ITU and Climate Change

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Agenda

- Global Framework
- ICTs …
  - as a cause of global warming
  - in monitoring climate change
  - for mitigating climate change
  - for adaptation
- ITU and Climate Change

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TOWARD A NEW FRAMEWORK

2007 **COP-13 in Bali launched process for negotiation of new Agreement**

- established **AWGLCA** (Ad Hoc Working Group on Long Term Cooperative Action) to develop work program

2008 **AWGLCA meetings**

- **Bangkok (31 March–4 April)**
- **Bonn (2-13 June)**
- **Accra (21-27 August)**
  - focus of work program will be adaptation, mitigation, technology and financing, plus deforestation
  - continuation of Kyoto Protocol carbon market-based mechanisms under a new Agreement

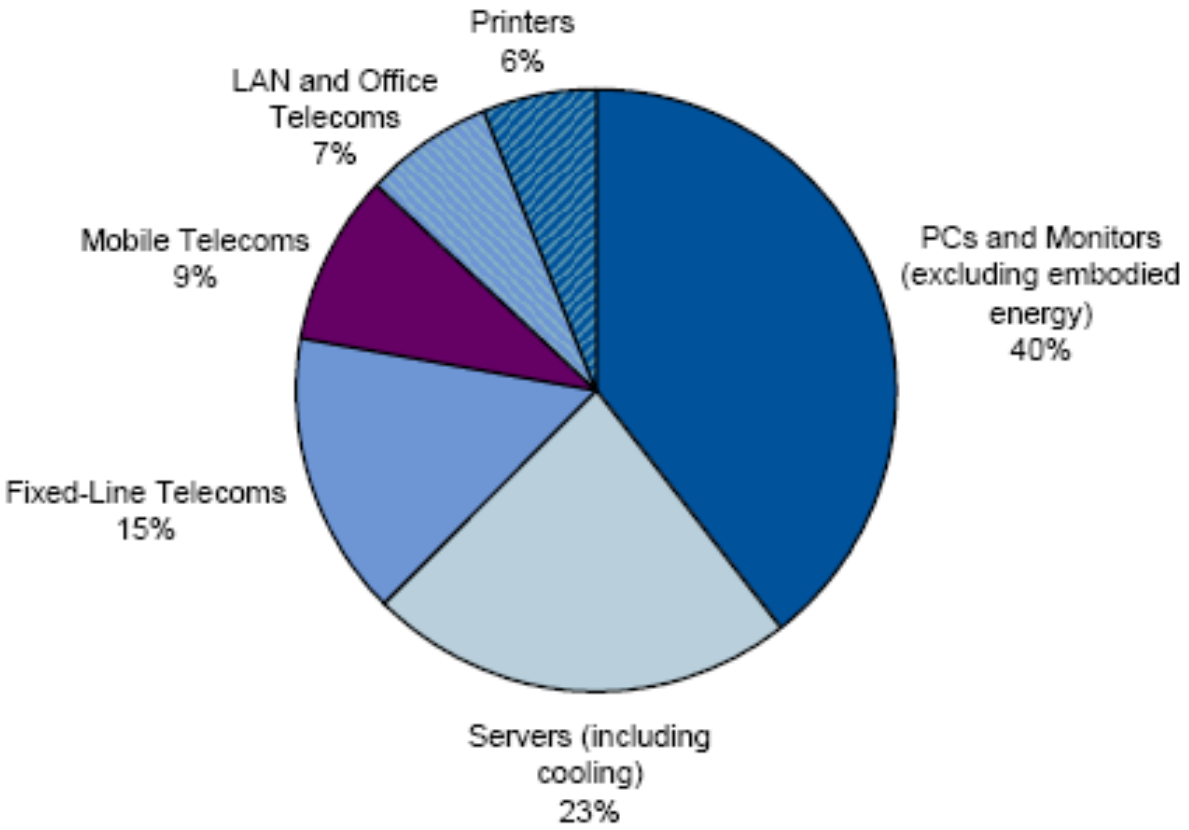
2008 **Meeting of COP-14**

- **Poznan, Poland (1-12 December)**

2009 **COP-15 meets and expected to conclude Agreement**

- **Copenhagen (December)**

TOWARD A NEW FRAMEWORK



- ICTs (excluding broadcasting) contribute an estimated 2-2.5% of global Greenhouse Gas emissions
- Around 0.9 tonnes GtCO2e in 2007
- Telecoms contributed around one quarter of this total

