

**ITU Regional Development Forum 2008**  
**"Bridging the Standardization Gap in Developing Countries"**  
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# **ICTs and Climate Change**

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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 Symposia:**
  - **Kyoto, Japan, 15-16 April, co-organised by MIC Japan**
  - **London, UK, 17-18 June, supported and hosted by BT**
- **ITU and Climate Change**

# Evidence for climate change



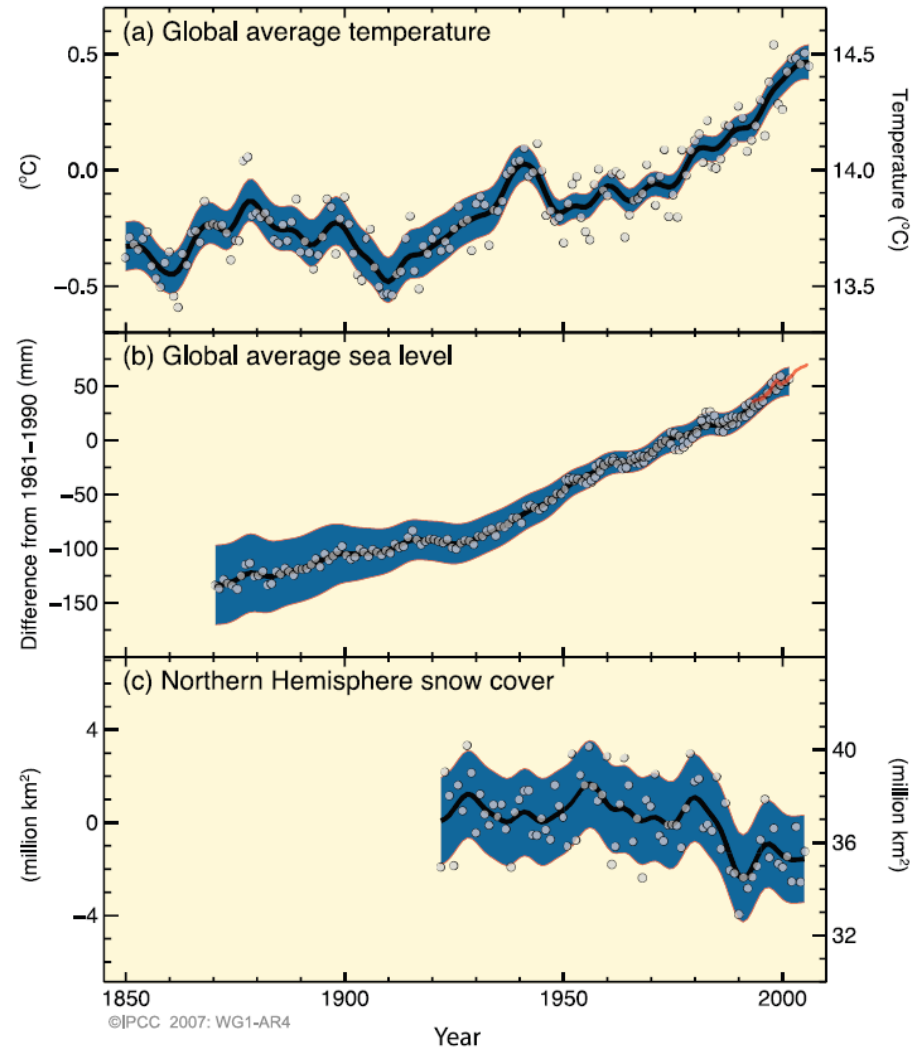
Global average temperature



Global average sea level

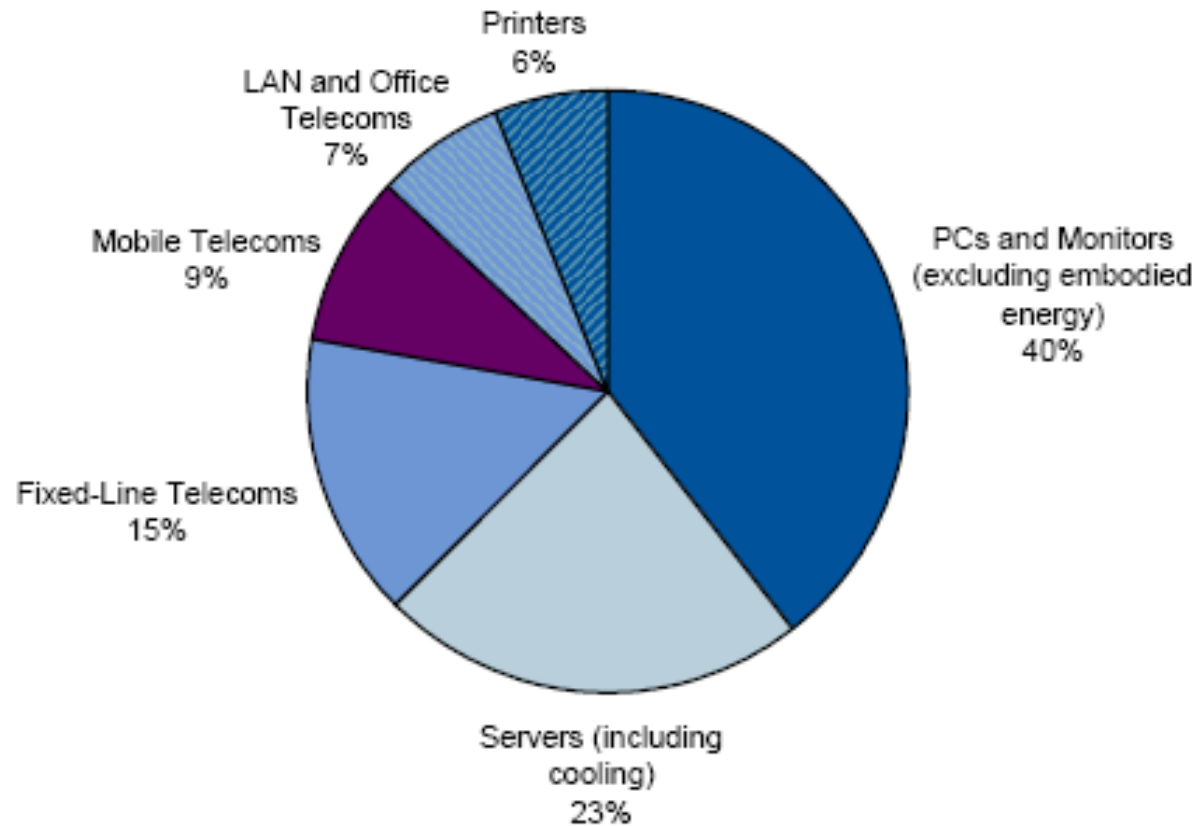


Northern hemisphere snow cover



# ICTs as a cause of global warming

## Breakdown of ICT contribution (in %)

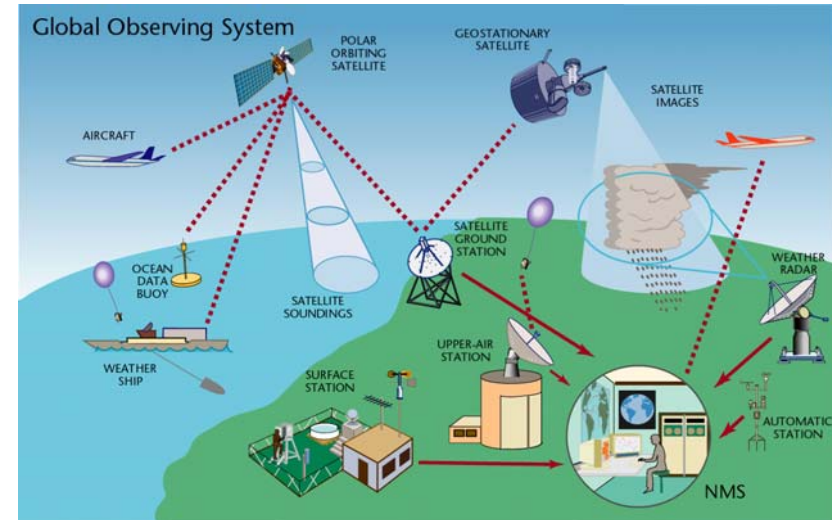


- ICTs (excluding broadcasting) contribute an estimated 2-2.5% of global Greenhouse Gas emissions
- Around 0.9 Gigatonnes of CO<sub>2</sub> equivalent (GtCO<sub>2</sub>e) in 2007
- Telecoms contributed around one quarter of this total
- But Telecoms also have the biggest potential for climate change mitigation

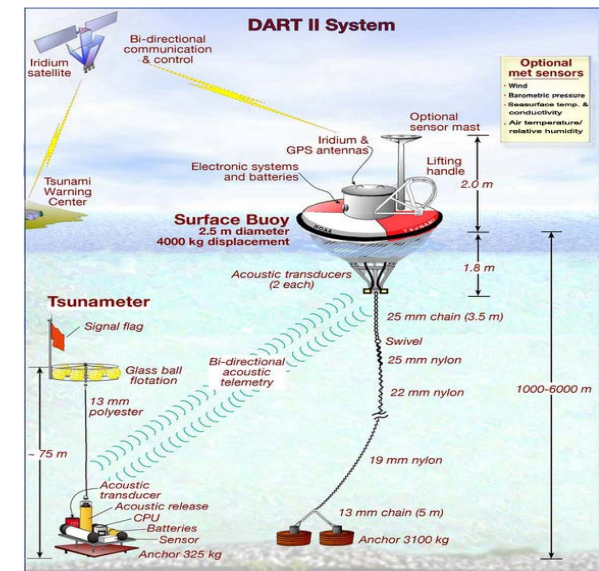
# ICTs at work for monitoring climate change

- **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% relative to separate, circuit-switched fixed-line and mobile networks**
  - **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<sub>2</sub> 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<sub>2</sub>

