Maximizing recycling in remote areas using the PAVEtheWAySTE system

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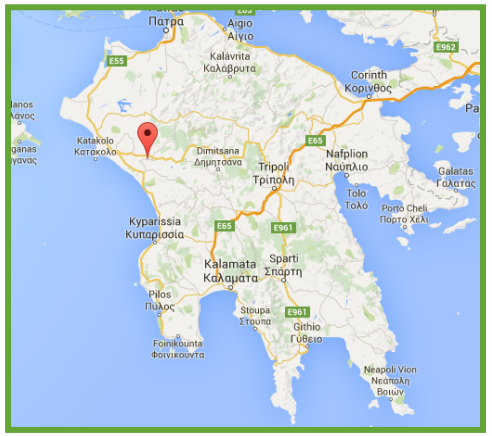
LIFE PAVEtheWAySTE project

Demonstrating resource efficiency through innovative, integrated waste recycling schemes for remote areas

Overall Scope:

This project aims to facilitate the implementation of the Waste Framework Directive in remote areas, by enabling local and regional authorities to improve their municipal waste recycling performance and thus pave the way to high resource efficiency.

Implementation areas



Municipality of Naxos & Small Cyclades

(Koufonisia, Donousa, Schinousa, Iraklia)

Municipality of Ancient Olympia

(Ancient Olympia, Platanos, Pelopio)

Replication study

Castilla-León

Project Partners

1. Coordinating beneficiary: Municipality of Naxos and Small Cyclades (NAXOS)

Associated beneficiaries:

2. CARTIF Institute (CARTIF)
3. National Technical University of Athens (NTUA)
4. Municipality of Ancient Olympia (OLYMPIA)

Duration

01/09/2015 - 30/06/2020

Budget

Project budget: 1,758,267 €

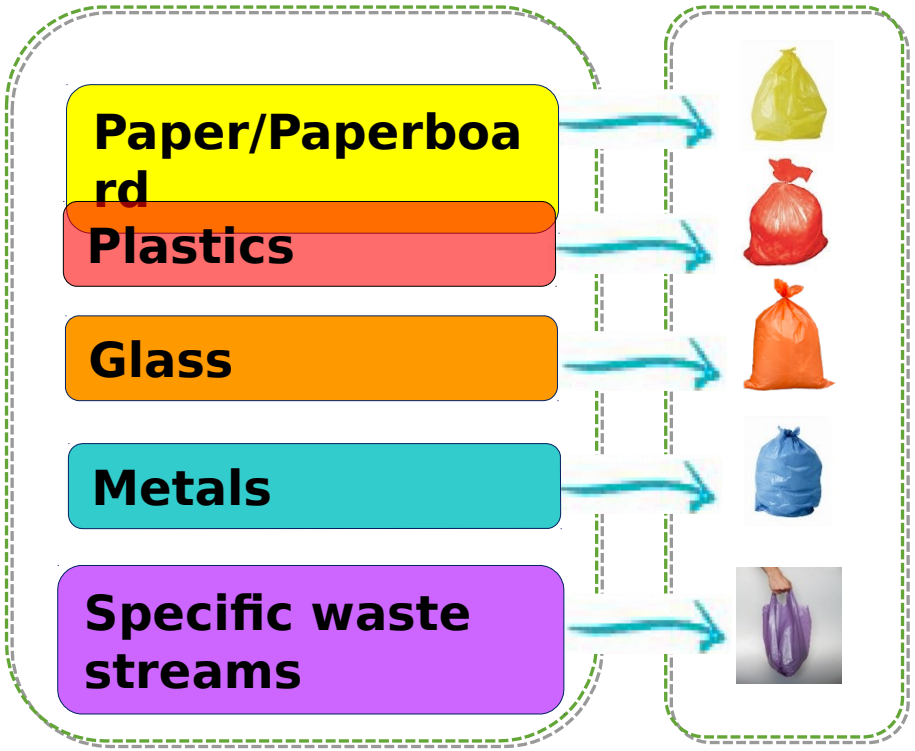
EC Funding: 1,054,960 € (60%)

