Urban strategies for Waste Management in Tourist Cities

D6.2 - Monitoring reports of pilots

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Abstract

The objective of the work package 6 is the testing of the waste prevention and management strategies identified in the 11 pilot cities/regions, according to Participatory process through the Communities of Practice developed in WP3 and engaging local stakeholders in the waste management strategies implementation.

The measures implementing these strategies have been developed, on average, for 4-6 months, starting in May-June and ending in October-November 2018. All the pilot areas implemented from 3 to 5 measures and promoted and tested the WasteApp developed in WP5 for all the implementation phase, as an important tool of the overall communication campaign enhanced at the local level to promote the URBAN-WASTE measures.

These measures covered various topics such as prevention, reuse, and waste collection, sorting and recycling. This report is divided into 11 different reports, one for each pilot city/region, where detailed information regarding stakeholders involved, timing of the implementation, activities performed, results achieved, challenges faces and lessons learnt from each strategy implemented and tested is included.

The results obtained in this phase will set the basis for the work developed in WP7 on the impact assessment and exploitation of results.
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7. NICOΣIA

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Introduction

The objective of the work package 6 is the testing of the waste prevention and management strategies identified in the 11 pilot cities/regions, according to Participatory process through the Communities of Practice developed in WP3 and engaging local stakeholders in the waste management strategies implementation.

The implementation of the different measures was carried out by the cities according to the operative plan agreed with the stakeholders signing the Public Private Partnerships (D6.1) through the following steps:

- setting up - involvement of the actors, identification of roles and responsibilities, designing and realizing communication materials, purchasing the equipment needed;
- start up phase (when needed) - testing the implementation of the measure for a brief period (1-2 months) involving a small sample of stakeholders/facilities;
- implementation - distribution of communication materials and organization of events involving tourists, logistic management and support to the tourist facilities setting up training and help-desk activities, etc.;
- reporting - report the results reached in terms of facilities and tourist involved, communication materials distributed, n. of actions done, waste produced, etc. etc. using a selected list of key indicators collected using a common monitoring tools specifically developed for each of the measures selected by the cities.

The measures implementing these strategies have been developed, on average, for 4-6 months, starting in May-June and ending in October-November 2018. All the pilot cities implemented from 3 to 5 measures and promoted and tested the WasteApp developed in WP5 for all the implementation phase, as an important tool of the overall communication campaign enhanced at the local level to promote the URBAN-WASTE measures.

These measures covered various topics such as prevention, reuse, and waste collection, sorting and recycling. Measures mostly related to communication and training activities have been chosen by the majority of pilot areas, in particular:

- translation of waste sorting instructions in different languages for national and foreign tourists (7 pilots);
- awareness campaign on marine litter (3 pilots);
- recycling advisors for tourist establishments (3 pilots);
- information on waste sorting for cruise ships (2 pilots).

The other category of measures which has been mostly selected is related to the management of organic and plastic waste:

- food prevention at buffets and restaurants (7 pilots, 5 of them testing the Food Tracking Device too);
- reduction of the use of plastic bottles through the promotion of the tap water consumption (4 pilots);
- substitution of disposable products and waste sorting in hotels (2 pilots).
For most of the measures, thanks to the monitoring activities carried out before and after the implementation phase, it has been possible to make a first assessments (also on qualitative base when quantitative data were not available) of the reached results, taking into account the gender issue too. In some cases the tools developed in WP5 (Food Tracking Device and WasteApp) have been useful to collect more detailed data. This represents, of course, just a preliminary phase (strictly linked) of the more detailed assessment activities foreseen in WP7.

The 38 measures implemented in the pilot cities/regions are listed as follows.

COPENHAGEN
- Measure 16: Information on waste sorting for cruise ships
- Measure 18: ECO-events guidelines
- Measure 2 + 20: Food prevention at buffets and restaurants + Food tracking device

DUBROVNIK NERETVA COUNTY
- Measure 13: Promotion of tap water consumption
- Measure 16: Information on Waste sorting for ships
- Measure 19: Awareness campaign on marine litter

FLORENCE
- Measure 1+2: Doggy bags and food waste reduction in restaurants
- Measure 13: Promotion of tap water consumption
- Measure 14: Waste sorting instructions translated in foreign languages
- Measure 22: Food donation to charities

KAVALA
- Measure 1+20: Doggy bags and Food tracking device
- Measure 2: Food waste prevention at buffets and restaurants
- Measure 12: Sorting bins in public and touristic places

LISBON
- Measure 2 +20: Food waste prevention at buffets and restaurants + Food tracking device
- Measure 7: Substitution of disposable products in hotels
- Measure 10: Waste sorting in hotel rooms

METROPOLE NICE COTE D’AZUR
- Measure 1: Doggy bags
- Measure 13: Promotion of tap water consumption
- Measure 14: Waste sorting instructions translated in foreign languages
- Measure 19: Awareness campaign on marine litter
NICOSIA
- Measure 11: Recycling advisors for tourist establishments
- Measure 14: Waste sorting instructions translated in foreign languages
- Measure 20: Food tracking device

PONTA DELGADA
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SYRACUSE
- Measure 4: Collection points for used cooking oils
- Measure 14: Waste sorting instructions translated in foreign languages
- Measure 12: Sorting bins in public and touristic places

TENERIFE
- Measures 2+20: Food waste prevention at buffets and restaurants + Food Tracking Device
- Measure 3: On-site composting in tourist establishments
- Measure 5: Selective collection of biowaste from hotels and restaurants
- Measure 11: Recycling advisors for tourist establishments
1. COPENHAGEN

Measure 16: Information on waste sorting for cruise ships
The municipality supported the Copenhagen Malmoe Port in improving the management of the waste flows produced by cruise-ships in the cruise terminal, increasing the recycling of plastic waste and better handling the hazardous waste. Copenhagen Malmoe Port prepared a new waste management plan and information materials which was sent to the cruise ships.

Measure 18: ECO-events guidelines
Development of a dialogue with event organizers working in Copenhagen, about the opportunities to make their event greener and to better manage the waste generated. The event organizers have been given access to an electronic ECO-event guideline and meetings/inspection were set up before, under and after the event to inspire and evaluate on waste sorting and recycling initiatives as e.g. access to tap water, reusable cups, donation for charities.

Measure 2 and 20: Food prevention at buffets and restaurants and food tracking device
Implementation of the food waste tracking device in 4 hotels and one hostel to map and minimize food waste by e.g. sell drinks separately from breakfast bag, use coffee grind as fertilizer for plants, run campaign/competition between hotel with the positive message of “Love food and hate Waste”.

Measure 16: Information on waste sorting for cruise ships

Main actors and stakeholders

- Copenhagen Malmoe Port: revise the waste management plan for the Port of Copenhagen; improve the handling of waste coming from the cruise ships; Revising and distributing communication material about waste handling at the dock; renew the contract with the private company, which is responsible for the handling of waste and transportation to treatment facilities; new contract for transportation and treatment of hazardous waste.
- Cruise ships: improve the waste sorting on the ship and handling of waste at the port.
- Danish Port Association: contacting other ports in DK, and potentially influence the waste management there.

Timing

The initial contact between the Copenhagen Malmoe Port and the city of Copenhagen was in early 2017, where a meeting revealed a challenge in waste management at the docks and the work with making sure, that e.g. plastic waste was recycled.

The preparing activities was carried out in 2017, revised information materials were handed out during the cruise-season from May to October 2018. After that, evaluation took place in November and December 2018.

Activities

After Initial contacts to Copenhagen Malmoe Port (CMP) and organization of site visits at port and at cruise-ship terminal in June 2017, starting the discussion about waste handling, the following activities were planned and carried out:

- CMP: Revision of waste management plan and communication between city administration and port for optimizing the plan and ensure compliance with City waste-rules.
- The waste handling contract between the port and private contractor was revised to better control the actual treatment of the waste and the contractor was exchanged with another company.
- Meetings between the port, the City officials and a cruise ship: the waste handling was checked, and the number of sorted waste-materials increased, in particular new fractions of hazardous waste (resulting in new specialized hazardous waste contractor) and cooking oils.
- 2017-2018 ongoing communication between CMP and City about the waste management, recyclability for plastics.
- Winter 2017/2018: The information material sent by port authority to the cruise ships was revised: text was improved to thoroughly describe each waste-fraction and pictures of waste-materials added.
- April-October 2018: Implementation phase (running + monitoring activities).
May 2018: Meeting with Danish Port association and the Danish National Environmental Protection Agency in order to evaluate the potential replicability of the measure in other ports.

December: Meeting between CMP and the City of CPH: evaluation of results and future improvements.

Results

Info/Brochures was improved by updating the info-material and distributing it via e-mail to all 343 cruise ships docking at CMP in 2018.

The number of tourists on the cruise ships was app. 868,000. Although they are often not directly involved in transactions and waste handling on the ship, the info-material affects the waste sorting from this large number of people. The staff at the ships equals one third the number of guests, app. 290,000 people.

CMP contracted a local company specialized in better handling of hazardous waste. The amounts delivered by ships to the port increased, but not significantly.
The number of waste-fractions handled at the dock was increased significantly from 12 to 16, as it is shown in the following table:

<table>
<thead>
<tr>
<th>Cruise Ship waste</th>
<th>2016</th>
<th>2018</th>
<th>*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Small combustible waste and food waste</td>
<td>X</td>
<td>X</td>
<td>W2E</td>
</tr>
<tr>
<td>Large waste for presorting</td>
<td>X</td>
<td>X</td>
<td>W2E</td>
</tr>
<tr>
<td>Wooden pallets for reuse (wood)</td>
<td>X</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Rigid plastic</td>
<td></td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Soft plastic</td>
<td></td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>PVC</td>
<td></td>
<td>X</td>
<td>D</td>
</tr>
<tr>
<td>Plastics</td>
<td>X</td>
<td></td>
<td>R</td>
</tr>
<tr>
<td>Dry cardboard</td>
<td>X</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Glass</td>
<td>X</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Crockery for landfill</td>
<td>X</td>
<td>X</td>
<td>D</td>
</tr>
<tr>
<td>Metals</td>
<td>X</td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Cooking oil in drums</td>
<td></td>
<td>X</td>
<td>R</td>
</tr>
<tr>
<td>Electronic waste</td>
<td>X</td>
<td>X</td>
<td>S</td>
</tr>
<tr>
<td>Small batteries</td>
<td>X</td>
<td>X</td>
<td>R</td>
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<td>Hazardous waste/Chemical waste</td>
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<tr>
<td>Construction and demolition waste</td>
<td>X</td>
<td>X</td>
<td>S</td>
</tr>
<tr>
<td>Number</td>
<td>12</td>
<td>16</td>
<td></td>
</tr>
</tbody>
</table>

*Waste treatment: W2E - waste to energy, R - recycling, D - landfill, S - special treatment

The total amount of waste delivered at the dock increased from 2016 to 2018 both in actual amount in tonnes (from 1,400 to 2,200 tonnes) and in amount per ship (from 5 to 6 tonnes per ship). This corresponds to the target of increasing the amounts of waste delivered at the port, in order to reduce the risk of marine littering.

The target set for increased recycling in the Public Private Partnership from 21% to 30 % turned out not to be adequate, because data has been updated during the project and the amounts of glass for recycling have been increased in both 2016 and 2018. Thus, Actually, the initial recycling in 2016 was at 33 %. The target for 2018 should therefore have been at 40 %. This target was not achieved, as the recycling rate in 2018 declined to 28 %. This was due to a significant increase in waste for incineration.

Regarding gender issues, the waste management at CMP is female, and the environmental officers at the ships and waste-collectors are male. Both male and female stakeholders were engaged and enthusiastic about waste sorting and recycling.
**Challenges faced so far, and lesson learnt**

The recycling of plastic-waste has been a challenge for the port in some cases. The City provided info and contact-details for recycling companies.

The recycling-rate did not increase as expected. This was due to the fact that mixed waste for incineration increased significantly at the same time as amounts of recyclables such as plastics, metals, glass and cardboard increased – but at a lower scale. Apparently, the improved information material made it clear to the cruise ships that they could deliver their waste free of charge at the dock at the same time as the new contractor made the handling of waste at the dock quicker. Because of this, the amounts increased. The city has an appointment with the Waste coordinator at the port for discussions about how to improve the recycling-rate.
Measure 18: ECO-events guidelines

Main actors and stakeholders

The City of Copenhagen set up an URBAN-WASTE public-private partnership with three different event organizers hosting the following events: Cirkus Summarum, DHL and Haven. 3 very different events was selected, in order to reach a broader audience in waste sorting and recycling.

Cirkus Summarum is a circus for children and their parents. The actors and artists are from a national children television programme called Ramasjang. The show of the circus is with songs, dance, magic, poetry and interaction with the children.

The area surrounding the circus is a playground with many different facilities such as carousels, jumpers, swings, water activities and surprises. Children can use the playground without attending the circus.

Cirkus Summarum took place in Copenhagen some days between 25th June – 13th July 2018.

Cirkus Summarum is aiming at young children and their parents living or visiting Copenhagen in summer holidays. They serve drinks and food, but you can also bring your own food and drink.

The economic profit goes to charity for children and adults with muscular dystrophy.

The City of Copenhagen has targeted the event organizer, staff and volunteers

DHL Stafetten is big yearly relay race taking place in Copenhagen and 4 other Danish cities. It started back in 1981. You can choose between joining in a group of 5, where each person is running 5 km or you can chose to walk 5 km in a joint group.

The relay race in Copenhagen is split over 5 days due to the many participants (125,000 people from 3,500 companies). It is the largest relay race in the world for amateurs and it takes place in Copenhagen from the 27th August – 31st August 2018.

DHL Stafetten is primarily for Danish Companies, but foreign companies can also participate. Tourists can watch the race in green surroundings in a park area.

The participants get a lunch box or a smaller snack box, but they can also bring their own food and drink. Many companies bring their own catering companies to prepare the food on a grill.

The City of Copenhagen has targeted the event organizer, staff and volunteers and the catering companies.

Haven Festival is a music festival for all senses combining experiments within art, music, food and beer. It is a two days festival taking place in Copenhagen on the 10th and 11th August 2018.

Haven Festival is primarily aiming adults (Copenhagener, and tourist from Denmark and abroad). They serve drinks and food at the festivals.

The City of Copenhagen has targeted the event organizer, staff and volunteers
Role of the different actors:

- Copenhagen and the City Business-Supervisors guides, inspects, evaluates and communicates on the initiatives.
- Event organizers have the overall responsibility for the event (including waste management) and they do the training of staff / volunteers.
- Staff and volunteers manage the waste sorting frontstage and guide the audience in waste sorting.
- Catering companies do the waste sorting back stage.
- Waste companies set up the numbers of containers ordered by the organizers and has the responsibility to dispose the waste correctly. In Denmark there is a list of waste companies who is qualified to collect commercial waste, and organizers are only allowed to use approved waste companies.

Timing

April 17th, 2018: workshop on green events to inspire event organizers to make their events even greener. 45 participants (25 females and 20 males).

Spring 2018: Haven, DHL and Cirkus Summarum have signed / accepted to be a member of the URBAN-WASTE partnership agreement.

May-July 2018: pre-dialog with event organizers about opportunities for green event + sorting guidelines before the event.

July-August 2018: the City Business Waste-Supervisors visited the events to inspect and guide about the waste sorting and re-cycling.

September-October 2018: dialog with each event organizer to evaluate the waste management at the event and to keep the good focus and potentially improvements for next year.

