Countering WEEE Illegal Trade Summary Report

Market Analysis
Legal Analysis
Crime Analysis
Recommendations roadmap

Final draft before formatting
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This document summarises the key findings from the CWIT project. Individual project deliverables containing all details are subject to final review by the end of October 2015. Some deliverables will be restricted to law enforcement agencies only.
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EXECUTIVE SUMMARY

The research undertaking in the Countering WEEE Illegal Trade (CWIT) project found that in Europe just 35% of e-waste discarded by companies and consumers in 2012 ended up in officially reported amounts of collection and recycling systems. The other 65%, 6.15 million tons, is either exported, (1.5 million tons), recycled under non-compliant conditions in Europe (3.15 million tons), scavenged for valuable parts (0.75 million tons) or simply thrown in waste bins (0.75 million tons). 1.3 million tons departed the EU in undocumented exports all susceptible to be classified as illegal shipments dependent on the often poor quality of the shipment in relation to existing guideline to differentiate used equipment from waste. Since the main economic driver behind these shipment is reuse and repair and not dumping of e-waste, of this volume an estimated 30% is e-waste. The latter finding matches with extrapolated data from IMPEL on export ban violations, indicating 0.25 million tons as a minimum and 0.7 million tons as a maximum of illegal e-waste shipments.

Interestingly, some ten times that amount (4.65 million tons) is wrongfully mismanaged or illegally traded within Europe itself. The widespread scavenging of both products and components and theft of valuable components such as circuit boards and precious metals from the e-waste means that there is a serious economic loss of materials and resources directed to compliant e-waste processors in Europe.

Better guidelines and formal definitions are required to help authorities distinguish used, non-waste electronic and electrical equipment from waste (equipment coming out of use or in post-use storage destined for collection or disposal). Penalties must be harmonised to simplify enforcement in trans-border cases.

Organized crime is involved in illegal waste supply chains in some member states, but suspicions of its involvement are not corroborated by current information for the e-waste part of this. Increased intelligence will lead to a more comprehensive understanding of the issue.

Importantly, case analysis of illegal activities outlines that vulnerabilities basically exist throughout the entire WEEE supply chain: from collection, consolidation, brokering and treatment to transport. Offences include inappropriate treatment and violations of WEEE trade regulations, theft, lack of required licenses/permits, smuggling and false load declarations.

More coherent multi-stakeholder cooperation is found essential. For this purpose, a short, medium and long term recommendation roadmap is developed to reduce illegal trade with specific assignments for individual actors to improve national and international cooperation to combat illegal WEEE trade:

- Improving involvement and awareness of users in the early stages of the e-waste chain;
- An EU-wide ban on cash transactions in the scrap metal trade;
- Mandatory treatment of WEEE according to approved standards, and dedicated mandatory reporting of treatment and de-pollution results also for the officially reported amounts which are still missing for the majority of member states;
- More targeted, more upstream inspection systems and national monitoring;
- An Operational Intelligence Management System to support intelligence-led enforcement and identify the risks associated with organized crime groups;
- 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 level; and
- Dedicated training of judges and prosecutors.
1 INTRODUCTION

The Countering WEEE Illegal Trade (CWIT) project provides a set of recommendations to the European Commission that are aimed at assisting various stakeholders in countering the illegal trade of Waste Electrical and Electronic Equipment (WEEE), also known as ‘e-waste’, within and from Europe. Funded by the European Union’s Framework Programme 7, this two-year security research project brought together a unique group of experienced professionals from WEEE industries, enforcement agencies, international organisations, lawyers and academia and consultants specialised in supply chain security. The project commenced in September 2013 and concluded in August 2015.


WEEE contains hazardous substances such as mercury and cadmium. Therefore illegal WEEE handling, often in poorer countries, leads to huge health issues and environmental pollution. At the same time, EU member states are losing a vast amount of rare earth metals and other important minerals due to increasing illicit activities, poor compliance rates, and limited enforcement activities in WEEE.

These issues called for increased attention and enhanced enforcement in the context of WEEE trade, transport and treatment. The CWIT project was established to identify the policy, regulatory, procedural and technical gaps as observed in today’s business environment, and to suggest tangible improvements. CWIT aims to assist WEEE-related industries and governmental policy and enforcement actors, its two main target audiences, to enhance capabilities to seriously reduce illicit activities around WEEE in the future.

More specifically, the outputs of the CWIT project comprise a set of recommendations related to the European legal and policy framework, taking into account the objectives and constraints of all key government and business stakeholders. The project also provides a roadmap to assist in the implementation of all recommendations and ideas on future research and technologies that would contribute to the reduction of illegal trade of WEEE.

In addition, the CWIT project established a multi-layer platform for information exchange among the various actors involved in countering WEEE illegal trade. To remind the key stakeholders who have also greatly contributed to the project: EU-level policy makers and regulators; national law enforcement agencies, including police, customs and environmental inspection agencies; and WEEE treatment and electronics sectors and industries.

In achieving these objectives, the CWIT consortium, among other tasks:

- Estimated the volume of WEEE generated in Europe;
- Identified actors involved in the WEEE export market;
- Examined the legal framework related to WEEE and its implementation within and outside the EU;
- Analysed the involvement of organised crime in the global distribution of WEEE; and,
- Developed an understanding of the methods, destinations and routes used to carry out illicit WEEE shipments.

The CWIT project Coordination and Support Action was designed in 7 Work Packages (WP), each with identified tasks, deliverables and leading partner. A relationship between WPs was developed as well and highlighted in the outcomes. A brief description of the Work Packages:
WP1 – Management and Coordination (INTERPOL)

The objective of Work Package 1 was to coordinate and monitor the progress of the CWIT project and to ensure the achievement of the project objectives. A High-Level Advisory Board was set up to provide advice and support to the Consortium (see: http://www.cwitproject.eu/advisory-board/).

WP2 – WEEE Actors and Amounts (WEEE Forum)

The objective of Work Package 2 was to produce an overview of the European WEEE industries and the relevant actors and parties in these industries with a particular focus on the end-users involved in the fight against the illegal trade of WEEE. Activities performed: Mapping of all the relevant stakeholders; analysis of the distribution of WEEE; gathering and analysis of existing initiatives, projects and studies. All this information was made available to all project partners via the C2P information management system and served as input to all the other work packages, (‘knowledge database’).

WP3 – Legal Framework (Compliance and Risks Ltd.)

Work Package 3 built on the intelligence gathered in WP2 and its objective was to provide a global overview of the current legislation in place at international, European, and national levels. By engaging with stakeholders through questionnaires, WP3 comparatively evaluated different national political and regulatory environments on WEEE. WP3 also delivered input for recommendations on best policies that support actions countering illegal trade of WEEE.

WP4 – Market Assessment (United Nations University)

The aim of Work Package 4 was to create an up-to-date and accurate picture of the WEEE operators and the industry that is built around the trade in WEEE. Based on the information and identification of WEEE operators in WP2, this work package gathered all key facts and figures on the electrical and electronic (EEE) amounts place on the EU market and resulting WEEE flows.

An estimation of the total volume of WEEE generated in Europe was performed and a conceptual model of the WEEE stream including lifespans and destinations of discarded equipment was created. The resulting market assessment described all reported flows and the resulting gap analysis on missing quantities was the starting point for the crime analysis scheduled in WP5.

WP5 – Crime Analysis (INTERPOL)

The objectives of Work Package 5 was to conduct a comprehensive study of the involvement of organized crime groups in the global distribution of WEEE, identify the specific criminal activities and modus operandi associated with illegal WEEE shipments, and provide an estimation of the volume of
WEEE that is generated and illegally traded. Law enforcement and compliance gaps have been be analysed and a system of best practices to mitigate the illegal trade in WEEE was developed.

WP6 – Recommendations (Cross-border Research Association)
The objective of Work Package 6 was to provide a set of recommendations to policy makers, compliance and law enforcement authorities and industries. WP6 aims to heighten awareness of the WEEE issue, facilitate discussions between stakeholders and increase the resilience of the WEEE industry against illegal trade. The recommendations are being delivered in the form of reports specifically tailored to the target audience. A strategic roadmap was created to equip the European Commission with the knowledge to guide future research and technology development

WP7 – Dissemination (WEEE Forum)
The objective of Work Package 7 was to ensure that the results of the project have a lasting and permanent impact on European society and that many international organizations can use these results. The dissemination has been achieved through a range of traditional and new media strategies.
2 MARKET ANALYSIS

One of the objectives of the CWIT project is to construct an accurate picture of the WEEE trading flows for Europe and comprehensive facts and figures on the WEEE volumes. Understanding the market dynamics as well as economic drivers and impacts of this are instrumental for intervening in the trading chain to reduce illicit trade and for delivering market intelligence to enforcement agencies. The research focused on the analysis of:

- The WEEE actors and typology of the WEEE chain;
- The estimation of the volumes of WEEE generated and its destinations; and
- The economic drivers behind illicit trade.

2.1 The WEEE chain

A generic typology provides a standardised way of mapping WEEE flows and associated market behaviour. However, the actual market flows between various actors are very country specific. There is obviously a high heterogeneity in terms of size, number and types of actors involved in these flows as visualized in Figure XX. More details can be found in Deliverable 2.1 Mapping of WEEE actors.