MSW Management scheme (1)

1. Source separation in 5 main streams

MSW production

MSW source separation



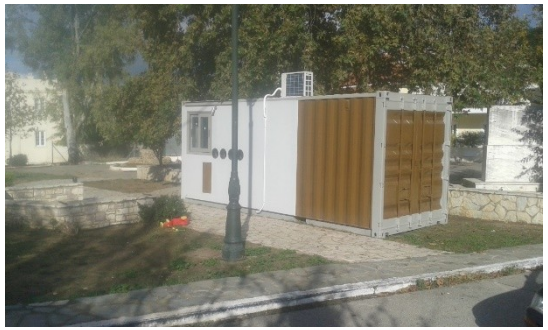
Drop off

Green Kiosk

MSW Management scheme (2)

2. Further separation in substreams

Green Kiosk



1 employee

Participants

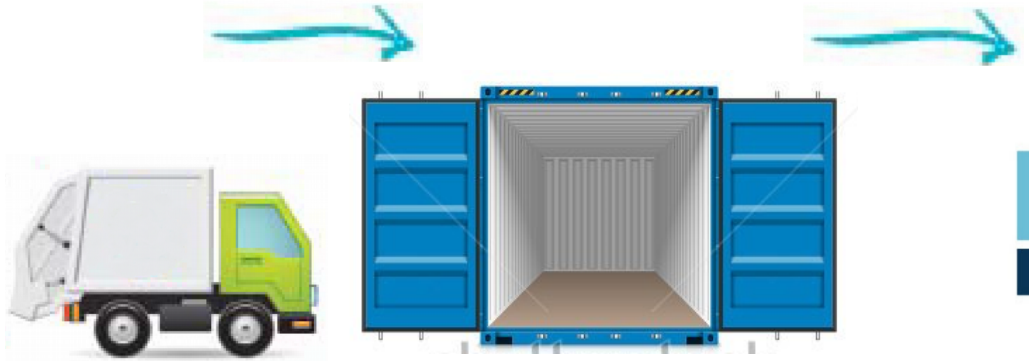
ID card for participants Rewarding System

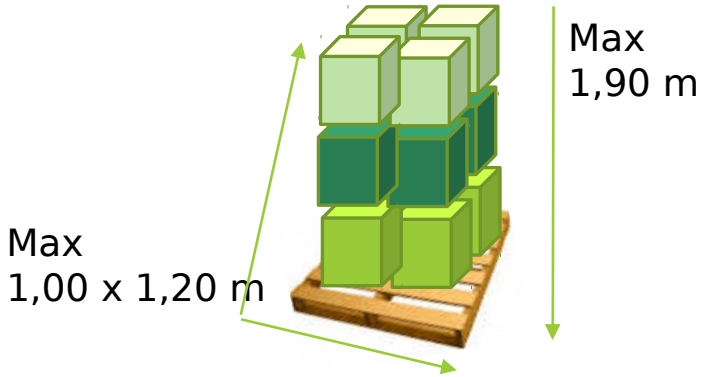
- Printed Paper
- Paperboard
- Mixed paper
- PET non-coloured
- PET coloured
- HDPE
- LDPE
- PP/PS
- Glass non-coloured
- Glass coloured
- Ferrous metals
- Non-ferrous metals
- Waste oils
- WEEE
- Batteries
- Lamps

MSW Management scheme (3)

Detailed separation of more than **12** sub-streams

3. Temporal storage





4. Transportation to the market

- ✓ Private Sector
- ✓ industries

Photos of the installed recycling system in the target areas

Municipality of Ancient Olympia

Municipality of Naxos & Small Cyclades

Innovative characteristics & main advantages

Innovative characteristics…

- *Essentially anthropocentric design*
- *In aesthetic harmony with its surroundings*
- *High level of portability*
- *High level of operational flexibility*

