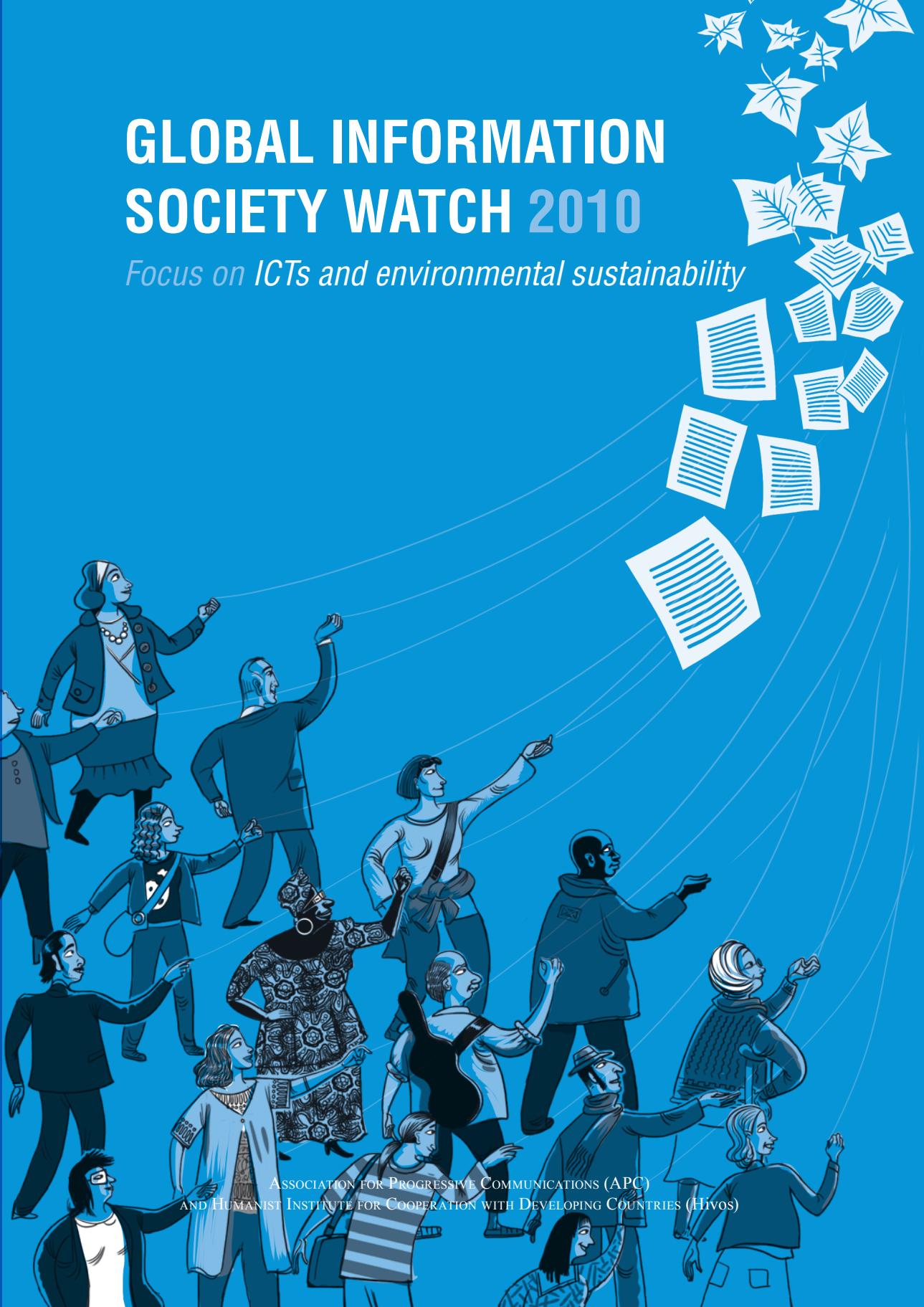


# GLOBAL INFORMATION SOCIETY WATCH 2010

*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



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# URUGUAY

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## Introduction

Uruguay is known for its early take-up of the information and knowledge society, particularly in the Latin American region, where it is considered one of the countries in the vanguard of information and communications technologies (ICTs). Such a situation generates new environmental challenges that are being attended to in the legislative field – through an important bill that has not yet been passed – and in other good practices carried out by different companies and educational institutions.

