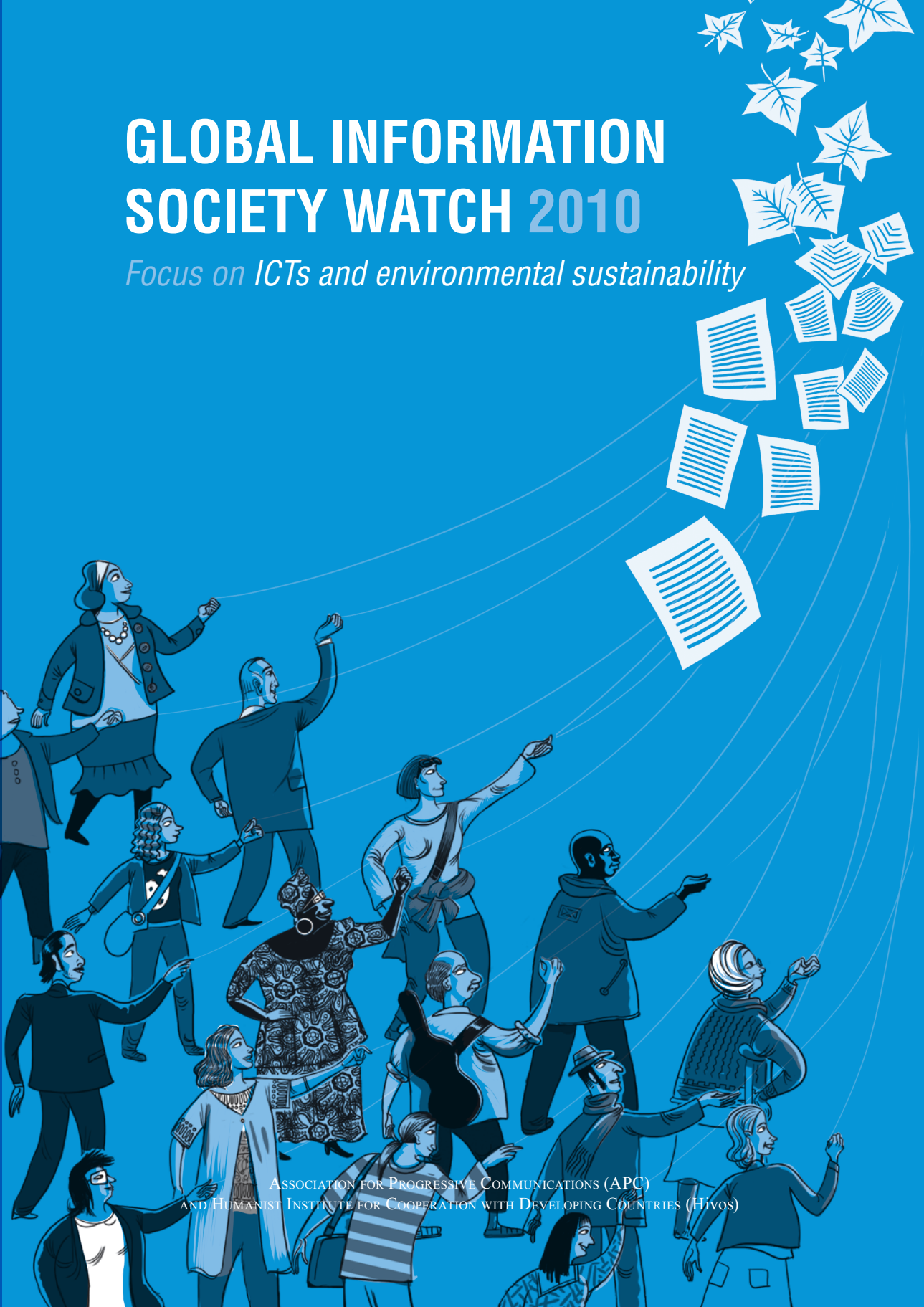


# GLOBAL INFORMATION SOCIETY WATCH 2010

*Focus on ICTs and environmental sustainability*



ASSOCIATION FOR PROGRESSIVE COMMUNICATIONS (APC)  
AND HUMANIST INSTITUTE FOR COOPERATION WITH DEVELOPING COUNTRIES (HIVOS)