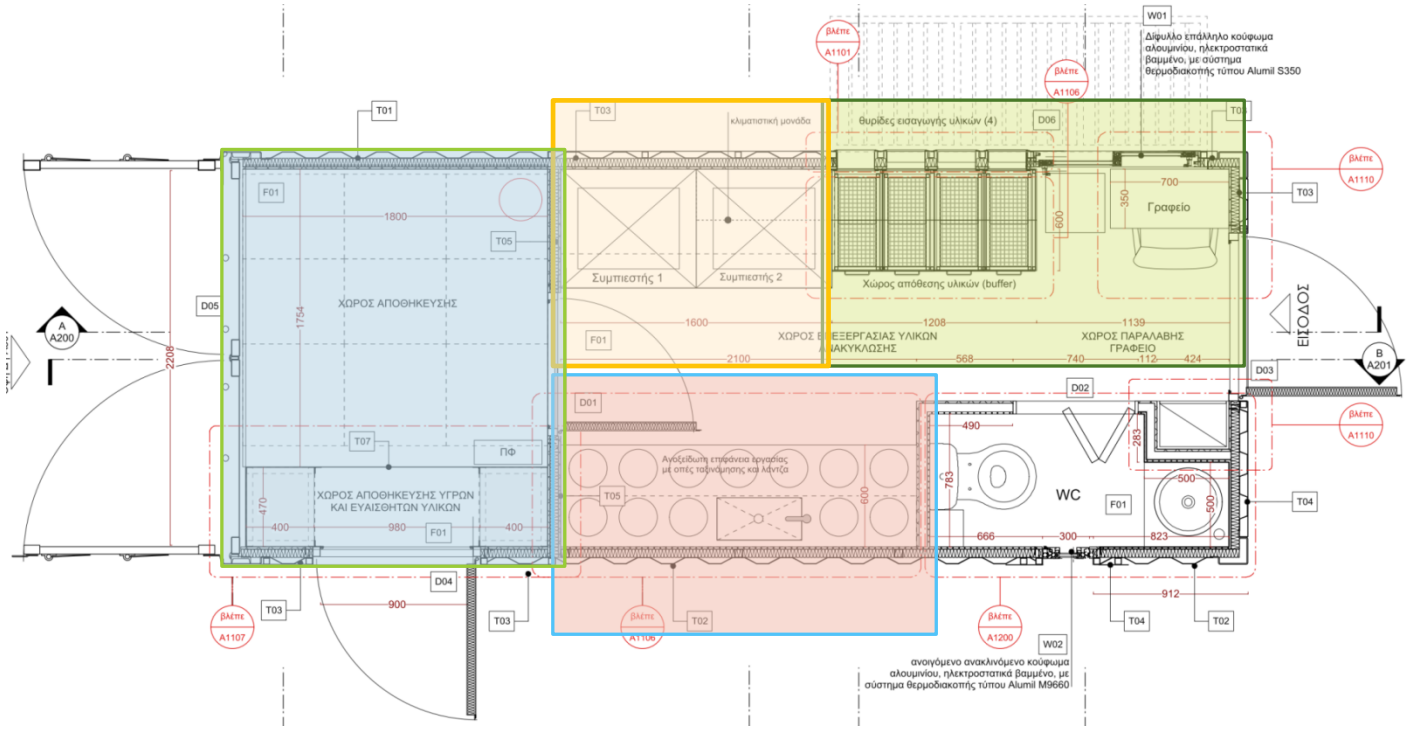
Main advantages…

- Supplementary satellite system to further support integrated waste management
- Direct communication with target audiences through the daily presence of an operator
- Detailed sorting in more than 12 sub-streams
- High levels of purity thus increasing the materials value

The Green Kiosk consists of the following areas:

- Reception area of 5 pre-sorted waste streams (plastic, glass, metal, paper & special waste streams)
- Fine separation area of pre-sorted waste into subcategories (PET, HDPE, LDPE, Aluminium, paperboard, etc.) by the system
- Processing of fine separated materials (compression / crushing, baling)
- Storage area of baled materials

System Plan and space arrangement **20m³ container**,



System space arrangement (1/2)