Activities

Before a busy season for events the City hosted a workshop on green events on 17 April 2018 for event organizers. 45 people attended. After the workshop four different event organizers were contacted to join WASTEAPP and three stakeholders (Cirkus Summarum, DHL and Haven) have accepted to be a part of the URBAN-WASTE project.

A dialogue was opened with the organizers of these three events, highlighting the opportunities to make their event greener and to better manage the waste generated, by decreasing the quantity of waste and increasing the separate collection. Before the event, the event organizers need a permission to host the event from the City of Copenhagen and the Police.

The City of Copenhagen have a website about practical information about organizing an event, including how to get a permission for hosting an event. At the website the event organizers can also find the Eco-event guideline (https://kk.sites.itera.dk/apps/kk_pub2/index.asp?mode=detailje&id=1708), providing information about:

- requirements about waste sorting;
• recommendation to use deposits on cups, bottles and jugs;
• financial support to use reusable drinking cups and jugs;
• possibility for financial support to create new waste management systems to minimize waste at events;
• replace disposable tableware with recyclable tableware.

The Eco-event guidelines was sent electronically to the event organizer in connection with the approval of the event. The waste sorting instructions in the guideline were followed-up by a skype meeting prior to the event, by supervision during the event (visit from at business waste supervisor from Copenhagen Municipality to supervise and follow up on waste sorting) and by telephone meeting / skype meeting after the event to evaluate on how the waste sorting and initiatives to minimize the waste went on.

Measures implemented at “Haven” festival with 10.000 guests

• Event organizers in dialog with food stores about waste sorting.
• Sorting of waste back-stage and front-stage.
• Voluntarily personal to clean the event area. Clean area minimise the risk of people start throwing trash.
• The event organizer has Trash talkers to guide people how to sort waste.
• Danish donation system for drinking bottles and tins.
• Information on bins how food, paper and plastic are recyclable and how mixed trash goes to incineration.
• Use of washable and reusable cups and jugs of polypropylene. They can be washed and reused 200 times. More than 70.000 cups and 2000 jugs were washed and reused.
• Deposit/refund-system: 5 kr. in deposit on cups and 15 kr. on jugs. The festival guests can either use the refund on charities or to buy new drinks.
• Access to tap water and drinks with dispenser.
• Wine glass are of glass which is washed and reused.
• Quality food is prepared at different stores to minimize food waste. It is also a concept of the festival.
• Information on dustbins on how different materials is recycled and that residual waste goes to incineration to generate heat and electricity.

During the festival 102 guests out of 10.000 were interviewed about the reusable cups. 92% liked the cups and 98% would like to exchange disposable cups with reusable cups in the future. Generally, 73% of the interviewed guests like the idea of a sustainable festival but it must be easy and convenient. Their main focus is to party, hear music and have fun at a festival.

Calculations done by the consultant agency FORCE Technology shows that if the cups are reused more than 2,8 times they have better climate benefits than disposable cups.

Measures implemented at “DHL” event with 120.000 guests

• The city of Copenhagen visited the 25 biggest catering companies before the event to inform about waste sorting.
• 30 volunteers are packing the lunch boxes and they are trained in sorting waste.
• 20 volunteers to clean the event area. Clean area minimise the risk of people start throwing trash.
• The event organizer is doing a small and a large lunch box to minimise waste of food, plastic and cardboard.
• DHL gets the food for the lunch boxes from wholesale trade to minimize packaging. Only Danish food is used to minimize transport.
• Danish donation system for drinking bottles and tins. Private persons are collecting the bottles and tins to redeem the deposit.
• Information on bins how food, paper and plastic are recyclable and how mixed trash goes to incineration.
The event organizer uses drinking water from fire hydrants. The downside is waste with disposable plastic cups.

Message on each race tent about sorting cardboard.

Most papers and forms are now only electronic.

Bio-waste is being manually sorted by catering companies and partly in a grinder that separates the food from the packaging, but the quarries are damaged by the alumni and flaming wrappings. This meant that some of the food waste ended up in residual waste.

The event organizer uses a 3-4 km carpet for the runners to spare the grass. The carpet this year is thinner to reduce the amount of waste. DHL is working on getting a reusable rug.

Lunch Boxes that have not been collected, are donated to Fødevarebanken (charity).

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**Measures implemented at “Cirkus Summarum” with 112,000 guests**

- Event organizers in dialog with food stores about waste.
- Voluntarily personal to clean the event area. Clean area minimise the risk of people start throwing trash.
- Danish donation system for drinking bottles and tins.
- Leftovers from pre-prepared food was saved in refrigerator for one day to the next.
- Collection of functional batteries from broken toys. The batteries are donated to the voluntarily
personal (500 persons all together and 40 on the site).

- Separate collection of cooking oil which has a high economic value as it can be refined to e.g. biodiesel.

**Results**

No specific targets were set about the amount of waste, as waste amount variates very much depending on the number of participants and weather conditions. If is a warm and sunny summer, food and drinks are more sold compared to a cold and rainy summer.

Some ideas for improving waste recycling and sorting have been discussed with the event organizers in spring, before the event and they investigated which ideas were would have been possible to implement.

3 events were organized during the implementation phase, following the eco-guidelines. During the DHL event 13 different measures to reduce waste production and increase sorted collection were implemented, 12 measures during the Haven event and 6 measures during Cirkus Summarum. The number of people attending the events were: 119.000 DHL; 112.000 Cirkus Summarum; 10.000 Haven.

### Waste amount at events

<table>
<thead>
<tr>
<th></th>
<th>Haven 2017 (kg)</th>
<th>Haven 2018 (kg)</th>
<th>Change in % from 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total waste per person</td>
<td>2,91</td>
<td>2,02</td>
<td>31 % decrease</td>
</tr>
<tr>
<td>Unsorted waste per person</td>
<td>1,71</td>
<td>0,94</td>
<td>45 % decrease</td>
</tr>
<tr>
<td>Sorted waste per person</td>
<td>1,20</td>
<td>1,08</td>
<td>10 % decrease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>DHL 2017 (kg)</th>
<th>DHL 2018 (kg)</th>
<th>Change in % from 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total waste per person</td>
<td>0,73</td>
<td>0,60</td>
<td>18 % decrease</td>
</tr>
<tr>
<td>Unsorted waste per person</td>
<td>0,64</td>
<td>0,07</td>
<td>90 % decrease</td>
</tr>
<tr>
<td>Sorted waste per person</td>
<td>0,09</td>
<td>0,08</td>
<td>15 % decrease</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Cirkus Summarum 2017 (kg)</th>
<th>Cirkus Summarum 2018 (kg)</th>
<th>Change in % from 2017-2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total waste per person</td>
<td>0,19</td>
<td>0,28</td>
<td>49 % increase</td>
</tr>
<tr>
<td>Unsorted waste per person</td>
<td>0,15</td>
<td>0,21</td>
<td>35 % increase</td>
</tr>
<tr>
<td>Sorted waste per person</td>
<td>0,03</td>
<td>0,07</td>
<td>108 % increase</td>
</tr>
</tbody>
</table>

DHL and Haven seem to have comparable (even if not fully comparable) data between 2017 and 2018, showing a general decrease in the amount of total waste and in sorted and unsorted waste per capita. For Cirkus Summarum there is a general increase in waste amounts (total, sorted and unsorted). The reason for the increase in total amount of waste could be that Cirkus Summarum only got the bio-waste container the last day so they haven’t been able to do a correct waste sorting. The data between 2017 and 2018 are also not quite comparable as they only have been able to provide data on plastic waste for 2018 and not for 2017. This contribute to a larger amount of waste accounted (both total and sorted) for 2018 but does not explain the whole reason for increased waste in 2018.

Regarding gender issues, people attending all the 3 events were about 50% – 50% male and female participants. Waste collection at the site and trash talkers were also about 50% – 50% male and female, but the waste collection companies collecting the waste containers are nearly 100% male.
Responsible for the events: Cirkus Summarum: Male, Haven: Male responsible for the waste handling and a female responsible for the event, DHL: It is a board that is responsible for the event. The chairman is a male and the CEO is a woman.

In general, no gender difference was observed between male and female event organisers, who were all interested in improving waste collection, sorting and recycling.

**Challenges faced so far, and lesson learnt**

Making events greener takes time and the effort must continue over years to keep up the good efforts and to improve even further in future.

The concepts of events are very different so there is not one solution for waste recycling that fits all.

Haven manage their event in a closed area where you must pay to have access and they are responsible for the catering companies, whereas DHL is an open event, where the participants bring their own catering companies. Therefore, it has been proposed to DHL to organize a competition between all participating companies and organizations to bring up the best ideas to minimize and recycle waste next year.

The best way to success is to have a direct communication with the event organizers to jointly find the best solutions for the specific event. This also engages the event organizers to include the staff and volunteers and catering companies in a good way to help cleaning the area and sorting the waste in different fractions. The evaluation with the event organizers under and after the event is also very important to keep up the good momentum of waste sorting and recycling.

In general, good results have been related to the setting up of waste sorting “islands”, to make the waste sorting and donation to charities more visible, and the use of reusable and washable cups and jugs. The festival guests found them easy to use and use the deposits on new drinks or give it for charity. They also liked the good quality of the cups and jugs.

Even though the guests are pleased, and some event organizers would like to use the cups, beer companies tend to be sceptical about this measure, because they are afraid not to sell enough drinks (DHL tried to use recyclable cups in 2015, but the number of cups were too small to be economic feasible).

Generally, it can be difficult to compare waste results from one year to another due to different size of events, different concepts, cold summer last year and hot summer this year.

*Example of donation for charities at Haven*

*Training of trash talkers who helps people to sort their waste at Haven*
Measure 2 + 20: Food prevention at buffets and restaurants + Food tracking device

**Main actors and stakeholders**

City of Copenhagen has contacted 41 stakeholders to introduce the URBAN-WASTE project and food tracking device (30 restaurants and 10 Hotel chains / green key hotels/1 Restaurant school).

Generally, the restaurants and the restaurant school found the food waste tracking tool interesting, but the timing was wrong, so they declined our offer. They did not have the manpower to incorporate the use of the food waste tracking device right before the exams and the tourist season starting up. The introduction should have taken place in wintertime, with less stress in the kitchen.

Finally, the City of Copenhagen made an URBAN-WASTE public-private partnership agreement with Steel House Hostel and 4 different hotels in the Guldsmeden Hotel chain (66, Axel, Babette and Manon les Suites)

Steel House Hostel does not produce their own food for the guests, but the guests can buy pre-prepared food such as breakfast bags, drinks, coffee, tea, sandwiches, wraps and salad. Steel House have a self-service kitchen where the guests can make their own food and they have the opportunity to store their food and ingredients in a refrigerator. In the URBAN-WASTE project Steel House only used the food waste tracking device for pre-prepared food and not in the self-service kitchen.

Guldsmeden Hotels are Green Globe certified. They also got the Ø-label which is regulated by the Danish Ministry of Food & Agriculture, and the golden Ø is only given to restaurants with a percentage above 90 regarding organic products. They are audited 3 times per year, and their most recent score was 98,6% organic. Guldsmeden Hotels purchasing policy is to only work with suppliers who are organic and/or fair trade. Guldsmeden Hotels wants to use the food waste tracking device in their kitchens.

Hotels and the Hostel: have tested and used the device to detect and reduce potential food waste.

Sveriges Landbrugsuniversitet (SLU): has done the installation, training, data handling and service of the device.

**Timing**

March 15, 2018: The City of Copenhagen joint “the Network for Foodservice”. At the network meeting, the City of Copenhagen gave a short introduction to the URBAN-WASTE project and highlighted the opportunity for hotels, kitchens and restaurants to use the food waste tracking as a part of the project. The people attending the network were a mix of leading representatives and consultants in kitchens, restaurants and catering companies. 22 attendances were females and 9 were males.

June 2018: SLU installed the food waste tracking device at 4 different Guldsmeden Hotels and 1 at Steel House Hostel. In connection with the installation, SLU gave a quick introduction on how to use the food waste tracking device.

July and August 2018: The Hotels and Hostel fulfilled their own training sessions with the staff, and the stakeholders has been testing the food waste tracking device to find the best settings for the surplus food they wanted to monitor.
August – November 2018: The City of Copenhagen had dialog and interviews with the hotels and hostel on their experiences of using the food waste tracking device and implementing new behaviours to reduce food waste.

Guldsmeden Hotels run a competition between their hotels about “Love food and hate waste” to motivate the kitchen staff to continuously use the food waste tracking device and inform the guests about the good thing of minimizing food waste. The competition was done as a part of UN’s World Food Day 16 October.

November 12, 2018: Guldsmeden Hotels and the City of Copenhagen had a workshop about sustainable food in connection with the project Sustainable Bottom Line. The agenda for the workshop was about minimizing food waste, use organic food, use local food to minimize transportation, use more fruit and vegetables in season, use sustainable fish (which can be better than organic fish), energy and packaging consumption and social responsibility (Fairtrade). There were 31 participants from hotels, restaurants and catering industry, 17 females and 14 males.

Activities

Start-up phase

The City of Copenhagen contacted 72 stakeholders to introduce the URBAN-WASTE project and food tracking device. (30 restaurants and 10 Hotel chains / green key hotels/1 Restaurant school). Each of the 41 stakeholders has been contacted in average of 5-7 times by visits, meetings, telephone calls and mails. 31 stakeholders were informed about URBAN-WASTE and the food waste tracking device through the Network of Foodservice. However, only 5 decided to go on with the implementation of the measure: in 4 different Guldsmeden Hotels and 1 on at Steel House Hostel. The feedback was that the timing for the introduction of the food waste tracking device was wrong, as the tourist season was starting up in June, and they were too busy to incorporate new initiatives. The introduction would have been taking place in autumn or winter.
Furthermore, many large hotel chains had already used or were using a food waste tracking device occasionally.

During the start-up phase, communication materials were designed to inform about the food waste tracking device and URBAN-WASTE project.

**Information about the food waste tracking device**

**General information about URBAN-WASTE including the link** [www.urban-waste.eu](http://www.urban-waste.eu)
The hotels and hostel got all the communication material electronically, as they wanted to avoid paper waste in the spirit of URBAN-WASTE project. They also got the URBAN-WASTE logo, so they could do their own communication on e.g. electronic screens, if they liked.
Training and support

In June 2018 SLU installed the food waste tracking devices in the 5 facilities involved and gave an introduction on how to use the food waste tracking device. Their task was also to give technical support throughout the implementation phase and together with the stakeholders to find the best settings of the device. SLU also had to produce a weekly report on food waste for each stakeholder.

Implementation of food waste reduction and recycling measures

Guldsmeden Hotels have a sustainable management plan which foreseen many measures related to food waste and recycling. The main points are listed below.

- Paper napkins are unbleached and made of recycled paper. Printed with the message: “Love Food, Hate Waste “.
- No disposable cutlery or other eating utensils are used.
- All water served, is tap water only.
- In the hotel room the guests get a water bottle of 100 % recycled plastic with information on using Danish tap water which is very good. The guests can use the bottle when they go as tourists in Copenhagen and they can bring it home as a souvenir.
• They have developed a number of dishes, particularly salads, that have long-lasting qualities, thereby prolonging their lifespan; these dishes can be served at all meals, and if not finished at one meal, they can enter as an element into another dish.

• No portion servings, all buffet, recommending to guests to take smaller portions, and several trips to the buffet, to minimize waste.

