ICTs and Climate Change

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Presentation of ITU Background Paper

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Agenda

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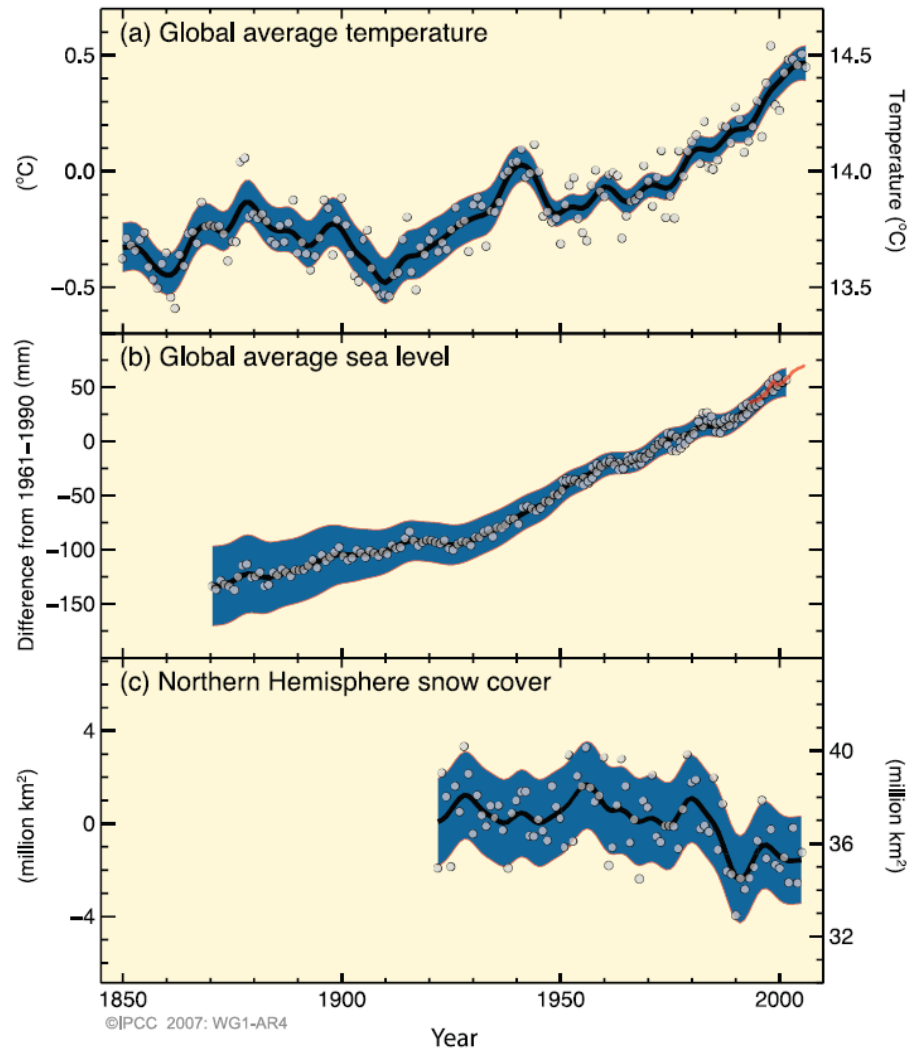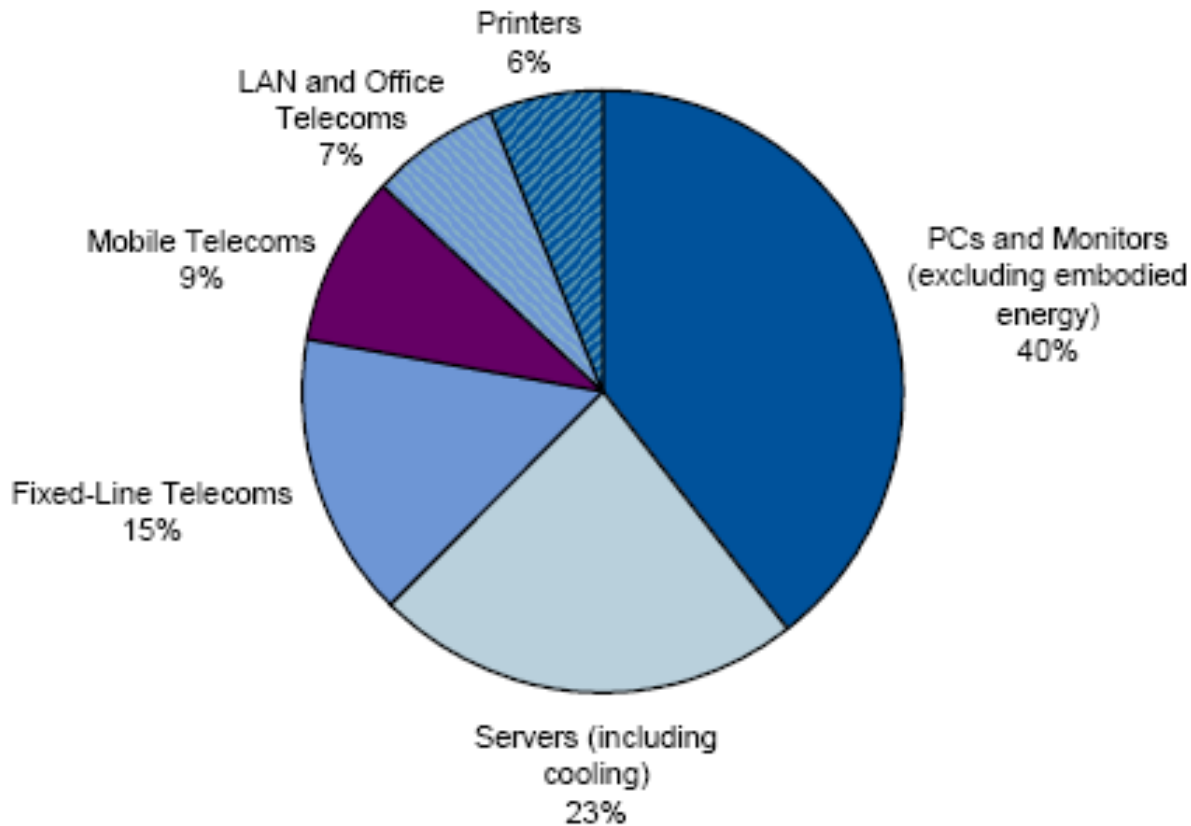- ITU and Climate Change