## Policy and legislative context

Uruguay does not contribute significantly to global warming: it only generates 0.05% of global greenhouse gas (GHG) emissions, according to 2004 figures. However, it is very vulnerable to the adverse effects of climate change, which threaten the country's development. In fact, extreme events like floods, droughts and storms, all of which "affect the population, infrastructure, production, services, ecosystems, biodiversity, coast areas and in particular, agriculture," are becoming more frequent.<sup>1</sup>

For this reason, in May 2009, the National System for Climate Change Response<sup>2</sup> was created to coordinate several national public and private institutions working on climate change, including companies, universities, research centres, trade unions and governmental institutions. This agency created the National Climate Change and Variability Response Plan during 2009, and the first diagnostics and identification of vulnerabilities were established.

Regarding electronic waste (e-waste), a specific law has not been passed yet, although a 2008 bill proposes an e-waste management system. However, there are some laws indirectly related to the subject,<sup>3</sup> aimed at ratification of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal and regulation of the handling of hazardous waste.<sup>4</sup> The Ministry of Housing, Territorial Planning and Environment – with its subordinate department, the National Department of Environment – is the regulator and is responsible for ensuring compliance with environmental laws.

## E-waste policy, legislation and practice

The number of PCs in homes in Uruguay has increased rapidly over the last years. Data show that in 2006, 24.3% of Uruguayan households had a computer. This figure rose to 35.3% in 2008 and to 44.2% in 2009.<sup>5</sup> Even though Uruguay has always been well positioned in the region when it comes to access to ICTs, part of this increase is due to the implementation of the *Plan Ceibal*, the first global experience in applying the One Laptop per Child (OLPC) project, an initiative of the Massachusetts Institute of Technology (MIT). As part of this project, 370,000 XO laptops, specially designed for OLPC, were distributed to all of the country's public primary school students, who were able to take the computers home. Beginning in 2010, a second phase of this project will start, during which laptops will be distributed to public secondary school students.

These facts will place Uruguay in a complex position in the future, since large amounts of e-waste are being and will be generated in the short to medium term. Currently, e-waste in Uruguay is treated as per general waste policies. Even though there is no official record, it is estimated that in 2007, 600,000 PCs were being used, and 100,000 are thrown away each year.<sup>6</sup>

Although it has not been approved, the 2008 bill that proposes the creation of an e-waste management system<sup>7</sup> is based on the principle of extended producer responsibility, in which manufacturers and vendors who introduce technologies to the market are legally responsible for the treatment that the devices receive after their useful life. Collection and recycling of e-waste would be delegated to administrators or public or private organisations, and once recycled, the manufacturers and/or vendors could use the useful parts again. The Ministry of Housing, Territorial Planning and Environment would be in charge of the final disposal of non-recyclable pieces, in order to avoid further impact to the environment. Fines between USD 3,500 and USD 12,000 are foreseen for those who do not comply with the regulations.

The reasons that were stated to justify the implementation of the abovementioned law refer to the level of danger posed by some components of e-waste and their impact

1 Ministry of Housing, Territorial Planning and Environment (2010) *National Climate Change and Variability Response Plan: Diagnosis and strategic guidelines*. [www.inac.gub.uy/innovaportal/file/5207/1/Plan%20Nacional%20de%20resposta%20al%20cambio%20clim.pdf](http://www.inac.gub.uy/innovaportal/file/5207/1/Plan%20Nacional%20de%20resposta%20al%20cambio%20clim.pdf)

2 [www.presidencia.gub.uy/\\_web/cambio\\_climatico/Decreto%202038-009.pdf](http://www.presidencia.gub.uy/_web/cambio_climatico/Decreto%202038-009.pdf)

3 Laws No. 16.221, No. 17.220 and No. 17.283, available at [www.mvotma.gub.uy](http://www.mvotma.gub.uy)

4 As per Law No. 17.220, Article 3, "hazardous" waste is waste from any origin that due to its physical, chemical, biological or radioactive characteristics constitutes a risk to human, animal, plant or environmental welfare, whether it is imported, exported or domestically produced waste.