• "To-go" coffee cups have been made from recycled material.

• Sorting all food from other trash, and sending it to recycling for production of biodiesel and biogas.

• They grow some of their own herbs.

Already before the URBAN-WASTE project Guldsmeden Hotels had great focus on minimizing food waste, but they have implemented new measures as:

• the staff eats surplus food from e.g. buffets;

• the hotel guests can use coffee grind as face and body scrub. Unfortunately, it blocked the drain, so they now use sugar instead, as it is soluble in water;

• used coffee grind and left overs of coffee is now used as fertilizers for plants and herbs in the restaurants. They are also planning to grow mushrooms in used coffee grind.

Guldsmeden Hotels run a one-week competition between their hotels about “Love food and hate waste” to motivate the kitchen staff to continuously to use the food waste tracking device and to inform the guests about the good think of minimizing food waste. The competition was done as a part of UN’s World Food Day 16 October. The winning hotels served drinks for their guests which also was an occasion to inform the guests about the reason behind the celebration in a good and constructive way. About 10 guests each day during the campaign week participated in the drinks, and they were positive about the way the message of minimizing food waste was communicated.

Steel House Hostel does not prepare food but sell pre-prepared breakfast bags and sandwiches, wraps and drinks. Their use of the food waste tracking device is therefore to optimize the purchase of pre-prepared food.
• The expiration date of the breakfast bag is two days. Therefore, they now ask their guests to order the breakfast bag two days on beforehand to minimize the food waste.

• The breakfast bag contains a bun with cheese, a juice and a muesli-bar. After two days, they throw out the bun and sell the juice from the bag separately. The staff is free to take the muesli-bar.

• The use of the food waste tracking device has generally increased the awareness among employees about avoiding food waste.

• They show the results from the food waste tracking device to suppliers to optimize the orders of pre-prepared food and to have a dialog about potentially minimize wrapping of pre-prepared food.

Results

The 4 hotels and one hostel were testing the food waste tracking device to get information on potential food waste they could minimize. It was not possible for them on beforehand to set any specific targets. They need to do the mapping first with the food waste tracking device.

In the beginning of the project the hotels and hostel got a weekly report from SLU about food waste in restaurants and kitchens. Towards the end of the implementation period they only got the report once a month. The stakeholders requested to get a daily report from SLU to incorporate the best behaviours to minimize food waste, to do the daily finetuning, but it was not possible within the project.

SLU has done an average graph for each stakeholder for the whole monitoring period. The results are showed below.
Generally speaking, data from Axel, Babette and Manon les Suites Guldsmeden Hotels show a starting period of 4-5 weeks where the staff is testing the food waste tracking device and different food categories. In this period the amount of monitored food is increasing. From the rest of the period there is a slight decrease in food waste, but as the graphs are only done on total food amount and not per visiting guests it is difficult to estimate the real minimizing of food waste. Generally, the hotels have more visitors in summer times.
A shorter monitoring period is available for 66 Guldsmeden Hotel, due to a combination of change in kitchen staff and administration so the kitchen was closed for a period and because the food waste tracking devices (weight and tablet) broke down and they had to get a new one.

For Steel House Hostel there is a slight increase of food waste over time even though they have most visitor during summer time. There are two main reasons for this. In summertime the breakfast packages were quickly sold out, so they increased the amount. In October and November, they had other types of visits, namely some larger groups. The large groups have ordered breakfast for all members, but some did not eat the breakfast.

<table>
<thead>
<tr>
<th>Category</th>
<th>Weight (kg)</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Restaurant/Breakfast/Plate waste</td>
<td>79 kg</td>
<td>36%</td>
</tr>
<tr>
<td>Restaurant/Dinner/Plate waste</td>
<td>55 kg</td>
<td>25%</td>
</tr>
<tr>
<td>Restaurant/Breakfast/Coffee grind</td>
<td>54 kg</td>
<td>24%</td>
</tr>
<tr>
<td>Manon les Suites</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen/whole Day/Oil</td>
<td>46 kg</td>
<td>29%</td>
</tr>
<tr>
<td>Restaurant/Dinner/Trimmings</td>
<td>44 kg</td>
<td>28%</td>
</tr>
<tr>
<td>Restaurant/Dinner/Plate waste</td>
<td>25 kg</td>
<td>16%</td>
</tr>
<tr>
<td>Babette</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kitchen/Whole Day/Trimmings</td>
<td>45 kg</td>
<td>25%</td>
</tr>
<tr>
<td>Coffee grind from dinner and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>breakfast</td>
<td>38 kg</td>
<td>25%</td>
</tr>
<tr>
<td>Restaurant/Breakfast/Buffet</td>
<td>37 kg</td>
<td>21%</td>
</tr>
<tr>
<td>Total amount of food waste in kg.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>and in % for the top 3 categories</td>
<td></td>
<td></td>
</tr>
<tr>
<td>for the whole period.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The food waste tracking gave Guldsmeden Hotels new and surprising information. E.g. did the food waste tracking device show that they had almost no food waste at the buffets (35g / dish incl. peelings from orange and grapefruit). It looks like, that their communication about recommending their guests to take smaller portions, and several trips to the buffet, to minimize waste, works.

It was also surprising for them to see that coffee grind was one of the biggest surplus food categories, a category which is not that easy to minimize. The best thing is to use the coffee grind as fertilizer for the plants or potentially to grow mushrooms in the grind.

In average, each of the 4 Guldsmeden Hotels had 145 guests per day during the monitoring period where they got information about “Love food and hate waste” through signs at buffets and napkins. It was done discreet, so the guests feel themselves welcome and not become worried about the environment problems during their vacation, but just raise some awareness.

Regarding gender issues, a male is the CEO at Steel House Hostel. They actually have gender sensitive communication. E.g. a quote from Steel house website under frequently asked questions: “Are there female dorms? Yes. We have dorms that can be booked by everyone, and we have dorms that are reserved for women only. Simply select "For All" or "For Women" when you make your reservation”. Around 50-50 male-female works at the hostel (reception, bar, sale, housekeeper, suppliers). The approximate gender distribution of extra work involved is 50-50 % between male and female.

At Guldsmeden Hotels husband and wife are owners, and the wife is the CEO. Around 50-50 male-female works at the hostel (reception, kitchen, sale, housekeeper, suppliers). The approximate gender distribution of extra work involved is 50-50 % between male and female.
Guldsmeden Hotels have also gender sensitive communication. E.g. quote from Guldsmeden Hotels Sustainable Management Plan. "The area surrounding 3 of the Copenhagen hotels is, in addition to being central and a very attractive destination for tourists, also challenged by elements of prostitution and drug-dealing in the neighborhood. Guldsmeden Hotels have always been vocal and active in the efforts against human trafficking, and we support HopeNow.dk by providing rooms for guest lecturers or others that they may need put up. We are also active participants in a group of local entrepreneurs in collaboration with police and government representatives to address these issues in the best and most humane way possible. All guests are in no doubt as to our position on prostitution and trafficking".

In general, no gender difference was observed between how men and women stakeholders responded. They were equally engaged and enthusiastic about waste sorting and recycling.

**Challenges faced so far, and lesson learnt**

**General challenges**

- Slow start of using the food waste tracking due to holiday period for different staff members during July and August. It would have been better to introduce the food waste tracking device in spring, so the staff members could have done the testing before the holiday season with tourists coming, and different staff members on holiday.
- It is a challenge that many staff in the kitchen are only working in the kitchen for a shorter period. (Students and personnel from abroad) This means that you have to do the training many times. Furthermore, when different personal uses the food waste tracking device, each person has their own way of doing things.
- Saving food waste is good image but not necessary a matter of saving money, as using the food waste tracking device is too time consuming compared to Danish wages.
- The scale for the food waste tracking device is too big for many smaller kitchens in the old town of Copenhagen
- It has been decided to focus on installing the food waste tracking device in a hotel chain with an interest in a green agenda, as they seem to have more manpower and willingness to look into food waste compared to many restaurants.

**Technical challenges**

- A new scale and tablet has been installed at Manon Les Suites as there were no connection between the scale and tablet. In the meantime, data was handled manually to avoid data loss.
- Hardware problems with the Bluetooth box connecting the weight with the tablet. Bluetooth box stopped working after 2 months at 66, Guldsmeden Hotel. New equipment was send but it is also unstable and has loose connections to weight and tablet.
- The memory card in the tablet is too small. It is filled after 2-3 month where it stops monitoring automatically and the hotels must update the data manually to see data for the whole period. This is time-consuming and not long term operational as most days are very busy.
- The hotel now uses the hotel Wify for data transmission which is not optimal as the staff has to log in every day.
• The data capacity of the food waste tracking device is too little to create a report every week. Furthermore, the hotels need access to daily reports, preferably on the net. For November the hotels and hostel have only received data once.

The same food categories from different hotels have different graph colours in the reports, which makes it difficult to compare results between different hotels. SLU did not want to change this.

The usability is not optimal. It should be possible to extract the data to excel, especially when the memory card is too small and due to the need of changing colours on the graphs.

The hotels are in average calling SLU once a week to solve problems. It is expensive and time-consuming with calls abroad.

• The usability is not always intuitive. E.g. numbers of plates ort to pop up together with food waste otherwise you easy forget to add it.

• Generally, it seems just as easy for the hotels to buy their own weight and tablet and do their own settings for their specific needs.

Based on this experience, the food waste tracking device has been appreciated for giving good indications of different fractions of food waste – but the tool is still considered as a prototype, not fully ready for the hotel and restaurant market.
Communication campaign

The URBAN-WASTE project has been presented to citizens and tourists during the Nordic Swap Day. Around 2,000 people came by to swap and many more just passed by. 3,000 kg of items were swapped, and many citizens and tourists heard about the URBAN-WASTE project.

Later on, in the URBAN-WASTE process the communication was mainly targeted to the selected stakeholders in order to activate their communication to their audience. In that way it has been possible to create a positive snowball effect reaching the right people with the right messages. Modern people are much too busy to adapt all kind of messages, they prefer specific information within their area of interest.

The communication campaign in Copenhagen has not been supported by the WasteApp, because there has been problems to make the WasteApp work in Copenhagen and, although the ULPGC has tried to identify and solve the problem in several occasions, it has become accessible for Copenhagen very late in the project, and only after the high season for tourism. During wintertime in Copenhagen with coldness, darkness and raining / snowing days, tourists are expected to stay out less, and therefore may not be aware of the QR code on the dustbin.
2. DUBROVNIK NERETVA COUNTY

Measure 13: Promotion of tap water
The promotion of tap water aims at decreasing the consumption of bottled water, in particular PET bottles. Tourists are particularly big consumers of bottled water when on holiday, both directly through their purchases and indirectly through their tourist lifestyle (hotels, restaurants, etc.). To lower consumption of plastic bottles, Dubrovnik Neretva Regional Development Agency (DUNEA) set up a communication campaign to promote tap water and convince people it is safe to drink especially that of public fountains in Dubrovnik connected to the water pipeline built in 1437 with a length of 11 700 meters.

Measure 16: Information on Waste sorting for ships
Because of lack of space on the ships a lot of effort is put into sorting and compressing the waste generated on board. When in port, if clear communication is delivered, waste can be handled correctly and the amount of waste being recycled from the ships can increase. To this aim, 8 000 flyers prepared by DUNEA have been distributed by Cistoca i zelenilo Konavle d.o.o. and Konavle Municipality in Cavtat port in the period from June 2018 till October 2018, to inform nautical tourists how to manage waste once on land.

Measure 19: Awareness campaign on marine litter
Marine litter originates mainly from land-based activities. It covers any solid material which has been deliberately discarded, or unintentionally lost on beaches and on shores or at sea, including materials transported into the marine environment from land by rivers, draining or sewage systems or winds. To prevent marine litter production and inform widely people and tourists, DUNEA has organized educational workshops on the subject and the distribution of flyers to promote cleaning actions.
Measure 13: Promotion of tap water consumption

Main actors and stakeholders
Regional Development Agency DUNEA with its project team is in charge for the coordination of the measure implementation and monitoring.

Dubrovnik Tourist Board one of tourist board members for the project Community of Practice on behalf pilot area Dubrovnik Neretva County, will promote the information that tap water is safe to drink

Timing
Actions foreseen for this measure were:
June: preparation of the layout of the measure
September: Promotion of 4 fountains identified and promoted;
September: 6 drinkable tap water information - posters in Dubrovnik tourist board info points
September-December: distribution of 70 000 copies of the brochure

Activities
No activity carried out.

Results
The beginning of this action was conditioned by the installation of a water purifier. Without this device, tap water does not comply with all sanitary regulations, especially concerning water turbidity during heavy rains. Therefore, DUNEA and Dubrovnik Tourist Board could not promote tap water as safe for drink while the water purifier is not installed.

Challenges faced and lessons learnt
Initially planned for June 2018, the water purifier is still not installed in December 2018, this unpredictable delay didn’t allow to launch actions for promoting tap water.
Measure 16: Information on Waste sorting for ships

Main actors and stakeholders
Regional Development Agency DUNEA with its project team has been in charge of the coordination of the measure implementation and monitoring.

All activities have been implemented by Konavle Municipality and their waste management company Cistoca i zelenilo Konavle d.o.o.

Timing
Layout and print: May 2018
First distribution round: June 2018
Second distribution round: August 2018
Third distribution round: September 2018

Activities
DUNEA drafted the instructions for handling waste from ships and yachts in collaboration with Konavle Municipality and Cistoca i zelenilo Konavle d.o.o. and prepared the layout in May 2018. In addition to Croatian, the text was translated by DUNEA in 4 languages: English, Italian, Spanish and German.

Konavle Municipality took in charge the printing of the 8,000 flyers at the end of May.

Cistoca i zelenilo Konavle d.o.o., under the authority Konavle Municipality, in its own capacities started to distribute the flyers in June 2018 until October 2018, following the summer season period. Flyers were distributed directly to the boats docking at the port of Cavtat: 2 people distributed between 60 – 70 flyers every day during 120 calendar days.

Cavtat port
This action has been promoted on the web page of the Konavle Municipality during all the implementation phase. A press release was produced following the 4th Community of Practice event where media have been invited. This event made a national audience, since it has been followed by national television HRT.

Results

A total of 8,000 flyers were distributed to 783 ships encompassing in average 10 people on board (boat crew and the owners). About 7,830 people have been reached by this measure.

The total amount of ships and yacht docking in Cavtat port in June, August and September is estimated to be around 780 boats. Since all boats arrived were reported, Cistoca i zelenilo Konavle d.o.o. employees distributed the flyers to all boats arrived. Therefore, the measure has reached 100% of the boats visiting the port during this 3 months.
Thanks to this dedicated communication activities, 295 boats (38% of the total arrived in Cavtat port) paid the waste disposal services to Cistoca i zelenilo Konavle d.o.o.

Regarding gender issues, the communication materials have been written in a gender sensitive way. Concerning Cistoca i zelenilo Konavle d.o.o. employees, no gender information is available.

**Challenges faced and lessons learnt**

This measure put in place within the framework of URBAN-WASTE has permitted to edit the instructions for sorting waste in different languages. Such a translated document has never been produced up to now in the area of Dubrovnik.

Cistoca i zelenilo Konavle d.o.o. unfortunately did not observe a considerable increase in the amount of sorted waste. Nevertheless, the carrying out of the measure has made it possible to meet and work closely with Konavl Municipality one of the port communes and foster new partnership.
Measure 19: Awareness campaign on marine litter

Main actors and stakeholders
DUNEA has involved the relevant stakeholders to carry out the awareness campaign on marine litter: ECO NGO Mala Sirena and FLAG Juzni Jadran.