Reception area

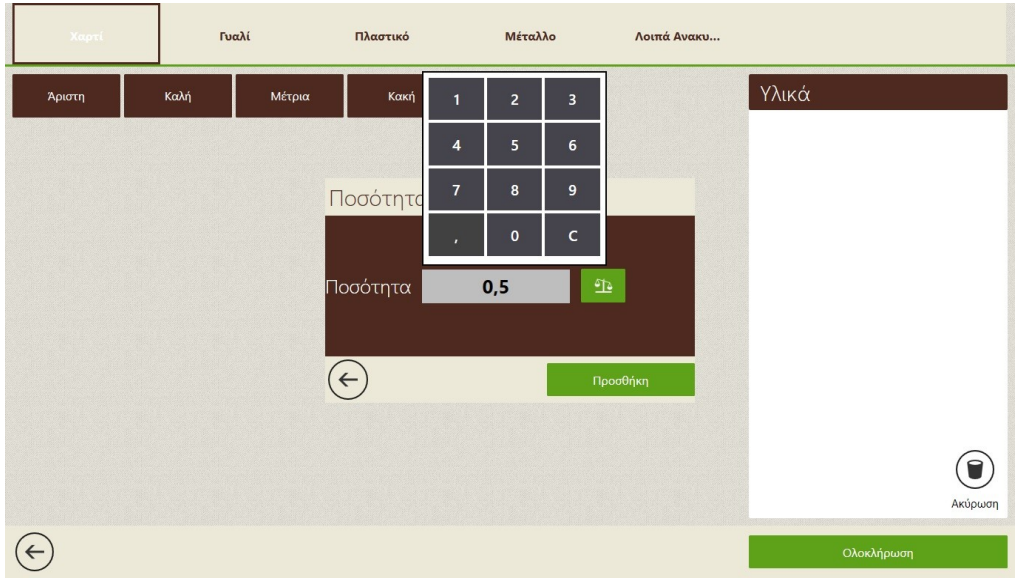
Rewarding system

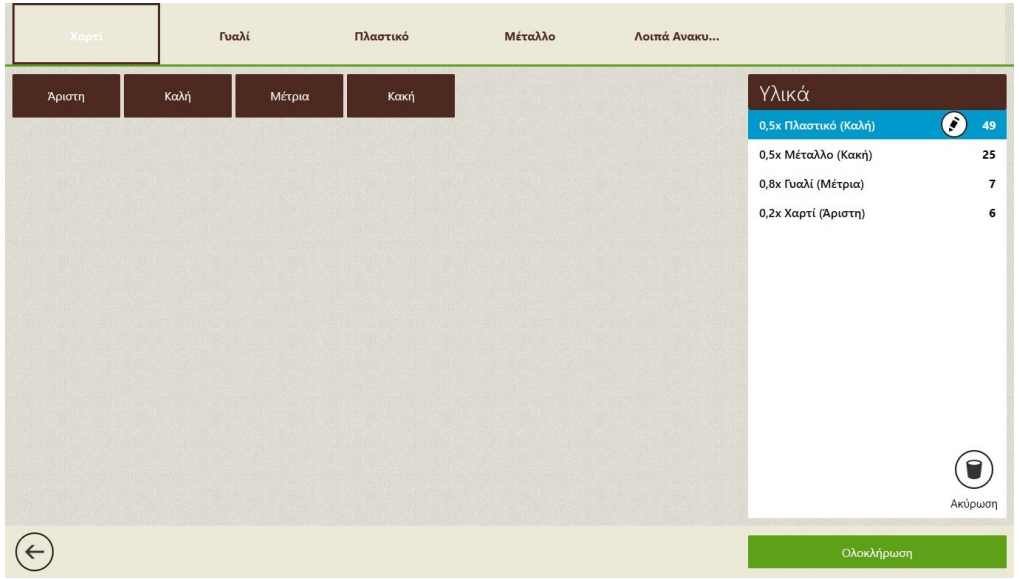
System space arrangement (2/2)
Compression system