<table>
<thead>
<tr>
<th>Discard</th>
<th>Collection</th>
<th>Consolidation and sorting</th>
<th>Treatment</th>
<th>Final destination</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reuse shops</td>
<td>Preparation for re-use</td>
<td>Reported pre-processing</td>
<td>Commodity</td>
<td>Market IN/OUT EU</td>
</tr>
<tr>
<td>Retailer collection</td>
<td>Retail distribution center</td>
<td>Complementary pre-processing</td>
<td>Components</td>
<td>Products</td>
</tr>
<tr>
<td>Civic amenities</td>
<td>Sorting centers</td>
<td>End processing</td>
<td>Market IN/OUT EU</td>
<td></td>
</tr>
<tr>
<td>Other collection points</td>
<td>Metal scrap trading</td>
<td>Informal pre-processing</td>
<td>National shipment</td>
<td></td>
</tr>
<tr>
<td>Metal scrap collection</td>
<td></td>
<td></td>
<td>Transboundary shipment</td>
<td></td>
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<tr>
<td>Informal actors collection</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Waste bin</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Figure xx, Actors in the WEEE chain

To better understand these actors and the many different data and literature sources, the Consortium developed two support tools:

- An online database of key actors per country, according to public available sources and official registers, providing an EU overview of the quantity and complexity of interested parties: [http://www.cwitproject.eu/reports-downloads/database-ewaste-stakeholders](http://www.cwitproject.eu/reports-downloads/database-ewaste-stakeholders)
- The LibraWEEE ([http://www.libraweee.eu/](http://www.libraweee.eu/)) where a compilation of the 179 most relevant documents, studies and initiatives dealing with or containing information on WEEE flows, market behaviour, guidelines and support documents for policy makers and enforcement agencies are publicly available. The repository also allows for additional contributions. More details can be found in Deliverable 2.4 Inventory of WEEE related research and in Deliverable 4.1 Typology of companies involved in the export market.
2.2 The WEEE volumes

In Figure xx the WEEE amounts documented in the market assessment are presented for 2012. For the EU-28 plus Norway and Switzerland (EU28+2), the total amount of WEEE generated is 9.45 million tons, 3.3 million tons are reported by member states as collected and recycled, 0.75 million tons are estimated to end up in the waste bin and 2.2 million tons of WEEE mixed with metal scrap.

The arrows represent the WEEE flows for the EU28+2 in 2012. The top part constitutes the WEEE Generation including potentially reusable appliances being a total discarded amount of 9.45 million tons. These amounts are determined by UNU in a report for the European Commission – DG Environment on establishing a common methodology for the calculation of EEE placed on market and WEEE generated for each member state. The uncertainty with this calculated value, mainly due to determining products’ residence times in the economy, is around 10%.

It should be noted that the diagram is simplified by showing initial destinations. In reality, feedback loops and illegal activities occur with each flow, including from the officially reported one: In total 3.3 million tons are reported by member states as collected and recycled. However, even here, there are only few member states that implemented conclusive reporting and monitoring on de-pollution and up-to-standard treatment conditions. A number of producer compliance schemes voluntarily chose to put reporting/monitoring schemes in place. The expectation is that more member states will make such schemes mandatory over the years by the implementation of the CENELEC and WEEELABEX standards, but it cannot be ruled out that there is subsequent trading of WEEE to other destinations from this supposedly secured flow.

Around 0.75 million tons of mainly small appliances end up in the waste bin, varying per country between 1 and 2 kg per inhabitant per year. The literature review conducted covered 15 countries with data identified grouped in low, middle and high income countries and extrapolated to EU28+2 totals. It also revealed data is found in different formats covering different years. For rich or large economies, more data is found in literature in kg of WEEE per inhabitant per year. Where the data is
available as a percentage of residual household waste, it is multiplied with the total amount of residual household waste from households and services. All data is related to the total WEEE generated data from both businesses and households and by combining the best compositional estimates, allocated to the individual collection categories. The weight based results are obviously predominated by small appliances (+/-60%) and small IT equipment (+25%) to the total waste bin amounts.

Figure XX Example WEEE in mixed met scrap

A further non-compliant, conservatively estimated amount of 2.2 million tons of mainly steel dominated consumer appliances is collected and processed under sub-standard conditions with other metal scrap. The amount is derived from various estimates of the concentration of WEEE in ferrous metal scrap, which again is not sampled on a regular and harmonized manner. In literature, information on this is also scarce. For the countries with available data the amount ranges between 2% and 4%. From these studies, it is estimated that the average concentration of WEEE in metal scrap in those countries is at least 2%. This conservative parameter is used to estimate the amounts of WEEE that is mixed with metal scrap, leaving potential for higher amounts for instance due to WEEE parts derived from professional appliances that are difficult to be associated with WEEE when observed in sampling of this flow.

Figure XX Example WEEE in mixed metal scrap

The combined totals leave a gap of roughly 3.2 million tons. The further destinations are extrapolated and estimated from various information sources, the individual mass balances per collection category and the economic values and drivers behind WEEE trade. It is estimated that a further 1.7 million tons are initially processed within the EU. Based on a market survey with European Electronics Recyclers Association (EERA) members contributing, 0.75 million tons of valuable parts not making it to the official collection points are estimated, including significant amounts of compressors (0.3 million tons, roughly equal to the CO2 equivalent of 5 million modern passenger cars on the road, annually!) and cable and IT components (180,000 tons), all of which are commonly exported to Asia predominantly as material fractions for further separation.

Another 0.95 million tons of additional non-compliant collection and treatment is estimated to take place out of sight, for instance professional appliances (heating and cooling installations, large IT
equipment, large tools and compressors, medical equipment, etc.), commonly processed by installation companies (up to 0.5 million tons), as well as lamps (90,000 tons) that are not observed at export destinations at all. These lamps likely end up in, for example, glass containers.

As a cross-check: The total sum of reported and above non-compliant collection and recycling is also consistent with the reported treated volume of printed circuit boards received by the large smelters from the EU markets, which is around 50-55% after detailed surveying of EERA end-processors. This value for one key value driving component confirms that more recycling is indeed taking place in Europe than officially reported and matches with the individual mass balances of the related collection categories. Furthermore, the overall observation and ratios of amount processed in the EU versus exported is in line with the WEEE mass balances and trends in the existing more detailed country studies available for the Netherlands, Belgium, France, Italy, United Kingdom and Germany. In total 1.5 million tons are leaving the EU. 200,000 tons are documented as UEEE exports, based on more detailed mass balances for five high income countries and covers the highest value portion of the export for reuse totals being relatively well tested functioning (often IT) equipment with considerable remaining lifetime and thus reuse value commonly covered for example by professional refurbishers and or charity organization donating well-tested computers to educational institutes in Africa. This flow is most likely also occurring for other rich EU countries, however could not be quantified in this project.

The remaining 1.3 million tons is also predominantly UEEE, but frequently mixed with WEEE including repairable items. The entire amount is a grey area subject to different legal interpretations and susceptible to export ban violations. When checked, refurbished, tested and properly packed for export, at some point in these reuse activities the originally discarded WEEE is not regarded waste anymore. However, the entire amount is a grey area since there are many more flavours besides the distinction WEEE versus UEEE: Shipments often include parts, functioning but very old UEEE with no real value or market anymore, or with very short remaining lifespans as well as WEEE which is repairable and relatively new non-functioning appliances ideal for spare part harvesting, etc. In any case, many shipments are not following the existing guidelines as sorting, testing and packaging, in Europe after collection comes at a cost.

The quality of a large part of these shipments of products needs to improve. In total, from available and most recent literature sources, combined with inspection observations, the remaining 1.3 million tons is estimated to consist of around 70% as functioning second-hand items (0.9 million tons) and 30% of WEEE (400,000 tons), including repairable items. These values represent only the type of products involved in indicated mixed types of shipments. When it comes to the point whether a shipment is legal or illegal, the volumes estimated match with extrapolated data from IMPEL enforcement actions regarding the violations in WEEE shipments which indicate at least 250,000 tons and maximally 700,000 tons are subjected to WEEE violations annually. This includes shipments with missing documentation and incorrect notifications.

Finally, following national surveys by INTERPOL, only 2,000 tons are reported as seized illegal shipments leading to some form of sentencing and/or administrative fines or civil penalties (minimum value). It appears that it is not a lack of inspections, but rather the difficulty and lack of intelligence and evidence gathering prior to prosecution that hampers solid court cases and thus proper sentencing.

More details can be found in Deliverable 5.2 Estimation of the volume of WEEE illegally traded
In short, mismanagement of discarded electronics within Europe involves ten times the volume of e-waste shipped to foreign shores in undocumented exports as illustrated in Figure XX summing all flows.

More details on all flows can be found in Deliverable 4.2 WEEE Market Assessment and in Deliverable 4.3 Report on the dynamics of WEEE stream.
2.3 The economic drivers

A final question is to what extent the mismanaged volumes that occur all along the WEEE chain damages the environment and the European economy at large, and how it affects the EU’s vision to turn the linear economy into a circular economy.

In this respect it should be noted again that the main driver behind exports is the reuse value combined with avoided sorting, testing and packaging costs. The economic values of the exported cannot be quantified in detail since it involves too many individual appliances types and different price levels in the receiving countries is all very scattered information. A typical profit value, put forth by the environment agency in the UK, of shipping a container of mixed unsorted and untested equipment to Africa is £8,000 indicating indeed that the magnitude of the reuse value is multiple times the material value.

Secondly, from rough calculations on the intrinsic economic value of flows based on copper, steel, aluminium, gold, silver, palladium and plastics, not available for compliant treatment, the economic value is determined. This approach is chosen since net treatment costs are too specific per individual collection category and per individual markets and recyclers. Hence, a rough approach is taken to determine the order of magnitude of economic impacts due to loss in the entire WEEE chain:

- Amounts in the waste bin contribute to roughly €300-600 million of lost material value due to bad disposal behaviour of consumers.
- Scavenging of valuable components, only considering compressors from temperature exchange equipment, hard disks, memory and other small IT components amount to roughly €200-500 million. Scavenging is mainly happening at collection points, so the loss for the legitimate recycling industry can be tackled with more enforcement and control over the material collected and entering the recycling chain.
- The remaining portion in the gap adds to another €300-600 million when excluding the value of UEEE in the export amounts.

