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## Discarded Electronics Mismanaged Within Europe Equals ~10 Times the Volume of E-Waste Exported

*UNU, WEEE Forum, INTERPOL and partners conclude 2-year inquiry; Report recommends ways to better enforce laws, monitor e-waste trade; Cooperation vital to make stringent EU regulations function*

Mismanagement of discarded electronics within Europe involves a volume 10 times that of e-waste shipped to foreign shores in undocumented exports, according to a comprehensive 2-year investigation into the functioning of the used and waste electronics market.

The European Union-funded project, Countering WEEE (waste electrical and electronic equipment) Illegal Trade (CWIT), was undertaken by INTERPOL, United Nations University

(UNU), United Nations Interregional Crime and Justice Research Institute, the WEEE Forum, the Cross Border Research Association, Zanasi & Partners and Compliance and Risks..

The project found that in Europe just 35% (3.3 million tonnes of 9.5 million tonnes) of used (but still functioning) and waste electronics and electrical equipment discarded by companies and consumers in 2012 wound up in official collection and recycling systems.

The other discarded electronics - 6.2 million tonnes in all - was either exported, recycled under non-compliant conditions or simply thrown in waste bins.

The study estimates 1.3 million tonnes of discarded electronics departed the EU in undocumented mixed exports, of which an estimated 30% (about 400,000 tonnes) was electronic waste; and 70% functioning equipment.

More than 10 times the 400,000 tonnes of e-waste exported - some 4.7 million tonnes - was wrongfully mismanaged or illegally traded within Europe itself. And, the research found, even in the few EU member states with robust, effective reporting systems, monitoring of de-pollution efforts and up-to-standard treatment conditions are not always securely in place.

The widespread theft of valuable components such as circuit boards and precious metals from waste electronics results in a serious loss of materials and resources for compliant waste processors in Europe. This annual estimated loss is valued at between €800 million and €1.7 billion (US \$877 million to \$1.86 billion).

Avoided costs of compliance with EU regulations (mainly de-pollution), is estimated at €150 million to €600 million (US \$165 million to \$658 million) annually.

According to Pascal Leroy, Secretary-General of the WEEE Forum: "Electronic and electrical equipment represents the fastest-growing flow of the world's waste streams. The weight of Europe's mismanaged e-waste alone equals that of a 10 meter high brick wall stretching from Oslo to the toe of Italy. Valuable metals and components, including critical raw materials, need to be safely captured and recycled to the fullest possible extent."

A UNU study last year said toxic materials in the world's annual 41.8 million tonnes of discarded electronics include lead in glass (an estimated 2.2 million tonnes), batteries (300,000 tonnes), mercury, cadmium, chromium and ozone-depleting substances (CFCs, 4,400 tonnes). Health problems associated with such toxins include impaired mental development, cancer and damage to livers and kidneys.

## **Harmonizing definitions, legislative frameworks, penalties**

National surveys by INTERPOL show that on average each year only 2,000 tonnes (0.5%) of EU e-waste exports were reported as having been stopped in operations leading to some form of sentencing, administrative fines or civil penalties.

The report notes that 30% of EU members have not implemented the stringent regulations required by the latest version of the WEEE directive and that typical national penalties for infractions at the national level are not high enough to have deterrent value.

The report calls for better guidelines and formal definitions to help authorities distinguish used, non-waste electronics and electrical equipment from e-waste (equipment coming out of use or in post-use storage destined for collection or disposal).

The experts also suggest harmonizing penalties to simplify enforcement in trans-border cases, and to prevent criminals from shifting activities to lower-risk countries within the EU. As matters stand, prison and financial penalties for illegal e-waste trade vary greatly.

In addition to mismanagement, the CWIT project revealed cases of fraud, tax evasion and money laundering, demonstrating the availability of financial crime charges in dealing with offences.

## **Criminal Activities**

Case analysis of illegal activities reveal vulnerabilities throughout the used and waste electronics management chain: collection, consolidation, brokering, treatment and transport. Offences included inappropriate treatment and violations of EU regulations, theft, lack of required licenses or permits, smuggling and false load declarations.

Organized crime is involved in illegal waste supply chains in some countries, the researchers concluded, but suspicions of its heavy involvement are not corroborated by current information. "Increased intelligence collection and exchange will lead to a more comprehensive understanding" of this aspect of the issue, researchers say, adding that the actors observed in e-waste crime are mostly individual traders and companies, cooperating in loosely organized networks, committing ad-hoc offences.

