



“Paris Declaration”

Green Growth and Climate Change Commitments: the ICT Sector Shows the Way



The ICT industry is at the forefront of the efforts to tackle climate change and meet resource efficiency challenges with the potential to reduce global CO₂ emissions by 15% by 2020 (relative to 1990 levels). A key for the realisation of this strategy is the development of green ICT standards, which has been the focus of the second Green Standards Week (Paris, 17 – 21 September).

Political leadership from G20 countries, including the President of the Republic of France, EU27, and developing countries, provided a much needed impetus, during the current period of austerity, to recognise the importance of upgrading IT infrastructure and services in the interests of both the planet’s environment and economic recovery. In addition to adopting smarter ICT through procurement, there was also a call for governments to promote existing energy efficient international standards, and adopt an international regulatory framework that will encourage the creation of new companies and innovative technologies. This in turn will generate much needed jobs and economic growth.

Secondly, governments are called on to recognise that the ICT industry has made considerable effort to invest heavily in innovative technology solutions with high GHG emission mitigation. This has created skilled jobs, and provided competitive growth and advantages to the adopters. The potential of green ICT in aiding economic recovery is not to be underestimated. This has been shown by figures from countries that did not allow austerity plans get in the way of technology upgrade: for example, the UK ICT market, with an annual expenditure of £140 billion (18% attributed to the public sector), currently represents 12% of the country’s GDP and is expected to drive the creation of 2,500 new businesses and 78,200 new jobs in 2013. It is estimated that the combined effect of ICT based solutions in the building and transport sectors, currently accounting for most of the world’s total emissions, could bring global energy and emissions savings worth €496 billion by 2020. The implementation of further ICT measures in the automotive sector (ITS) and in energy transmission and distribution (smart grids) would increase global savings to €643 billion, and a total reduction of CO₂ emissions of 6.2 Gt¹.

The total savings of applying ICT to key sectors of the economy are estimated at 7.8 Gt of CO₂e, which represents 15% of global emissions².

Thirdly, strong concern was expressed at the Green Standards week that despite this opportunity many countries lag behind in terms of taking advantage of this technology. By way of example, many government data centres are outdated and thus energy hungry whilst next generation cloud solutions would bring them close to carbon neutrality. Public investment in next generation computing would give rewards such as big data, which a recent study has shown would give annual savings of €100 bn in Europe alone³.

¹ See UK Department for Trade & Investment: <http://www.ukti.gov.uk/investintheuk/sectoropportunities/ict.html>

² Smart 2020 Report

³ See http://www.mckinsey.com/insights/mgi/research/technology_and_innovation/big_data_the_next_frontier_for_innovation

Despite this concern, certain regions and countries were applauded for showing leadership to facilitate the adoption of key ICT technologies.

We urge ITU to:

- Encourage technology transfer and dissemination by developing best practices and standards in green technologies that can be easily accessible especially for developing countries, and respect intellectual property rights.
- Reflect new green technology developments in relevant ITU Resolutions especially as we are approaching the next World Telecommunications Standardization Assembly, WTSA Resolution 73.
- Develop green ICTs indicators that could be used voluntarily by interested countries and cities.
- Create a portal, including an electronic and interactive forum to exchange and disseminate ideas, experience, standards, and best practices, on the relationships between ICTs and environmental sustainability.
- Increase awareness and promote information sharing on the role of ICTs in enhancing environmental sustainability, in particular by promoting the use of more energy efficient devices and networks and more efficient working methods, as well as ICTs that can be used to replace or displace higher energy consuming technologies and uses.
- Develop a global platform on end-of-life ICT to raise public awareness of its potential positive effects such as the reduction of the digital divide and recycling opportunities, but also of the negative environmental and health effects associated with the inefficient waste management of end-of-life ICT electrical and electronic equipment (WEEE or e-waste).
- Bridge the standardization gap by providing technical assistance to countries to develop their National Green ICT Action Plans and develop a reporting mechanism in order to support countries in implementing their Plan.
- Set up e-learning programmes on the application and implementation of ITU standards related to ICT, the environment and climate change.
- Accelerate the benefits of smart technologies through policies that encourage international data transfer, processing and storage.
- Establish a forum to address the business challenges faced by the ICT industry in enabling other sectors to improve their business and sustainability performance. Issues to be addressed include investments in infrastructure and software applications and innovative financing solutions such as energy performance contracts. This issue could also be addressed by next year's Green Standards week.
- Develop public-private projects similar to the case study on ICTs, climate change adaptation and mitigation in Ghana that was presented during the Green Standards Week.