In total, the intrinsic material value not available for complaint processing in Europe lies in between €800 million and €1,700 million. This value is determined to function as a rough order of magnitude of the economic consequences of illegal trade and sub-standard behaviour. It should be noted that this is neither including the net value nor profit that can be recovered in practice due to the actual handling nor the processing costs that also need to be accounted for as well as the less than 100% recovery levels in reality for the materials specified.

Interestingly, the CWIT estimations tie in well with research recently conducted independently of the project. An external source estimates the value of recycling of WEEE is €2.15-3.67bn by 2020. With the assessed size of the non-compliant (or illegal) WEEE stream, that would mean that the total value (adding up compliant and unreported/illegal/exported) represent a minimum €1.2bn and maximum €2.6bn, anno 2015, which falls in the range of this external reference.

A different environmental dimension and concern is the avoidance of compliance costs mainly related to depollution and other costs in order to operate up-to-standard. From analysis these costs are of a lower order of magnitude compared to the materials value of around €150-600 million. These figures indicate very roughly the maximum potential loss for compliant processing activities and the EU economy at large.

The outcomes of the unique CWIT Market Assessment for the first time covering the EU as a whole, clearly shows that despite the legislative acquis, there are still considerable environmental and economic concerns, not only related to exports to developing countries, but also the quality of collection and treatment in Europe itself.
3 LEGAL ANALYSIS

One of the objectives of the CWIT project is the comparative overview of relevant legal policies and requirements relating to WEEE, and how these are implemented and enforced globally. Understanding the current legislative framework of each country is of crucial importance when analysing illegal trade in WEEE. Without a clear and comprehensive legislative base, enforcement authorities and prosecutors are powerless to address illegal WEEE flows.

The research consisted of questionnaires (directed at EU and non-EU countries) and analysis of:

- The WEEE Directive articles affecting the illegal trade in WEEE,
- The implications of the Waste Shipment Regulation (which implements the provisions of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, as well as the OECD Decision concerning the Control of Transboundary Movements of Wastes Destined for Recovery Operations), and
- The UN Basel Convention on the Control of Transboundary Movements of Hazardous Wastes.

In particular, the project sought to establish a baseline of the general legal framework on WEEE such as the requirements for functionality testing, WEEE treatment conditions, packaging of used EEE, permits required (collection, transportation, storage, treatment). The research also assessed the type of liability (civil, criminal, administrative), the actors involved, and the severity of the penalties applied.

More details can be found in Deliverable 3.1 Development and distribution of questionnaire.

3.1 Consistency of definitions

The study highlights the issues of consistency across the implementation of the WEEE Directive for EU member states. EU countries are obliged to transpose the Directive into their national legislation by 14 February 2014. To date 25 of the EU member states have formally transposed the Directive.

Unclear definitions and misinterpretation of concepts complicated the transposition of the WEEE Directive in some countries and highlighted the need for uniformity at European level on the classification of waste. In certain countries, additional legislative instruments have yet to be enacted that would coordinate the responsibilities of other WEEE actors, for example the monitoring of the entire WEEE system in Italy.

In both the EU and non-EU countries, the broad definition of how waste is classified and in particular the differences between EEE for re-use and WEEE is a particularly fraught area. It is indicated that one of the proposed solutions to this ambiguity, functionality tests, could be economically unfeasible. Technical guidelines aimed at clarifying the distinction between used EEE (UEEE) and WEEE is under development under the Basel Convention, which, if adopted, would reflect global agreement on this issue.

At the recent Basel Convention COP 12, the adoption of technical guidelines on WEEE faced a number of objections from member countries with the result that the guidelines have been adopted on an interim basis, on the understanding that they are of a non-legally binding nature and that the national legislation of a party prevails over the guidance provided within the technical guidelines. Nevertheless, a number of OECD guidelines concerning WEEE shipments are currently followed by countries in the region. Clarity and applicability of guidelines, definitions of WEEE and of what constitutes conclusive proof, appropriate protection, non-negligible quantity, offensive behaviour and functionality tests, is vital for all personnel engaged in the fight against illegal trade in WEEE.

Examining the legal framework of WEEE and its implementation and enforcement enables authorities to focus on measures and strategies that will most effectively improve the detection and prosecution of WEEE violations.
More details can be found in Deliverable 3.2 Synthesis of responses and Deliverable 3.3 Comparative overview.

3.2 Penalties

During the final conference, the difference between the level of applicable sanctions and the average sanctions effectively imposed, is stressed as a relevant indicator on legal implementation and enforcement. The penalties for the illegal trade in WEEE varied greatly in terms of prison durations and monetary fines. However, based on the data received from EU countries, there did not appear to be a relationship between the magnitude of the penalty and WEEE collection rates: Some member states have high penalties in place yet show low official collection rates. Some countries punish WEEE crimes differently on the basis of whether or not organised criminal groups are involved.

Some member states use an administrative approach to fight organised crime and other types of crime empowering local and administrative authorities with effective measures such as the withdrawal of permits and licenses. These measures may avoid the costly criminal procedures and be equally effective and with a deterrent effect.

Merely increasing penalties in WEEE crimes is not practical in all EU countries. Therefore an assessment of the legal versus the practical situation should be undertaken at national level in order to establish weaknesses and requirements in national legislation related to the penalty levels.

Harmonisation, including harmonisation of offences and the definition of penalties and the degree of severity, would limit discrepancies among EU countries. Consequently, it would limit the shift of illegal activities among countries, facilitate investigation, prosecution and sentencing and thus, would create a true disincentive for offenders and would facilitate investigation, prosecution and sentencing.

Some EU member states also require further legislation to facilitate enforcement. For example, in some instances when a shipment is intercepted before it has left national borders, authorities are only able to classify the act as an “attempt” to ship. In some countries, this means that the penalty is much lower than for the actual act of illegally exporting WEEE, and in others, it may not be considered an offence at all.

At international level, it is suggested to harmonise the minimum standard on offences and provisions, such as the ban on cash transactions in metal scrap trade. This would simplify enforcement in trans-border cases, and would prevent criminals from simply shifting their activities to lower-risk countries within the EU.

More details can be found in Deliverable 3.2 Synthesis of responses and Deliverable 3.3 Comparative overview.

3.3 Best practices

The study highlights a number of instances where countries have developed detailed guidance documents for actors involved in the WEEE chain to help clarify and expedite inspections, monitoring, and reporting activities. It is worth mentioning, a take back procedure to return illegally exported material to the country of origin.

The CWIT project has developed the LibraWEEE, which is a collection of studies and initiatives focussing on understanding the dynamics of the WEEE industry, illegal flows of WEEE, and also the actors concerned with the fight against organised crime.

The project also outlined a number of best practices from EU countries such as:

• Combined codification system to simplify the collection of data on their national e-platform,
• A ban on cash transactions in France involving the purchase of metal is an important step in reducing the profitability of illegal trade. The success of this measure is evident in the
displaced illegal activities across French borders into neighbouring countries in which the ban is not applicable. An extensive inspection campaign to spot unregulated activities will efficiently complement this measure as it is mentioned during the CWIT final conference.

The following diagram illustrates how the legal framework affects the law enforcement chain of events:

Figure XX The legal framework versus the law enforcement chain of events

More details can be found in Deliverable 3.3 Comparative overview.
4 CRIME ANALYSIS

The CWIT project conducted a comprehensive study of the involvement of organised crime groups in the global distribution of WEEE, to identify the specific criminal activities associated with illegal WEEE shipments, and to provide an estimation of the volume of WEEE that is generated and illegally traded. The study is based on extensive data collected through surveys, expert interviews and open source material.

4.1 Crime typology

In the illegal trade of WEEE, there is a varying degree of compliance and criminality that spans across a continuum ranging from minor unintentional violations or non-compliance by individuals to deliberate illegal activities following a criminal business model. The organisational structure differs by country and region, from individual traders to structured criminal groups. Current gaps – including legislative loopholes, inadequate enforcement, and the application of penalties that are too low to create a disincentive – result in an environment susceptible to the involvement of international crime groups.

In the WEEE offences officially reported by authorities in the context of the CWIT project, thirteen different types of actors are identified and grouped into five categories: collection, consolidation, brokering, treatment and transport. The distribution of cases indicates that vulnerabilities exist across all stages of the WEEE supply chain. The offences included inappropriate treatment and violations of WEEE trade regulations, theft, lack of required licenses/permits, smuggling and false declaration of the load. WEEE offences in some cases are also connected with fraud, money laundering and tax evasion, demonstrating the links of WEEE offences with financial offences. The use of fraudulent documents also indicates that offenders are aware of the required authorisations and are simply circumventing them.

The close connection between legal and illegal markets of WEEE has been underlined during the analysis, with many cases that cited the involvement of registered companies, such as recyclers/end processors, sorting/consolidation sites, and freight forwarder/logistics operators in WEEE offences. Other actors cited in the cases reported to the CWIT project are informal collectors, WEEE brokers and internet traders. Furthermore, there are instances where producer responsibility organisations, municipal employees, and NGOs are implicated in the offences. The most frequent destinations and routes of illegal WEEE trade are also explored. Cases analysed most commonly include WEEE detected in Europe and intended for export to Africa and Asia. The Middle East is reported to be a destination in a limited number of cases. Analysis is also carried out concerning WEEE transported from Western to Eastern Europe. More details can be found in Deliverable 5.1 Definition of organised crime applied to WEEE, Deliverable 5.2 Estimation of the volume of WEEE illegally, Deliverable 5.3 Evaluation matrix to codify crime types and Deliverable 5.5 Analysis of criminal activities associated with illegal WEEE trade.