# Global Information Society Watch

## 2010



## Global Information Society Watch 2010

### Steering committee

Marjan Besuijen (Hivos)  
Anriette Esterhuysen (APC)  
Loe Schout (Hivos)

### Coordinating committee

Karen Banks (APC)  
Monique Doppert (Hivos)  
Karen Higgs (APC)

### Project coordinator

Karen Banks

### Editor

Alan Finlay

### Assistant editor

Lori Nordstrom

### Publication production

Karen Higgs

### Graphic design

MONOCROMO  
info@monocromo.com.uy  
Phone: +598 2 400 1685

### Cover illustration

Matías Bervejillo

### Proofreading

Stephanie Biscomb, Lori Nordstrom, Álvaro Queiruga

### Financial partners

Humanist Institute for Cooperation with Developing Countries (Hivos)  
Swedish International Cooperation Agency (Sida)  
Swiss Agency for Development and Cooperation (SDC)

*Global Information Society Watch*  
Published by APC and Hivos  
2010

Creative Commons Attribution 3.0 Licence  
<[creativecommons.org/licenses/by-nc-nd/3.0/](http://creativecommons.org/licenses/by-nc-nd/3.0/)>  
Some rights reserved.  
ISBN 92-95049-96-9  
APC-201011-CIPP-R-EN-PDF-0087

APC and Hivos would like to thank the Swedish International Cooperation Agency (Sida) and the Swiss Agency for Development and Cooperation (SDC) for their support for Global Information Society Watch 2010. SDC is contributing to building participation in Latin America and the Caribbean and Sida in Africa.



Schweizerische Eidgenossenschaft  
Confédération suisse  
Confederazione Svizzera  
Confederaziun svizra

Federal Department of Foreign Affairs FDFA  
**Swiss Agency for Development and Cooperation SDC**

# Institutional overview

---

## Abebe Chekol

Ethiopian Free and Open Source Software Network (EFOSSNet)  
abechekol@yahoo.com

---

## Introduction

The global interest and movement to address climate change is led by the Intergovernmental Panel on Climate Change (IPCC). The IPCC, established in 1989 by the World Meteorological Organization and United Nations Environment Programme (UNEP), has since led a number of deliberations and consultations to get a better understanding of the causes of climate change, its impacts, and mitigation and adaptation strategies.<sup>1</sup>

The UN has steered the Framework Convention on Climate Change (UNFCCC),<sup>2</sup> which enjoys near universal ratification by 194 parties (193 states and one regional economic integration organisation). It sets an overall framework for intergovernmental efforts to tackle the challenge posed by climate change. It recognises that the climate system is a shared resource whose stability can be affected by emissions of carbon dioxide and other greenhouse gases (GHGs). The UNFCCC came into force on 21 March 1994.

With a range of environmental and climate challenges facing the world, attention has turned to the positive and negative relationships between information and communications technologies (ICTs) and the environment. A number of international organisations and partnerships are involved in examining and proposing industry and policy actions for mitigating the adverse environmental outcomes of ICTs, but also focusing on the environmental benefits they can bring. This report provides a review of selected organisations and their goals in relation to ICTs and environmental sustainability.

## Key institutions

The parties to the UNFCCC have been meeting annually since 1995 at what is called the Conference of the Parties (COP) to assess progress in dealing with climate change. In 1997, the Kyoto Protocol was concluded, with legally binding obligations for developed countries to reduce their GHG emissions.

The Kyoto Protocol, which came into force in 2005, is the current international commitment. It developed three innovative mechanisms to tackle the impact of climate change. These are emissions trading, joint implementation, and the clean development mechanism (CDM). In December 2009, the UN hosted the Climate Change Conference in Copenhagen (COP 15), which resulted in the Copenhagen Climate Accord. This is regarded as having no binding agreement

on how to tackle climate change and its consequences. A side exhibition organised by the secretariat of the UNFCCC at COP 15 focused on how ICTs are helping to increase awareness and to support concrete action on climate change in both developing and developed countries.

Below, we provide a brief summary of the activities and respective goals of selected organisations in relation to ICTs and environmental sustainability.