Sorting area

Storage of compressed materials

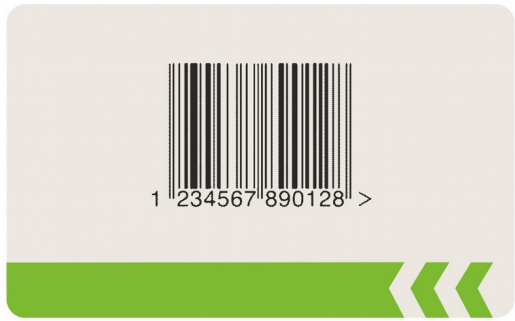
Data Recording & Rewarding system





- Reward points are calculated by a specially designed **algorithm** based on different parameters such as the quantity and quality of recyclables.
- A personalized **ID Card** for collecting rewarding points

A΄ όψη



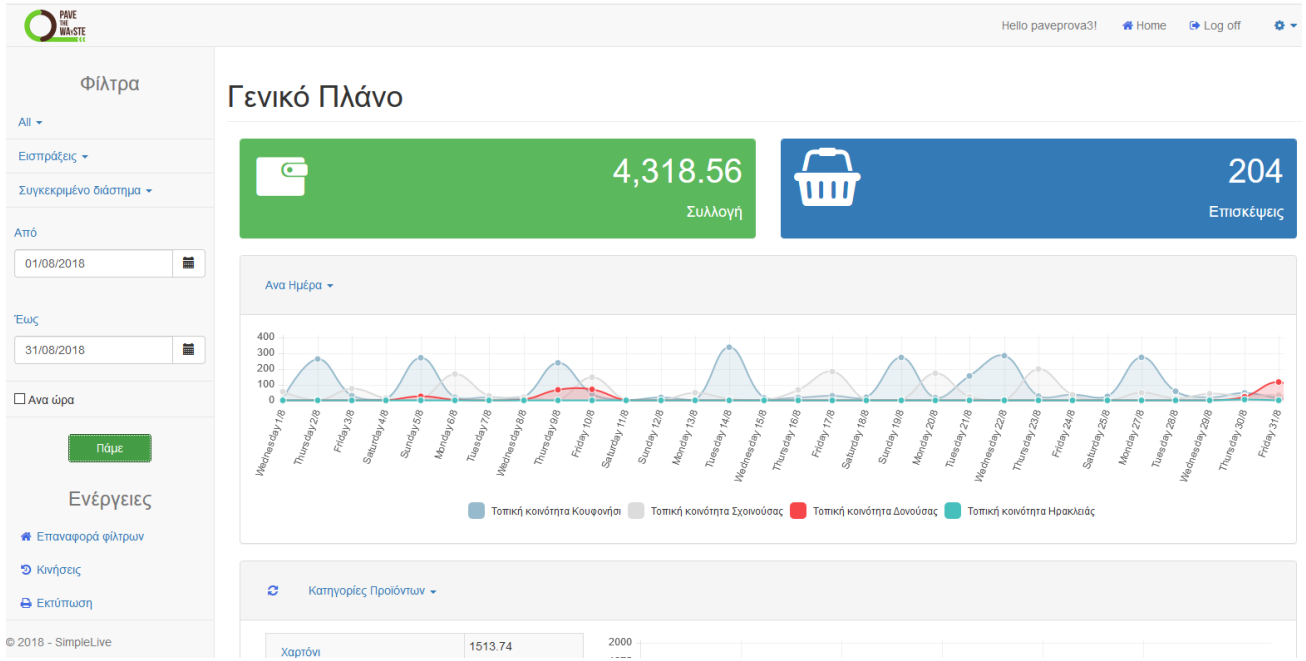
B΄ όψη

PAVE THE WAYSTE

Life

Συλλογή	Επισκέψεις	Ένα χρόνο πριν	Ακυρώσεις
1,187.62	150	0%	0

Κατηγορίες Προϊόντων		Προϊόντα	
Γυαλί	382.91	Καλή	623.19
Πλαστικό	275.47	Μέτρια	276.51
Μέταλλο	228.1	Άριστη	195.34
Χαρτί	217.92	Μεσαίο	45.03
Χαρτόνι	70.35	Μεγάλο	19.32
Λοιπά Ανακυκλώσιμα	12.87	Απόβλητα ηλεκτρικών στηλών	9.84
		Κακή	9.35
		Μικρό	6
		Υλικά προς επαναχρησιμοποίηση	2.02
		ΑΗΗΕ	1