5 Based on the National Continuous Household Survey 2009. Abridged version available in Rivoir, A. L. and Escuder, S. (2010) *Sociedad de la Información. ¿En que estamos?*, p. 3. [www.agesic.gub.uy/innovaportal/v/999/1/agesic\\_la\\_sociedad\\_de\\_la\\_informacion\\_en\\_estadisticas.html](http://www.agesic.gub.uy/innovaportal/v/999/1/agesic_la_sociedad_de_la_informacion_en_estadisticas.html)

6 40th Regular Session of the Committee on the Environment of the Senate of the Oriental Republic of Uruguay, 9 September 2008. [www.parlamento.gub.uy/sesiones/AccesoSesiones.asp?Url=/sesiones/diarios/senado/html/20080909s0040.htm#pagina450](http://www.parlamento.gub.uy/sesiones/AccesoSesiones.asp?Url=/sesiones/diarios/senado/html/20080909s0040.htm#pagina450)

7 [www.parlamento.gub.uy/websip/lisficha/fichaap.asp?Asunto=36842&FichaPrint=s](http://www.parlamento.gub.uy/websip/lisficha/fichaap.asp?Asunto=36842&FichaPrint=s)

on the environment. It is also claimed that the amount of e-waste is increasing at three times the rate of other waste, particularly when it comes to discarded PCs. The bill refers to the lack of policies that specifically regulate e-waste. It also points out that the recovery of waste not only offers relief for the negative environmental impact, but would also relieve the economic responsibility for the institutions in charge of collecting the e-waste and its final disposal, which in Uruguay is currently conducted by municipal governments.

During the discussion of the bill, it was mentioned that several countries with similar problems donate obsolete equipment to underdeveloped or developing countries, a practice that also happens in Uruguay.

Several important political actors were consulted about the bill in its early stages. Controversial points included the expected low profits from recycling and the health of the workers who work with the materials. Even though the “three R’s” (reduce, reuse and recycle) criteria are applied, it is felt to be inevitable that a surplus of material that becomes garbage is generated. In addition, Uruguay does not have the special technology required for the treatment of monitors and televisions.

Several people suggested the possibility of building a hazardous waste landfill in the north of the country, where the rocky formation rich in basalt would work as an impermeable wall. The treatment would be similar to the one that radioactive waste receives when it is buried in a proper landfill. However, the bill does not propose that agencies that decide on these initiatives – in particular the National Department of Mining and Geology – participate in the matter. The weakness of the proposal lies in the possible damage to the deep layers of the Guarani Aquifer, one of the most important drinking water reserves in the world.

To date, the bill has not been passed, although different organisations and people related to the recycling of e-waste are still being consulted. One of the reasons stated by the authorities regarding the difficulty in the application of the extended producer responsibility principle is the high percentage of clones and orphaned machines that are in the market, which makes it difficult to identify who is responsible for the final disposal of the device.

### The Crecoel example

Although the legal aspect of e-waste has not been defined yet, there are several experiences and initiatives that are turning into successful projects. Crecoel serves as one good example.

Since 2004, Crecoel (Cooperative for the Recycling of Electronic Devices, as per the Spanish acronym) has been operating in the Industrial and Technological Park in Montevideo. The cooperative began with an agreement signed between the Inter-American Development Bank and San Vicente, a non-governmental organisation, and training was carried out in order to improve the working conditions of waste pickers.

This cooperative is the first endeavour specialised in dismantling technological devices (computers, printers, mobile phones, TVs, etc.). Its main clients are public and private companies, which pay for this service. The companies contact Crecoel through its website<sup>8</sup> or are referred by the municipalities. It is important to highlight that the service includes the transportation cost, and the final cost is 30-50% cheaper than using the municipalities, which also charge for picking up e-waste and disposing of it in special plants.