Mala Sirena has been in charge of organizing and implementing 3 workshops on the subject of marine litter and preparing the topics text and educational material for the workshops.

FLAG Južni Jadran has been in charge of the coordination with the fishermen and shellfish farmers interested.

Timing
Layout and print of flyers: April 2018
First workshop: April 2018
Second workshop: April 2018
Third workshop: May 2018
Flyers distribution 1st round: June 2018
Flyers distribution 2nd round: July 2018

Activities
The two first educational workshops were organised for high school children on the subject of marine litter problems by Mala Sirena in collaboration with DUNEA, for high school students. The first one has been held on April 18th – in the maritime high school and the second one on April 23rd in the tourism oriented high school. In total, more than 150 students participated to the workshops.
During these events, 12 short notes on marine litter problematics prepared by DUNEA and Mala Sirena were distributed to the high school students.

The third workshop was organised by Mala Sirena in collaboration with DUNEA on 17/05/2018 with the support of FLAG Južni Jadran who was in charge of coordination with fishermen and shellfish farmers. It was organized in FLAG Južni Jadran premises in Ston, Pelješac peninsula, with the participation of 10 people.

2,000 flyers prepared by DUNEA and Mala Sirena were also printed and distributed during these events and other open events in June and July (see Communication chapter). They were prepared in Croatian and English languages. In these brochures, local community and visitors can find all the information on marine debris problem, its impact on marine life and environment in general, with plastic mentioned as the major issue since once it is inadequately disposed, it is the material that never seize to exist.
Results

3 educational workshops was organized, attended by, at least, 160 people. 2,000 flyers were distributed during these events and other open events in June and July.

Media

The press release produced for these events was relayed in almost all local media:

https://dubrovacki.slobodnadalmacija.hr/zupanija/dubrovnik/clanak/id/543169/tako-se-stiti-podmorje-dunei-mala-sirena-odrzale-edukaciju-za-150-srednjoskolaca

5 interviews given on regional and national television – 3 interviews are given on national television (NOVA TV, HRT2 News and HRT1 MORE TV show), 2 on local television (DUTV and LTV TV)

3 interviews given on the local radio. 2 interviews on Radio Delta Metković, and 1 on Eko eter Soundset Ragusa.

Social media

3 releases on Facebook – Mala sirena, Dalmacija danas and Radio Ploče – 43 000 followers together + every portal has its own Facebook page on which 22 publications released on their web sites about URBAN-WASTE were published.

Thanks to media spreading, the number of people reached by the awareness campaign of marine litter carried in Dubrovnik area is about 1 510 000: the audience for the News on NOVA TV which is the second most popular show in Croatia is estimated to 750 000 people, the audience for the News on HRT2 is estimated to 430 000 and the audience for MORE TV show on HRT1 is estimated to 330 000 people.

In addition, portals with their Facebook pages have an audience of about 100 000 people, just like local radio stations.

Regarding gender issues, the communication materials have been written in a gender sensitive way. Workshop were led by women. Participation in educational workshops was predominantly male, reflecting attendance at
Maritime High School. Participation in the workshop for fisher(wo)men was more balanced, there were 6 men and 4 women.

The effect of gender was not noticed, considered, or seen as relevant in the measure.

**Challenges faced and lessons learnt**

The partnership with organisation such as NGO Mala Sirena and fisheries local action group FLAG Južni Jadran has been established for the first time with DUNEA and has enabled DUNEA to work with new environmental actors.

In addition, a major collaboration was planned with another EU project, ML-REPAIR\(^1\), to involve voluntary fishermen from the port of Dubrovnik to collect the plastic waste found in their nets. Unfortunately, communal containers that should have been provided to collect these marine litter couldn't be installed for administrative reasons preventing fishermen from collecting them.

However, thanks to URBAN-WASTE and the very positive feedback from people and tourists, this measure made it possible to widely talk about marine litter in open public events but mostly in the media in order to raise awareness not only in Dubrovnik area but also in Croatia, a Country for which tourism sector accounts for about 20% of GDP and where the preservation of the Mediterranean coastline environment is crucial.

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\(^1\) Reducing and Preventing, an integrated Approach to Marine Litter Management in the Adriatic Sea financed from INTERREG Italy – Croatia CBC Programme 2014-2020
Communication campaign and promotion of the WasteApp

In the period from 5th to 13th of May, Dubrovnik Neretva County celebrated European week, under the heading “Europe in my region”. As part of this huge action, which included whole range of different events, on May 11th, DUNEA organized a display stand in the very centre of the city of Dubrovnik, on the most famous historical street in this World Heritage Site – Stradun.

Topics of the display stand were EU projects that are currently implemented in the region, with the special focus on URBAN-WASTE project as a big initiative dealing with one of the crucial problems in the County – waste management and marine litter. On this stand, except on the marine litter problematics, visitors and local community had an opportunity to be introduced with URBAN-WASTE major goals and measures and actions that are implemented in Dubrovnik Neretva County pilot area, including the WasteApp mobile application that they can use in all 11 pilot areas of the Project.

Stand installed in the street promoting URBAN-WASTE during the European week

Promotion of URBAN-WASTE during the European week in Dubrovnik
Distribution of eco bags

The marine litter flyers (see measure 16) available in Croatian and English were distributed during the European week. In addition, DUNEA also distributed URBAN-WASTE ECO shopping bags with a message to “REUSE, REDUCE, RECYCLE” and a quote “Once you need less, you will have more”.

During that week, 1,000 brochures mentioning URBAN-WASTE were distributed. The estimated number of people that have seen the URBAN-WASTE were about 5,000.

The URBAN-WASTE project was also duly promoted on TV in March and April. 5 TV interviews of TV reports were given showing actions carried out in the framework of URBAN-WASTE.

Regional news on HRT from - 16:00 – 16:40, NOVA TV news from – 19:00 – 20:15, local LTV news from 17:30 – 17:55, local DUTV news 18:00 – 18:15.

20 local web pages reach the whole area of Dubrovnik-Neretva County and its 122,500 inhabitants and some parts of Croatia like town of Split and Zagreb. The number of times this pages were seen is equal to 140,000 people, according to google analytics.
The number of the WasteApp registered users amounts to 148. The gender of users who downloaded WasteApp is mostly male 53% against 40% for female (7% unknown). 68% of the users have a university degree and 5% a high school certificate.

The promotion of the WasteApp was mainly done displaying the QR codes for uploading it in tens of places such as containers, museums and bars. Besides the displaying of QR codes, WasteApp was promoted through articles on 14 Media web pages (see annex).
Annex: list of web pages promoting URBAN-WASTE measures and links to TV interviews

Promotion URBAN-WASTE on TV


Nova TV - (2 March 2018.)

Emisija More (HRT) – https://hrti.hrt.hr/videoStore/moviedetails?referEncId=E4CEE41C-6F654&refer=search%7CIndex&customCatalogueReferencId=search&heading=undefined#_ (10:45 – 14:30) 8 April 2018. HRTi na zahtjev

Media Web pages promoting URBAN-WASTE project

DUNEA - https://www.dunea.hr/novosti/495-dunea-i-dura-predstavile-eu-projekte

DURA - http://dura.hr/get/novosti/65395/dura_i_dunea_predstavile_eu_projekte_gradima.html

Dubrovački dnevnik - https://dubrovackidnevnik.rtl.hr/vijesti/zupanija/eu-tjedan-dunea-i-dura-predstavile-eu-projekte

Dubrovnik Net - http://dubrovniknet.hr/novost.php?id=61209#.WGKJ5NKgdU

Portal Oko - http://www.portaloko.hr/clanak/eu--tjedan--dunea--i--dura--predstavile--eu--projekte/0/100775/


Regional agency DUNEA and Ecological association 'Little Mermaid'

Waste management measures


DUNEA - [http://www.dunea.hr/novosti/474-rjesavanje-morskog-otpada-kljucno-je-za-zupaniju](http://www.dunea.hr/novosti/474-rjesavanje-morskog-otpada-kljucno-je-za-zupaniju)


Dubrovnik Net - [http://www.dubrovniknet.hr/novost.php?id=60237#.Wx5NKgdU](http://www.dubrovniknet.hr/novost.php?id=60237#.Wx5NKgdU)

Du List - [https://www.dulist.hr/urban-waste-rjesavanje-morskog-otpada-kljucno-je-za-zupaniju/489250/](https://www.dulist.hr/urban-waste-rjesavanje-morskog-otpada-kljucno-je-za-zupaniju/489250/)


Libero portal - [https://www.lberoportal.hr/novost/8214/Vijesti/URBAN-WASTE-Prezentirane-mjere-za-upravljanje-otpadom-za-Dubrova%C4%8Dko-neretvansku-%C5%BEupaniju/reload](https://www.lberoportal.hr/novost/8214/Vijesti/URBAN-WASTE-Prezentirane-mjere-za-upravljanje-otpadom-za-Dubrova%C4%8Dko-neretvansku-%C5%BEupaniju/reload)


Dalmacija Danas - [https://www.dalmacijadanas.hr/projekt-urban-waste-ribari-u-akciji-sakuplanja-morskog-otpada?fbclid=IwARZv8SsjiR-UnwH9e1ptNQsDp9G3pFb_RD3yoEUNdV551h8fQ5e5STY](https://www.dalmacijadanas.hr/projekt-urban-waste-ribari-u-akciji-sakuplanja-morskog-otpada?fbclid=IwARZv8SsjiR-UnwH9e1ptNQsDp9G3pFb_RD3yoEUNdV551h8fQ5e5STY)

Internet publications promoting WasteApp

DUNEA - [http://www.dunea.hr/novosti/490-eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji](http://www.dunea.hr/novosti/490-eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji)


Čistoća Dubrovnik - [http://cistocadubrovnik.hr/novosti/%C4%8Disto%C4%87a-u-projektu-urban-waste.html](http://cistocadubrovnik.hr/novosti/%C4%8Disto%C4%87a-u-projektu-urban-waste.html)

Tourist board Metković - [https://www.tzmetkovic.hr/hr/item/298-eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji.html](https://www.tzmetkovic.hr/hr/item/298-eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji.html)


DuList - [https://www.dulist.hr/eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji/49888/](https://www.dulist.hr/eko-igra-wasteapp-otpad-odvoji-i-nagradu-osvoji/49888/)

Dubrovački vjesnik - [https://dubrovacki.slobodnadalmacija.hr/zupanija/dubrovnik/clanak/id/545276/skinite-aplikaciju-razdvojite-otpad-i-osvojite-nagrade](https://dubrovacki.slobodnadalmacija.hr/zupanija/dubrovnik/clanak/id/545276/skinite-aplikaciju-razdvojite-otpad-i-osvojite-nagrade)

Dubrovnik Press - [https://www.dubrovnikpress.hr/index.php/component/k2/item/30503-eko-igra-wasteapp](https://www.dubrovnikpress.hr/index.php/component/k2/item/30503-eko-igra-wasteapp)


DU TV - [http://www.dutv.hr/index.php/vijesti/item/7109-eko-igra-wasteapp](http://www.dutv.hr/index.php/vijesti/item/7109-eko-igra-wasteapp)

3. FLORENCE

Measure 1+2: Doggy bags and Food waste reduction in restaurants
Restaurants joining URBAN-WASTE has committed to include in the menu half size portions and traditional dishes minimizing kitchen’s waste and to offer a doggy bag to their customers at the end of the meal to take away food and wine that have not been consumed.

Measure 13 - Increase tap water consumption
Distribution of flasks to tourists and promotion of the public fountains where they can fill them up.

Measure 14 – Increase sorted collection of waste
For tourists staying in b&b and apartments, a multilanguage guide has been prepared to provide information on correct behaviours in waste sorting as to achieve correct recovery and recycling of waste products.

Measure 22 - Food donation to charities
A voluntary agreement between some hotels and catering organizations and local association foreseen the daily donation of food which has not been consumed in buffets to local charities.
Measure 1+2: Doggy bags and food waste reduction in restaurants

Main actors and stakeholders

Tuscany Region:
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

Municipality of Florence:
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures;
- set up of a broad communication campaign.

Metropolitan City of Florence:
- promotion of the initiative.

Trade associations: Confcommercio imprese per l’Italia della provincia di Firenze, Confesercenti Metropolitana di Firenze.
- promotion of the initiative to their members;
- technical support in the development and implementation of the measures;

Restorants - Giannino in Borgo San Lorenzo, Vecchio Mercato, Plaz, Da Pinocchio, Amblè, Trattoria 4 Leoni, Anacleto:
- Collaboration in the implementation of activities aimed at implementing the measures n. 1 and n. 2 (distribution of doggy bags and promotion of the URBAN-WASTE menu);
- Collaboration in the activity of involving tourists through the display and / or distribution of communication materials.

Timing

Start-up phase: May-July 2018
Launch event: distribution of the first doggy bags and table tabs in the last week of July
Full implementation phase: September-December 2018
Final event: January 2019
Activities

Tuscany Region designed and printed 15,000 doggy bags and 1,000 table tabs and 15,000 postcards. The first 600 doggy bags have been distributed by the Tuscany Region in July 2018 to the first 2 restaurants (Giannino and Vecchio Mercato) signing a letter of commitment. Then other 1,300 were distributed to the other five restaurants (Plaz, Da Pinocchio, Amblè, Trattoria 4 Leoni, Anacleto).

Tuscany Region has also made a promotional video, in which the deputy mayor for the environment Federica Fratoni explains the importance of reducing food waste in restaurants with the collaboration of participating restaurateurs. That video has been disseminated on the main local TV stations and on YouTube. [https://www.youtube.com/watch?v=PJoXrLVFAk](https://www.youtube.com/watch?v=PJoXrLVFAk)

New restaurants was involved by September/October 2018, through door to door activities and a first convention with Confartigianato was organized in November, in order to increase the number of participating restaurants.

This measure will continue until the end of the project, it is planned to organize further promotional events in order to collect a greater number of restaurants. In these events the remaining doggy bags will be distributed to the new members.
All participating restaurants offered a “URBAN-WASTE” daily menu, offering typical traditional dishes, partially made with kitchen’s leftovers like “ribollita”, “pappa al pomodoro”, “panzanella” etc.

Results
By the end of November 2018 7 restaurants (out of the 20 expected) have been involved in the implementation of the measure distributing to them 270 table tabs and 1,900 doggy bags. All participating restaurants offered a “URBAN-WASTE” daily menu.

Two promotional events were organized and 2,000 postcards distributed, reaching at least 2,000 tourists.

Considering that the average weight of the food contained in a doggy bag have been estimated around 300 g, we can assume that during the implementation phase at least 210 kg of organic waste was saved thanks to the distribution of doggy bags. If we consider all the 1,900 doggy bag distributed the value would increase to 570 kg.

Regarding gender issues, who makes ultimate decision in establishments are mostly male and the staff preparing the doggy bag is mostly male too. Gender distribution of extra work is approximate 50% male and 50% female.

Challenges faced so far and lesson learnt
Despite the active participation of the trade associations (and also some restaurants’ owners) during the Community of Practice events showing an interest for the initiative, during the launching phase only 7 restaurants signed an “official” letter of interest.

In order to increase their number, the idea is to contact them by phone and by e-mail, to visit some of them “one by one” offering them the doggy bags and table tabs for free if they commit to join the initiative.

