passenger vehicles.
- US firms can reduce CO_2 by 112,000 metric tons in 2010 to 963,000 metric tons in 2020, a total of almost 4.6 million metric tons in cumulative cuts in CO_2. These reductions are equivalent to the annual greenhouse gas emissions from almost 880,000 passenger vehicles.
- UK firms can reduce CO_2 by 23,000 metric tons in 2010 to 198,000 metric tons in 2020, a total of 940,000 metric tons in cumulative cuts in CO_2. These reductions are equivalent to the annual greenhouse gas emissions from almost 180,000 passenger vehicles.

Potential financial benefits from telepresence run into $ billions

- Through the global deployment of telepresence, US and UK businesses with annual revenues of more than $1 billion can achieve economy-wide financial benefits of almost $19 billion by 2020.
  - US firms can save over $15 billion in the next ten years; annual net financial benefits start at $315 million in 2010, rising to over $3.5 billion in 2020.
  - UK firms can save over $3.5 billion in the next ten years; annual net financial benefits start at $79 million in 2010, rising to over $894 million in 2020.

Telepresence delivers a rapid return on investment (ROI) – A firm[5] could achieve payback of its investment in as little as 15 months.

Reducing air travel, improving productivity, better work-life balance all drive telepresence use – Significant non-monetary benefits of telepresence include increased employee productivity, better work-life balance and faster decision making.

Companies are using telepresence in multiple locations throughout the world – While the study indicated that companies are using telepresence primarily between North America and Europe, East Asia shows growth as a telepresence location. Burgeoning economies of India and China are also popular telepresence locations.

1. SMART 2020: Enabling the low carbon economy in the information age – http://www.smart2020.org/publications/
2. see appendix.
3. A $1billion plus revenue firm. $1b+ revenue companies represent the typical market for telepresence today.
4. Based on interview findings, four telepresence rooms was used as a typical number to first pilot a telepresence project before a full scale implementation.
5. Based on a firm implementing four telepresence rooms in multiple locations and with a ratio of 60% short haul – within the US or UK – flights and 40% long-haul – between the US and EU – flights. See appendix for model assumptions and variables.