**Enabling a low carbon future: the key role of ICTs to address climate change**

**Malcolm Johnson**

The theme of this side event is very timely and important as it takes place just about a month before the opening of the 16th United Nations Framework Convention on Climate Change (UNFCCC) Conference of the Parties (COP 16) which will start on 29 November in Cancun, Mexico. We hope it will achieve more than COP15 in Copenhagen last December, and will adopt a new treaty to replace the Kyoto treaty.

The importance of ICTs in combating climate change is now well recognized by ITU. However when this was first suggested with the publication of the ITU-T Technology Watch Report on ICTs and Climate Change in late 2007, there was a lot of skepticism of the involvement of ITU in the climate change debate. I am pleased to say that that is no longer the case, following two very successful symposia on ICTs and Climate Change in Kyoto and London in 2008, adoption of WTSA Resolution 73 (Johannesburg 2008), another symposium in Quito, Ecuador in July 2009 followed by a fully virtual symposium in September 2009, and the WTPF Opinion 3 (Lisbon, 2009), Council Resolution 1307 (Geneva 2009), recently WTDC Resolution 54 (Rev. Hyderabad, 2010), and now several proposals for a new Resolution to be adopted by PP-10. It is clearly now one of the highest issues being dealt with in ITU.

So it is opportune that this Plenipotentiary Conference is taking place in Mexico just weeks before COP16. It is an opportunity to bring to the attention of COP16 the very significant role ICTs can play in both mitigating and adapting to climate change. A role that unfortunately still is not being given the attention I believe it deserves.

Today, a world without ICTs is unthinkable. They are integrated into almost all parts of the world society and economy. Yet while the increasingly widespread use of ICTs has changed people’s lives dramatically and boosted economic growth, ICTs themselves, due to this success, are a growing contributor to climate change. On the other hand they probably provide the most significant opportunity to reduce GHG emissions in the major high emissions industries of energy generation, waste disposal, building and transport.

ICTs provide means for virtual meetings (to replace/reduce travelling), smart electricity grids to avoid over generation and more efficient distribution, e-governance, e-health, intelligent transport systems to reduce emissions and pollution and congestion, dematerialization (for example electronic publications rather than paper, downloading videos instead of buying DVDs etc), as well as providing for early-warning and disaster relief communications.

Radio-based remote sensing applications on board satellites are the main global observation tools employed by the Global Climate Observation System (GCOS) for climate monitoring, disaster prediction, detection and mitigation of negative effects of climate change.

As the steward of the global framework for spectrum, ITU allocates the radio-frequency spectrum and orbit resources necessary for GCOS and is behind the international standards which ensure effective, non-interference operation.

As a core function of its developmental mission, ITU is helping countries to use ICTs for e-environment and sustainable development. ITU also provides knowledge and expertise in adapting to and mitigating the effects of climate change, including the use of emergency telecommunications in disaster situations. ITU assists countries in designing resilient National Adaptation Plans that are complimentary to Multistakeholder national Emergency Telecommunication Plans. Such plans optimize the use of ICT networks, services and applications and results in more effective adaptation.

As the preeminent global body for ICT standardization, ITU has an important role in limiting and ultimately reducing greenhouse gas (GHG) emissions, by developing technical standards (known as Recommendations) to limit and reduce the power requirements of ICT equipment and services. ITU is actively promoting sustainability. As an example ITU recently adopted a global standard for an energy-efficient universal mobile phone charger to fit all future mobiles saving up to 82,000 tons of redundant chargers a year and at least 13.6 millions tones CO2 a year.

Estimates for the growing emission from the ICT sector vary widely. Comparisons are often quoted. For example:

* Between 16-50 Megatonnes of waste PCs and monitors are disposed of each year.
* 100 million Europeans will replace their mobile phone after just one year of use
* If 20% of business travel in the European Union was replaced by video conferencing, it would save 22.3 million tones of CO2 a year.

Estimates in terms of percentage of total GHG emissions contributed by the ICT sector, and how much total GHG emission can be reduced through the application of ICTs in the high polluting industry like energy generation, waste disposal, building, transportation, vary considerably. However, many studies predict that the application of ICTs in other industries can reduce total GHG emission by as much as 5 times the amount they produce. Of course despite the efforts to reduce the emission from the ICT sector, the phenomenal increased use of ICTs inevitably means its carbon footprint will increase, making it very difficult to estimate its own contribution.

These wide variations in estimates became very evident in the first symposium ITU organized in Kyoto in 2008. This led to work towards a series of ITU standards for a globally agreed methodology. This methodology will give credible figures for the impact of ICTs on climate change. I am pleased to say the first of these standards was agreed by ITU-T Study Group 5 last week.

This series of standards when completed next year will provide a common methodology to measure the life cycle impact of the ICT Sector, both in terms of its own emissions and the savings created through ICT applications in other industry sectors.