Source: Gartner Group (2007)

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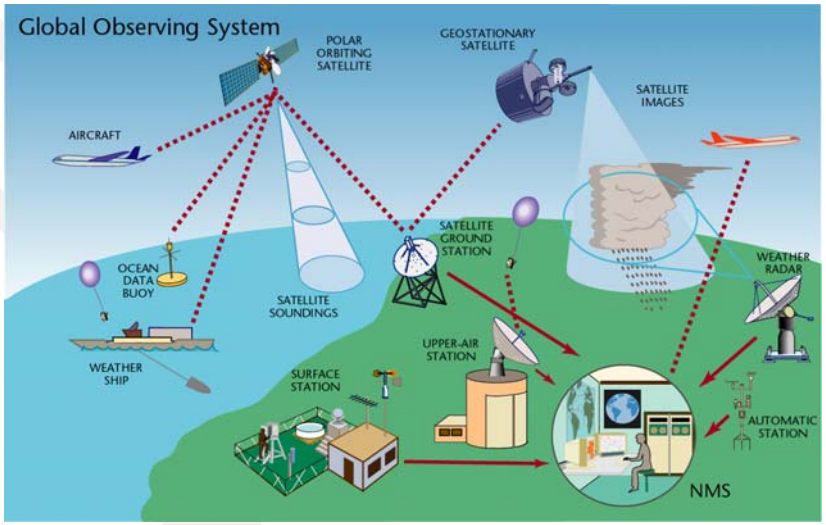
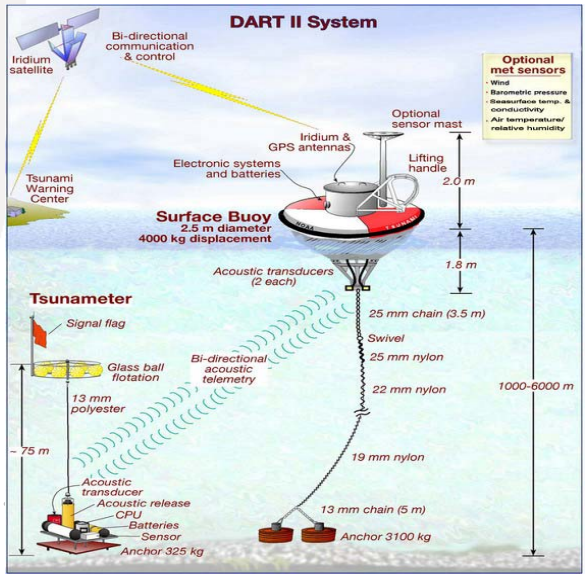
ICTs at work for monitoring climate change

- WMO World Weather Watch, incorporating:
  - Global Observing system
  - Global Telecom System
  - Global Data Processing system
- Remote sensing
- Environmental monitoring
  - Tsunami early-warning system
- Digital climate forecasting models
- GPS-enabled telemetry
- Ubiquitous sensor networks





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Mitigating the impact

- **Directly**, e.g., through energy-saving
  - Next-Generation Networks (NGN) should reduce GHG emissions by 40% (Tech Watch Report)
  - Modern radio technologies reduce energy consumption by transmitters ~ 10 times
- **Indirectly**, e.g. ICTs for carbon abatement
  - Video-conferencing to reduce business travel in Europe by 1% would save 1m CO_2 tonnes
- **Systemically**, e.g., by "dematerialisation"
  - Intelligent Transport Systems could reduce vehicle carbon emissions below 130g per km

Towards a climate neutral ICT sector

- BT has reduced carbon emissions by 60% compared since 1996
- ETNO Members have reduced carbon emissions by 7% and carbon intensity by 14%
- NTT's "Total Power Revolution" saved 124m kWh in 2007
- Other initiatives:
  - GeSI, Green Grid, WattWatt, FTTH Council Europe, EU codes of conduct, CBI Task Force etc