According to David Higgins, Head of Environmental Security Sub-Directorate of INTERPOL and the project coordinator: "As a profitable activity, with low risk of detection, this form of illicit trade is vulnerable to exploitation, which governments should prevent by employing a balanced mix of administrative and criminal penalties reflecting the value of illicit profits, as well as the large environmental and social harm involved. The law enforcement community needs to be more pro-active with illicit e-waste investigations, complemented by strengthened prosecution and sentencing."

## Recommendations

The CWIT project recommendation a multi-stakeholder approach and offers a short-, medium- and long-term implementation roadmap to reduce illegal trade.

Specifics include two new systems to foster inter-agency and international cooperation, as well as the exchange, storage and analysis of information:

- \* An Operational Intelligence Management System to promote and support intelligence-led enforcement, advance collective knowledge about the offences related to the illegal trade and disposal of WEEE, identify the risks associated with organized crime groups (OCG) and transnational organized crime groups (TOCG), and recommend actions.

- \* A National Environmental Security Task Force (NEST), formed by different authorities and partners, to enable a law enforcement response that is cooperative, collaborative and coordinated at national, regional and international levels, led by a team of specialized experts. The NEST team proposed is needed to tackle existing weaknesses in information sharing, identify significant criminal threats and trends and coordinate high profile investigations and national operations. The NEST will also act as an international gateway, connecting their respective country to the wider, global environmental security strategy.

The report also recommends dedicated training of judges and prosecutors. Many of the CWIT partners will continue their work in a EU funded project called [DOT.COM](#) Waste, expanding the gathered experience for training law enforcement authorities and prosecutors covering all waste types.

- \* An EU-wide ban on cash transactions in the scrap metal trade

- \* Mandatory treatment of WEEE according to approved standards, with a certification system in place and mandatory reporting of treatment and de-pollution results to the European Commission, in particular including unequivocal reporting on de-pollution (for example, the capture of hazardous substances like mercury in flat screens and CFC's from fridges).

- \* Full transposition and timely implementation of the Recast WEEE Directive and harmonized guidelines for distinguishing waste from non-waste.

- \* More targeted, more upstream investigations, inspection systems and national monitoring

- \* Improving the involvement and awareness of users in the early stages of the e-waste chain

Jaco Huisman of United Nations University, Scientific Coordinator of the CWIT project, concludes: "Making policies and implementing them successfully is a difficult process, in particular when statistics and market understanding are missing. The unique value of the project is the simultaneous provision of both facts and market analysis, as well as detailed scrutiny of the

legal framework and the law enforcement chain. The dedicated roadmap developed for improving collection and treatment of e-waste in Europe will be a valuable result for all parties involved. While the work relates to Europe, it should also be of interest elsewhere. The US, for example, has not ratified the Basel convention, and its e-waste is subject to far less oversight than it is in Europe."

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## Comments

### **David Malone, UN Under Secretary-General and Rector, United Nations University:**

*"This report offers important new insights into an issue of growing economic, health and environmental concern. Effectively and safely capturing and recycling the valuable resources in those discarded electronics requires the active communication, collaboration and cooperation of many players: producers, traders and recyclers, legislators and law enforcers, academics and non-governmental experts."*

### **Dr. Philip Morton, Chief Executive, REPIC, and President, WEEE Forum:**

*"Reaching EU's e-waste targets is a big challenge, and every citizen plays a critical role. Unless consumers and other market actors retire their small equipment at collection points and refrain from throwing it in the waste bin, there will be little to collect. We need better communication, greater awareness and effective ways to improve behaviour throughout the chain. Building on the CWIT UNU WEEE Stocks and Flows Model, our new EU-funded project (2015-17), called ProSUM, will inventory secondary raw materials in the urban mine and mining wastes."*

### **Dr. Markus Müller, Research Programme Officer, European Commission Research Executive Agency**

*"Environmental crime is an increasingly serious threat for the world we live in as it adversely affects both our natural resources and societies. Based on a deep understanding of the legal and illegal streams of electronic waste, the 312605 CWIT project, financed under the umbrella of the FP7 security research programme, has succeeded in formulating concrete recommendations to improve the compliance with existing recycling policies and to prevent criminal activities based on non-compliant treatment or traffic of e-waste. By disseminating these recommendations to the various stakeholder groups comprising electronic manufacturers, recycling companies, law enforcement agencies and policy makers the CWIT consortium will make a valuable contribution towards a more secure and sustainable society."*

### **Norbert Zonneveld, Executive Secretary, European Electronics Recyclers Association and Member of the CWIT project Advisory Board:**

*"Illegal and non-compliant activities are disruptive for the proper functioning of the market and cause huge economic losses for responsible actors. It gnaws at the credibility of legal execution while the environment is suffering."*