- *European Commission*: The European Union (EU) has a number of ambitious targets for reducing GHG emissions by 2020. The focus of these targets in relation to ICTs include the use of more energy-efficient ICT products; ICT-enabled energy-efficient buildings, manufacturing, logistics and power grids; and new ICT-enabled business models, markets and lifestyles.<sup>3</sup>
- *International Telecommunication Union (ITU)*: The ITU says that “methodologies for evaluating CO<sub>2</sub> reductions through the use of ICTs should be standardized.”<sup>4</sup> It is already very active in standardisation work and other studies that are relevant to climate change, in particular in the areas of energy efficiency (energy-efficient ICT equipment will reduce the emission of GHGs), mitigation of the effects of climatic change, and technologies for reducing carbon emissions. The ITU’s work in recent years has been on next-generation networks (NGNs), which are expected to reduce energy consumption by 40% compared to today’s PSTN (public switched telephone network).<sup>5</sup>
- *Intergovernmental Panel on Climate Change (IPCC)*: According to the IPCC, the capacity to mitigate and adapt to the effects of climate change is dependent on socioeconomic and environmental circumstances and the availability of information and technology. In this regard, the IPCC defined technology as “the practical application of knowledge to achieve particular tasks that employs both technical artefacts (hardware, equipment) and (social) information (software, know-how for production and use of artefacts).”<sup>6</sup>

---

3 European Commission (2008) European Policies for ICTs in a Low-Carbon Society, presentation made by Peter Johnston to the joint OECD/Danish National IT and Telecom Agency Workshop on ICTs and Environmental Challenges, Copenhagen, Denmark, 22-23 May 2008. [www.oecd.org/dataoecd/42/28/40833630.pdf](http://www.oecd.org/dataoecd/42/28/40833630.pdf)

4 Scholl, Reinhard (2009) ITU and Climate Change: Standardization Landscape, presentation to the ETSI Green Agenda Seminar, Cannes, France, 26 November 2009. [docbox.etsi.org/Workshop/2009/200911\\_GREENAGENDA/03Scholl\\_ITUandClimateChange.pdf](http://docbox.etsi.org/Workshop/2009/200911_GREENAGENDA/03Scholl_ITUandClimateChange.pdf)

5 International Telecommunication Union (2007) *ICTs and Climate Change: ITU-T Technology Watch Report #3*, ITU, Geneva.

6 Intergovernmental Panel on Climate Change (IPCC) (2007) *Climate Change 2007: Synthesis Report*, IPCC, Geneva. [www.ipcc.ch/ipccreports/index.htm](http://www.ipcc.ch/ipccreports/index.htm)

---

1 Intergovernmental Panel on Climate Change (IPCC) [www.ipcc.ch/organization/organization\\_history.htm](http://www.ipcc.ch/organization/organization_history.htm)

2 [www.unfccc.int](http://www.unfccc.int)

- *Organisation for Economic Co-operation and Development (OECD)*: The OECD is developing policy, undertaking analysis, and facilitating international debate on the use of ICTs to tackle environmental challenges. Reaffirming the OECD's Ministerial Declaration in Seoul in June 2008 on the environmental impact of ICTs<sup>7</sup> and the necessary policy action, the OECD Council on 8 April 2010 made the ten-point recommendations on ICTs and the environment. These recommendations encouraged governments to increase the environmental benefits of ICT applications and attend to the negative environmental impacts of ICTs.<sup>8</sup>
- *Global Information Infrastructure Commission (GIIC)*: With its mission to provide private-sector leadership to bring about the conditions needed to foster investments in information infrastructure in both developed and developing countries, GIIC devoted its 2008 annual meeting held in Tokyo to a discussion entitled "The Power of Green: In the Future of ICT, Is it Part of the Problem or the Solution?" The report of this meeting led to the Tokyo Declaration, which contains two recommendations: "Lower the environmental impact of ICTs" and "Lower the environmental impact by using ICTs." It also says that to achieve these goals an exchange of information is necessary, as well as a roadmap, based on market analysis and recognising the need for early action.<sup>9</sup>
- *Global e-Sustainability Initiative (GeSI)*: GeSI is an international non-profit association that addresses sustainability (the triple bottom line: social, environmental and economic). GeSI is industry-led and open to ICT industry participants. It also partners with several international organisations, including UNEP, the ITU, European Telecom Network Operators (ETNO), the US Telecom Association and the Electronic Industry Citizenship Coalition which promotes the Electronic Industry Code of Conduct (EICC).<sup>10</sup> GeSI led a global study on

the carbon impacts and opportunities of ICTs which presents the first comprehensive estimates and projections of the ICT sector footprint until 2020.<sup>11</sup>