Using ICTs for carbon abatement / displacement

- Reducing / substituting for travel
  - In 2007, Telstra held 7'500 video conferences saving 4'200 tonnes of CO_2
- Flexible work arrangements
  - Each one million EU workers could save one million tonnes of CO_2 annually by telecommuting
- Intelligent Transport Systems (ITS)
  - In-car systems to assist in "eco-driving" can reduce CO_2 emissions by up to 20 per cent (Tech Watch Report)
- Dematerialization (replacing atoms with bits)
  - ITU-T Recommendations Online save 105 tons of CO_2 annually compared with distribution of paper copies

Sources: Climate Risk report for Telstra, ETNO/WWF report, Toyota, ITU

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ICTs for adaptation: ITU Role

- Telecommunications/ICTs for disaster preparedness
  - Tampere Convention
  - PP-06 Resolutions 36 and 136 on use ICTs for humanitarian assistance
  - WRC Resolutions 646, 647, 673 on use of radiocommunications for environmental monitoring, public protection and disaster relief
  - WTDC-06 Resolution 34 on the role of ICTs in mitigation of effects of disasters and humanitarian assistance
  - Partnership Coordination Panel on Telecoms for Disaster Relief (PCP-TDR)
  - E.164 country code (888) for UN OCHA
  - Recommendations E.106 on call priority and X.1303 on common alerting protocol

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ITU-D and Climate Change

- ITU mandate on ICT applications and strategies
  - Co-facilitator of WSIS Action Line C7 on e-Environment
  - Develop guidelines, training materials and toolkits on technology & policy aspects of e-Environment applications
  - Assist developing countries in implementing relevant ICT applications for environment and sustainable development

- Challenges and opportunities
  - Awareness promotion
  - Work with international partners for capacity building and coordinated initiatives
  - Support developing countries for pilot project implementation
  - Monitor and evaluate results; share best practices with other countries

... with highest priority to climate change

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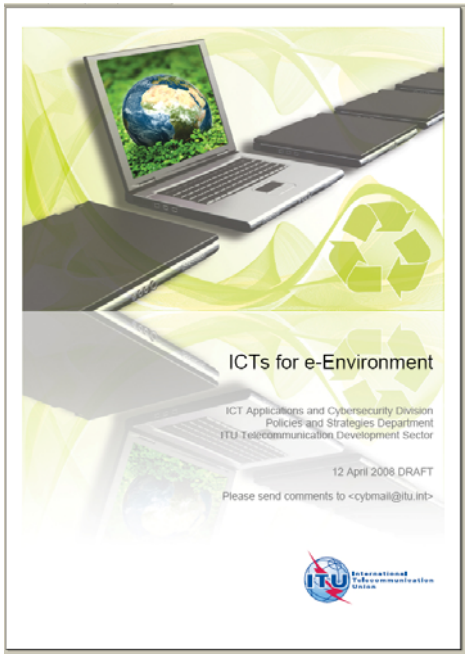
ICTs for e-Environment Report

- Objective: Provide guidelines for developing countries on the use of ICTs for better management and protection of the environment as a key part of their development process, with particular focus on **climate change**
- Examines six areas of ICT use: Environmental Observation, Analysis, Planning, Management & Protection, ICT Mitigation and Capacity Building
- **Recommendations for developing countries:**
  - Strengthen national analysis, planning and implementation
  - Use existing and new financial mechanisms
  - Foster technology transfer
  - Promote best practices
  - Promote Public-Private partnerships



http://www.itu.int/ITU-D/cyb

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Future Steps

- Building on these recommendations, ITU-D has initiated a series of activities to assist decision-makers in ITU Members States:
  - **e-Environment Readiness Index**: Methodology and indicators for assessing a country's level of e-environment readiness
  - **E-Environment toolkit:** Practical guidelines for assessing needs and establishing strategies for the implementation of national e-environment master plans
  - **Direct assistance to countries in need:** Using the developed tools to facilitate the deployment of infrastructure and related ICT services
  - **Capacity building:** Workshops and training material to assist Member States in the development of master plans and the deployment of diverse ICT applications

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Towards a climate-neutral ITU

