



HAROKOPIO
UNIVERSITY
ATHENS

NAXOS2018 

Mapping EEE reuse and WEEE preparing for reuse practices and initiatives in Greece

ReWeee 

K. Lasaridi^{1}, K. Boikou¹, K. Kalafata², C. Chroni¹, Ch. Angelakopoulos², K. Abeliotis¹*

- 1. Harokopio University,*
- 2. Appliances Recycling S.A.*



The "ReWeee" project (LIFE14 ENV/GR/000858) is 60% co-funded by the European LIFE + Environment programme

Worldwide, over the last decades, technological evolution and reduced cost production have led to a dramatic increase in the volume of WEEE.

At the same time, Recycling, Repair and Re-use Activities are being developed.

Globally, WEEE generation is rising, with around 40 million tonnes of WEEE being produced annually.

WEEE generation in EU is also rising and is expected to grow 3-5% per year.

However, to a large extent, a part of the WEEE usually can be reused, since it is functional or has minor wear.

Through Reuse and Preparation for Reuse, WEEE can have a chance second life cycle.

There is a diversification in WEEE management within EU Member States. Some countries have developed practices in WEEE management before the introduction of the European Directives (Sweden, Switzerland), while others still face several challenges even at the collection stage.

Collection and management of WEEE require complex planning to meet the needs of the types and quantities of WEEE generated. The recyclability of WEEE differs in each type of equipment, making recycling process costly.

Often, End-of-Life EEE are still functionable or can be easily repaired, to retain the Reuse strategy contributes to the reduction of WEEE volumes.

A "second chance" is given to devices through a range of services such as Repair or Refurbishment.

Studies within the EU show that **20-30%** of the discarded appliances are functional and can still be used.

RECYCLE



GOOD

Recycling: a significant amount of materials can be utilized and can be used to produce new electrical and electronic devices, saving raw materials.

Repairing and Reuse:
can extend the life of existing devices and at the same time reduce the volume of WEEE resulting in processing and final disposal.

REUSE



BEST

Service enterprises work on repairing consumer devices, contributing to the circular economy.



Mapping EEE reuse and WEEE preparing for reuse practices and initiatives in Greece

is one of the fundamental, deliverables
of the LIFE Programme

**“Development and Demonstration of Waste Electrical & Electronic
Equipment (WEEE) Prevention and Reuse Paradigms”
(LIFE-REWEEE)**

Main goals of this study:

the accurate mapping of the baseline situation on (W)EEE **reuse** and **preparing for reuse** in Greece (i.e. practices and initiatives), which is currently mainly based on small – scale, often informal, private entrepreneurial initiatives.



Methodology

For its completion
the following
methods were
employed:



The “*Mapping EEE reuse and WEEE preparing for reuse practices and initiatives in Greece*” study

evolves into two parallel axes:

1. Collection, assessment and analysis of data from reliable sources.
2. Investigation of the impact of economic crisis in Greece on WEEE generation.

Methods employed:

105 questionnaire-based interviews – literature review

Conducted for the 1st time in Greece.

The Questionnaire was designed to report the mapping of the current situation on WEEE reuse (prevention) and preparation for reuse in Greece.

105 questionnaire-based interviews were completed:

➤ **87% were filled by micro-sized enterprises i.e. <10 employees**

➤ **Only 4% were filled by large size repairers i.e. >250 employees**



Ερωτηματολόγιο για την αποτύπωση πρακτικών και δραστηριοτήτων επαναχρησιμοποίησης και προετοιμασίας για επαναχρησιμοποίηση στην Ελλάδα

LIFE RE-WEEE Project

Το ερωτηματολόγιο αυτό, εν είδει ημι-δομημένης συνέντευξης, έχει σχεδιαστεί για να αποτιμήσει τις πρακτικές και τις δραστηριότητες επαναχρησιμοποίησης Ηλεκτρικού και Ηλεκτρονικού Εξοπλισμού (ΗΗΕ), καθώς και της προετοιμασίας για επαναχρησιμοποίηση των αποβλήτων τους (ΑΗΗΕ) στην Ελλάδα.

Η αποτύπωση αυτή θα γίνει για πρώτη φορά στην Ελλάδα και θα επιτευχθεί μέσω της ανάλυσης και επεξεργασίας πρωτογενών στοιχείων, τα οποία θα ληφθούν από τα κέντρα επισκευών, τα δίκτυα αντιπροσώπων ΗΗΕ, εμπόρων που δραστηριοποιούνται στην επισκευή, την επαναχρησιμοποίηση ή την προετοιμασία για επαναχρησιμοποίηση των ΑΗΗΕ. Οι πληροφορίες που συλλέγονται θα χρησιμοποιηθούν για τη σύνταξη μίας έκθεσης για την αποτύπωση των πρακτικών και των δραστηριοτήτων επαναχρησιμοποίησης και της προετοιμασίας για επαναχρησιμοποίηση στην Ελλάδα.

