

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)

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Introduction

Electronic waste (e-waste) is the fastest growing type of waste in Europe, with only 19% of it being recycled. This has led to questionable disposal practices for the remaining waste and illegal exports outside of Europe.¹ A large amount of Europe's e-waste is currently exported to developing countries globally, where it is often dealt with in conditions dangerous to both human health and the environment. For instance, the European Environmental Bureau (EEB), Europe's largest federation of environmental citizens' organisations, has long pressed for the European Union (EU) to seize opportunities for improving the management of e-waste in the revision of the Waste Electrical and Electronic Equipment (WEEE) Directive. In June 2010, the Environment Committee of the EU Parliament accepted amendments to the directive. Improved legislation should increase the collection target and improve the registration and reporting by all actors along the waste chain.

Policy and legislative context

The Waste Management Strategy of the Republic of Croatia (OG 130/05) and the Waste Management Plan of the Republic of Croatia (OG 85/07) govern the management of different types of waste, including e-waste, for the period 2007-2015.

In Croatia, separate collection systems have been set up for special categories of waste (batteries and accumulators, e-waste, end-of-life-vehicles, waste oils and some categories of non-hazardous waste). The Ministry of Environmental Protection, Physical Planning and Construction (MEPPPC) has transposed most of the EU waste directives into national legislation, and the Croatian Environment Agency (CEA) has gradually established the Waste Management Information System (WMIS) and improved the availability of waste data. However, the level of participation in the waste management information system is low.²

E-waste disposal costs are borne by manufacturers and importers through charges payable into the Environmental Protection and Energy Efficiency Fund (EPEEF) when placing the product on the market. The EPEEF pays indemnities to waste collectors and processors for e-waste quantities collected and treated. If there are no technical and workforce capacities in Croatia for treatment and recovery of components of e-waste or for the treatment of fraction, the treatment operator has to export them from Croatia at its own expense and deliver proof to the Fund that the waste

exported for recovery or disposal has been recovered or disposed of properly.

E-waste is collected by private companies that won concession rights in a public tender. Waste collection service in cases where the fee has been paid is completely free for waste holders such as households.

Croatia, as a candidate country for membership of the EU,³ is required to fully harmonise national legislation with the *acquis communautaire*.⁴ The legislative framework for waste management in Croatia comprises the Waste Act (OG 174/04, 111/06, 60/08 and 87/09) and bylaws that are focused on special categories of waste.⁵

In line with the Accession Partnership,⁶ Croatia completed the transposition of Directive 2002/96/EC on e-waste in 2007, with the adoption of an ordinance on e-waste devices (with amendments in 2008 and 2009).

In line with the ordinance,⁷ e-waste is:

- End-of-life or discarded electrical and electronic equipment including assemblies and component parts from economic activities (industry, trade and craft, etc.).
- End-of-life or discarded electrical and electronic equipment generated in households or in manufacturing and/or catering industries when by type and quantity similar to WEEE from households.

The ordinance regulates the obligations and responsibilities of producers of electrical and electronic appliances and equipment, the manner of marking them, the types and amounts of fees paid by those who are subject to the payment of fees, the method and deadlines for calculation and payment of fees, the amount of fees paid to persons authorised for the collection, treatment and recovery of the items when they become e-waste, and other issues related to management of e-waste.⁸

The application of the EU directive

Advances in technology, together with the shortening lifespan of electronic goods, has led to an increase in the volume of e-waste being generated every year. An

1 www.eeb.org/index.cfm/news-events/news/eu-paves-the-way-for-better-e-waste-management/

2 Republic of Croatia, Waste Management Plan 2007-2015, OG 85-207. www.mzopu.hr/doc/WASTE%20MANAGEMENT%20PLAN%20OG%2085-207.pdf

3 On 18 June 2004 the status of a candidate country for EU membership was granted to Croatia.

4 The body of EU legislation which candidate countries must adopt to become EU members.

5 www.un.org/esa/dsd/dsd_aofw_ni_ni_pdfs/NationalReports/croatia/waste.pdf

6 Accession partnerships are a pre-accession strategy instrument which determines the candidate countries' particular needs to which pre-accession assistance should be targeted.