Finally it was decided to create a sort of promotional video in which the deputy mayor for the environment was the spokesperson for the action of reducing food waste in restaurants.
Measure 13: Promotion of tap water consumption

**Main actors and stakeholders**

**Tuscany Region:**
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

**Municipality of Florence:**
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures;
- set up of a broad communication campaign.

**Metropolitan City of Florence:**
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures;
- set up of a broad communication campaign;

**ALIA Spa**
- technical support in the development and implementation of this measures.

**Publilacqua (water management utility):**
- technical support in the development and implementation of the measures;
- organization and financing of communication activities;

**Trade associations:** Conference imprese per l’Italia della provincia di Firenze, Confesercenti Metropolitana di Firenze.
- promotion of the initiative to their members;
- technical support in the development and implementation of the measures;

**Consumer associations, environmental associations:** Angeli del Bello, Legambiente, Turismo senza barriere, Amici della Terra.
- Collaboration in the dissemination of contents and activities
- Promotion of the initiative to their members

**Timing**
Start-up phase (designing of materials, realization of flasks, census of fountains): Feb-April 2018.
Launch event: 14th May 2018.
Full implementation phase: September-December 2018.
Final event: January 2019.

Activities

Tuscany Region designed and realized n. 250 aluminum flasks and 2,000 white/green flasks in BPA free plastic with the claim “Florence Urban Water”. Some of the flasks have been included in the URBAN-WASTE kit (a prize foreseen for the WasteApp gamification).

Tuscany Region designed and printed n. 150 stickers for drinking water stations and fountains. The stickers was attached on n. 4 drinking water stations, while it has not been technically possible to attach them on the “historical” fountains placed in the city center. So, the stickers have been used to identify project promoters during the events organized.

A map showing all the 57 fountains placed in the historical center have been included in the UW brochure distributed in tourist info points (60,000 copies printed, see measure 14).
Tuscany Region in collaboration with Publiacqua Spa has published an advertisement in the quarterly English magazine “Elitism Florence” with a circulation of 20,000 copies per issue. The magazine is used to be distributed in the tourist rental apartments of Florence and the metropolitan city, in a Taxi company, in the best clubs of the city center, in the Florentine museums’ bookshops and in the Pecci Museum of Prato.

Publiacqua, in cooperation with the municipality of Florence, made an updated census of the drinking water station in the historical centre and realised 1,000 flasks in PE with the claim “Florence Urban Water”, using its own resources.
The first flasks distribution event was held on September 15th inside the "Book and Flowers Fair" in Ciompi Square – Florence, also promoting the WasteApp to the interested persons.
Mayor Dario Nardella and Councilor for the environment of the Municipality of Florence Alessia Bettini at the URBAN-WASTE stand

The second flasks distribution and WasteApp promotion event was held on October 18th inside the “Didacta 2018”, the most important trade fair appointment on the world of school, in Fortezza da Basso – Florence.

Lorella Lentucci at the URBAN-WASTE stand in Didacta Fair

The third flasks distribution and WasteApp promotion event was held on November 17th inside the “Book and Flowers Fair” in Ciompi Square – Florence.

Lorella Lentucci and Gaia Paggetti at the URBAN-WASTE stand
Results

By the end of November 2018, about 700 flasks were distributed to citizens and tourists during the 3 events realized and new initiatives are foreseen to distribute all the 3,250 flasks available by May 2019 (December 14th during the final event of the Life Re Mida Project; December 15th inside the third fair in Piazza dei Ciompi).

The use of city fountains and the promotion of tap water has been done also together with the other measures developed in Florence, distributing about 10,000 URBAN-WASTE Florence map and 1,000 brochures reaching at least 11,000 tourists.

During the implementation phase of the action, an increase in the consumption of water from the fountains was recorded in the first month (+2%) followed by a decrease in the second one (-2%). Data provided do not show a clear trend, which need to be further investigated in the future.

Regarding gender issues, the final decision makers have been mostly male. The communication campaign’s materials have been written in a gender sensitive way, the locations chosen and materials distributed were appropriate for women, men and children. It has not been possible to monitor the gender balance of users.

Challenges faced so far and lesson learnt

A lot of difficulties in finding bars and restaurants available to serve tap water incurred, despite the “formal” involvement of trade associations. Also in this case it has been foreseen a “door to door” approach, but did not work because the restaurateurs have costs for washing glasses and bottles that do not resume serving the water, in particular, the bars would record substantial revenue losses by renouncing the sale of water bottles.

Due to this fact the choice it has been decided to focus more on the promotion of public fountains and distribution of flasks.
Measure 14: Waste sorting instructions translated in foreign languages

**Main actors and stakeholders**

**Tuscany Region:**
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

**Municipality of Florence:**
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures;
- set up of a broad communication campaign.

**Metropolitan City of Florence:**
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures;
- set up of a broad communication campaign;

**ATO Toscana Centro:**
- technical support in the development and implementation of the measures;

**ALIA spa (waste management utility):**
- technical support in the development and implementation of the measures.
- coordination of activities aimed at implementing this measure.

**Supply chain consortia:**
- Comieco Consorzio Nazionale Recupero e Riciclo degli Imballaggi a base cellulosica, Cial – Consorzio nazionale imballaggi alluminio:
- Collaboration in the dissemination of contents and activities
**Timing**

Start-up phase (designing of materials): 14\textsuperscript{th} May 2018.

Launch event: positioning of the stickers on the bins on July 2018.

Full implementation phase: August – November 2018.

Final event: January 2019.

**Activities**

Tuscany region designed and printed about n. 1,000 stickers for promoting the sorted collection of waste (and the URBAN-WASTE project), which were stuck on 548 bins covering all the historical center.

Tuscany region realised a map showing the bins for separate collection available in the historical center (60,000 copies) that have been distributed through 8 tourist info points, 2 taxy company, 2 sharing economy platforms (n. 9,000 host) and 50 Hotels/campings.
Allia realised a multilanguage (in 7 languages) guide aiming at increasing the awareness of tourists about the correct behaviours to be followed in order to separate waste properly which was mailed to the owners of apartments. The guide is available and can be downloaded from the web site of Allia (about 20,000 distributed copies).

An interactive map available has been also created on the Allia website (www.aliaipa.it), the tourist can query the map by entering the address and the distance he prefers, in this way he will be able to view the collection stations present in the chosen radius and know the materials to be inserted.
The 11th September 2018 a presentation a new communication initiative promoted by Alia and the Municipal Administration that allows citizens, tourists and city users to have a simple and immediate access to information related to the separate collection was officially presented at Palazzo Vecchio.

Results

About 20,000 multilanguage brochures was distributed by Alia, while the URBAN-WASTE Map (showing the location of the waste bins for sorted collection) distributed was about 10,000 (by the end of November 2018) through 8 tourist info points, 2 taxi companies, 2 sharing economy platforms.

The people potentially reached by all these communication initiatives are at least 30,000. If we consider, on average, at least 10 persons staying in a month in one of the flats involved in the distribution of the sorting instructions the value could increase to 300,000 people or more.

Regarding gender issues, the final decision makers have been mostly female. The communication materials have been written in a gender sensitive way.
Measure 22: Food donation to charities

Main actors and stakeholders

Tuscany Region:
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

ARRR Regional Resource Recovery Agency (coordinator):
- coordination of activities aimed at implementing this measure;
- technical and logistical support in the development and implementation of this measure;
- Commitment to reducing gender disadvantages in the development and implementation of this measure.

Municipality of Florence:
- promotion of the initiative.

Metropolitan City of Florence:
- collaborate with activities aimed at implementing the measures;
- technical and logistical support in the development and implementation of the measures.

Trade associations: Confesercenti Metropolitana di Firenze, Confindustria Firenze, Federalberghi Firenze.
- promotion of the initiative to their members;
- technical support in the development and implementation of the measure.

Welfare organizations and/or associations of the third sector that deal with social solidarity: Associazione Banco Alimentare della Toscana onlus, Associazione di volontariato Solidarietà Caritas onlus- Firenze:
- technical support in the development and implementation of the measure.

Hotels: Why The Best Hotels srl:
collaboration in the implementation of activities aimed at implementing this measure.

**Timing**

Start-up phase (monitoring ex ante of the first participating hotel): February 2018

Launch event: 14th May 2018

Full implementation phase: March - December

Final event: January 2019

**Activities**

Tuscany region designed and printed 200 table tabs explaining to customers the commitment of the hotels in food waste reduction and food donation.

![Hotel's table tab](image)

After a testing phase in February involving 2 hotels and 1 charity managing a canteen hosting about 114 people, other 2 hotels of the same chain (WTB Hotels), have done their availability to donate the food not consumed during breakfast and they have started the monitoring of their daily exceeding food. According to this availability, in March volunteers from charities started collecting daily the food prepared by the hotels, serving it in the canteen for poor people managed by the charity. By the end of November other hotels (1 hotel of the WTB Hotels chain, 3 hotels of the NH Hotels Group chain and Hotel Plaza Lucchesi Firenze) have been involved, starting the ex-ante monitoring.
Results

4 hotels and 2 charities were fully involved by November 2018 and 5 new hotels committed themselves to implement the measure in the future.

50 table tabs promoting the initiative was distributed in the hotels involved.

The implementation of this measure from March to August allowed to save a total of 795 kg of food and 72 liters of beverage, which was donated to charities.

Regarding gender issues, both the final decision makers and the staff involved in food collection have been mostly female. Gender distribution of extra work have been approximate 50% male and 50% female. The beneficiaries who received the food are 41% female, 44% male and 15% children.
Communication campaign and promotion of the WasteApp

The URBAN-WASTE implementation phase was launched through a press conference on 14\textsuperscript{th} May 2018 presenting the four selected measures and the official signing of the Public-Private Partnerships on behalf of the 23 stakeholders that has been involved in the project.

The Municipality of Florence supported a broad communication campaign in the city center’s adv network: billposting campaign with 180 poster (70x100) showed 20 days in July and 10 days in September and 15 big posters (6mx3m) showed 15 days in August, 15 days in October, 15 days in November.
URBAN-WASTE video has been also promoted in the digital tourist spots, looping in 42 displays placed in 24 tourist areas.

![Digital signage place in tourist info point in station Square](image)

The WasteApp has been promoted using all the communication channels described above (most of the communication materials which have been used contains a brief description and the QR code for the download), and also together with measure 14, promoting the sorted collection of waste through the 548 bins placed in the historical center.

Specific initiatives took place during the promotional events organized in measure 13, where a flask was given as a gift to all the people downloading the WasteApp.

The number of the WasteApp registered users amounts to 195. The gender of users who downloaded WasteApp is mostly male (57%). 38% of the users have a university degree and 28% an high school certificate. The municipality will further promote the WasteApp until the end of the project, organizing, when possible, new promotional events.

**Activities of alternation work-school**

The students of State Technical Institute for Tourism Marco Polo, involved in the local Community of Practice, have published an article in their school newspaper ([https://ita.calameo.com/read/005163484968107c56276](https://ita.calameo.com/read/005163484968107c56276)) and they have realized a video - interview ([www.youtube.com/embed/1ka0SpoQr_A?autoplay=1](www.youtube.com/embed/1ka0SpoQr_A?autoplay=1))
The 13th of May 2018 the Marco Polo’s students participated to promotional activity of the projet in the “Deejay TEN” marathon in Florence center, one of the most important running events of the city.
4. KAVALA

**Measure 1+20: Doggy bags and Food tracking device**

7 Restaurants have committed to implement the food tracking device in order to monitor their food waste production and to offer a doggy bag to their customers at the end of the meal to take away food and wine that have not been consumed.

**Measure 2: Food waste prevention at buffets and restaurants**

3 hotels joining the project have committed to develop awareness raising activities with their customers in order to prevent food waste from their buffets.

**Measure 12: Sorting bins in public and touristic places**

25 new bins for waste sorting collection was installed in the port area of Kavala, supported by a massive communication campaign about waste separated collection and waste reduction (Big promo posters, stickers, Promocards, and A3 posters were developed and disseminated).
Measure 1+20: Doggy bags and Food tracking device

Main actors and stakeholders

The main actors involved in the implementation of Measures 1+20 and their effective role during the implementation phase are:

Anaptixiaki Anonimi Diachirisis Aporrimmaton Anatolikis Makedonias-Thrakis AE - DIAAMATH: participated actively in engaging restaurants, trained restaurant owners along with Swedish University of Agricultural Sciences, on how to use the food tracking device, supported the preparation of the design for the promotion material and its dissemination while raising public awareness.

Association of Kavala Restaurants: Raised awareness and disseminated the initiative to restaurant owners.

Municipality of Kavala: Supported the dissemination and raising awareness on the benefits of the strategies developed in the framework of the URBAN-WASTE. It also supported as a sponsor the production of the promotion material.

DIMOFLELEIA, Public Benefit Organisation for Tourism Development: Financed the production of the doggy bag and disseminated the application of the measures to tourists.

Restaurants committed to participate:

A: “CAMPING ALEXANDROS”
B: Restaurant “ΤΟ ΠΑΡΑΛΙΑΚΟΝ”
C: Restaurant “Ο ΝΑΥΤΗΣ”
D: Restaurant “ΚΥΝΗΓΟΣ”
E: Restaurant “ΚΥΡΑ ΒΑΓΓΕΛΙΩ”
F: Restaurant “ΤΑ ΒΑΡΕΛΙΑ”
G: Restaurant “ΨΑΡΑΚΙ ΟΥΖΟ BAR”

The participating restaurants committed to offer a doggy bag to their customers at the end of the meal to take away food and wine that have not been consumed and to measure food waste produced with the food tracking device.

Timing

The timing of events and activities as they took place for the implementation of these two measures is reported below:

- Planning / start-up phase (May - July 2018). The planning and start up phase included the preparation and the production of the material, organisation of meetings with stakeholders to present the measures and the benefits from participation, campaign for sponsorship agreements, trainings of the restaurant owners on how to use the food tracking device, and testing activities on the customised application developed for each restaurant.
• Launch of the implementation of the measures and relevant press releases (05 July 2018). The food device was installed at the restaurants and implementation started immediately.

• Implementation phase (July-November 2018). The implementation phase lasted five months. Dissemination of 400 Doggy Bags were distributed in October due to supplier delays.

• Reports from restaurants were automatically delivered through the web application by SLU to owners and DIAAMATH. Data analysis performed on retrieved data.

• Final event (10th December 2018). A final event is scheduled to be organised on the 10th December to present the results and lessons learnt but also to engage more restaurants in participating. More Doggy bags will be distributed during this final event.

Activities

During the start up phase, communication materials in English and in Greek was designed and printed. Specifically, Dimofeleia supported the printing of 5,000 doggy bags while the production of 300 table tabs (Picture 1), 15 window films (Picture 3) and 20 posters, 80 promocards (Picture 2) were sponsored by the Municipality of Kavala for this measure.

Restaurant Table Tab
SLU installed the food waste tracking device in 7 restaurants and DIAAMATH participated in the trainings, at the beginning of July, organizing training sessions (about 2 hours each) with the owners of the restaurants and giving technical support throughout the implementation phase. Audits (continuous) started immediately after the training sessions - Reports were sent automatically to owners and DIAAMATH from SLU.
Promotional Material was disseminated in parallel with trainings in July 2018 (7 window films, 250 table tabs, 80 promocards, 20 A3 Posters). 400 Doggy bags was distributed to 5 restaurants (Camping Alexandros, O Naftis, Ta Varellia, Psarakí Ouzo Bar, To Paraliakon), in October 2018. The rest of the doggy bags are to be distributed during the final information and promotional event (10th Dec. 2018) by the Municipality of Kavala and Dimofeleia.