4.2 Seized exports

The CWIT project estimates that the total quantity of undocumented (UEEE+WEEE) export from EU Member States to non-OECD countries is 1.3 million tons. Of this, 900,000 tons (70%) is estimated to be UEEE and 400,000 tons (30%) is estimated to be WEEE. The later number corresponds with extrapolated data from IMPBEL on export ban violations indicating that between 250,000 tons and 700,000 tons of WEEE is shipped to non-OECD countries in 2012.

<table>
<thead>
<tr>
<th>Year</th>
<th>Nr of countries that reported</th>
<th>Quantity reported to be seized (t)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>5</td>
<td>700</td>
</tr>
<tr>
<td>2010</td>
<td>3</td>
<td>1400</td>
</tr>
<tr>
<td>2011</td>
<td>7</td>
<td>3500</td>
</tr>
<tr>
<td>2012</td>
<td>11</td>
<td>2500</td>
</tr>
<tr>
<td>2013</td>
<td>7</td>
<td>2700</td>
</tr>
</tbody>
</table>

Table XX Overview of reported quantities seized between 2009-2013
However, it should be noted that such estimates are all subject to a number of limitations. The actual amount of WEEE reported to be seized by law enforcement authorities, is 11,000t between 2009 and 2013, or an average of 2,000t per year. Of the WEEE seized, temperature exchange equipment and screens made up the majority of the volume.

Deliverable 5.2 Estimation of the volume of WEEE illegally traded.

### 4.3 Concept of operations

The objective of a concept of operations (CONOPS) is to provide a vision of how a comprehensive law enforcement system that effectively mitigates illegal WEEE trade would operate. The CONOPS is based on data gathering and analysis conducted during the first four steps of Work Package 5, and supplemented by open source information and law enforcement expertise.

An analysis of the current law enforcement system, consisting of an evaluation of its threats, opportunities, weaknesses, and strengths, demonstrated that cooperation and data management are essential elements to strengthen law enforcement in countering the Illegal trade in WEEE. Therefore the CONOPS proposes to integrate and combine two systems:

![Figure XX: Enforcement and prosecution cycle with the integrating proposed systems](image)

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4.3.1 Operational Intelligence Management System

Figure XX: Data management and analysis aspects

The first is an Operational Intelligence Management System that enables the secure input, management, development, analysis and dissemination of intelligence and critical information, especially during the planning of law enforcement actions. The objective of this system is 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 organised crime groups (OCG) and transnational organised crime groups (TOCG), and recommend actions. Designing, developing and implementing an Operational Intelligence Management System (at the national and European level) can further mitigate the illegal trade and disposal of WEEE in EU.

4.3.2 National Environmental Security Task Force (NEST)

The second proposed system is a National Environmental Security Task Force (NEST) that fosters a coordinated multi-agency response to tackle the illegal trade in WEEE. The objective of this system is to enable a law enforcement response that is cooperative, collaborative and coordinated at national, regional and international levels, detailing the role of EU stakeholders in the enforcement of WEEE regulations. Figure 3 illustrates the task force and its different stakeholders. By creating a team of experts, each with specialised skills, a NEST could ensure that all criminal activities related to the illegal trade in WEEE can be addressed.

Figure XX3: INTERPOL model for National Environmental Security Task Force

More details can be found in Deliverable 5.6 Concept of Operations
5 INDIVIDUAL RECOMMENDATIONS

5.1 Theme 1: Collect more, prevent leakage and monitor performance

The recommendations under Theme 1 concern the early stages of the WEEE chain: More prevention, more separate collection, less leakages and better monitoring.

CLUSTER 1.1 Educate consumers

Studies have revealed that many problems with regard to WEEE are related to (lack of) public awareness. There is an information deficit on the part of consumers, many of whom do not know what a collection station is and resort to bad practices in disposing WEEE. There is also a need for greater awareness on waste trafficking and resulting environmental damage resulting from improper disposal of WEEE.

The suggested improvement actions are:

- Roll out communication campaigns for end users to raise awareness around proper disposal of WEEE.
- Run attitudinal surveys to investigate motivations and potential incentives for users in support of communication campaigns.
- Assess the possibility of running law enforcement campaigns for end users to tackle fly tipping and improper curb side disposal of WEEE.

More details can be found in Deliverable 6.4 Recommendations for the electronics industry.

CLUSTER 1.2 Improve collection

In many EU countries collection facilities are exposed to thefts of the end-of-life product as such or of its valuable components. Moreover, diversion of WEEE from authorised collection points to non-reported flows occur very often. Such malpractices depress collection rates making it difficult to reach legal collection targets. The existence of a very small number and, sometimes, insufficiently accessible collection points does not do much to help the situation.

Improvement suggestions include:

- Make collection points more easily accessible and more visible.
- Increase the number of collection points or their territorial density.
• Improve security at collection points.
• Introduce ban on cash transactions to reduce the profitability of unlawful activities and the viability of cash transfers related to WEEE illegal trade.

More details can be found in Deliverable 6.4 Recommendations for the electronics industry.

CLUSTER 1.3 National WEEE monitoring
In many cases, selling products for reuse or fractions for treatment acquired through informal collection are neither reported in official statistics nor traced. Furthermore, not all European countries place an obligation on pre-processors to report and record the amounts and destinations of all types of input and output fractions. Even the WEEE Directive contains no specific requirement on reporting the amounts of Annex VII components obtained from selective treatment or on reporting of their destinations. And finally, informal collection activities usually do not find a place in official statistics. Accurate mass balance calculations, based on reliable quantitative data, are crucial if we want to determine progress towards achieving WEEE collection targets or the amounts of e-waste that end up outside the official WEEE chain.

The proposed action steps are:
• Improve local monitoring and benchmarking in all collection points, including civic amenities and retail.
• Improve access to information by creating specific lists for WEEE related companies, including availability of contacts details of the entity managing the register, and standardising terminology to describe different activities and actors.
• Develop a national WEEE monitoring strategy.
• Improve current methods for calculating e-waste indicators that form the basis for national mass balance calculations.

More details can be found in Deliverable 6.4 Recommendations for the electronics industry.

CLUSTER 1.4 All actors report
EU countries face the common problem of non-reporting, incorrect reporting and underreporting of collected and treated WEEE amounts. Non-reported and incorrectly reported WEEE flows are particularly prone to illegal trade and improper treatment. It has been observed that some compliance schemes only monitor and control a part of the WEEE collected and treated. In addition to this, many holders and recyclers of WEEE already report, but not to a unified database on a national level. In some countries, producers and compliance schemes report WEEE collected to different competent bodies, sometimes using different and, worse, incompatible codifications. Another recurring issue is the mixing of WEEE with mixed metal scrap. Improved reporting will enable less pollution of non-desired appliances in these streams and much more accurate country- and EU-level statistics and other monitoring linked in particular to estimating the “true amounts of illegal WEEE” shipped annually from Europe to developing countries.

The suggested improvement measures are:
• Establish reporting obligations for all actors collecting WEEE products
• Use unequivocal description of WEEE that is understood by all reporters in reporting processes
• Use the same codes or use codes that allow comparability in reporting processes
• Establish a control system of data collected that will assess consistency and reliability of the data reported by actors.

More details can be found in Deliverable 6.1 Recommendations related to the EU Legal Framework.
5.2 **Theme 2: Trading, treatment and the economic drivers**

The recommendations under Theme 2 concern the improvement of the performance in the WEEE recycling and reuse chains and, ultimately, the reduction of the amounts of waste shipped mixed up with used goods: improve treatment, train WEEE trading industry, reduce shipments of WEEE mixed with used goods, and increase the costs of non-compliant behaviour.

**CLUSTER 2.1 Improve treatment**

The core problem is that in many respects, quality in WEEE treatment does not materialize by itself due to lack of economic incentives, specific market conditions, unfair competition, insufficient quality control mechanisms, gaps in monitoring and subsequent oversight by law authorities. While many laws already steer treatment in Europe, a specific challenge is that a lot of these requirements do not positively discriminate the legitimate industry over non-regulated players. As a consequence, responsible recyclers are put at a disadvantage by unqualified treatment operators and initiatives must be designed to support them.

Some of the improvement actions include:

- Implement (mandatory) WEEE standards.
- Improve reporting on treatment within and outside Europe.
- Improve the economics of depollution.
- Improve treatment in developing countries.

More details can be found in Deliverable 6.3 Recommendations for the WEEE treatment industry.

**CLUSTER 2.2 Improve reuse**

A central issue with the illegal trade of WEEE is the diversity in shipments of end-of-life equipment, with used EEE (UEEE) of various types and age being exported. The reuse industry itself is very diverse – ranging from small traders, often including private individuals, to charity organisations and large specialised refurbishers. Whether or not a shipment of UEEE is legal is difficult to ascertain in every case. That is the reason why clarity and awareness on how to implement various guidelines and to act responsibly is required. Ultimately there is urgent need to develop measures on how to discriminate between, on the one
hand, shipments for proper reuse contributing to bridging the digital divide, and those of mixed quality with too many appliances of low or no remaining useful life, on the other hand.

The following actions are suggested to avoid or at least reduce low quality shipments:

- Use harmonized definitions for reuse, preparation for reuse and refurbishment.
- Develop and harmonize reuse standards and guidelines.
- Provide training and capacity building for the refurbishment/reuse industry.
- Establish green reuse channels and approved reuse centres.

More details can be found in Deliverable 6.3 Recommendations for the WEEE treatment industry.

**CLUSTER 2.3 National WEEE networks**

Specialized environmental authorities have expertise on WEEE crimes, but often do not have investigative powers, whilst law enforcement authorities do have investigative powers but typically do not have specialized knowledge in WEEE related crimes. Poor cooperation results in a difficulty for police to identify the environmental crimes and the type of evidence required for prosecution. Illegal WEEE shipments are often dealt with as administrative offences by the environmental protection agencies, which do not provide the necessary information to investigative authorities.