Individuals who deliver their domestic devices to be recycled do not have to pay, since the company only charges for volumes higher than a cubic metre.

Once the devices are dismantled, part of the materials are sent again to the companies that may reuse them as replacement parts, and other parts (ferrous metals and components) are sent to companies dedicated to the export of e-waste. One of these companies is Werba,<sup>9</sup> whose main market is China. Only 20% of the material that goes to Crecoel is thrown away – in secure environmental conditions which are monitored.

Testimonies from people related to this endeavour note several positive aspects regarding the ethical principles of Crecoel. First, it creates work in secure conditions for families who used to be waste pickers, often working in unhealthy conditions. Being a cooperative, it also encourages a horizontal, communal style of engagement with its members.

Finally, it is worth mentioning the difficulty they went through when trying to make the companies understand the need for charging for the service, given the lack of awareness of the importance of the treatment that this type of waste should receive.

### New trends

We can identify at least three trends regarding the application of the “three R’s” principle.

- *Art and Programming Workshop (TAP)*:<sup>10</sup> As defined by one of its coordinators: “The aim is to create a space for the assimilation and learning of the required creative skills to build, assemble, design, and recover hardware and software; to demystify technology... and at the same time, to incentivise multidisciplinary teamwork and learn to communicate... in order to socialise the experience and be able to understand what the other person wants.” In this sense, it is noteworthy that e-waste is used to teach how to create new devices in the workshops.

8 [www.crecoel.com](http://www.crecoel.com)

9 [www.werbas.com](http://www.werbas.com)

10 [iie.fing.edu.uy/ense/asign/progarte](http://iie.fing.edu.uy/ense/asign/progarte)

- *XO waste management and recycling:* The Logistics Department of Plan Ceibal, which belongs to the Technological Laboratory of Uruguay (LATU),<sup>11</sup> is currently working with Plateran S.A. – a logistical services company – to deal with the problems that arise from recycling the XO laptops. Among other things, the department is analysing the amount of e-waste that is being generated and will be generated in the future as a result of the children damaging them. The intention is to reuse all usable parts in the repair of the laptops, and increase the stock of spare parts through dismantling. In this way, the initiative aims to minimise future purchases of new spare parts.
- *Other recycling programmes:* Although still at an informal level, new recycling initiatives have started. For instance, the cooperative Reciclo PC, which is similar to Crecoel, is currently taking its first steps towards training its workers, as well as improving the quality of the recycling process. The problem faced by this cooperative is the lack of a fixed and secure place to develop its activities.
- Re-educating and motivating consumers regarding e-waste is essential when it comes to shared responsibilities. Even though this is not a major problem in Uruguay yet (since before throwing away an obsolete device in general people try to resell or donate it), ICT users must be aware of the fact that they are a part of the recycling process. As a consequence, policies aiming to improve the relations between businesses and final users of technology should be implemented, as well as generating synergies that motivate users to recycle.
- Finally, we think that if it is possible to plan for the updating of access infrastructure – through the Digital Agenda of Uruguay, developed by the e-Government Agency for the Information and Knowledge Society<sup>12</sup> (AGESIC) – it should also be possible to include an e-waste management plan in this process for discarded technology. ■

## Action steps

- It is a priority to create awareness of e-waste at an institutional level, whether through the media or through formal education institutions, especially primary schools. We must remember that the recycling and treatment of technological waste in Uruguay, even though it has become more important over the last years, is still a new problem.
- It is necessary to encourage political will to approve the bill that deals with e-waste, as well as to provide support for waste separation, especially for small initiatives and social organisations. These initiatives often find it very difficult at first to cover expenses such as rent and tools to carry out the waste separation work in optimal health conditions.

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<sup>11</sup> latu21.latu.org.uy/es

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<sup>12</sup> www.agesic.gub.uy

# GLOBAL INFORMATION SOCIETY WATCH 2010

**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  
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