- **Flexible work arrangements**

- Each one million EU workers could save one million tonnes of CO<sub>2</sub> annually by telecommuting

- **Intelligent Transport Systems (ITS)**

- In-car systems to assist in "eco-driving" can reduce CO<sub>2</sub> emissions by up to 20 per cent

- **Dematerialization (replacing atoms with bits)**

- ITU-T Recommendations Online save 105 tonnes of CO<sub>2</sub> annually compared with distribution of paper copies



# 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**

# ITU Symposia on ICTs and Climate Change

- **Kyoto, Japan, 15-16 April, co-organized by MIC Japan**
- **London, UK, 17-18 June, supported and hosted by BT**
- **Outline agenda**
  - 1. ICTs to the Rescue?**
  - 2. Corporate responsibility: Towards a climate-neutral ICT sector**
  - 3. ICTs for monitoring climate change**
  - 4. ICTs as a green technology**
  - 5. Towards a high-bandwidth, low carbon future**
  - 6. Adapting to climate change**
    - **Webcast using GoToWebinar**

# Towards a climate-neutral ITU

- **Developing a knowledge base and repository**
  - **Conducting systematic review of ITU Recommendations**
  - **Creating a Focus Group on methodologies for estimating the GHG emissions from ICTs**
- **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**

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Thank you