Listed below are some examples of leading ICT companies' carbon commitments:

- **Alcatel-Lucent's** commitment to reduce the absolute carbon footprint of its operations by 50% by 2020 compared to 2008 baseline. On the product side Alcatel-Lucent plans to increase the functional Energy Efficiency of its key products by at least 25% by end 2012 compared to 2010 baseline. Alcatel-Lucent has long been an outspoken advocate for recognizing the "low carbon economy" (economic activity that produces as few greenhouse gas emissions as possible) as a fundamental driver of innovation and growth. *"The world really needs growth, and you need to be green to grow."* said Ben Verwaayen, Chief Executive Officer, Alcatel-Lucent.
- **"AT&T is committed to minimizing our environmental impact. In 2011, we focused on managing energy use, investing in fuel cells, measuring our water foot print, and investing in alternative-fuel vehicles. We will continue down our path to a better tomorrow for our company and our global community."** said Billy Linville, Vice President Public Affairs, Eastern US and International, AT&T.
- *"This is an exciting time for the broadcasting industry and the **BBC** is delighted to foster and embrace new technologies and techniques, such as low energy lighting and Albert, the BBC's carbon calculator for productions. We intend to send clear signals to the broadcasting community and to its viewers about the leading role for the TV industry and our commitment to embed sustainability into every day operations."*
- **Cisco's** investment of at least €12.9 million in remote collaboration technology to reduce carbon emissions in from air travel by 10% relative to 2006.
- **Dell's** commitment to reduce its operational carbon intensity by a further 15% by 2012.