Παρακαλούμε να σημειωθεί ότι τα στοιχεία που συλλέγονται σχετικά με την ταυτότητα των συμμετεχόντων (εταιρικό ή ατομικό) δεν θα δημοσιοποιηθούν. Όλες οι πληροφορίες που παρέχονται είναι αυστηρά εμπιστευτικές και συγκεντρώνονται, ώστε να παραχθεί μια συνολική εικόνα για τον τομέα των αποβλήτων στην Ελλάδα.

Το ερωτηματολόγιο εκπονήθηκε στο πλαίσιο του έργου της Ευρωπαϊκής Επιτροπής LIFE RE-WEEE (LIFE 14 ENV/GR/000838), το οποίο έχει ως στόχο τη μείωση της ποσότητας των ΑΗΗΕ μέσω της υλοποίησης δράσεων πρόληψης και προετοιμασίας για επαναχρησιμοποίηση. Για περισσότερες πληροφορίες σχετικά με το έργο LIFE RE-WEEE, μπορείτε να επισκεφτείτε την ιστοσελίδα του έργου <http://reweee.gr>.

Για να εξαχθούν ορθές εκτιμήσεις και ασφαλή συμπεράσματα, είναι σημαντικό να απαντηθούν όλες οι ερωτήσεις με όσο το δυνατόν μεγαλύτερη ακρίβεια.

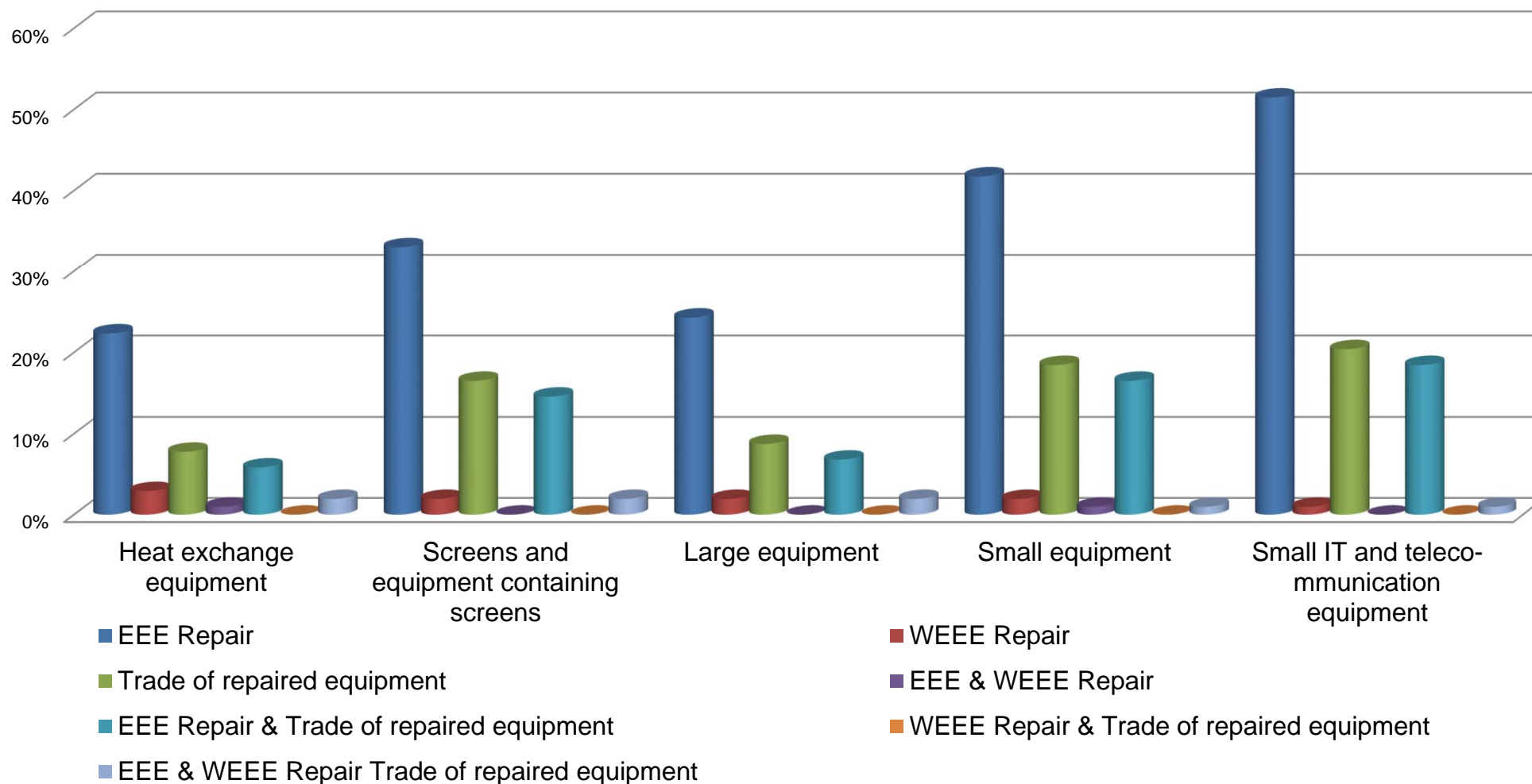
Οι ερωτήσεις αφορούν στη Δράση Β.3 (Υποδράση Β.3.1) του έργου LIFE RE-WEEE. Ορισμένες από τις ερωτήσεις έχουν αναπτυχθεί από κοινού ή εξολοκλήρου από τη Deloitte, στο πλαίσιο έρευνας για την επισκευσιμότητα των ΗΗΕ/ΑΗΗΕ. Δεδομένου ότι η έρευνα αυτή έχει κοινά σημεία με την έρευνα που διεξάγει το έργο LIFE RE-WEEE (Δράση Β.3), αποφασίστηκε από αμφότερες πλευρές, και μετά από παρότρυνση της Ευρωπαϊκής Επιτροπής (EC DG Environment), η συνεργασία στο επίπεδο σύλλογής των στοιχείων για την Ελλάδα.