Evidence for climate change

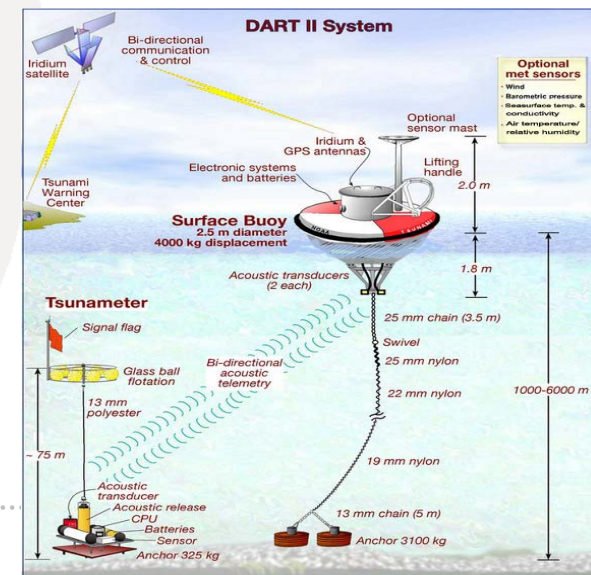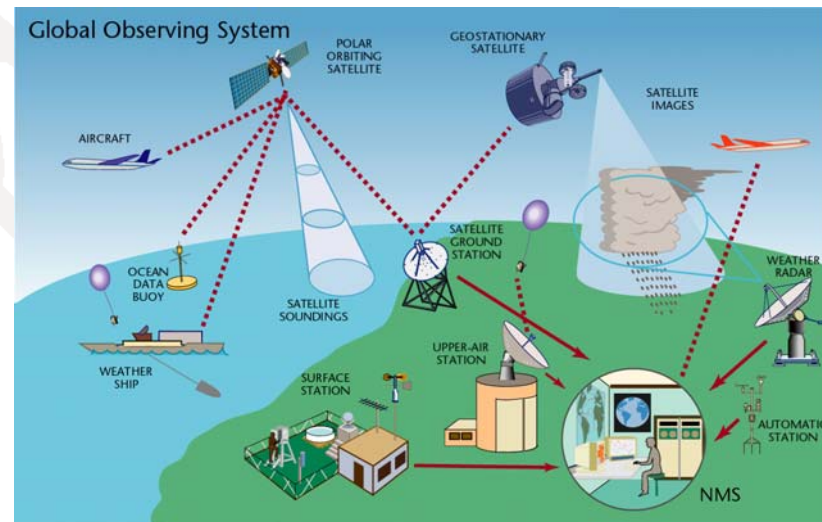# ICTs as a cause of global warming

Source: Gartner Group (2007)

- 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

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 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 reduced carbon emissions by 7% and carbon intensity by 14%, 2000-03

- 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

- Dematerialization (replacing atoms with bits)
  - ITU-T Recommendations Online save 105 million tonnes of CO_2 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
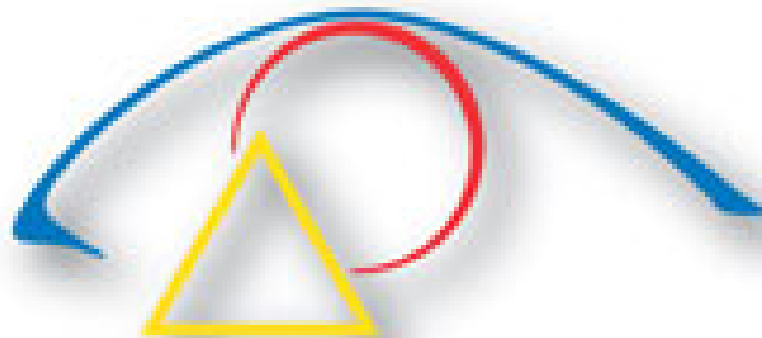
Towards a climate-neutral ITU

- Developing a knowledge base and repository
  - Conducting systematic review of ITU Recommendations
- Positioning ITU as a strategic leader
  - Developing a Resolution for WTSA-08
- Promoting a global understanding through international fora and agreements
  - High-level segment at Council 2008
- Achieving a climate-neutral ITU within three years
  - Conducting carbon audit
  - Using remote collaboration tools
  - Developing projects under Carbon Development Mechanism

Thank you

International Telecommunication Union

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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