- *International Institute for Sustainable Development (IISD)*: IISD has worked on the relationship between ICTs and sustainable development since 2003 by advancing policy recommendations on climate change and natural resources management. It contends that policy makers have underestimated the impact of ICT on sustainable development (and vice versa).<sup>12</sup>
- *United Nations*: Following the urging of the Secretary General to "lead by example," the UN System Chief Executives Board for Coordination (CEB) decided in October 2007 to move towards a climate-neutral UN. The UN, through its specialised agencies and regional commissions – mainly the United Nations Economic Commission for Africa (UNECA) – undertakes a number of activities in the ICT and environment field. These include supporting GeSI, developing a standard methodology to measure the impact of ICTs on climate change, e-environment scoping studies, and capacity building seminars/workshops in different regions to assist countries in implementing new standards aimed at the reduction of GHG emissions through the use of radio and ICT devices.<sup>13</sup>
- *World Wide Fund for Nature (WWF)*: WWF's mission is "to stop the degradation of the planet's natural environment and to build a future in which humans live in harmony with nature." It started work on ICTs and the environment in 2000 and works with other organisations, including the World Economic Forum (WEF), which states that "ICT solutions have the potential to be an enabler to reduce a significant part of the remaining 98%" (a reference to the frequently cited statistic that ICT products are responsible for 2% of emissions).<sup>14</sup> An ETNO/WWF report notes that ICTs can be an important part of combating climate change, and should

7 Organisation for Economic Co-operation and Development (OECD) (2008) *Addressing Environmental Challenges: The Role of Information and Communication Technologies (ICTs) and the Internet*, OECD, Paris. [www.oecd.org/dataoecd/25/55/42911620.pdf](http://www.oecd.org/dataoecd/25/55/42911620.pdf)

8 Organisation for Economic Co-operation and Development (OECD) (2010) *Recommendation of the Council on Information and Communication Technologies and the Environment*, OECD, Geneva.

9 Global Information Infrastructure Commission (GIIC) (2008) *The GIIC Tokyo Declaration*, 25 April 2008. [www.biac.org/members/iccp/mtg/2008-06-seoul-min/GIIC\\_Tokyo\\_Declaration.pdf](http://www.biac.org/members/iccp/mtg/2008-06-seoul-min/GIIC_Tokyo_Declaration.pdf)

10 The Electronic Industry Code of Conduct was initially developed by a number of companies engaged in the manufacture of electronics products between June and October 2004. Participating companies included Celestica, Dell, Flextronics, HP, IBM, Jabil, Sanmina SCI and Solectron. For more information, see also [www.juniper.net/us/en/local/pdf/investor/electronic-industry-code-conduct.pdf](http://www.juniper.net/us/en/local/pdf/investor/electronic-industry-code-conduct.pdf)

11 Global e-Sustainability Initiative (GeSI) (2008) ICT key driver to a low-carbon society: The need for the right policy framework, presentation made by Luis Neves to the joint OECD/Danish National IT and Telecom Agency Workshop on ICTs and Environmental Challenges, Copenhagen, Denmark, 22-23 May 2008. [www.oecd.org/dataoecd/42/27/40833651.pdf](http://www.oecd.org/dataoecd/42/27/40833651.pdf)

12 International Institute for Sustainable Development (IISD) (2008) *ICTs, Adaptation to Climate Change, and Sustainable Development at the Edges: An IISD Commentary*, IISD, Winnipeg. [www.iisd.org/pdf/2008/com\\_ict\\_climate.pdf](http://www.iisd.org/pdf/2008/com_ict_climate.pdf)

13 United Nations System Chief Executives Board for Coordination (2008) *Acting on Climate Change: The UN System Delivering as One*, United Nations, New York.