7 www.mzopu.hr/doc/Ordinance_on_the_management_of_waste_%20electrical%20and_electronic_appliances_and_equipment_OG_74-07.pdf

8 Ibid.

estimated 55,000 to 60,000 tonnes of e-waste are generated in Croatia each year. These quantities grow by an estimated 10% annually.⁹

The target for the separate collection of e-waste was 4 kg per inhabitant per year by 31 December 2008, with an appropriate increase in the following years. This goal was not realised in 2008, when only 1.29 kg of e-waste per inhabitant was collected.¹⁰

According to EPEEF data, there were 73,004.09 tonnes of e-waste produced or imported into Croatia in 2008. As of 3 December 2009, 5,718.56 tonnes of e-waste were collected and 5,420.66 tonnes were processed. A total of 876.28 tonnes of e-waste were exported.

Of the e-waste collected, 35% was from households and 65% from other sources. Almost 50% of the e-waste collected was composed of large household appliances, 30% was obsolete IT equipment and 13% was small household appliances and other consumer equipment. Most of the e-waste was collected in the City of Zagreb (the capital of Croatia) as well as Zagreb County (44.5%), Primorsko-goranska County (11.4%) and Dubrovnik-neretva County (8.6%).

According to the EPEEF data, 26,201.34 tonnes of e-waste were produced or imported into Croatia in 2007, 359,781 tonnes were collected and 169,144 tonnes processed.¹¹ E-waste export in 2007 was not reported.

If the authorities would like to boost the relatively low rates of e-waste collection, they should consider communicating with consumers, both households and enterprises, as a critical function. According to the 2009 data on usage of ICTs in households and by individuals, 55% of households have PCs and 82% have mobile phones,¹² while the 2009 data on ICT usage in enterprises shows that 98% of enterprises use computers.¹³

Croatia has 2,244,400 internet users (estimated in mid-2009), making up a 50% penetration rate, according to the International Telecommunication Union (ITU). Internet penetration in Croatia is the highest in the Balkans region, and is more in line with levels found in the Eastern European EU countries. Broadband penetration is rising, driven predominantly by the incumbent, Croatian Telecom, which plans to use the platform to offer triple-play services. Mobile penetration in Croatia is among the highest in the region, estimated at 137.4%.¹⁴ According to Croatian Telecom, users discard their mobile phones after only one year of use.

According to the director of one licensed e-waste treatment operator, approximately 100,000 PCs are sold in Croatia every year, while the number of mobile phones sold

is three or four times higher.¹⁵ In three to four years, this equipment becomes e-waste. In 2010, e-waste operators noticed significant increases in discarded TVs due to the country's transition to digital broadcasting, which should be completed by the end of 2010.

Householder participation in e-waste management programmes is fundamental. Therefore campaigns that will educate consumers and raise awareness of electronic recycling have to be implemented systematically. Out of 277 projects on the WMIS projects database, only one addressing e-waste, called Eco Mouse, was found. The aim of Eco Mouse was, among other things, to raise awareness of e-waste. It was implemented in Varaždin County in 2008 by a not-for-profit ecological association called Franjo Koš ec. However, there were activities by other environmentalist NGOs, such as Sunce and Zelena Istra, that were focused on raising awareness of the proper way to discard used batteries. Leading mobile service providers occasionally organise awareness-raising campaigns and collect obsolete mobile phones as well.

In Croatia, the targets set for e-waste were the recovery of 70-80% and the recycling of 50-80% by 31 December 2008.¹⁶ Producers and importers of ICTs and e-waste collection operators, recyclers and exporters must report to the EPEEF as well as to the Croatian Environment Agency. The forms to be filled in by treatment operators have a section on "treated"¹⁷ e-waste and "recovered"¹⁸ e-waste, but do not have a section on recycling.¹⁹ Therefore it is not possible to assess whether targets are met or not.

The Croatian Environment Agency has warned that e-waste importers and recyclers do not report regularly to the Agency. For instance, in 2008, 1,526 companies submitted their reports to the Fund while only 176 companies submitted reports to the Agency. Even though the present system for monitoring waste flows regulates the collection of all data needed for a quality evaluation²⁰ of the current situation, the existing data are deficient and the quality of part of the data is questionable.²¹

15 www.vjesnik.hr/html/2010/06/01/Clanak.asp?r=tem&c=1

16 Article 5, Ordinance on the Management of Waste Electrical and Electronic Devices. www.mzpu.hr/doc/Ordinance_on_the_management_of_waste_%20electrical%20and_electronic_appliances_and_equipment_OG_74-07.pdf

17 "Treatment" means recovery or disposal operations, including preparation prior to recovery or disposal. Definitions we use here are based on the revised Directive 2008/98/EC.