**Rolph Payet, Executive Secretary, Secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal**

*"The environmentally sound management of electronic and electrical wastes is critical to ensuring that human health and the environment are protected from the negative impacts associated with the hazards e-waste may contain. It is of paramount importance that all Parties to the Basel Convention, including all the EU member States, enact appropriate legislation to implement and enforce the Convention, including measures to prevent and punish conduct in contravention to it."*

**Dr. Juha Hintsa, Founder and Executive Director, Cross-Border Research Association**

*"The CWIT consortium has identified a whole spectrum of tangible measures and actions to mitigate the risk of crime and other non-compliant activities in the WEEE chain: from policy and regulatory improvements to better operational and monitoring procedures; from awareness building and training to enhanced information management and exchange; and from exploitation of new technologies to improvements in prosecution approaches and priorities. This is the first supply chain security project where I have witnessed such a holistic research approach, revealing important gaps and tangible improvement opportunities across the board - for the policy makers, the law enforcement agencies and the WEEE chain companies to act on, during the coming months and next couple of years."*

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**Project partners:**

Compliance & Risks, [www.complianceandrisk.com](http://www.complianceandrisk.com)

Cross-Border Research Association, [www.cross-border.org](http://www.cross-border.org)

INTERPOL, [www.interpol.int](http://www.interpol.int)

United Nations Interregional Crime and Justice Research Institute, [www.unicri.it](http://www.unicri.it)

United Nations University, [www.unu.edu](http://www.unu.edu)

Waste of Electrical and Electronic Equipment Forum, [www.weee-forum.org](http://www.weee-forum.org)

Zanasi & Partners, [www.zanasi-alessandro.eu](http://www.zanasi-alessandro.eu)

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The CWIT summary report is publicly available from Aug. 31 at [www.cwitproject.eu](http://www.cwitproject.eu)

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***Links:***

- INTERPOL Environmental Security Sub-Directorate: <http://www.interpol.int/Crime-areas/Environmental-crime/Environmental-crime>

- WEEE Forum, Key Figures: <http://www.weee-forum.org/services/key-figures-platform>

An introduction to UNU and e-waste: <http://bit.ly/167gga7>

- Global E-waste Amounts: <http://www.step-initiative.org/step-e-waste-world-map.html>

- Secretariat of the Basel Convention: <http://www.basel.int>

- DG Environment/ WEEE: [http://ec.europa.eu/environment/waste/weee/index\\_en.htm](http://ec.europa.eu/environment/waste/weee/index_en.htm)

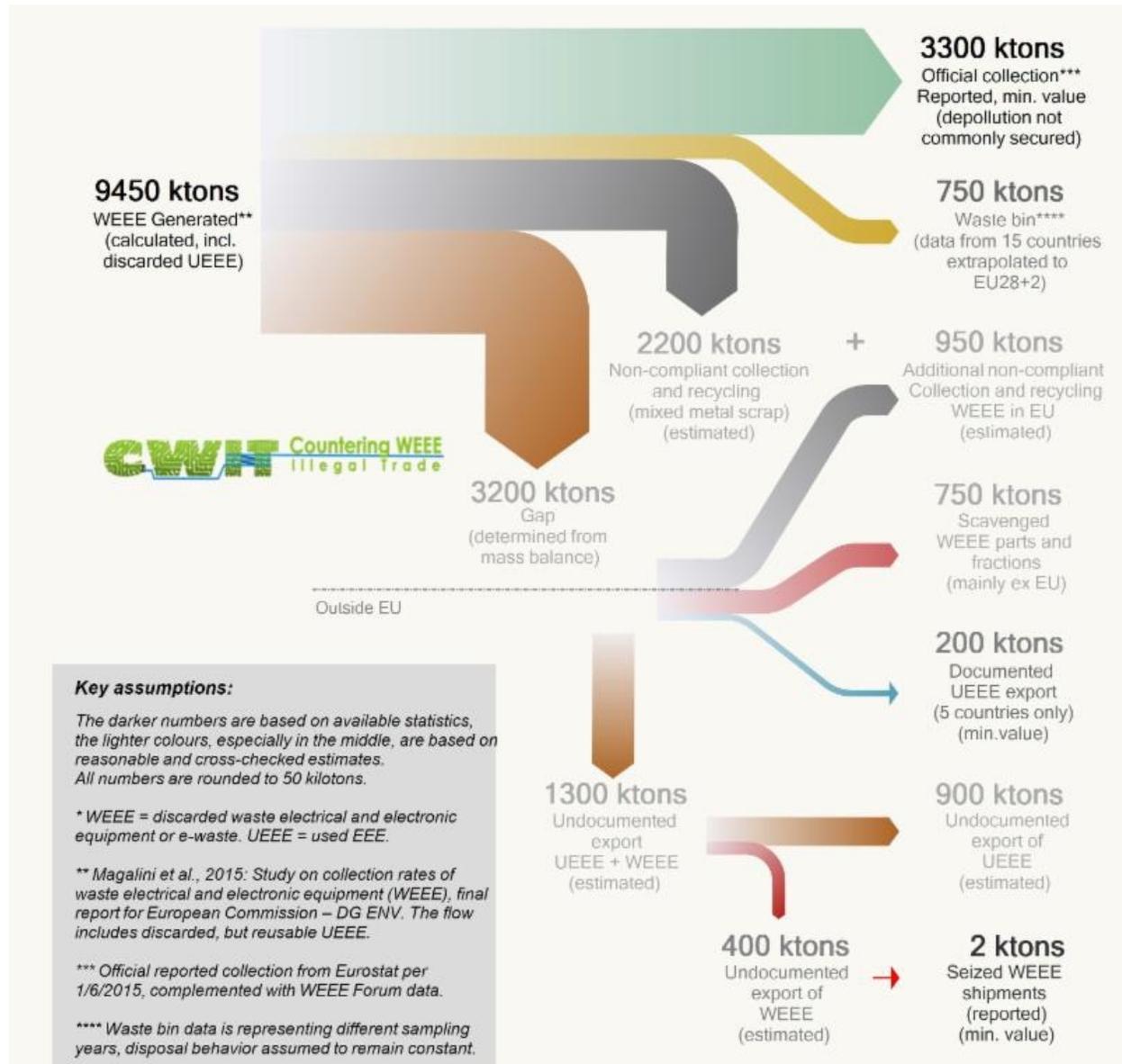
- C2P: <http://www.complianceandrisk.com/>