14 Organisation for Economic Co-operation and Development (OECD) (2009) *Measuring the Relationship between ICT and the Environment*, OECD, Geneva.

be engaged because it is a sector that is used to rapid changes and employs many creative people. The report outlines a roadmap for the ICT sector, and sets out targets for 2010 and 2020. The target for 2010 is to use ICT to reduce CO<sub>2</sub> emissions by 50 million tonnes.

## Conclusion

It is now clearly recognised that ICTs can play a significant role for climate change mitigation, monitoring and adaptation efforts, becoming an enabler to reduce a significant part of the 98% of the GHG and other emissions from all sectors. Although this also includes mitigating the growth of the ICT industry footprint itself, a consensus has emerged that the role of ICTs in enabling energy savings and reducing negative environmental effects across all industry sectors is even more crucial. In this regard, institutions will have a key role to play in both the selection and implementation of ICT applications at the national, regional or international level.<sup>15</sup>

There is a need to streamline the role of the various institutions focusing on the key areas where the share of the impact of ICTs on climate change can be reduced and its benefits enhanced through research and development, innovation, capacity building, standards, awareness raising, policy and advocacy activities by the respective organisations. There is, however, a lot to be done in terms of the “lead by example” approach to promoting green growth through, for example, the climate-neutral initiative being implemented by the UN. As public sector institutions are the largest users of ICT products and applications, such initiatives could contribute to energy savings and reducing negative environmental effects. Therefore, an international multi-stakeholder approach would be of paramount importance.

The World Summit on the Information Society (WSIS) developed a specific multi-stakeholder approach (“WSIS-practice”) that went beyond the approach of other UN summits. WSIS provided a global platform where key players – governments, UN agencies, the private sector and civil society – came together to develop a common vision and a common understanding of the information society, to adopt a declaration and a plan of action as well as an agenda to facilitate the effective growth of the information society. One of the WSIS action lines was e-environment. The WSIS Plan of Action states that “governments, in cooperation with other stakeholders, are encouraged to use and promote ICTs as an instrument for environmental protection and the sustainable use of natural resources.” The World Meteorological Organization was the proposed e-environment moderator/facilitator. Co-facilitators include the World Health Organization, UNEP, UN-HABITAT, ITU and International Civil Aviation Organization. ■

---

<sup>15</sup> Ospina, A. V. and Heeks, R. (2010) *Linking ICTs and Climate Change Adaptation: A Conceptual Framework for e-Resilience and e-Application*, University of Manchester, Manchester. [www.niccd.org/ConceptualPaper.pdf](http://www.niccd.org/ConceptualPaper.pdf)

**GLOBAL INFORMATION SOCIETY WATCH 2010** investigates the impact that information and communications technologies (ICTs) have on the environment – both good and bad.

Written from a civil society perspective, **GISWatch 2010** covers some 50 countries and six regions, with the key issues of ICTs and environmental sustainability, including climate change response and electronic waste (e-waste), explored in seven expert thematic reports. It also contains an institutional overview and a consideration of green indicators, as well as a mapping section offering a comparative analysis of “green” media spheres on the web.

While supporting the positive role that technology can play in sustaining the environment, many of these reports challenge the perception that ICTs will automatically be a panacea for critical issues such as climate change – and argue that for technology to really benefit everyone, consumption and production patterns have to change. In order to build a sustainable future, it cannot be “business as usual”.

**GISWatch 2010** is a rallying cry to electronics producers and consumers, policy makers and development organisations to pay urgent attention to the sustainability of the environment. It spells out the impact that the production, consumption and disposal of computers, mobile phones and other technology are having on the earth’s natural resources, on political conflict and social rights, and the massive global carbon footprint produced.

**GISWatch 2010** is the fourth in a series of yearly reports critically covering the state of the information society from the perspectives of civil society organisations across the world.

**GISWatch** is a joint initiative of the Association for Progressive Communications (APC) and the Humanist Institute for Cooperation with Developing Countries (Hivos).

**GLOBAL INFORMATION SOCIETY WATCH**  
2010 Report  
[www.GISWatch.org](http://www.GISWatch.org)