- Developing a knowledge base and repository
- Positioning ITU as a strategic leader
- Promoting a global understanding through international fora and agreements
- Achieving a climate-neutral ITU within three years
  - Conducting carbon audit
  - Using remote collaboration tools
  - Developing projects under Carbon Development Mechanism

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Knowledge Base

- 2 Major symposia held in 2008
- 15-16 April (Kyoto, Japan)
  - Organized with Japanese govt.
- 17-18 June (London)
  - -organized with BT
- Well-attended and produced Chair Report
- Need for common standards to measure impact of ICTs on climate change
- More events planned for 2009

ITU Council

- High Level Segment on Climate Change
- Ministers from Ukraine, Tanzania, Cuba and India and Heads of WMO and UNCTAD
- 2 ITU events in Poznan

Focus Group on ICTs &CC

- Established by TSAG in July 2008
- David Faulkner (BT) appointed as Chairman
- 4 deliverables expected by April 2009
- Held first meeting 1-3 September in Geneva
- Next meeting end November
- Working mainly through conference calls

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Focus Group

- Standards for 3 major relationships
- 1. ICTs as direct contributors to CC and GHG emissions
- 2. Use of ICTs to reduce GHG emissions in other sectors
- 3. ICTs to monitor climate parameters (e.g. USN)

Deliverables

- DEL-1
- Terms and Definitions
  - Including units
  - Propose new definitions and identify differences
- DEL-3 Methodology
- Calculation methodology for reduced emissions through ICTs
- Definition of basic units
- Proposal for new standards

FG Deliverables

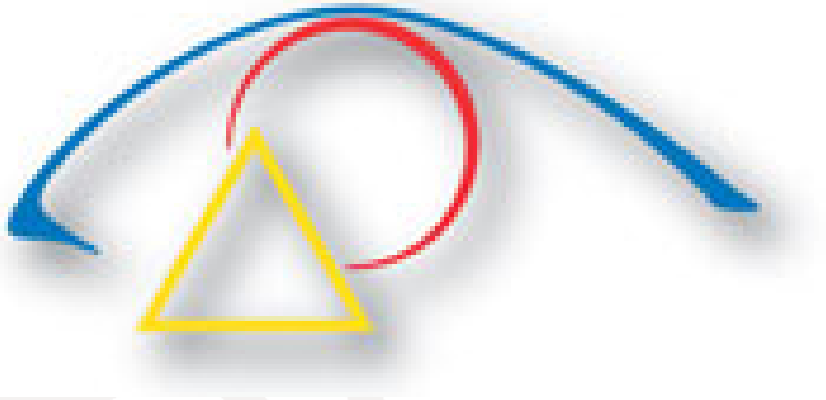
- DEL-2: Gap Analysis
- Identify energy saving measure from ICTs
- What measure need to be standardized
- -roadmap for future work

- DEL-4: Direct and indirect impact of ITU-standards
- Develop tools and guidelines to allow ITU-T SG to evaluate impact on CO2E of each question

WTSA-08

- Resolution 73 on Climate Change
- **notes** conclusion of GSS that ICT industry can set an example by committing to specific programs with objectives to reduce overall GHG emissions
- **recognizes** that ICTs can make a substantial contribution and be a major factor to mitigate the effects of climate change, for example through energy-efficient devices, applications and networks
- **resolves** that CC is a high priority in ITU as part of our contribution to UN processes and global efforts to moderate climate change
- **resolve**s to promote adoption of recommendations to ensure greater energy efficient of ICT devices and reduce GHG emissions in all sectors
- **resolves** to work toward reductions in GHG emissions necessary to meet goals of UN Framework Convention
- **insructs** ITU to make its working procedures more energy efficient and to identify mechanisms for future work on CC next April based on results of the Focus Group
- **invites** SG to bring the Resolution to the attention of Council and to collaborate with the UN system and its members to address CC
- **invites** Member States to contribute to the UN processes and global negotiations on CC

Some Background Materials



- ITU Climate Change site
  - www.itu.int/climate
- Climate Change symposia website
  - www.itu.int/ITU-T/climatechange
- Technology Watch Briefing Reports
  - www.itu.int/ITU-T/techwatch/reports.html

Thank you

International Telecommunication Union

<itu.int/climate>