International consensus on standards for climate change mitigation and adaption, environmentally friendly and energy saving technologies, energy efficiency and greenhouse gas emission accounting and verification, will provide a firm foundation for designers, architects, engineers, developers and government authorities to create sustainable living environments.

The Quito symposium was the first in a developing country and took a different stance on the subject compared with the previous symposia.

The Quito symposium recognised the special characteristics and needs of Latin America and the Caribbean to combat climate change. Latin countries are only minor contributors to GHG emissions (4% of global total) but are often victims of extreme weather events and other negative impacts of climate change, such as rising oceans, changes in rainfall, species migration, harm to farmers, degradation of the Amazon regions, melting of glaciers in the Andes, and human displacement due to changes in the climate, among others. The region also is home to many of the most bio-diverse countries. A major issue for the region is deforestation, which contributes some 17% of total GHG emissions, and that percentage is much higher in some Latin American countries.

The Quito symposium recognised that Bridging the Digital Divide and bringing the benefits of ICTs to all citizens is fundamental to tackling climate change. Equitable access and ensuring connectivity to schools, rural communities, health facilities, etc. are vital to economic development and to making effective use of ICTs to combat climate change.

As the lead UN agency on ICTs, ITU is therefore endeavoring to raise the profile of the importance of ICTs in climate change. Some of our recent activities include:

* In collaboration with WIPO, ITU has organized a side event on The Effective Use of ICTs and the Intellectual Property System for Mitigating Climate Change" during the last round of UNFCCC talks which were held in China last week
* We are collaborating with UNFCCC, as part of the Nairobi Programme
* At COP16:
  + ITU-T will co-organize a side event with UNIDO-UNDESA, and WIPO
  + ITU-T will hold a Press Conference in Cancun to:
    - launch the Green ICT application challenge to be sponsored by BB (waiting for a formal confirmation)
    - launch the project in Ghana (possibly jointly with UNFCCC – waiting for a confirmation from Kevin)
    - Launch the ITU-T/Telefonica collaboration ( I need to get the green light by LAU before any announcements can be officially made)
    - Launch the ITU-GeSI paper on “ Using ICTs to combat climate change” (first conf call will be held this Friday – will keep you posted)
  + ITU will also speak in a side-event organized by WMO, in a side event organized by UN-Habitat, and in a side event on social dimensions of climate change organized by WHO.
  + In addition, Global e-Sustainability Initiative (GeSI) is organizing a Tech Fair to be held in Cancun (5-8 December) in which ITU will participate.
  + Also ITU Secretary-General will be asked to participate in the CEO roundtable which will be held on 6 December.
* We are also working with Ghana to develop a country assessment on how ICTs can help to combat climate change in accordance with UNFCCC guidelines. No one so far has produced a country assessment of this type!
* In addition, we are organizing with the Ministries of Communications and Environment of Egypt the fifth Symposium on ICTs, the Environment and Climate Change which will be held in Cairo on 2-3 November 2010. In this regard, I would like to take the opportunity to invite you all to join us in Cairo!

At the same time ITU is reducing its own carbon foot print by introducing remote participation in our meetings, webcasting our workshops, holding virtual meetings, introducing paperless meeting and electronic publications. For example in 1995, ITU used to transport paper copies of ITU-T Recommendations around the globe. We have estimated this produced 108 million tonnes of CO2 per year. Now with electronic publications and free down loading this is reduced to virtually zero.

Dear Colleagues,

Climate change is a major threat to sustainable growth and development. No one can escape their responsibility to help meet this challenge, least of all ITU.

At Cancun we have a real and reachable opportunity to help save the planet through astute deployment of modern information and communication technologies (ICTs). Studies clearly show that more effective use of ICTs can deliver tremendous CO2 savings.

I therefore urge ITU delegates to send a message to COP 16 delegates so that they look to the ICT sector, and take maximum advantage of the power of ICTs to reduce emissions worldwide.

Specific mention of the ICT sector, along with the adoption of an agreed methodology for measuring the carbon footprint of ICT equipment and its inclusion in National Adaptation/Mitigation Plans, would provide an incentive to the ICT industry to invest in developing countries, help reduce the digital divide, and at the same time help fight climate change – a win-win scenario.

ITU, as the UN agency responsible for ICTs and the global focal point for the ICT sector stands ready to participate in the next UNFCCC conference and will be happy to contribute to the Technology Mechanism and its Climate Technology Centre and Network that will be discussed at the upcoming UN Climate Change Conference in Cancún in late November 2010.

It is not an easy task since the negotiators are all from foreign affairs and environment ministries, many not very familiar with ICTs. So I encourage you all to liaise with your national counterparts responsible for environmental issues in order to provide information and develop common proposals related to the role of telecommunications/ICTs in mitigating and adapting to the effects of climate change, and to continue to raise awareness of the role of telecommunications/ICTs in mitigating and adapting to the effects of climate change at COP16.

I very much hope that PP-10 can extend this message to COP16.