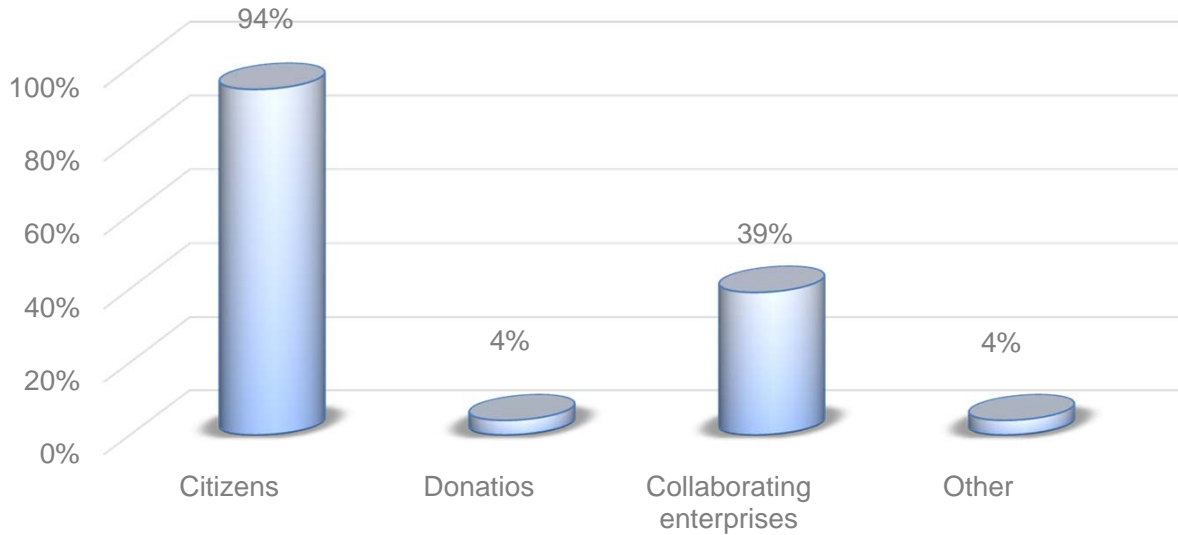




Activities of repair enterprises (2016)



Source of EEE quantities for repair (2016)



EEE Repairability (2016)

	Heat exchange equipment	Screens and equipment containing screens with a surface area of > 100 cm ²	Large equipment	Small equipment	Small IT and telecommunication equipment
Percentage %	75%	94%	57%	75%	80%

EEE reparability:

Large equipment products are expected to be quite reliable. However, they are discarded when damaged, since repairing this type of equipment sometimes is difficult or too costly compared to purchasing a new one.

WEEE prevention activities:

- Only a small number of companies responded that they have developed such initiatives, mainly through the internet and advertising, and point out that such initiatives are promoted mainly by large companies in the EEE market.