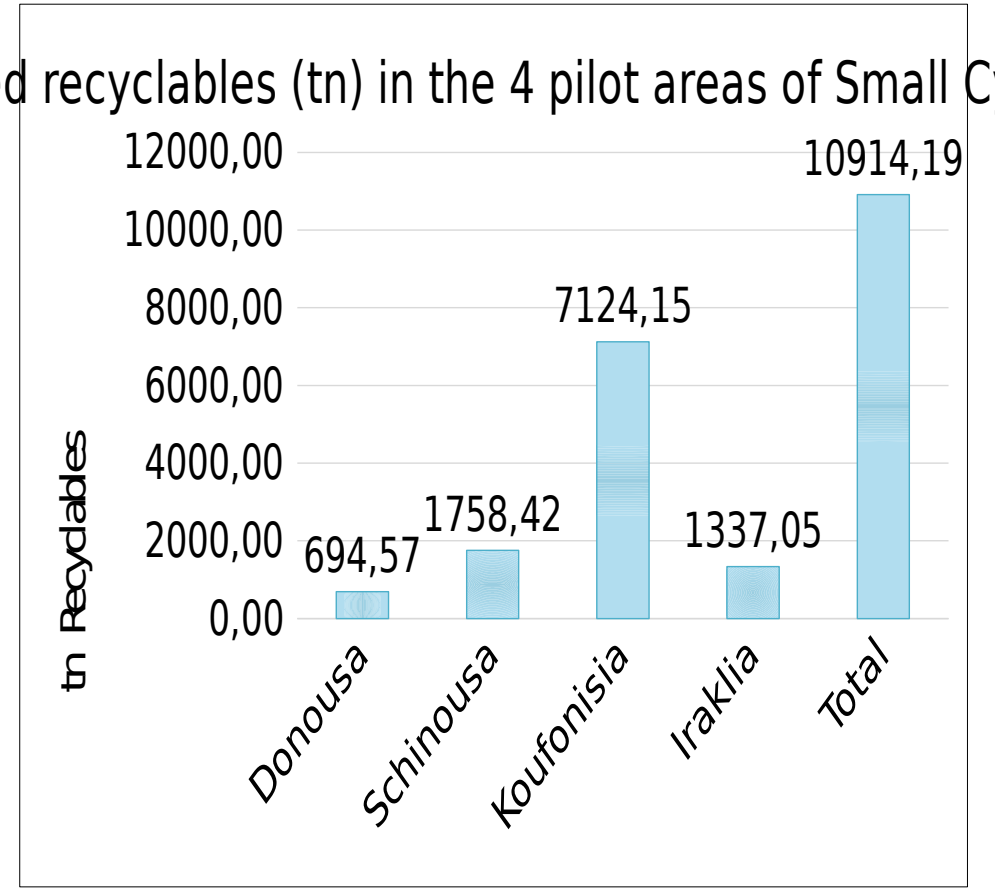


A Cloud platform for remote monitoring of the recycling systems:

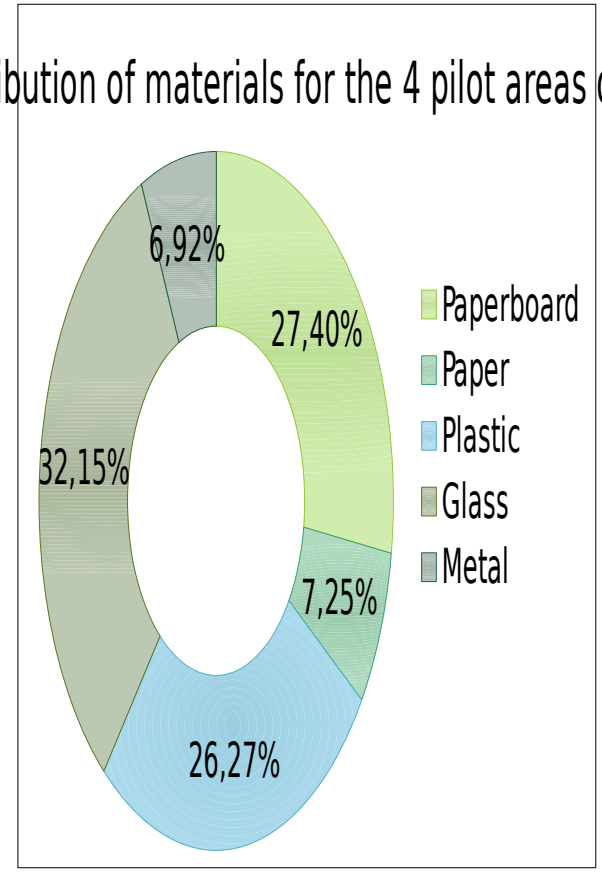
- Quantitative data
- Qualitative date
- Visiting frequency

The system in numbers...

Collected recyclables (tn) in the 4 pilot areas of Small Cyclades

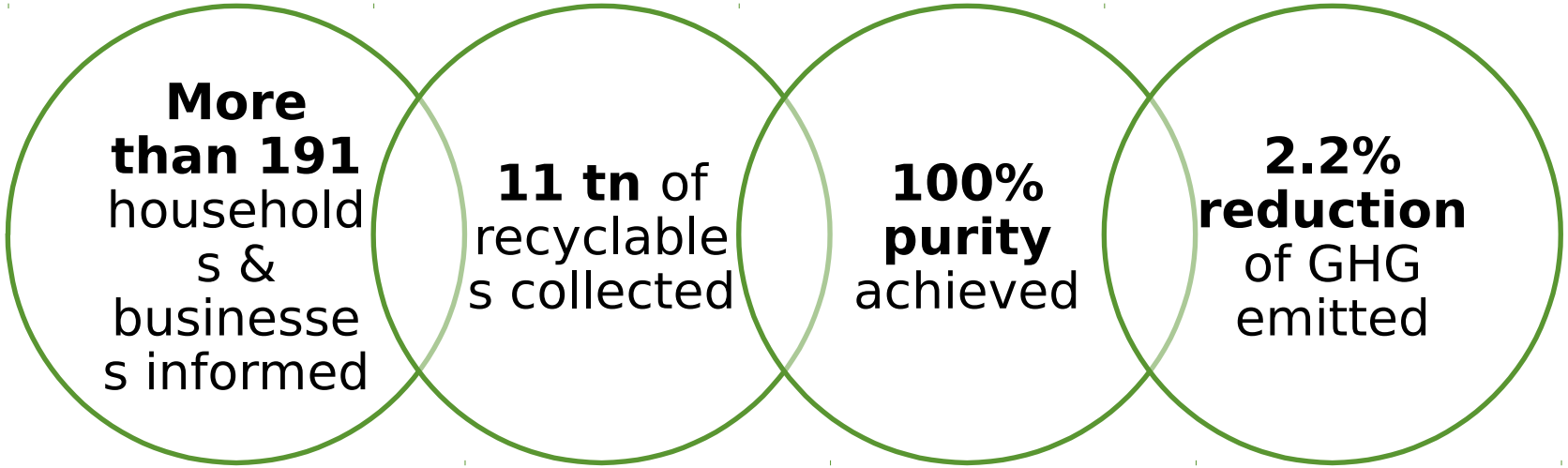


Percentage contribution of materials for the 4 pilot areas of Small Cyclades



So far...

4 Green Kiosks fully operating in Small Cyclades



Thank you for your attention

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Heraklion 2019

26-29 June 2019

7th International Conference

On **Sustainable Solid Waste Management**