Two improvement actions have been recommended to strengthen cooperation and communication:

- Establish National Environmental Security Task Forces (NEST) to ensure a coordinated multi-agency response to tackle the illegal trade in WEEE.
- Enhance multi-stakeholder networks by involving different types of stakeholders in programmes aimed at tackling WEEE illegal trade.

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.

**CLUSTER 2.4 Smarter inspections and investigations**

Several shortcomings related to inspections and investigations have been identified during the course of the CWIT research activities. An example is the identified modus operandi to unlawfully label WEEE as UEEE in illegal export, underlining the importance of proper testing of equipment destined for export. According to the European Commission only 2% of all the world’s maritime containers are physically inspected by customs authorities and of the 2% only a small number of inspections are done for WEEE shipments. As regards investigation procedures there seems to be no general methodology for investigating environmental crimes and the number of investigated cases are limited.

To address these issues a couple of improvement suggestions have been made:

- Ensure more effective and successful inspections through targeted border inspections, intelligence led risk assessments and improved detection techniques.
- Improve WEEE Investigations through better investigation procedures.

More and smarter upstream inspections of facilities in order to prevent illegal activities going downstream. More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.
5.3 Theme 3: Robust and uniform legal framework & implementation

Without a clear and comprehensive legislative base, enforcers and prosecutors are powerless to address illegal WEEE flows. At the very minimum, a clear and global definition of what constitutes WEEE is the basis for improving detection, inspection, enforcement and sentencing rates related to illegal WEEE trade.

CLUSTER 3.1 Improve waste codifications

In the life cycle of EEE and WEEE, the commodities and waste are reported at various stages in different classifications. When waste is being transported across borders and/or reported to different authorities, different codes could be also used for the same waste, which hampers traceability and hinders inspection and prosecution. Accurate and compatible codes are crucial to allow waste traceability. The following are the potential code classifications that may be used:

- UNU-KEYS
- Combined Nomenclature (CN Codes)
- Basel Codes / Waste shipment regulation
- EU List of Waste (LoW)
- Original EU WEEE Directive, 6 categories and Recast WEEE Directive, 10 categories

The suggested actions to improve the classification of WEEE are:

- Develop import/export codes for WEEE and second-hand commodities to differentiate between new and used equipment and allow tracing important types of WEEE such as monitors, TVs and refrigerators.
- Have a consistent interpretation of waste versus non-waste, a global definition of WEEE, essential for all actors involved in the fight against illegal trade in WEEE.
- Acquire stakeholder’s collaboration and agreement to progress towards more harmonized WEEE classifications and definitions.
- Develop compatibility tables to allow for converting customs codes into Basel codes and vice-versa through adoption of the UNU Keys to improve waste codification by connecting the various classifications of WEEE and commodities.

More details can be found in Deliverable 6.1 Recommendations related to the EU Legal Framework.
CLUSTER 3.2 Produce and maintain consistent guidelines

Failure to distinguish between waste and used goods is a recurring cause of illegal WEEE trade. Inconsistent guidelines for Law Enforcement Agencies (LEA) mean that:

- WEEE is not being identified as such during inspections, and
- Information sharing is hampered due to different terminology, definitions and interpretations, for example WEEE in some countries includes the weight of scrap metal, but not in other countries.
- Inspection and enforcement resources are not efficiently utilized.

Various definitions and guidelines related to WEEE exist at national, regional and international level including those developed by Basel, IMPEL, WCO, UNU, INTERPOL, StEP Initiative, OECD, EU Member States including Austria, Belgium, Nordic Waste Group, Germany, Ireland, etc.

It is important to conduct further research into understanding how these guidelines can be utilised in a complementary way to increase the capabilities of law enforcement agencies and prosecutors to fight cross-border WEEE crimes more effectively.

Suggested actions include:

- Improve the availability, awareness and understanding of existing guidelines
- Provide sufficient support and training to authorities (see 3.3 below)
- Develop certification in the use of guidelines (e.g. ISO)
- Campaign for official endorsement of guidelines by relevant authorities
- Identify and select organization to own/sponsor new guidelines

More details can be found in Deliverable 6.1 Recommendations related to the EU Legal Framework.

CLUSTER 3.3 Train authorities

The CWIT research outcomes shows that a lack of knowledge and expertise is a major impediment in the detection of WEEE violations and illegal shipments. Insufficient guidance and training often prevents officers from proving the illegal nature of a shipment. The successful detection of e-waste relies heavily on the ability of an official to distinguish between used EEE and WEEE, which constitutes a fundamental challenge for law enforcement agencies during inspections in several countries.

Without adequate skills and knowledge, the officers struggle to detect, investigate and prosecute illegal e-waste activities, thus limiting the operational capacity of law enforcement. In order to equip the staff with specific skills and knowledge, it is highly recommended to provide more and better-quality training on e-waste issues than what is currently available for law enforcers, investigators, and prosecutors.

Suggested actions include:

- Establish centres of excellence and/or an EU waste agency
- Provide specialised training for personnel (law enforcement, environmental inspectors, customs etc.)
- Facilitate cross-border inter-agency capacity training, between stakeholders involved in both the export and import of WEEE
- Establish public-private partnership scheme (between LEAs and the WEEE industry).

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.

CLUSTER 3.4 Harmonise and enhance penalty systems

The penalties for the illegal trade in e-waste vary greatly in terms of monetary fines and prison durations. In the current system, the participation in WEEE illegal activities does not appear risky to offenders due to the low probability of being prosecuted and sentenced. And even if successfully prosecuted the penalties foreseen in legislation and/or penalties applied in court decisions are typically low. In many cases the fines imposed are less than the profits to be gained from one illegal shipment.

Suggested actions to harmonise and enhance penalty systems include:

- Assess the national penalty system to ascertain if sanctions are proportionate and dissuasive
• Increase penalty levels for natural persons who are company representatives
• Harmonise offences related to WEEE crimes at EU level (wording, definitions and severity)
• Harmonise penalty types and levels at EU level
• Adjust the penalty system related to organised crime (specific penalties to tackle organised crime involvement in WEEE illegal activities)

More details can be found in Deliverable 6.1 Recommendations related to the EU Legal Framework.

5.4 Theme 4: Best practices in enforcement and prosecution

The recommendations under Theme 4 are designed to improve current enforcement and prosecution practices concerning the illegal trade of WEEE. In order to address limitations and problems in this area, recommendations have been divided into four clusters with each cluster referring to a specific set of measures whose implementation is recommended.

CLUSTER 4.1 Enhance information management system

In the law enforcement field a lack of information exchange and lack of statistics about illegal WEEE activities has been reported. Multiple authorities concluded that there is currently a lack of structured information exchange both on the national and international level. Discrepancies have been identified in data reported by different authorities in a country. In addition to the information exchange, in many countries no specific statistics are available on illegal activities related to WEEE. Suggested actions to counter the situation:

• Put in place formalised agreements for the exchange of information between law enforcement, judicial authorities and the WEEE industry.
• Consolidate and implement an Operational Intelligence Management system (OIMS) that enables the secure input, management, development, analysis and dissemination of intelligence and critical information especially during the planning of law enforcement actions.
• Use intelligence to prioritize crime issues and direct resources towards the operations and policies that will be most effective in combating crime.
• Build or consolidate a national intelligence model to implement a full set of best practices in intelligence-led policing and law enforcement as well as a framework to better achieve the priorities highlighted in each country’s public safety strategy.

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.

**CLUSTER 4.2: Invest in capacity building for law enforcement agencies**

Law Enforcement Agencies (LEA) includes police, customs, environmental agencies. Inadequate resources are the main impediment to proper enforcement actions by authorities. While countries face different implementation challenges across different sectors, a common bottleneck for poor implementation in most countries is limited resources and capacity. Many member states lack the necessary financial, human and logistical capacity to undertake high quality investigation and inspection procedures to identify shipment violations and control WEEE flows. Some countries have even reported a shortage of technical equipment and storage capacity in customs facilities to store seized waste shipments.

Some measures have been proposed to enhance the capacity of law enforcement agencies.

- Provide human resources and equipment.
- Facilitate international cooperation and exchange of inspectors across competent authorities to enhance the exchange of best practices and information.
- Establish risk assessment processes and allocate staff to correspond with the expected risks identified through the analyses.
- Strengthen the capacity of existing networks, such as EUROPOL and INTERPOL, as an effective and cost-efficient capacity building initiative (instead of creating new networks).

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.

**CLUSTER 4.3 Improve international WEEE networks**

There seems to be a lack of cooperation between authorities, both on the national and on the international level. Synergies between customs and police forces of various European countries must be improved, in coordination with international organizations involved in the fight against organized crime. In fact, EUROJUST’s Strategic Project on Environmental crime report considers cross-border cooperation as the main challenge in the investigation and prosecution of cases of illegal waste trafficking.

To strengthen international cooperation in law enforcement, two actions are proposed.

- Participate in international waste operations and enforcement actions to achieve international cooperation at a global level by bringing together neighbouring countries to target waste and WEEE trade/operations.
- Create an EU waste implementation agency to support member states with knowledge on permitting and enforcement through training and education, and to act also as a platform to exchange knowledge and best practices.

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.

**CLUSTER 4.4 Enhance prosecution and sentencing capabilities**

Despite the growing concern about the environment, environmental crime seems to be an under-sentenced area. As an example, according to the French government, only 60% of cases related to environment can be prosecuted and a penal sentence can be applied in 88% of those cases. A second example from a joint report based on eight national audits reveals that in 30% of the cases in the Netherlands, the public prosecution department decides not to prosecute infringements of the EU Waste Shipment Regulation. Thus, there appears to be a major gap between the number of WEEE violations and the number of successful cases across Europe.