- ProSUM: <http://www.weee-forum.org/prosum-0>

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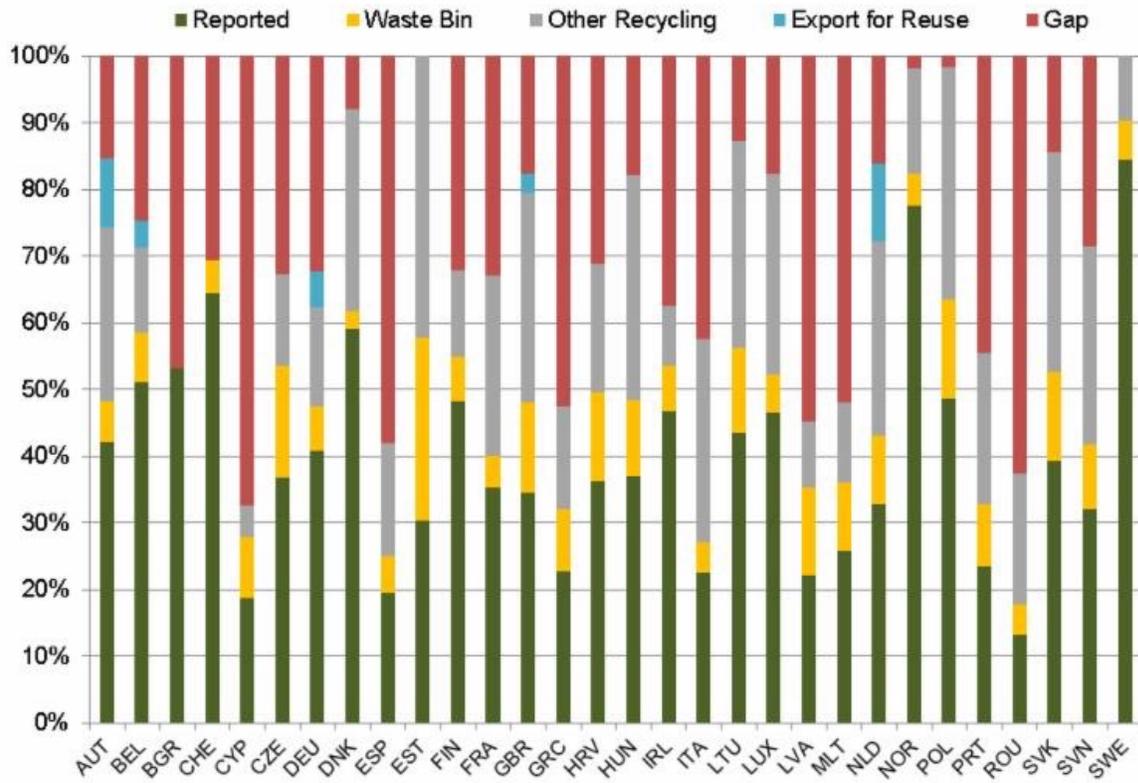
Annex

What happens to Europe's discarded electronics and electrical equipment:



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