Restaurants promoted the URBAN-WASTE project and offered a Doggy Bag to customers for left overs while they were measuring the different waste bags produced with the food tracking device. Measurements were recorded automatically through the application that has been customised by SLU for each restaurant.

More restaurants is planned to be involved during December 2018, through the organization of the final information event for spreading the results, promoting the measures and enhance possible replication.

**Results**

The food tracking device was installed in 7 restaurants, about 9% of the restaurants that are operating in the city of Kavala. Only 5 of those started and continued to monitor for a few weeks (not all days of the week) the food waste produced. Two of the initial participating restaurants quitted the implementation as they reported very busy schedules especially during the summer period for measuring the waste bags.

Only 3 restaurants reported the number of doggy bags distributed by September: about 200 (26+116+27). In October 400 doggy bags (printed by the URBAN-WASTE project) were distributed to the restaurants. The remaining doggy bags have been stored at the premises of the Municipality of Kavala and restaurants can go there and take more boxes when they run out.

The monitoring data collected about the organic waste produced during the implementation phase are not homogenous and do not always report the number of customers or portions served.
Considering that the average weight of the food contained in a doggy bag have been estimated around 300 g, we can assume that during the implementation phase about 180 kg of organic waste was saved thanks to the distribution of doggy bags.

Regarding gender issues, female-male staff was in most cases was equally distributed in all types of works performed i.e. preparation of the doggy bag, kitchen/serving staff, decisions made in the establishment were mostly made by males.

**Challenges faced and lessons learnt**

The main challenges faced:

- rate of retention of restaurant owners who are aware of environmental issues but not used to deal with it actively and voluntarily;
- 4/7 restaurants took measurements for a few weeks (not all days of the week);
- 2/7 did not perform any measurements at all;
- increase the awareness of tourists about waste management and food waste in particular.

Lesson learnt in terms of successful solutions found, but also difficulties and problems that have not been solved: restaurant owners were not always willing to continue reporting or did not report regularly due to high volume of customers and the long hours of work especially during summer - Further communication was sent out to remind owners to report regularly.
Measure 2: Food waste prevention at buffets and restaurants

Main actors and stakeholders
Anaptixiaki Anonimi Etairia Diachirisis Aporrimmaton Anatolikis Makedonias-Thrakis AE - Diaamath (DIAAMATH): participated actively in engaging hotels, trained hotel managers on how to promote the measure, supported the preparation of the design for the promotion material and its dissemination while raising public awareness.

Association of Kavala Hotels: Raised awareness and disseminated the initiative to hotel owners.

Dimofeleia, Public Benefit Organisation for Tourism Development: Raised public awareness through publishing information about the measures implemented in the form of press releases.

Municipality of Kavala: Supported the dissemination and raising awareness on the benefits of the strategies developed in the framework of the URBAN-WASTE. It also supported as a sponsor the production of the promotion material.

Hotel LUCY, hotel GIANNIS, hotel AIROTEL GALAXY: joined the project and through a promotional campaign disseminated the measure of reducing food waste in their buffets.

Timing
The timing of events and activities as they took place for the implementation of the measure is reported below:

- Planning / start-up phase (May - July 2018). The planning and start-up phase included the preparation and the production of the material, organisation of meetings with hotel managers to present the measures and the benefits from participation, campaign for sponsorship agreements, consultation with hotel managers on the selection of the messages on the promotion material.

- Launch of the implementation of the measures and press release (01 July 2018). The launch of the implementation of the measures started with the dissemination of the promotion material.

- Implementation phase (July-November 2018). The implementation phase lasted five months however indicators were measured for only three weeks before, during and after the end of the implementation.

- Final event (10th December 2018). A final event is scheduled to be organised on the 10th of December to present the results and lessons learnt but also to engage more hotels. Some more promotion material will be available for any new participants.

Activities
During the start up/preparation phase, communication materials in English and in Greek were designed and printed, and at least 5 meetings were organized with hotel managers to explain how the campaign is envisaged as well as specify the appropriate messages in the promotion material.

The Municipality of Kavala supported the production of 200 table tabs, 15 window films, 80 promocards and 20 posters for this measure.
Training and support

By the end of June 2018, all the communication material was distributed to the 3 hotels (15 window films, 200 table tabs, 80 promocard, 20 posters) together with a standard form for recording results. Support was provided during the implementation phase for assisting the hotels record food waste produced from buffets.

Three (3) audits were performed. The first audit conducted in June (23.07 - 29.07), the second audit conducted in September (10.09 - 16.09) and the third audit conducted in October (29.10-04.11). In the first two audits all
three hotels were involved while for the third audit Hotel “Yiannis” did not participate as the establishment closes for the autumn and winter period.

Promotion of URBAN-WASTE Measure 2 in hotel buffets

More hotels is planned to be involved during December 2018, through the organization of the final information event for spreading the results, promoting the measures and enhance possible replication.

**Results**

Three (3) out of eight (8) in total hotels that are operating in the city of Kavala (about 38%) committed to participate in the implementation of this measure by promoting with posters and promo cards (about 80) in their buffets, different ways to reduce the food waste.

All the 3 hotels reported waste production data, including the number of customers, related to the 3 monitoring weeks foreseen (one before and two during the implementation period). The two bigger hotels (with 250-300 daily guests) showed very different results, both in the evaluation of the per capita (per guest) production and in the related trend. In one case the per capita production of about 350 g/guest decreased progressively by 10% and 16%; in the other, per capita production was more than 1.000 g/guest (the value is overestimated due to the fact that the hotel uses big waste bins with a capacity of 125 liters, but they have never been fully filled in) and showed an increase of 18% during the first monitoring week of the implementation phase and a decrease of 23% in the second week.

The third hotel is a very small hotel at the outskirts of Kavala (about 20-daily guests). The food waste only comes from guests plates while what is left over in the buffet (anyway representing very small quantities) is reused for the preparation of food (i.e. tomatoes can be cooked to make spaghetti sauce). The per capita production was less than 300 g/guest and did not change during the implementation of the measure.
Regarding gender issues, in most cases decisions were made by males, whereas in the works involved staff was equally distributed i.e. kitchen, servers, bar tenders. Communications towards customers but also between staff were gender sensitive.

**Challenges faced and lessons learnt**

The main challenges faced:

- All three hotels sent their measurements for the first two audits. Hotel Yiannis did not participate in the last audit as the hotel is closed for winter period.
- Hotel Managers were hard to find them as they were extremely busy especially during the summer period. Solution: Very frequent communication via telephones and emails to perform tasks agreed and measurements.

Lesson learnt in terms of successful solutions found, but also difficulties and problems that have not been solved: persistence in communication and often reminders followed up with phone calls made possible the collection of the data.
Measure 12: Sorting bins in public and touristic places

Main actors and stakeholders

Anaptixiaki Anonimi Etairia Diachirisis Aporrimmaton Anatolikis Makedonias-Thrakis AE - Diaamath (DIAAMATH): supported the preparation of the design for the promotion material and a massive communication campaign about waste separated collection and waste reduction.

Port of Kavala: financed 25 new bins for waste sorting collection and installed them in the port area of Kavala.

Municipality of Kavala: Supported the dissemination and raising awareness on the benefits of the strategies developed in the framework of the URBAN-WASTE. It also supported as a sponsor the production of the promotion material for measure 12 (Big promo posters, stickers, Promocards, and A3 posters were developed and disseminated).

Dimofeleia, Public Benefit Organisation for Tourism Development: Raised public awareness through dissemination of information about the measures implemented in the city with press releases.

Timing

The timing of events and activities as they took place for the implementation of the measure is reported below:

- Planning / start-up phase (May - July 2018). The planning and start up phase included the procurement for the bins, the installation (May 2018) and the preparation and the production of the promotion material, and organisation of meetings with the port authorities.

- Launch of the implementation of the measures and press release (01 July 2018). The launch of the implementation of the measures started with the dissemination of the promotion material.

- Implementation phase (July-November 2018). The implementation phase lasted five months. Separated waste produced was measured for four weeks i.e. before, during, and after the implementation phase. Measuring was performed by scaling the bin bags 3 times a day and then by calculating the net weight of the bin bags.

- Final event (10th December 2018). A final event is scheduled to be organised on the 10th December for communicating the results and lessons learnt but also raise further public awareness.

Activities

25 new bins for waste sorting collection of metal, plastic, paper and glass (blue bin) was installed in the port area of Kavala (about 25,000 m²), supported by a massive communication campaign about waste separated collection and waste reduction (4 Big promo posters, 10 A3 posters, 40 Promocards, 60 Leaflets). An info day was organised on the 18th of October informing tourists and locals on the installation of the bins, waste collection methods in the city of Kavala, the URBAN-WASTE project while at the same time conducting a survey to understand the level of recycling practices.

The audits conducted for evaluating the impact of the installed bins were held in July (16.07 - 22.07), September (14.09 – 20.09), October (19.10-25.10) and November (05.11-11.11).
Promotional campaign for waste bins for separate collection in the area of the Port of Kavala.
Results

The promotion of the new separate waste collection in the port area involved 19 massive media and 85 stakeholders and was supported by a massive communication campaign (4 Big promo posters, 40 Promocards, 60 Leaflets, and 10 A3 posters).

Some interesting results came out from the survey conducted during the info day, indicating that 81.3% of respondents are actually practising recycling in their house of residence while 65.6% of respondents believe that tourism play an important role in the production of waste especially in touristic cities. Finally, tourists seem to be unaware of the recycling rules in the cities they visit.
Total unsorted waste produced collected in a week before the implementation of the measure was about 243 kg, with an average waste production per day of 34.7 kg.
The first monitoring data showed a strong increase of the sorted fractions (plastic+glass+metal+paper) which reached more than 30%, managing to reduce the unsorted waste by 32%. Then, during the following monitoring periods, the percentage of sorted waste decreased a little bit, being stabilised at 27%.

Regarding gender issues bins are equally accessible for both women and men and all communications towards the public informing about the implementation of the measure were gender sensitive. The placing of bins though was decided by men and there was no consultation in this process. There was no consultation in this process of deciding between men and women.

**Challenges faced so far and lesson learnt**

The main challenges faced:

- The authorities of the port of Kavala proceeded immediately in the procurement, supply and installation of the recycling bins. We did not have the time to conduct the measurement in the pre-implementation phase as the 25 bins were installed already in April 2018. As such, the first audit is a hypothetical audit combining the measurements from the recycling and the mixed waste bin as if there was no blue bin.

- The contractor for carrying out the measurement was appointed in September and measurement continued with no further delays since then.

Lesson learnt in terms of successful solutions found, but also difficulties and problems that have not been solved:

- Gratefully acknowledge the knowledge exchange from Siracusa regarding the survey for tourists and information provided on the kiosk for the info day.
Communication campaign and promotion of the WasteApp

The promotion of the WasteApp was achieved through press releases and during the COMMUNITY OF PRACTICE events where the four selected measures were presented along with the official signing of the Public-Private Partnerships on behalf of the stakeholders involved in the project. Door to door meetings with potential sponsors also carried out during the preparation phase. In total 300 bin stickers was produced with the QR code promoting the WasteApp and a massive promotion campaign with a press release was sent to 19 Mass media and 143 other email addresses that include local and regional authorities in the Region of Eastern Macedonia and Thrace and their environmental agencies and departments.

A city bus advertisement campaign was launched in October 2018 and lasted for one month sponsored by DIMOFLEIA.

Despite this communication efforts, the registered users of the WasteApp have been only 39 during the implementation phase. They are mainly people with a superior education or a university degree and the distribution between male female was 48.4% female and 51.6% male (of those specifying gender).

Dedicated promotional actions are expected to improve the use of the WasteApp by the end of the project. A final event, scheduled to be organised on the 10th December, will be used both for communicating the results and lessons learnt but also to raise further public awareness for using the WasteApp as well as attracting sponsors.
5. LISBON

Measure 2 + 20: Food waste prevention at buffets and restaurants and food tracking device

More than 40% of the waste generated at tourist establishments such as buffets and restaurants is considered as food waste. Buffets and restaurants at hotels involved in the project included half-size portions in the menu and traditional dishes in order to minimize waste generated in the kitchen. In addition, some of the hotels involved used the food tracking device as a direct measure to reduce food waste by increasing awareness on the quantity of food wasted and reducing over production of food.

Measure 7: Substitution of disposable products in hotels

One of the main problems of amenities in hotels’ rooms is the excessive waste generated from the use of hygiene products. This measure implied the selection of the most ecological products (dispensers) to replace disposable ones in hotel rooms and the revision of contracts with product suppliers. Marketing materials were distributed at the reception of the hotel to inform customers on the new measure.

Measure 10: Waste sorting in hotel rooms

On average, hotels generate around 1 kg of waste per guest per night. In order to increase recycling rates at hotels, this measure promotes the proper separation of plastic, paper and glass fractions by guests in hotel rooms. However, since that was not possible for the Hotels to implement, it was decided that they would do the selective waste sorting in the rooms though the housekeeping staff.
Measure 2 +20: Food waste prevention at buffets and restaurants + Food tracking device.

Main actors and stakeholders

Coordination, technical support and monitoring:
- Municipality of Lisbon: General coordinator of the Lisbon cluster and of the measure. Responsible for the organization of meetings, definition of strategies. Provision of technical support and awareness sessions.

Implementation and monitoring of Measure 2:
- Altis Avenida Hotel: The Hotel was responsible for the implementation and monitoring of the measure.

Implementation and monitoring of Measure 2+20:
- Hotel 3K Europa: Responsible for implementation of Measures 2 (Food prevention) and 20 (Food Tracking System Device) at customer breakfast buffet and kitchen (when lunch and/or dinner is served).

Implementation and monitoring of Measure 20:
- Escola de Hotelaria e Turismo de Lisboa: The School of Tourism (EHTL) was responsible for the implementation of Measure 20 (Food Tracking System Device).
- ONJ Sao Lázaro Aparthotel: The Hotel was accountable for the implementation of measure 20 (Food Tracking System Device).

Dissemination:
- AHP (Associação da Hotelaria de Portugal): Disseminating and promoting the measure through their institutional channels.
- Green Dot Company (SPV): Disseminating and promoting the measure through their institutional channels.
- Turismo de Lisboa Visitors & Conversion Bureau: Disseminating and promoting the measure through their institutional channels.

Timing
Start-up phase (planning and drafting of the PUBLIC PRIVATE PARTNERSHIPS): March - May 2018
Public-Private Partnership signature: 10 September 2018
Full implementation and monitoring phase*: June – November 2018
- Baseline: between 15th and 31st May 2018
- 1st monitoring: 20th – 26th August 2018
- Final: 12th – 18th November 2018
- Final event: 25th November 2018
(*) Escola de Hotelaria e Turismo de Lisboa, due to the school year calendar, will have a different monitoring phase. Monitoring will be undertaken from October to January.