Some proposed solutions include:
• Improve prosecutors’ and judges’ capacity and resources.
• Improve communication and co-operation among prosecutors and judicial authorities in order to establish a database of information, contact points and joint investigation teams and to increase the role of European/international networks such as EUROJUST.

More details can be found in Deliverable 6.2 Recommendations for law enforcement organisations.
6 RECOMMENDATIONS ROADMAP

6.1 Developing a roadmap for implementing recommendations

The above sketched 16 clusters of recommendation are very comprehensive in nature. At the same time, they are not stand alone but mutually dependent or impacting each other. Hence, the final step taken in the project is to review their potential impact, feasibility and likelihood of successful implementation. The following steps are taken in order to develop a specific CWIT roadmap to ultimately improve WEEE collection and recycling to desired levels:

1. The feedback process as such following the CWIT final conference on 25-26 June 2015.
2. Summary of the responses from experts.
3. The process and decisions taken to prioritize and structure the recommendations.
4. Explaining the resulting roadmap and what the potential impacts are for improving the WEEE chain.

6.2 The feedback process

The CWIT final conference took place on 25-26 June 2015 at the INTERPOL headquarters in Lyon, France. Around 120 people participated in the conference, including experts from the European Commission, national law enforcement authorities, WEEE industry and academia. The conference participants were requested to give their personal views on the 16 recommendation clusters outlined by the CWIT consortium. To facilitate this process, feedback forms were distributed among the participants during the conference. 38 attendees completed and returned the forms during the course of the event. In addition, an electronic version of the feedback form was sent to the participants after the conference, resulting in four more responses. So the feedback campaign yielded a fairly good response with a total of 42 comprehensive replies, of which several are very elaborate from key experts in the field.

In the feedback form 6 broad questions are outlined in relation to each of the four themes and 16 clusters of recommendations above. The respondents are asked to specifically:

- Select clusters of recommendation with the highest benefit-cost ratio as well as those with a high likelihood of bringing sustainable improvements and provide a brief justification on this.
- Similarly identify the least relevant recommendation clusters, e.g. high cost, low impact, high risk of failure in terms of sustainable results etc.
- Identify whether the consortium missed one (or more) highly important recommendation cluster(s), including a brief justification.
- Provide feedbacks around which of the four overarching Themes/Topics are seen of highest importance, including a brief justification.
- Take inventory about specific organizations what specific role one could play in the implementation process of above recommendations as well as practical details and best practices.

6.3 Summary of the responses

Our first question is about ranking the most important recommendation clusters – asking each respondent to make three selections. We received the total of 133 votes, which are visualized in the diagram below, and summarized below the diagram.
Recommendation cluster *Educate consumers* (1.1) appears to be the most popular with 16 votes. This is followed by recommendation cluster *International WEEE networks* (4.3) with 13 votes. *Improve collection* (1.2) and *Enhance prosecution and sentencing* (4.4) are rated equally with 12 votes each. *Consistent guidelines* (3.2) follows next with 11 selections. *Smarter inspections* (2.4) received 10, followed by *Information management system* (4.1) with 9 votes. *Harmonize penalties* (3.2), *LEA capacity building* (4.2) and *All actors report* (1.4) have received an equal number of votes with 7 each. Both *National WEEE monitoring* (1.3) and *National WEEE networks* (2.3) received 6. Next follow *Improve reuse* (2.2) and *Waste codifications* (3.1) with 5 votes each. *Improve treatment* (2.1) received 4 and *Train authorities* (3.3) appears to be the least popular with only 3 selections.

The second question focused on understanding the rationale behind the most popular recommendations. In the following table we share four sample justifications for each of the six top recommendations.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Sample justifications</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Educate consumers</strong></td>
<td>• Education is the first step for a change.</td>
</tr>
<tr>
<td>(16 votes)</td>
<td>• Consumers are the starting point for WEEE flows.</td>
</tr>
<tr>
<td></td>
<td>• The quickest win is provided if consumers bring WEEE materials to the appropriate channels.</td>
</tr>
<tr>
<td></td>
<td>• Proper disposal by consumers will increase collection rates and prevent leakage.</td>
</tr>
<tr>
<td><strong>WEEE networks</strong></td>
<td>• WEEE thefts are cross-border (within EU and beyond), organised crimes.</td>
</tr>
<tr>
<td>(13 votes)</td>
<td>• Hence reinforcing international cooperation is essential.</td>
</tr>
<tr>
<td></td>
<td>• Co-operation among international agencies and governments is very</td>
</tr>
</tbody>
</table>
important because the actions implemented within the European Union will be incomplete if no actions are taken in the destination countries of illegal WEEE shipments.

- This is crucial to coordinate internationally about the application of international regulations around WEEE.
- This is an important improvement measure as it will assist in learning from each other’s experiences.

| Improve collection (12 votes) | • Leakages from collection points (private actors/shops) is highly visible and apparently the biggest vulnerability (at least in one member state).
- It is the initial point in the process of disposal and securing these facilities is the basis to guarantee an efficient process.
- This is important to prevent thefts and acts as an obligation to guarantee the consumer that the discarded equipment will be properly recycled and treated.
- Securing collection points is a relatively low-cost measure. |

| Prosecution and sentencing (12 votes) | • As a positive step to deter and combat crimes, it is important to inform potential perpetrators about the consequences of criminal actions. This is both a preventive and reactive improvement measure.
- There is a big gap in this area and the improvement step will support some of the other recommendation measures.
- Currently there is a lack of awareness by judges and prosecutors leads which is the reason behind the infrequent and low sentences.
- To achieve a level playing field, avoid port hopping, fight against fraud, forgery etc., it is necessary that the last link in the enforcement chain, prosecutors and judges are being well trained and are aware of the specific issues in this complex working field. |

| Consistent guidelines (11 votes) | • Consistent clear guidelines will make inspections and prosecutions easier and thereby increase the likelihood of conviction.
- This measure is essential as currently there is a large number of diverse practices. The existing system is hard to understand and implement for many actors in the value chain.
- Following up on this recommendation will ensure a level playing field.
- Proper knowledge and training are important and to reach this goal consistent guidelines are essential. |

| Smarter inspections (10 votes) | • It is a key measure for smarter selection.
- Because recycling companies in one EU member state report they are never inspected.
- It is important for inspections to be targeted to (illegal) upstream waste sites for control purposes in order to prevent illegal activities going downstream.
- Due to limited resources available this is a useful measure in terms of costs and benefits. |

The participants of the CWIT Final Conference were also asked to suggest new recommendations, complementing those 16 recommendations shared with them at the beginning of conference. The outcomes of this exercise are shared below.
Suggestions which link directly to the existing set of recommendations (not necessary representing the view of the CWIT consortium):

- Acknowledge that illegal shipments and other inappropriate activities may also take place from some take-back systems and within established systems.
- In addition to securing collection, add the importance of the location of collection points, e.g. shops.
- Consider introducing a ban on cash transactions, because it is the best means to reduce theft at borders if adopted in the EU. And a ban on cash payment for metals specifically as it is the first step in black marketing.
- Work with environmentally-friendly treatment outside the EU or in downstream activities.
- Make it more profitable to discard waste in the country or within EU.
- Improve reuse of metals by producers. This is a difficult step in the circular economy because the reused material has to satisfy the producer and the product has to be competitive in comparison with new materials.
- Make sure that waste codifications make distinctions between UEEE and WEEE.
- Ensure clear systems and description of tasks across authorities. Include what information can be disseminated and on what basis.
- Share risk indicators among law enforcement agencies. Hold operational meetings for intelligence officers at EU level in order to discuss tactics, current cases etc.
- Discuss the issue of ‘victimless’ crime. Devise ways of exposing victims (from pollution or from former owners of discarded WEEE) will facilitate potential prosecutions.
- Collaborate with receiving countries, in order to address the problem of imports from the recipient countries’ perspective.
- Stress the issue of capacity building in receiving countries although it is often a political decision.

Suggestions which do not directly link to the current set of recommendations:

- Consider ways to measure waste prevention.
- Consider how to facilitate flows within the supply chains between verified locations, e.g. establishing green lanes between pre-authorized or certified locations or put in place simplified procedures.
- Map downstream activities. Make unannounced audits of collectors to ascertain that the downstream map corresponds with what actually happens.
- Design policies in tandem with economic principles as money talks.
- Mention the possibility of imposing a monitoring system considering the “polluter pays” principle.
- Due to the relatively high profits gained from illegal waste trade, economic incentives for proper waste collection and treatment are crucial. One example is establishing a deposit system for e-waste and batteries.
- Consider how to initiate the process of establishing a central repository for storing data, listing best practices, successful prosecutions, etc. that should be accessible to all enforcement authorities in the 28 Member States. The repository should be simple. Establish ownership for post-CWIT.
6.4 Prioritization

Based on the above information and combined with all technical expertise present in the CWIT consortium, the recommendations are prioritized and placed in a chronological order.

In addition to the order and preferences in the previous section, specific focus goes to those recommendations that improve the monitoring and oversight of the WEEE chain in the relatively short term. The reason for this is the weak monitoring in general on all the flows and types of trading in the WEEE chain.

For the medium term, we zoom in on the communication and co-operation of various actors in the chain enabling specific interventions following the findings of improved monitoring and specific weak points in collection and recycling. Finally, the focus for the long term is on improving sentencing and prosecution which are typically taking longer development time.