- *"At **Fujitsu**, by leveraging our technology and creativity, we will harness the power of ICT to help resolve global environmental issues, with the goal of achieving sustainable growth and development with our customers and the world. Fujitsu has set a global target of cutting CO2 emissions by more than 15 million tons over a 4-year period from FY2009 to FY2012. As standards were lacking we have based this commitment on our own assessment methodologies. Fujitsu welcomes the new ITU standards which will create transparency and will enable benchmarking and exchange of corporate best practices."*
- ***Hewlett-Packard's** 40% reduction of energy consumption of ink and laser printing products compared with 2005 levels; "HP is committed to making our global operations more energy efficient and reducing GHG emissions. By 2011, we had reduced GHG emissions from our operations to 20% below 2005 levels, meeting our announced reduction goal two years early. A key strategy in this achievement was streamlining our global number of internal IT data centers from 85 to 6, cutting our data centers' energy consumption by 60 percent from 2005 levels. A great example of how HP technology and solutions can make a positive impact environmentally" said Gabi Zedlmayer, Vice-President for HP Sustainability and Social Innovation.*
- *As stated by Kevin Tao, "In 2010, **Huawei** made a commitment that it would reduce its power consumption by 35 per cent within three years, calculated on the basis of energy consumption per product unit. To achieve this result, the company developed a strategy called "Green Communication, Green Huawei, Green World". This strategy consists of:*
 - ✓ *developing green communication solutions, so as to reduce the impact of new equipment during its use;*
 - ✓ *reducing Huawei's own carbon footprint, by taking action to reduce energy consumption and the use of resources throughout the company."*
- *"At **Infosys** we had an early realization that businesses will need to lead the transformation towards green growth. We embarked on our green journey in 2007, committing to becoming carbon neutral across all our emissions by 2018. We have since implemented a continuous optimization cycle that has allowed us to take the risks and incubate new ideas." said Kris Gopalakrishnan, Executive Co-Chairman, Infosys.*
- *"**Intel's** action to reduce its absolute carbon footprint by 20% by 2012 against the 2007 baseline and Intel maintaining its position as the largest voluntary purchaser of renewable energy credits in the United States according to the EPA." said Peter Gibson, Director, Environment & Energy Regulations (Europe).*
- *"**KPN**...made the commitment to be climate neutral in 2020. Not only by using green energy, but by improving the energy efficiency of our operations and save as much energy for our customers as we use ourselves. In 2011 the data-centres already achieved 28% energy efficiency improvement compared to 2005, 88% of the electricity is from renewable sources and since 2009 we realised a yearly reduction of the absolute energy consumption of the KPN-group, although the data-communication keeps growing" said Marga Blom, Director Energy Management KPN.*
- ***Microsoft's** commitment to have the measure between the average PUE of its data centres and the ideal PUE (1.0) every two years through 2012; "Microsoft has taking a significant step to further reduce our environmental footprint. Beginning in July 1 2013, Microsoft will be carbon neutral across all our direct operations including data centers, software development labs, air travel, and office buildings. The carbon fee is another step in our broader company commitment to environmental leadership. A smarter buildings pilot on Microsoft's Redmond campus that uses software solutions to make our buildings more energy efficient, projected to achieve energy savings of approximately \$1.5 million dollars in fiscal. We believe climate change is a serious challenge requiring a comprehensive and global response from all sectors of society" stressed Kevin Turner, Chief Operating Officer, Microsoft.*
- *Sari Sarin, Head of Sustainability, Health & Safety of **Nokia Siemens Networks** stated that "Nokia Siemens Networks is committed to having a net positive impact on the environment. We believe the way to achieve this is by minimizing our own environmental footprint and by maximizing the positive influence we can have on other industries. NSN was the first company to publish cellular base station efficiency according to the ETSI standard. During 2011-12 we participated in the European Commission's road test of environmental reporting standards."*
- ***Orange's** commitment to reduce CO2 emissions by 20% in 2020 relative to 2006. "We provide services to customers in 33 countries and to the business market in 220 countries and territories. France Télécom-Orange is fully aware of its social and environmental responsibility. With more than 2,000 solar sites installed to date, Orange is probably the worldwide leader in terms of the deployment of 100%-solar base stations in Africa and in the Middle-East. We have also setup new eco-efficient Data Centres and deployed air-free cooling on over 13,000 sites in Europe. As it is very important for Orange to assess and to reduce our energy consumption and to meet our commitment in term of CO2 emission, I believe that innovation within the whole community of Operators, Suppliers and Standardization bodies will be a key success*

factor: cooperation should take place between all actors of our eco-system but also with other industries using ICT; this should be based on common rules and standards. Finally, we have to change the paradigm and to move from "always-on" to "always available on-need", said Thierry Bonhomme, Senior Executive Vice President of Orange Labs Network and Carriers.

- "For **Telecom Italia** respect for the environment and fight against climate change are strategic objectives. The company has made significant progress over the past years in increasing its energy efficiency, which is testified, for example, by the continuous improvement of the company's eco-efficiency indicator (a measure of the energy consumption per bit transmitted). Such indicator has improved by 29% in 2011 (compared with 2010) and a further improvement of at least 10% is expected in 2012. This was made possible thanks to technological innovation and improved process management that also allowed Telecom Italia to significantly reduce its energy consumption and the related CO2 emissions over the last two years. For the future, a target has been set to reduce electricity consumption and CO2 emissions by around 10% and 9% respectively in 2014 compared with 2011. With regard to product responsibility towards customers, Telecom Italia has launched its own «Telecom Italia Green» line of products, aimed at both business and residential customers, that feature low environmental impact and high energy efficiency", said Paolo Nazzaro, Head of Group Sustainability, Telecom Italia.
- "**Telefónica** has a commitment to reduce its energy consumption in operations by 30% (measured in kWh/equivalent access) in the period 2007-2015. By the end of 2011, 20% of the long-term objective has been already achieved. To assess the benefits of these reductions, we rely on our GHG emissions calculations, based on the ITU-T L1420 Methodology for environmental impacts assessment of ICT in organizations", said Silvia Guzmán Araña, Corporate Reputation and Sustainability Director, Telefónica S.A.

The Second Green Standards Week (19-21 September 2012) was co-organised by [ITU](#) and [TechAmerica Europe](#) and kindly hosted at [Microsoft's](#) Headquarters in Paris.