
ICTs and Climate Change

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Presentation of ITU Background Paper

Symposium on ICTs
and Climate Change
London, 16-17 June
2008



Agenda

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

GLOBAL FRAMEWORK

- **1992 Framework Convention on Climate Change**
- **1997 Kyoto Protocol was adopted at COP-3**
 - while Convention encouraged developed countries to stabilize GHG emissions, the Protocol commits them to do so
- **2001 Detailed implementation rules adopted at COP-7 in Marrakesh**
 - Annex I (developed countries) to reduce GHG emissions in period 2008-12; a reduction of 5% against 1990 baseline
 - aviation and shipping were excluded
 - Annex II (developing countries) only to monitor and report GHG emissions
- **Protocol established Clean Development Mechanism (CDM)**
 - allows parties to earn and trade emission credits through projects either in developed or developing countries

GLOBAL FRAMEWORK

- **2005** Kyoto Protocol came into effect for 177 countries
- **2007** Fourth Assessment Report of IPCC
 - clear link between GHG emission and climate change
 - GHG emissions continue to grow as world continues to industrialize
- **2012** First commitment period under Kyoto Protocol will expire
 - new framework is needed to deliver the stringent emission reduction the IPCC says are needed



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)**



ITU and
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Evidence for climate change



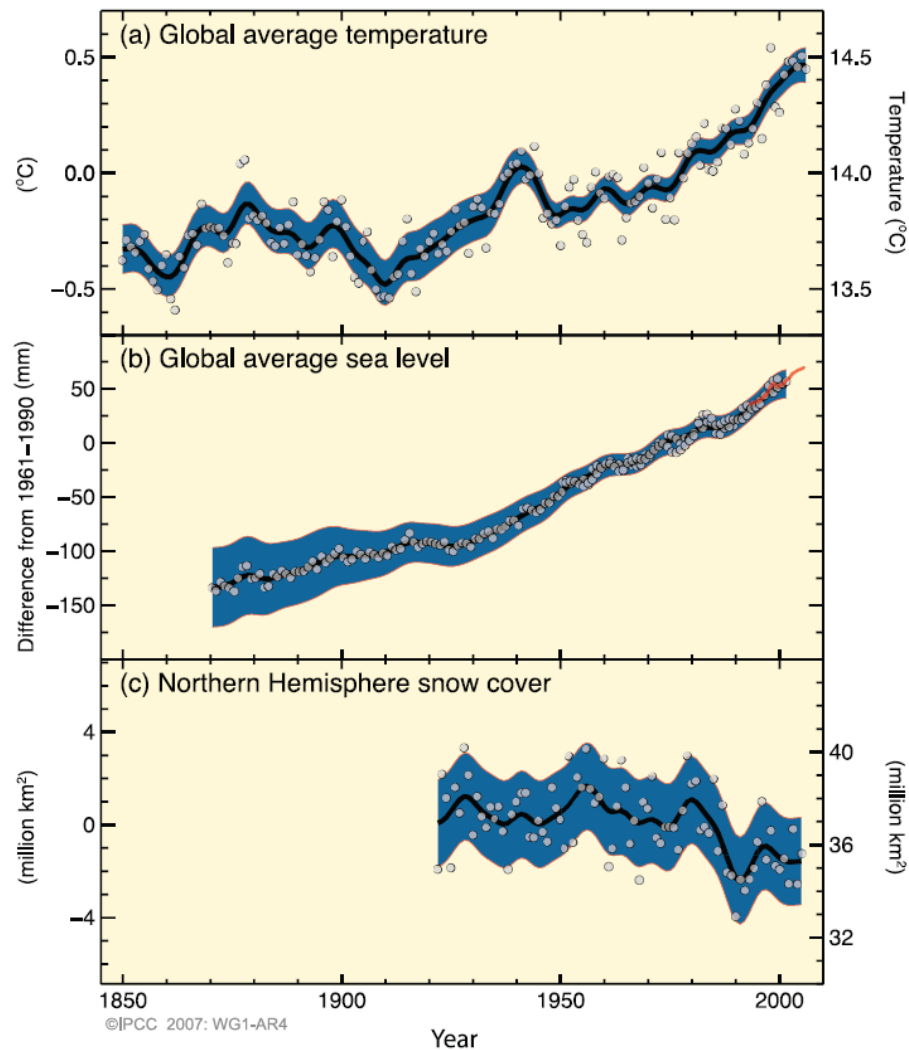
Global average temperature



Global average sea level

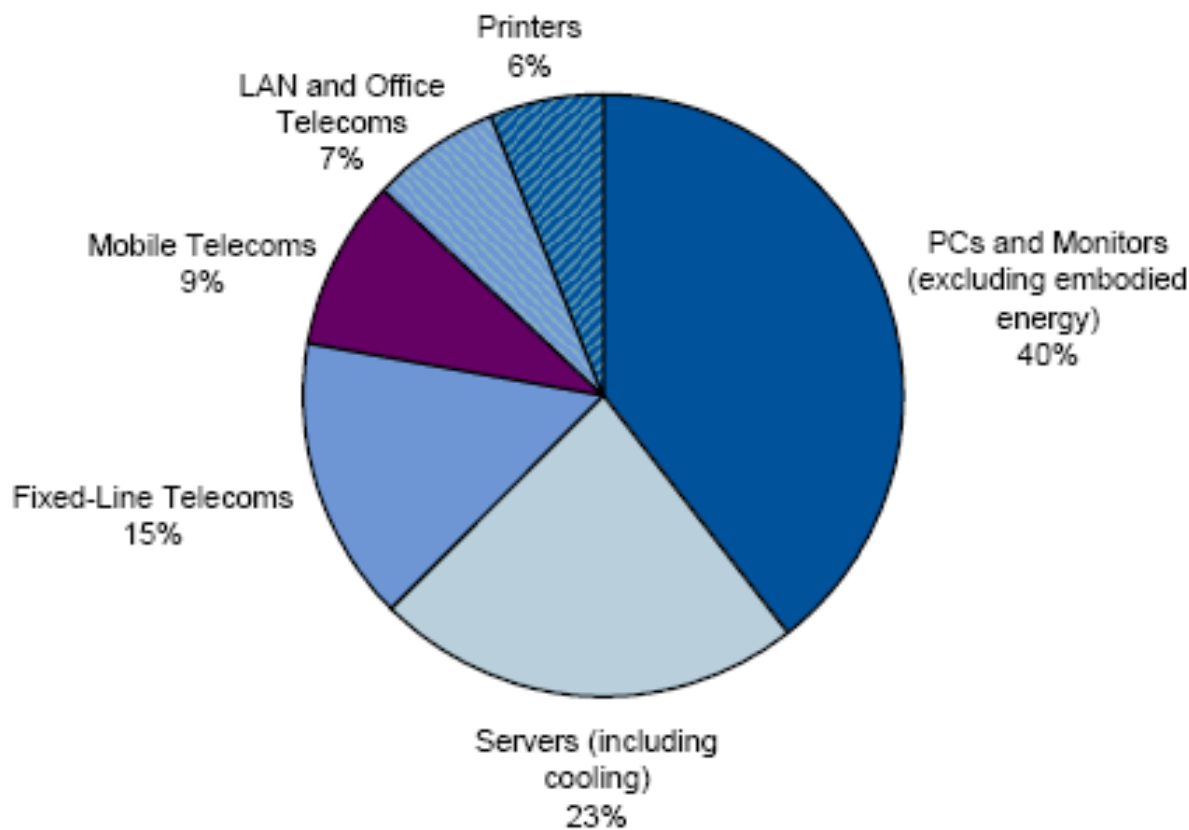


Northern hemisphere
snow cover



Source: IPCC 4th assessment report, 2007

ICTs as a cause of global warming

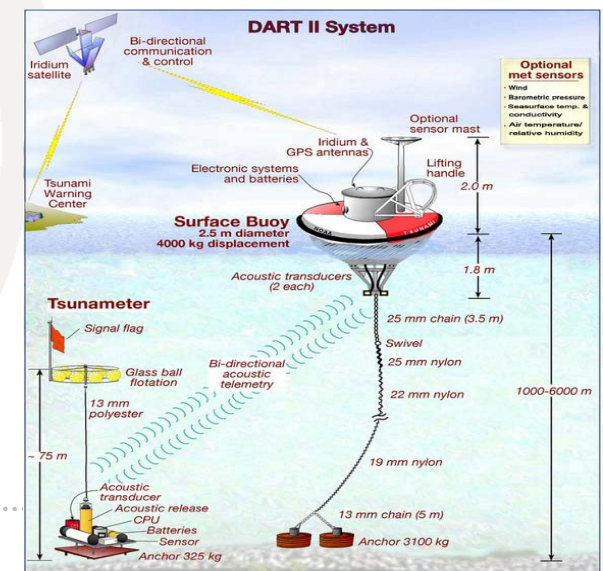
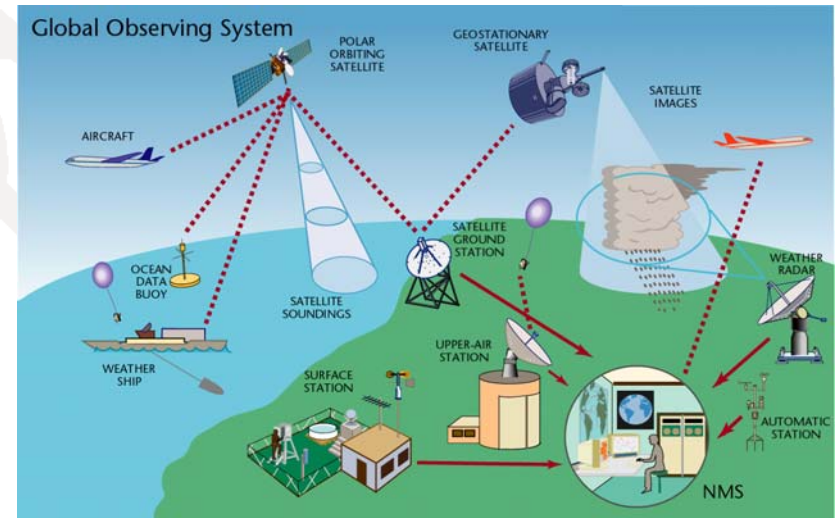


- ICTs (excluding broadcasting) contribute an estimated 2-2.5% of global Greenhouse Gas emissions
- Around 0.9 tonnes GtCO₂e in 2007
- Telecoms contributed around one quarter of this total

Source: Gartner Group (2007)

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





Mitigating the impact

- **Directly**, e.g., through energy-saving
 - Next-Generation Networks (NGN) should reduce GHG emissions by 40%
 - 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 CO₂ 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 CO₂