The selection of recommendations key to the above three phases does not rule out other recommendations. As identified in the previous section, all of the recommendations contribute to some extent to an improvement of the situation. However, several of these clusters of recommendations are merely of a supporting nature. As an end-result, those recommendations that need more attention or additional effort compared to current practices are selected:

6.4.1 Short term recommended actions:

With a view to develop and implement the following measures, for the relatively short term, between one and three years, it is recommended to take specific additional action in:

1. Improving collection (cluster 1.2). Increase collection and the quality of the WEEE collected is the main aim of this cluster. Securing facilities to avoid thefts and scavenging, make collection points more easily accessible and more visible, increase the number of collection points or their territorial density and banning cash transactions are part of the proposed actions in this cluster. Supporting actions from cluster 1.1 will create efficient synergies with the recommendations in this cluster.

2. Developing national WEEE monitoring (cluster 1.3): The principal reason is that better data management helps decision makers to allocate resources and to divert some of the flows to proper destinations. Some participants also stressed that it is important to ensure that all member states have an independent national register in place where “put on the market” and treated WEEE volumes by producers and recyclers are recorded as well as to improve the harmonization of such monitoring EU wide. Reporting on a national level is required to obtain better quality data and sound decision-making processes. Needless to say, this recommendation should not stand alone, but also provide factual information to the next recommendation cluster:

3. Establishing the concept of the NEST and national WEEE networks (cluster 2.3). Building and strengthening national networks is necessary for information sharing and collaboration. Several experiences and best practices are identified indicating that networking and bringing different types of stakeholders together is essential. It would lead to a better exchange of experiences and best practices resulting in more efficient and expanded actions tackling illegal trade. This ultimately would lead to better implementation and decision taking.

6.4.2 Medium term recommended actions:

For the medium term, between three and five years from now, to actually develop and implement below measures, the CWIT consortium recommends to specifically invest in the following recommendations:

1. To implement the ‘all actors report-plus’ principle as a mandatory element for traders and processors when treating WEEE product flows and to include such in national transposition of the
WEEE Directive to be included in all countries (cluster 1.4). It should be noted that some member states are already doing this or preparing to do this. The ‘plus’ refers to the point that also proper reporting on de-pollution should be included in the Directive and only allowing processors that are working in compliance with standards currently in development. The market assessment specifically indicated the need to improve the control of complementary recycling flows. It is therefore paramount to take these further into account beyond the data reported by the take-back systems. At the same time, some respondents stressed the point that it is necessary to find incentives for proper reporting whilst not disrupting the functioning of the regular market mechanisms and controlling the quality of WEEE treatment in order to prevent that recyclers with higher environmental quality are not having an economic disadvantage.

2. In close conjunction to this, inevitably, the previous clusters on improved monitoring and mandatory reporting as well as functioning WEEE networks and establishing NEST’s should allow for smarter and more targeted inspections (cluster 2.4). The market assessment clearly highlights that there is not only a need for improved border inspections, but simultaneously also for inspections upstream at waste sites for targeted control purposes in order to prevent illegal activities going further downstream. Some member states report that many recycling companies are never inspected. As inspection resources are generally very limited, the word ‘targeted’ is essential: the previous clusters should generate sufficient information to use resources efficiently and effectively. Respondents also highlight that in later stages, risk indicators developed in some countries can be used by others. This also indicates the relationship with the next recommendation cluster:

3. Establishing international WEEE networks as the basis for better international knowledge and data exchange (cluster 4.3). Much of the (illegal) trade crosses (multiple) borders. The current situation, specifically between member states and receiving non-OECD countries, is regarded as very poor and requires improvement. This positive step will also enable putting in place some other recommendations and the sharing of information will result in the creation of best practices globally. One practical suggestion is to strengthen existing networks like INTERPOL, Envicrimenet, Europol and IMPEL TFS rather than developing new ones. The networks should specifically include police, prosecutors and customs. Beyond exchanging information, also the exchange of modus operandi and if possible nominal data will lead to improved intelligence led enforcement.

### 6.4.3 Long term recommended actions

Finally, for the long term, typically implemented in five to seven years from now, there should be investment in improvement of prosecution and sentencing (cluster 4.4) in order to actually develop and implement below measures. The development of these measures can start as soon as a sufficient basis is laid resulting from the previous recommendations.

1. Improved sentencing and prosecution is both a preventative and reactive measure to deter and counter crimes. It is important to inform potential perpetrators about the consequences of criminal actions. This however requires an effective enforcement regime with specialized prosecutors and judges who are educated on the issues around WEEE in order to enable them to effectively deal with WEEE related offences. Most respondents classify this as the ‘weakest link’ in the law enforcement chain. This last link of specialized prosecutors and judges in the enforcement chain should become better trained of the specific issues in this complex topic: Initiatives such as the IMPEL TFS prosecutors project, European Network of Prosecutors for the Environment, Eurojust and European Union Forum of Judges for the Environment needs to be supported. It is important for the prosecution, sentencing and punishments that they become more or less harmonized within the European Union.
6.5 Support measures

6.5.1 General support measures:
Not included in the core recommendation in the above roadmap is the cluster that the audience identified as both the highest and lowest priority. Because the above actions are prioritized and structured chronologically, does not mean that other recommendations are to be discarded. On the contrary: Many of these clusters are to be regarded as essential. They are also classified as general support measures, support policies and legislative adjustments and as measures to enhance law enforcement infrastructure.

1. Educate consumers (cluster 1.1). It all starts with prevention and awareness. Consumers are the starting point for WEEE flows and hence need to be convinced that returning end-of-life equipment to a legitimate collection point is important. Failure to do so will result in improper disposal of e-waste and/or storage in households’ attics and basements. Both the market assessment and the respondents also highlighted the flipside of this: Where a central main problem is theft and scavenging from collections points, and therefore flows are diverted after initial collection, educating consumers will be of little help.

2. Improve treatment (cluster 2.1) is regarded as key to minimizing risks to health and damage to the environment. One practical suggestion is to make CENELEC’s EN 50625- series legally binding either by the European Commission through an implementing act or by permits of take-back systems and collectors in member states. This is more or less also included in the above ‘all actors report plus’ recommendation (cluster 1.4)

3. Improve reuse (cluster 2.2): Where the market assessment primarily raised concerns on mixed shipment and the avoidance of proper sorting and testing of reusable equipment, the respondents also highlighted reuse is an upstream solution within Europe to be done to a much higher degree by prolonging the lifespan and better facilitating repairability.

6.5.2 Supporting policies, guidelines and adaptations to the legal framework

1. Improved codification (cluster 3.1): Especially the cluster of more targeted inspections (cluster 2.4), does also require that TFS/WSR related inspections are performed with better information in the customs declarations. This requires improving and checking compatibility of waste codes as a relatively simple and concrete task. Harmonization of codes is intrinsic to assisting in investigation and cross-collaboration between agencies and enforcement bodies and critical to enable a distinction between EEE, UEEE and WEEE. Improvements in this area and better matching of codes and less room for interpretation will also facilitate prosecution and enforcement (cluster 4.4).

2. Coherent guidelines (cluster 3.2): This more ‘supporting cluster’ on distinguishing between what is legal and what is illegal is a big problem in many cases. The majority of respondents agreed on the need to improve this. Coherent and clear guidelines will make inspection and prosecution easier and thereby increasing the likelihood of conviction. The guidelines should contain information for customs and exporters on how to distinguish between UEEE and WEEE.

3. Harmonization of penalties (cluster 3.4): Many participants deem a coordinated and more harmonized approach among member states necessary. WEEE trade is a global issue and therefore requires more harmonized responses. Penalties vary considerably across Europe depending on the location where illegal waste shipments are detected. Some contrasting views are also gathered,
especially regarding the likelihood of this to happen: Member states may choose not to consent to this due to the fact that they have very different legal traditions.

6.5.3 Supporting measures to strengthen the law enforcement chain.

1. Training of law enforcement agencies (cluster 3.3): Having received the lowest priority from the respondents, there still is a significant knowledge gap in the law enforcement agencies. Only a handful of specialists are operating in government administrations.

2. Information management system (cluster 4.1): A number of respondents indicated this to be the highest priority since combating illegal trade is an international issue and the management of international information is therefore crucial. Its implementation requires a secure channel, which is easily accessible. According to the amendments of the EU Waste Shipment Regulation, member states are now obliged to draft inspection plans based on risk assessments. This obligation is an opportunity to connect the data between law enforcement agencies and supervisory bodies. This supporting measure is a prerequisite for the central recommendation cluster 4.3: Without a proper information management system, the WEEE networks and communication would not function.

3. Improving the capacity of law enforcement agencies: A considerable amount of respondents are in favour of this recommendation. Similar to cluster 3.3, this supporting measure is highlighted as inspecting WEEE is particularly difficult calling for more investment. There is agreement around the observation that the capacity of law enforcement agencies is under financial pressure, specifically for waste inspection (and other environmental crimes), and that it doesn’t feature high as a priority. It also needs to be noted that in comparison with the significant negative economic impacts of illegal WEEE trade, better cost/benefit analyses may result in a re-think of the situation.
7 CONCLUSIONS

Coordinated by a consortium of seven partner organizations and funded by the European Union’s Seventh Framework Programme, the two-year CWIT project was launched in September 2013 to identify the policy, regulatory, enforcement and technical gaps which criminals exploit in order to illegally transport and dispose of e-waste. It also sought to understand the economic drivers of sub-standard and illegal treatment and trade. The project puts forward recommendations for the European Commission, law enforcement agencies, lawmakers and electronics and e-waste treatment industries to assist them in countering the illegal trade of e-waste. The project tapped into diverse sources of information. Specifically, it actively sought to involve partners and stakeholders representative of the entire WEEE value chain through the creation of a global information network. To capture the expertise held by this network, the project set up surveys, expert interviews and workshops. Extensive desk research was conducted to collate the existing information and statistics on WEEE.