- **Baseline:** 15th and 31st May 2018
- **1st monitoring:** 26th November – 2nd December 2018
- **Final:** 28th January – 3rd February 2019

**Activities**

During the planning phase, the municipality of Lisbon held meetings with all stakeholders at their premises, with the objective of defining strategies and action plans for the implementation and monitoring phases, along with the stakeholders, and to carry out some awareness sessions. After the signature of the UrBAN-WASTE PUBLIC PRIVATE PARTNERSHIP, the Lisbon Municipality initiated a series of meetings with stakeholders in order to define the following strategies. The Altis Avenida Hotel identified the staff to be responsible for the implementation and monitoring of the food waste measure as well as to ensure the smooth communication with clients, keeping in mind the target audience were employees and clients. The staff also defined the communication strategy, including the provision of information and awareness with regards to the required amount of food (right dose for meal) for children and for adults (female and male). The staff members also designed the required materials, including 20 labels for the tables. The monitoring of the measure and assessment of the results was also undertaken by staff members. Moreover, the Altis Avenida Hotel undertook customer satisfaction surveys at the checkout of clients. The human resources available included hotel staff, the Lisbon Municipality Team from the Department of Waste Management and the Department of Health, Hygiene and Safety.

![Monitoring activities at Altis Avenida Hotel](image-url)
The **Hotel 3K Europa** identified the staff to be responsible for the implementation and monitoring of the food waste measure as well as to ensure the smooth communication with clients. The staff defined the communication strategy targeting the customers, including the provision of information about the project available in all rooms of the hotel. For the monitoring of the measure, staff members received training about the food tracking device (App) and monitoring of food waste with the App. The monitoring and assessment of the results was also undertaken by staff members. Moreover, the Hotel 3K Europa has undertaken customer satisfaction surveys at the checkout of clients. The human resources available included hotel staff, the Lisbon Municipality UrBAN-WASTE Team and the Swedish University of Agricultural Sciences (food tracking system team). A total of 140 communication materials were produced.
The Escola de Hotelaria e Turismo de Lisboa identified the staff to be responsible for the implementation and monitoring measures, considering that the target audience were students, teachers and staff of the school. For the monitoring of the measure, staff members received training about the food tracking device (App) and monitoring of the food waste using the App. The monitoring and assessment of the results was also undertaken by staff members. Human resources available included hotel staff, the Lisbon Municipality UrBAN-WASTE Team and the Swedish University of Agricultural Sciences (Food Tracking System Device Team). With regards to communication materials, 6 posters, promo-cards for social media, and a banner on digital email signatures were created. It is important to mention that the School donated the edible leftovers to Refood.

The ONJ Sao Lázaro Aparthotel identified specific staff members to be responsible for the implementation and monitoring of the measures. The target audience included employees and customers of the aparthotel. The staff members defined the communication strategy. For the monitoring of the measure, staff members received training about the food tracking device (App) and monitoring of food waste with the App, including...
the monthly evaluation and process adjustment. The monitoring and assessment of the results was also undertaken by staff members. Human resources available included hotel staff, the Lisbon Municipality UrBAN-WASTE Team and the Swedish University of Agricultural Sciences (Food Tracking System Device Team). With regards to communication materials, 10 posters and 60 promo-cards for social media were created.

In addition, AHP, Green Dot Company (SPV) and Turismo de Lisboa Visitors & Conversion Bureau promoted the project and implementation of the measure by publishing and posting social media and networks the different news and information concerning the implementation/monitoring phases and results. In order to reach more hotels in Lisbon, the Lisbon Municipality team organised presentations and meetings with potential stakeholders. In total, the team had meetings with 117 potential new stakeholders between March and the first week of September, always at their facilities. The awareness sessions were undertaken by the Lisbon Municipality and the communication materials were replicated by the different Hotels involved. Nine awareness campaigns were held, covering about 30 trainees, followed by 4 follow-up actions with about 10 personnel. At least 2 hotels carried out internally additional trainings in person in the various departments.

**Results**

In total, 4 tourist establishments were involved and monitored during the implementation phase:

- Hotel 3K Europa was involved in the implementation and monitoring of the measures 2+20;
- Altis Avenida Hotel was involved in the implementation and monitoring of measure 2;
- ONJ Sao Lázaro Aparthotel and Escola de Hotelaria e Turismo de Lisboa were involved in the implementation and monitoring of the measure 20.

As a result of the implementation of measure 2, the two hotels involved, Altis Avenida Hotel and Hotel 3K Europa, experienced a reduction in the amount of organic waste generated of 7% and 25% respectively. Moreover, the Altis Avenida Hotel and the Escola de Hotelaria e turismo de Lisboa started to reuse the edible leftovers in the kitchen.

With regards to gender considerations, the distribution in ultimate decision-making at the hotels involved was mainly female at the EHTL and ONJ Sao Lázaro Aparthotel, and male at the Hotel 3K Europa. In addition, Althus
Avenida Hotel, Hotel 3K Europa and EHTL applied gender sensitivity in publicity and communication materials. The ONJ Sao Lázaro Aparthotel did not. In terms of gender distribution of the extra work involved, the percentages are the following: 75% female (Altis Avenida Hotel), 60% female (Hotel 3K Europa), 50% female (Escola de Hotelaria e Turismo de Lisboa) and 53% female at the ONJ Sao Lázaro Aparthotel.

The majority of extra work seemed to be carried out by female workers, although decision making was gender balanced, overall. This may warn businesses that they do not yet provide equal opportunities for both females and males.

**Challenges faced and lessons learnt**

Despite what was previously announced, some hotels (Altis Avenida Hotel, Hotel 3K Europa and ONJ Sao Lázaro Aparthotel) had problems carrying out the customer satisfaction survey.

With regards to communication materials, all hotels involved in the dissemination of the measure only used online information.

Due to school year calendar, the “Escola de Hotelaria e Turismo de Lisboa” had a different monitoring phase (from October 2018 to January 2019). This was already foreseen on the operative plan.

Almost all hotels referred to the following difficulties: high rotation of the teams, excessive workloads, forgetfulness by operators.

The “Hotel Altis Avenida” had to unexpectedly carry out renovation works in the structures of the hotel, implying that they had to suspend the Monitoring. Even if they continued to do so, this monitoring would not reflect the reality of the Hotel in "normal situation." This situation was unforeseen for both the Hotel and the Municipality of Lisbon. Therefore, the option chosen for “Altis Avenida” was to adapt the monitoring schedule, which implied repeating the middle monitoring in November.

Carrying out daily follow-ups is highly recommended and necessary.

Weighing the peels was important to know the impact that this item has on the hotel’s kitchen. This item is transversal to all units and it was acknowledged that finding a solution was necessary, so this fraction would not end up on the mixed waste bin.
Measure 7: Substitution of disposable products in hotels

Main actors and stakeholders

Coordination, technical support and monitoring:
- The Municipality of Lisbon was the general coordinator of the Lisbon cluster and for the measure. Responsible for the organization of meetings, definition of strategies. Provide technical support and awareness sessions.

Implementation and monitoring:
- Holiday Inn Lisboa: The Hotel is responsible for informing the customers about the commitment to the UrBAN-WASTE Project and substitution of amenities by dispensers in all rooms, in order to achieve good environmental practices, through the adaptation of sustainable choices. Responsible for customer communication strategy regarding the advantage of using rechargeable products and for the dissemination on social media networks and business partners.

Dissemination:
- AHP (Associação da Hotelaria de Portugal): Disseminating and promoting the measure through their institutional channels.
- Green Dot Company (SPV): Disseminating and promoting the measure through their institutional channels.
- Turismo de Lisboa Visitors & Conversion Bureau: Disseminating and promoting the measure through their institutional channels.

Timing

Start-up phase (planning and drafting of the PUBLIC PRIVATE PARTNERSHIPs): March - May 2018

Public-Private Partnership signature: 10 September 2018

Full implementation and monitoring phase: June – November 2018

- Baseline: 15th and 31st May 2018
- 1st monitoring: 20th – 26th August 2018
- Final: 12th – 18th November 2018

Final event: To be confirmed.

Activities

During the planning phase, the municipality of Lisbon held meetings with all stakeholders in its premises, with the objective of defining strategies and action plans for the implementation and monitoring phases, along side with the stakeholders, and to carry out some awareness sessions. After the signature of the UrBAN-WASTE PUBLIC PRIVATE PARTNERSHIP, the Lisbon Municipality initiated a series of meetings with stakeholders in order
to define the following strategies. The measure was implemented in 169 rooms of the Holiday Inn Lisboa Hotel, where disposable products were replaced by dispensers. In parallel, the hotel informed customers on the commitment to the UrBAN-WASTE project and substitution of amenities in order to achieve good environmental practices through the adaptation of sustainable choices. The Lisbon Municipality continued having meetings with the stakeholders involved (i.e. Holiday Inn Lisboa, AHP, SPV and Turismo de Lisboa Visitors & Conversion Bureau) throughout the implementation phase. In addition, AHP, Green Dot Company (SPV) and Turismo de Lisboa Visitors & Conversion Bureau) promoted the project and implementation of the measure by publishing and posting social media and networks the different news and information concerning the implementation/monitoring phases and results. In order to reach more hotels in Lisbon, the Lisbon Municipality team organised presentations and meetings with potential stakeholders. In total, the team had meetings with 117 potential new stakeholders between March and the first week of September, always at their facilities.

Results

Despite Lisbon Municipality’s efforts, only one hotel agreed to participate on the implementation and monitoring of measure 7. In total 169 rooms of the Hotel Holiday Inn Lisboa were involved in the implementation and 340 soap shampoo/shower gel dispensers were purchased. This was translated into a reduction of unsorted waste of approximately 19%. Moreover, the hotel occupation rate during the monitoring phase was 62%.
Regarding gender considerations, both women and men were consulted in how to best undertake the measure and ensure effectiveness at the Holiday Inn Lisboa. However, the work was exclusively undertaken by females. This may warn businesses that they do not yet provide equal opportunities for both females and males.

The Hotel succeeded in achieving the target set in the operative plan of reducing reducing the amount of waste by 2%, as a consequence of the replacement of disposable products.

**Challenges faced and lessons learnt**

The Lisbon Municipality expected to reach more hotels in Lisbon. Despite the efforts made to involve more stakeholders, it did not happen. Even though most hotels in Lisbon are already sorting and selective collecting their waste, they did not agree to participate in the UrBAN-WASTE project.

With regards to communication materials, all hotels involved in the dissemination of the measure only used online information.

The hotel referred to the following difficulties: high rotation of the staff, difficulties in communication with the hotel housekeepers due to their many different nationalities, lack of training on waste separation.

Lisbon Municipality and involved hotels have learned to be more conscious about waste and to undertake a better sorting of the different waste fractions.

They have acquired a better notion of the weight of the unsorted waste and what are the measures available to reduce it.
Measure 10: Waste sorting in hotel rooms

Main actors and stakeholders

Coordination, technical support and monitoring:
- The Municipality of Lisbon was the general coordinator of the Lisbon cluster and of the measure. Responsible for the organization of meetings, definition of strategies. Provide technical support and awareness sessions.

Implementation and monitoring:
- Hotel 3K Europa: The hotel is responsible for the implementation of selective waste collection in 140 rooms.
- Hotel NH Lisboa Campo Grande: The hotel is responsible for the implementation of selective waste collection in the hotel.
- Hotel Vincci Liberdade: The hotel is responsible for the implementation of selective waste collection in the hotel.

Dissemination:
- AHP (Associação da Hotelaria de Portugal): Disseminating and promoting the measure through their institutional channels.
- Green Dot Company (SPV): Disseminating and promoting the measure through their institutional channels.
- Turismo de Lisboa Visitors & Conversion Bureau: Disseminating and promoting the measure through their institutional channels.

Timing
Start-up phase (planning and drafting of the PUBLIC PRIVATE PARTNERSHIPS): March - May 2018
Public-Private Partnership signature: 10 September 2018
Full implementation and monitoring phase: June – November 2018
- Baseline: 15th and 31st May 2018
- 1st monitoring: 20th – 26th August 2018
- Final: 12th – 18th November 2018
Final event: 25th November 2018

Activities
During the planning phase, the municipality of Lisbon held meetings with all stakeholders in its premises, with the objective of defining strategies and action plans for the implementation and monitoring phases, along side
with the stakeholders, and to carry out some awareness sessions. Afterwards, the Hotel 3K Europa identified the staff to be responsible for the implementation and monitoring of the measure (selective collection) in the rooms of the hotel, as well as to ensure the smooth communication with clients. The staff also defined the internal communication strategy, including the provision of information about the project available in all rooms of the hotel and on the website/social media. The monitoring of the measure and assessment of the results was also undertaken by staff members. At the same time, the Hotel NH Lisboa Campo Grande also identified the staff to be responsible for the implementation and monitoring of the measure (selective collection) as well as to ensure the smooth communication with clients. Due to internal communication strategy rules, it was not possible to provision information about the project in all rooms of the hotel (book) and the website. The monitoring of the measure and the assessment of the results was also undertaken by staff members.

The Hotel Vincci Liberdade also identified the staff to be responsible for the implementation and monitoring of the measure (selective collection) as well as to ensure the smooth communication with clients.

Due to the internal communication strategy defined by The Hotel Chain was not possible to provide information about the project on the hotel social media networks.

The Lisbon Municipality carried out a series of awareness sessions, and communication materials developed were replicated by the different hotels. At the same time, the Lisbon Municipality has provided technical support to the different hotels for the implementation of the actions, as well as for the monitoring and reporting on the implementation. It also created a “UrBAN-WASTE Project Banner” and organised communication activities where communication materials were distributed. One of the key aspects of the implementation was to consider the impact of the measure on existing gender disadvantages, striving to use this measure to reduce existing disadvantages. In total, the team had meetings with 117 potential new stakeholders between March and the first week of September, always at their facilities.
Results

In total, three hotels have been involved in the implementation of this measure. Two of the hotels, Hotel NH Lisboa Campo Grande and Hotel Vincci Liberdade achieved the targets set in the operative plan, but the Hotel 3K Europa has not delivered the monitoring data yet. In addition, one more Hotel will be involved now and will begin to prepare, implement and monitor this measure during 2019.

The number of rooms where selective collection was applied was 140 rooms at Hotel 3K Europa, 88 rooms at Hotel NH Lisboa Campo Grande and 77 rooms at Hotel Vincci Liberdade. The percentage of selective deposition
of the last two hotels was 68% and 82% respectively. At the same time, the occupancy rate of these two hotels were 45% and 48%. After the implementation of this measure, the percentage of waste generated at the hotel was reduced in 12% at the Hotel NH Lisboa Campo Grande and the Hotel Vincci Liberdade.

With regards to gender considerations, the ultimate decision-making at the hotels involved was exclusively done by male staff whereas the proportion of female staff was 100% at Hotel 3K Europa and Hotel NH Lisboa Campo Grande, and 62% at the Hotel Vincci Liberdade. When it comes to gender distribution of the extra work involved, the percentage of female engaged were 100% at Hotel 3K Europa, 80% at Hotel NH Lisboa Campo Grande and 89% at the Hotel Vincci Liberdade. This may warn businesses that they do not yet provide equal opportunities for both females and males.

At the same time, AHP, Green Dot Company (SPV) and Turismo de Lisboa Visitors & Conversion Bureau successfully promote the project by publishing/posting on social media networks news and information concerning the implementation/monitoring phase and results.

The implementation of the measure resulted in the practice of the selective separation of waste by the Hotels, for later collection and due transfer to the recycling centre by the Municipality, therefore increasing the percentages of recycled waste in the city.

**Challenges faced and lessons learnt**

The Lisbon Municipality expected to reach more hotels in Lisbon. For that purpose, the team held presentations and meetings with potential stakeholders and managed to involve three more hotels: NH Campo Grande, Vincci Liberdade and more recently NH Liberdade. This last one will start the baseline and monitoring in December 2018.