18 "Recovery" means any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy, in accordance with the revised Directive 2008/98/EC.

19 "Recycling" means any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes, in accordance with the revised Directive 2008/98/EC.

20 Some discrepancies in waste treatment definitions have been observed due to the revision of the EC Waste Framework Directive (WFD, 2008/98/EC). A different definition for recycling is established in Article 3 (17) of the new Waste Framework Directive (WFD, 2008/98/EC). All references to the old Waste Framework Directive (WFD) will be automatically replaced with new references when the new WFD is applied (end of 2010). As a result, references to the definitions of "recovery" and "disposal" in the WEEE Directive will be replaced. However, the definition for "recycling" in the WEEE Directive will remain as it currently is until it is formally harmonised with the definition of the WFD.

21 Croatian Environment Agency www.azo.hr

9 Republic of Croatia, Waste Management Plan 2007-2015, op. cit.

10 Croatian Environment Agency, Report on WEEE 2008. www.azo.hr/IZVJESCAOELEKTRICNOM

11 Croatian Environment Agency, Report on WEEE 2007. www.azo.hr/IZVJESCAOELEKTRICNOM

12 Croatian Bureau of Statistics www.dzs.hr/Eng/Publication/2009/2-1-9_1e2009.htm

13 Croatian Bureau of Statistics www.dzs.hr/Eng/Publication/2009/2-1-8_1e2009.htm

14 Croatian Telecom www.l.ht.hr/eng

Action steps

As explained in the Republic of Croatia Waste Management Plan (2007-2015), no integrated waste management system can be implemented if viewed from a techno-economic perspective only, and if the role of environmental education is neglected.

For a long time it was thought that a significant part of production process issues associated with the environment would be solved with the use of advanced technologies, but today it is clear that this is not the case. The assumption that new technologies enable simpler and more cost-effective production and significantly reduce the negative impacts of the production process on the environment is correct. However, this leads to a rebound effect.²²

Eco-education and eco-culture are interrelated and have a cause-and-effect relationship. Ecological education is intended to help individuals develop new perceptions and build up new values that will encourage them to change their behaviour.²³

The recently adopted national Sustainable Development Strategy (2009)²⁴ includes a thematic chapter exclusively dealing with sustainable consumption and production (SCP).²⁵ Although SCP issues are not included in official educational curricula, an educational campaign for teachers has been organised by the Croatian Education and Teacher Training Agency in order to inform teachers on sustainable consumption and production, as well as to promote the United Nations Environment Programme (UNEP) “resource kit” on these issues.²⁶

All stakeholders should work together to raise awareness among the public, ensuring that e-waste and particularly battery recycling becomes regular practice in households. In the case of batteries, it is important to ensure in-store take-back programmes and that a number of other high-traffic locations offer collection facilities. Even though most e-waste is generated in large urban areas, similar services should be available throughout the country. ■

22 Rebound effect: by accelerating and simplifying the production process, products become cheaper and therefore more available, increasing their consumption and, consequently, the production itself. This in turn leads to generating larger quantities of waste and larger total consumption of resources used in production while products, due to increased production intensity, exponentially lose quality and their life cycle is reduced.

23 Republic of Croatia, Waste Management Plan 2007-2015, op. cit.

24 www.mzopu.hr/doc/Strategy_for_Sustainable_Development.pdf

25 Sustainable production and consumption are aimed at satisfying basic human needs and improving the quality of life in such a way so as to minimise the use of natural resources, generation of toxic substances, emissions into the air, water and soil, and to prevent or reduce the generation of waste at the point of origin throughout the whole product life cycle in order not to compromise the needs of future generations.

26 www.un.org/esa/dsd/dsd_aofw_ni/ni_pdfs/NationalReports/croatia/scp.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).

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2010 Report
www.GISWatch.org