With a multi-faceted insight into the current situation, a set of 16 clusters of recommendations was tailored for each of the relevant stakeholder group. This approach ultimately led to the following roadmap that offers guidance on the measures needed to actively and holistically improve the e-waste industry. The roadmap is also aimed at offering potential avenues to adjust the necessary environmental and economic policies for the EU economy at large. The roadmap describes 16 recommendation clusters, illustrating the time needed to implement these, the core recommendations and connected general support measures, support policies and law enforcement infrastructure development as well as the actors that are primarily involved.

More details can be found in Deliverable 6.1 Recommendations related to the EU Legal Framework, Deliverable 6.2 Recommendations for law enforcement organisations, Deliverable 6.3 Recommendations for the WEEE treatment industry, Deliverable 6.4 Recommendations for the electronics industry.
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About INTERPOL - ENVIRONMENTAL CRIME AND SECURITY

Environmental crime is recognised as an international security issue, and one which takes many forms and crosses many sector. The INTERPOL General Assembly of November 2014, passed a resolution urging member countries to fully utilize INTERPOL’s operational tools and services in their efforts targeting environmental crimes. Environmental crimes cover biodiversity, natural resource and environmental quality issues around the world.

From the poaching of elephants and trade in their ivory to the illicit trafficking in waste; from illegal fishing in national and international waters to exploitation of forests, environmental security and the criminality that surrounds it directly and indirectly affects us all. It contributes to the instability of our global politics, it erodes our economic markets and directly effects our community’s health and wellbeing.

A GLOBAL RESPONSE

INTERPOL member countries lead and participate in a number of innovative projects and operations designed to enhance environmental security. INTERPOL’s environmental security unit publishes manuals and handbooks for frontline law enforcement officers on topics including intelligence-led enforcement, methods of smuggling and concealment, techniques for questioning wildlife smugglers, and the conducting of “controlled deliveries”.

Additionally, INTERPOL encourages inter-agency cooperation and communication within and among countries through national environmental security task forces (nests). A nest is a national cooperative of police, customs, environmental agencies, prosecutors, other specialized agencies, non-governmental and intergovernmental partners.

Finally, INTERPOL’s environmental security sub-directorate is guided and advised by the member countries of the environmental compliance and enforcement committee and its working groups on pollution, fisheries and wildlife crime.

INFORMATION EXCHANGE

INTERPOL notices are international alerts used by police to communicate information about crimes, criminals and threats to their counterparts around the world. The information disseminated via notices concerns, among others, individuals wanted for serious crimes, possible threats, and criminals’ modus operandi. Notices offer high visibility for serious crimes or incidents. INTERPOL also publishes environmental alerts at the request of member countries to notify law enforcement authorities of events that may call for urgent monitoring.

PROJECTS - FIVE LONG-TERM PROJECTS - Aim to protect threatened animal and plant species and preserve the integrity of the natural environment through training courses, operations, information exchange and intelligence analysis.

■ PROJECT EDEN – to combat the illegal trade in waste, particularly electronic waste, through international operations, intelligence-led policing, and capacity building to improve detection and enforcement.

■ PROJECT LEAF (LAW ENFORCEMENT ASSISTANCE FOR FORESTS) – to combat illegal logging and related crimes. Led by INTERPOL and the United Nations Environment Programme, it supports enforcement operations, provides training and tactical support, and improves intelligence gathering.
■ PROJECT PREDATOR – to improve conservation efforts of the world’s remaining Asian big cats, through enhanced communication of intelligence, development of a global picture of the criminal activity threatening Asian big cats, disruption of criminal networks, and apprehension of criminals.

■ PROJECT SCALE – to identify, deter and disrupt transnational fisheries crime. It conducts region- or commodity-specific law enforcement operations, provides case-specific support and recommendations, and expands INTERPOL’s international marine enforcement network.

■ PROJECT WISDOM – to combat elephant and rhinoceros poaching and the illegal trade in ivory and rhinoceros horn. It seeks to conserve these species through international operations, intelligence-led policing, increased public awareness and training of local police.

OPERATIONAL SUCCESS

INTERPOL’s specialized units provide case-specific support through the deployment of investigative support teams and incident response teams. INTERPOL deploys teams with specialized forensics skills and crime area experience to support local and national authorities in investigations into large seizures and mass destruction events of wildlife and natural resources, and to identify avenues for international cooperation.

INTERPOL coordinates and supports law enforcement operations around the world, including some of our recent mobilizations:

OPERATION AMAZONAS (2014) – targeting the criminal groups linked to the illegal timber trade in Peru. The resulting seizures are estimated at more than 15,000 m³ of timber (enough to fill approximately six olympic-sized swimming pools), with a value of around $20.6 million.

OPERATION PUTUMAYO (2014) – led by the Peruvian public ministry and targeted illegal logging and illegal mining sites along the borders between Peru, Colombia and Brazil. The resulting seizures are estimated at 20,000 m³ of timber, with a value of around $31 million.

OPERATION SPINDRIFT (2014) – targeting the illegal transnational trade in abalone, or sea snails, through information and intelligence exchange among seven countries. Participating agencies recommended ways to improve reporting, monitoring and operational procedure.

OPERATION WENDI (2013) – combating the trafficking in elephant ivory in west and central African countries. Nearly 4,000 ivory products and 50 elephant tusks were seized, along with 148 animal parts and derivatives and 88 firearms. Additionally, 222 live animals were released back into the wild.

OPERATION PREY (2013) – a multi-phased operation targeting the illegal trade in Asian big cats and wildlife products in Asian big cat range countries. The operation led to 42 arrests and the seizure of live tigers, tiger and leopard skins and bones, and other protected wildlife products.


OPERATION ENIGMA, PHASE I (2012) – to combat the illegal trade of electronic waste. The operation resulted in the seizure of more than 240 tons of electronic equipment and electrical goods and the launch of criminal investigations against some 40 companies.
PARTNERS

INTERPOL is one of five international partners of the international consortium on combating wildlife crime (ICCWC). Supported by the European commission, the partnership allies the strengths of the individual organizations towards joint projects on wildlife crime.

The INTERPOL environmental security unit is financially supported by the governments of Norway, the united kingdom and the united states, the European commission, the European Union, humane society international, the international fund for animal welfare (IFAW), the pew charitable trusts, Philip Morris international and the wildcat foundation.

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About UNU – IAS SCYCLE

United Nations University (UNU)

The United Nations University is an international community of scholars engaged in research, postgraduate training and the dissemination of knowledge in furtherance of the purposes and principles of the United Nations, its Peoples and Member States. The University functions as a think tank for the United Nations system, contributes to capacity building, particularly in developing countries, and serves as a platform for new and innovative ideas and dialogue.

UNU Institute for the Advanced Study of Sustainability (UNU-IAS)

UNU-IAS is a new UNU institute, created in January 2014 by consolidating the former UNU Institute of Advanced Studies and UNU Institute for Sustainability and Peace (UNU-ISP). It is based at UNU Headquarters in Tokyo. The mission of UNU-IAS is to serve the international community through policy relevant research and capacity development focused on sustainability, including its social, economic and environmental dimensions. UNU-IAS applies advanced research methodologies and innovative approaches to challenge conventional thinking and develop creative solutions to emerging issues of global concern in these areas. The institute’s research, education and training combine expertise from a wide range of areas related to sustainability, and engage a global network of scholars and partner institutions. Through postgraduate teaching UNU-IAS develops international leaders with the interdisciplinary understanding and technical skills needed to advance creative solutions to problems of sustainability.

UNU-IAS Operating Unit Sustainable Cycles (UNU-IAS-SCYCLE)

UNU-IAS-SCYCLE is an operating unit of UNU-IAS based in Bonn, Germany. Its activities are focused on the development of sustainable production, consumption and disposal scenarios for electrical and electronic equipment, as well as other ubiquitous goods. SCYCLE leads the global e-waste discussion and advances sustainable e-waste management strategies based on life-cycle thinking. Within this context UNU-IAS-SCYCLE:

- conducts research on eco-structuring towards sustainable societies;
- develops interdisciplinary and multi-stakeholder public-private partnerships;
- assists governments in developing e-waste legislation and standards, meeting a growing need for such support;
- undertakes education, training and capacity development; and
- facilitates and disseminates practical, science-based recommendations to the United Nations and its agencies, governments, scholars, industry and the public.

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About the WEEE Forum

The WEEE Forum ([www.weee-forum.org](http://www.weee-forum.org)) is a European not-for-profit association speaking for 32 electrical and electronic equipment waste (WEEE) producer compliance schemes – alternatively referred to as ‘producer responsibility organisations’ (PRO). It was set up in 2002. The 32 PROs are based in Austria, Belgium, Czech Republic, Denmark, Estonia, Italy, Germany, Greece, France, Ireland, Lithuania, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom. It is the biggest organisation of its kind in the world. In 2014, its member organisations reported collection and proper de-pollution and recycling of more than 1.7 million tonnes of WEEE. Members in 2015: Amb3E, Appliances Recycling, Asekol, EÂF, Eco-asimelec, Ecodom, Ecolec, Ecoped, Eco-systèmes, Ecotic, Eco Tic, EES-Ringlus, EGIO, ElektroEko, Elektrownin, El-Kretsen, elretur, el retur, Environ, Fotokiklosi, RAEcycle, Recupel, ReMedia, Repic, Retela, RoRec, SENS, SWICO, UFH, Wecycle, WEEE Ireland and Zeos.

The link to our ‘Services and projects’ page: [http://www.weee-forum.org/services/key-figures-platform](http://www.weee-forum.org/services/key-figures-platform)

More specifically:
WEEE LABEL: [http://www.weee-forum.org/weelabex-0](http://www.weee-forum.org/weelabex-0)
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