Final disposal of non-repaired appliances:

- Non-repairable appliances end up in the special WEEE collection bins (79%), a percentage of WEEE can be used as a source of spare parts for other appliances (56%) or as a source of spare parts for sale (19%).

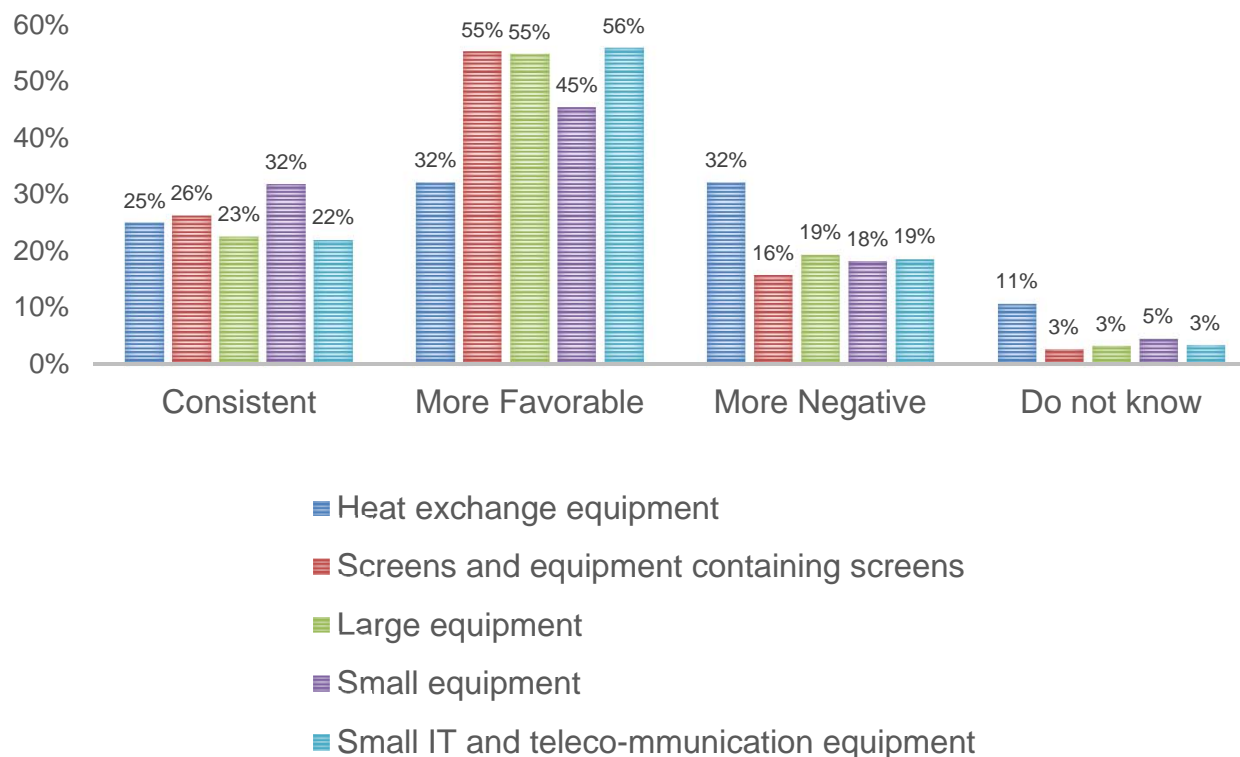
Spare Parts Availability:

- The availability of spare parts in Greece for all product categories is considered satisfactory.

Consumers' behaviour:

- Overall, Greek households are quite positive to all kind of EEE repairs.
- However, over the last decade consumer attitude is more favorable to repairs, for economic reasons, mainly due to the economic crisis affecting the country. A large number of consumers prefer to repair their appliances than buying a new device, as household income in Greece has decreased dramatically.

Consumer behaviour towards EEE repair (over the last decade)



Conclusions

- Service enterprises play a significant role in EEE & WEEE reuse, reducing the quantity of WEEE generated.
- Consumer attitude towards product repair depends on many factors such as repair process and costs, guarantee, consumers' characteristics, product requirements, market offers etc.
- Although consumers' willingness to repair is growing, there are still significant obstacles discouraging them (cost of repair, reliability, etc).
- It is crucial to develop initiatives to promote the reuse of EEE or the preparation for reuse of WEEE and implement financial facilitations to encourage repair in Greece, in order to maximize resource efficiency.



HAROKOPIO
UNIVERSITY
ATHENS

NAXOS2018 

Thank you for your attention!

ReWeee