- Flexible work arrangements
 - Each one million EU workers could save one million tonnes of CO₂ annually by telecommuting
- Intelligent Transport Systems (ITS)
 - In-car systems to assist in "eco-driving" can reduce CO₂ emissions by up to 20 per cent
- Dematerialization (replacing atoms with bits)
 - ITU-T Recommendations Online save 105 million tonnes of CO₂ annually compared with distribution of paper copies

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



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

Towards a climate-neutral ITU

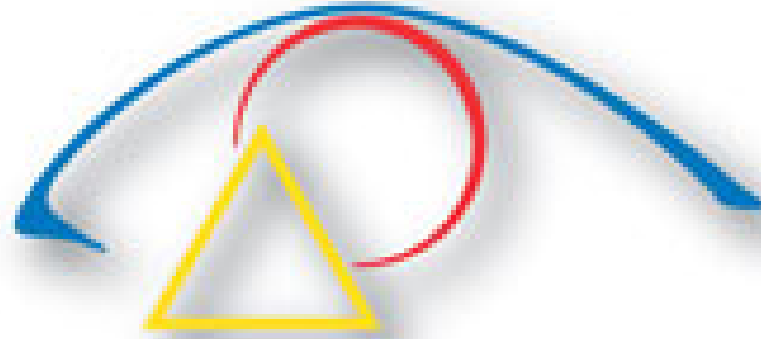
- Developing a knowledge base and repository
- Positioning ITU as a strategic leader
- Promoting a global understanding through international fora and agreements
- Achieving a climate-neutral ITU within three years
 - Conducting carbon audit
 - Using remote collaboration tools
 - Developing projects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



Thank you
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Telecommunication
Union

<itu.int/climate>

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