With regards to communication materials, all hotels involved in the dissemination of the measure only used online information. Both Hotel Vincci Liberdade and NH Campo Grande informed that they could not disclose the project because they belong to a chain of hotels whose image standards are defined and authorized by the central and cannot be individualized. However, the implementation of the measure has been made (and will continue to be) with the same commitment.

Change mentalities in order to apply new procedures. In order to deal with this situation, new containers were acquired, colours bags to facilitate recycling were purchased, and the rules for separation were placed in all locations (including the garbage storage).

The changes were evident, as after the first week with the measure implemented, the volume of recycled waste in the hotel increased immediately (to 72%).

The staff has to be strongly motivated from the very first moment in terms of the importance of recycling for the environment. This will draw their attention and engage them because of their ecological awareness and their concern to leave a future cleaner planet for their children.
Communication campaign and promotion of the WasteApp

On the 10th of September 2018 at the Lisbon City Hall, the launch of the initiative took place through a press conference presenting the four selected measures and the official signing of the Public-Private Partnerships on behalf of the 23 stakeholders that have been involved in the project. The stakeholders involved included Hotels, Hotels Associations, School of Hospitality and Tourism of Lisboa, Tourism of Lisbon, NGO’s, Portuguese Circular Economy Association, NGO’s, Municipality of Oeiras, Waste Management and Disposal Organizations, Lisbon Waste Management Department.

On the 12th of September, the UrBAN-WASTE project was promoted by the Lisbon Municipality at the Feira da Luz, which is an annual street market with a combination of cultural, gastronomic, display and sale of handicrafts and musical concerts.
On the 15-16th of November, AHP organized the 30th National Congress of Hospitality and Tourism under the theme “Tourism: What Future Do We Want?”. This event which had approximate 566 attendees was used to disseminate the UrBAN-WASTE and the WasteApp.
On the 10th of September, the Green Dot Company (SPV) published an article in the newsletter "ambiente magazine" (link) about the UrBAN-WASTE project and the participation of Lisbon.

In addition, TAP Air Portugal (Portuguese national airlines) published an article on its on-board magazine (UP Magazine) about the UrBAN-WASTE project and the participation of Lisbon as pilot city.
Likewise, the Hotel 3K Europa placed informative signs in all rooms promoting the UrBAN-WASTE project. This information is expected to reach approximately 57,000 people per year.
With regards to communication materials, the project was advertised in the Lisbon Cultural Agenda using half a page (Figure 16). In total, 40,000 Community of Practice eies were distributed through showrooms and institutional areas. Moreover, 100 Moleskines, 200 pencils, 600 postcards, 250 flyers (in Portuguese) and 500 (in English) were distributed, and 50 posters were displayed in 15 different locations.

In addition, the Lisbon Municipality website advertised the UrBAN-WASTE project, reaching 150,000 visits per month (link).
With regards to the promotion of the WasteApp, 30 stickers with the QR code and 4 different models were placed on several underground containers.

The number of registered users in Lisbon was 66, with a gender distribution as follows: 42.4% female, 50% male, 7.6% empty or preferred not to say. When it comes to the educational level of registered users, the majority had a university degree (i.e. 3% primary, 13.6% high school, 30.3% university degree, 31.9% superior education, 10.6% prefer not to say, and 10.6% empty). Besides the number of users registered, a total of 6 sponsors were involved in the project. In order to increase the number of prizes delivered to users, additional efforts will be put to organise more recycling events and promotional actions until the end of the project.
Promotion of WasteApp on the Facebook page of Lisbon Airport
6. METROPOLE NICE COTE D'AZUR

Measure 1: Doggy bags

The distribution and promotion of small food containers to take home leftovers in restaurants, also called "doggy bags", is an efficient way to reduce the production of food waste, considering that it is an important part of the waste produced by restaurants. Restaurants joining URBAN-WASTE have committed to offer a doggy bag to their customers at the end of the meal to take away food and wine that have not been consumed.

Measure 13: Promotion of tap water

Tourists are particularly big consumers of bottled water when on holiday, both directly through their purchases and indirectly through their tourist lifestyle (hotels, restaurants, etc.). To lower consumption of plastic bottles, 1500 reusable plastic cups have been distributed to tourists in MNCA communes. Moreover, 30 public fountains have been selected to promote tap water though communication materials and the possibility to find their location on WasteApp.

Measure 14: Waste sorting instructions translated

As the waste management system may be very different when on holidays, and the information not easily accessible to tourists (language barriers, lack of information, etc.), waste sorting can be difficult for tourists. To tackle this issue, the waste sorting instructions have been translated and made available to tourists renting holiday accommodations. Besides, the instructions have been complemented with the map of sorting bins available in bring banks systems collecting waste on public areas.

Measure 19: Awareness campaign on marine litter

Marine litter originates mainly from land-based activities. It covers any solid material which has been deliberately discarded, or unintentionally lost on beaches and on shores or at sea, including materials transported into the marine environment from land by rivers, draining or sewage systems or winds. Among the sea and land-based activities are including littering actions caused by tourism in coastal areas. To prevent litter production, MNCA has put in place a wide and multi-channel communication campaign to alert people, especially tourists on beaches to reduce and sort their waste.
Measure 1: Doggy bags

Main actors and stakeholders
MNCA provides doggy bags to all involved restaurants, ensures an awareness raising communication campaign in newspapers. Representative of MNCA is Yoann Billon who is in charge of EU projects and waste prevention politics since 6 years.
Cities members of MNCA are involved in disseminating of information on the measure. The involved restaurants propose doggy bag to clients every time that the waiter see not consumed food in the plates.

Timing
April / May 2018: purchasing of 9,000 doggy bags (public contract) and mobilization of restaurants
May / June 2018: communication about the measure
July / August 2018: distribution of the doggy bags to restaurants
September / October 2018: distribution of doggy bags to restaurants’ customers

Activities
During the start-up phase, a representative of MNCA met 50 restaurants one by one. Finally, 39 restaurants participates to the measure. 34 are located on the coast and 5 are located in the mountainous area in the city of Saint-Etienne-de-Tinée.
The 20 restaurants located in Beaulieu-sur-Mer, Èze, Saint-Etienne-de-Tinée, Saint-Jean Cap-Ferrat, and Villefranche-sur-Mer started in July while the 19 restaurants located in the city of Nice started from the 29th of August. On 21st of September, a press event was organized to launch the operation in 4 restaurants in Nice.
Press event reported on the Facebook page of Pierre-Paul Leonelli, councillor of MNCA in charge of waste management and in the article in Nice-Matin newspaper.
Doggy bag kits encompass 2 bags, one for taking away food remains and another for taking away unconsumed bottles. They are made with recycled materials and are compostable. Their ink is also biodegradable.

![Doggy bag kit for food and bottle](image)

Distribution of kits was ensured directly by MNCA. It was done during two weeks in July, involving 3 to 4 restaurants per day.

![Doggy bags presented in Newport restaurant in Villefranche-sur-Mer](image)

To promote the measure and to make it visible to clients, many restaurants involved have placed a sticker on the front window.
Results

The 39 restaurants involved in the measure represent 18% of the 217 restaurants identified in tourism office of MNCA cities, a percentage that can be considered fully satisfying.

<table>
<thead>
<tr>
<th>Communes</th>
<th>Participating restaurants</th>
<th>Total restaurants</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beaulieu-sur-Mer</td>
<td>4</td>
<td>28</td>
<td>14%</td>
</tr>
<tr>
<td>Èze</td>
<td>2</td>
<td>20</td>
<td>10%</td>
</tr>
<tr>
<td>Nice (port area)</td>
<td>19</td>
<td>70</td>
<td>27%</td>
</tr>
<tr>
<td>Saint-Étienne-de-Tinée</td>
<td>5</td>
<td>30</td>
<td>17%</td>
</tr>
<tr>
<td>Saint-Jean-Cap-Ferrat</td>
<td>2</td>
<td>24</td>
<td>8%</td>
</tr>
<tr>
<td>Villefranche-sur-Mer</td>
<td>7</td>
<td>45</td>
<td>16%</td>
</tr>
</tbody>
</table>

Total 39 217 18%

4,000 doggy bags have been distributed in July: restaurants received about 100 kits each. 2,000 doggy bags was delivered in addition at the end of September.
The effect of use of doggy bags on the waste production is noticeable: the decrease reaches 7% on the observed period. Doggy bags have less effect on small restaurants (less than 100 customers in average) while the effect is more pronounced on bigger restaurants especially on the category from 101 to 150 customers: -12%. The effect on the biggest restaurants (more than 150 customers) is not very high (-7%) but on the other hand the volume of waste produced per client is the lowest.

In all the cases, the decrease is more important in the first month, and it tends to stabilize during the second month.

### Waste produced in liters

<table>
<thead>
<tr>
<th>Avg. nb. of clients</th>
<th>Month 0</th>
<th>Month 1</th>
<th>Month 2</th>
<th>%</th>
<th>Number of restaurants*</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;=50</td>
<td>6.51</td>
<td>6.35</td>
<td>6.29</td>
<td>-3%</td>
<td>13</td>
</tr>
<tr>
<td>51-100</td>
<td>5.19</td>
<td>4.94</td>
<td>4.86</td>
<td>-6%</td>
<td>11</td>
</tr>
<tr>
<td>101-150</td>
<td>4.57</td>
<td>3.97</td>
<td>4.01</td>
<td>-12%</td>
<td>4</td>
</tr>
<tr>
<td>&gt;150</td>
<td>3.82</td>
<td>3.62</td>
<td>3.55</td>
<td>-7%</td>
<td>7</td>
</tr>
<tr>
<td>All</td>
<td>4.74</td>
<td>4.45</td>
<td>4.39</td>
<td>-7%</td>
<td>35</td>
</tr>
</tbody>
</table>

* excluding 4 restaurants without data for the three monthes

**Challenges faced and lessons learnt**

**Delay:** Initially planned in May, the purchase of doggy bags was postponed in June for administrative reasons (the public market launched to buy doggy bags was unsuccessful due to bad specifications). Consequently, distribution of doggy bags started only at the end of July.
Acceptance. Although not very popular in France, the term “Doggy bag” seems not to be any more an issue. This is what emerges from discussions with restaurant owners. However, from the point of view of waiters met during the follow-up visit, tourists taking doggy bags are mainly foreigners, not French clients.

Efficiency. Waiters propose directly to customers to use a doggy bag when a lot of food remains in their plate. Customers also ask for doggy bags but it is still difficult to say that there is a change in behaviour. Most of time, dishes are finished. However, the implementation of the measure is just beginning. From the point of view of a restaurant owner met in Villefranche-sur-Mer, taking away a bottle of wine will better function than taking away food especially during summer time. In addition, dishes containing meat may not be salvaged easily, it is difficult to keep them in good hygienic conditions. Pizza or sauce-based dishes are easier to take away.

Promotion. The sticker put on the front window of the restaurant to promote the measure may be difficult to see among other stickers, one restaurant will rather display doggy bag directly on the window.

Displaying location of restaurants that propose doggy bags on the WasteApp could be an additional option to enforce this promotion.

On the request of a restaurant, a new sticker has been designed, smaller than the original one, including WasteApp QR code, to be displayed directly inside the menu.

Remaining food. If customers take their leftovers home, one can suppose there are willing to eat them all. Is it always the case? Answering this question is beyond the scope of this follow-up but the issue should be evaluated one day.

Partnership. It is important to take time to build trusting relationships with restaurant managers at the beginning of the operation. This is why 50 restaurants were visited one by one to explain the aim of the project and to convince managers to be engaged. The partnership has been very much time consuming to establish.

Participants were motivated in this operation although there was no financial effect for restaurants which implement good practices (waste taxes remain the same). In addition, participating restaurants in Nice were really involved and payed attention to the URBAN-WASTE project much more than expected.

Perspectives. Thanks to URBAN-WASTE, next year MNCA intends to distribute doggy bags to more restaurants with a communication campaign in each commune of the Metropole. In 2020, in France, doggy bags will be mandatory in restaurants.
Measure 13: Promotion of tap water consumption

Main actors and stakeholders

MNCA provides cups to tourism offices, ensures an awareness raising communication campaign (newspapers, maps of fountains) and involves the city in the measure.

Cities of MNCA participate to communication actions, tourism offices are involved in communication actions and distribute cups and Management water department (Régie de l’eau) is informed of the measure.

Timing

February / March 2018: definition of the fountains list.

August 2018: display of stickers on selected fountains.

September 2018: launch of the measure and distribution of the cups in the tourism offices.

Activities

MNCA has put in place a database of fountains identifying those where water is drinkable and access possible. Data has been collected from files received from the different green spaces services of MNCA communes. Among all the identified fountains, 30 have been selected to promote tap water in the framework of URBAN-WASTE. 4 new fountains have been put in place in partnership with Régie de l’eau that has taken the advantage of the opportunity of URBAN-WASTE communication campaign carried out by MNCA to promote tap water. These fountains distribute all sparkling water.

Fountain installed by Régie de l’eau in Cagnes-sur-Mer proposing sparkling water

Stickers with the URBAN-WASTE logo and QR code for WasteApp have been placed by MNCA on all the fountains. However, they are regularly ripped out by people and they have to be replaced regularly.
Results

1,500 reusable plastic "eco cups" with the URBAN-WASTE logo have been distributed on beach stands to inform about marine litter issues and in tourist offices. In these site, people that have upload WasteApp on their smartphone could get a cup.

Consumption of tap water could have been monitored only in the 3 automatic fountains installed by Régie de l’eau because they are equipped with a water meter. Data can be obtained once a month from Régie de l’eau. This is not possible for the other ones. In the 3 fountains, from 507 to 608 litters of water (either still or sparkling water) are drunk every day.

The quantity of water distributed by 3 automatic fountains increased by 20% during the implementation phase: in a summer week monitored before the implementation the fountains of Paillon, Cagnes, and St. Laurent distributed 15,210 litters of water, while in 2 other weeks monitored during the URBAN-WASTE communication campaign the litters distributed were, respectively, 18,134 and 18,239.

As regards gender issue, all materials produced, campaign and locations were gender sensitive, although no data is available for the gender of the main decision maker.

Challenges faced and lessons learnt

Although tap water is distributed for free in France in restaurants and it is of very good quality especially this distributed in communes of MNCA by Régie de l’eau because it comes directly from the surrounding mountains, it is still necessary to promote this water and lower the consumption of plastic bottles.

This challenge put forward by the communication campaign on URBAN-WASTE fits perfectly with that of the Régie de l’eau, which wishes to focus its communication more on school children.

In MNCA, the collection of plastic bottles is mixed with the packaging in the yellow containers, which prevents to monitor the recycled plastic bottles.
Measure 14: Waste sorting instructions translated in foreign languages

Main actors and stakeholders
MNCA provides translated instructions in multiple languages (French, English, Italian and Spanish) to tourism offices and cities. Tourism offices provides owners contacts of tourist accommodations for disseminating the instructions. Owners and renters of tourist accommodations disseminate the instructions in to their clients. The Centre de découverte du Monde Marin (CDMM) ensures the dissemination of instructions directly to people on the beaches.

Timing
December 2017: printing of instructions in multiple languages.
March / September 2018: continuous dissemination of instructions to MNCA’ cities tourism offices and accommodations’ owners.
July/Augusts: dissemination of instructions on the beaches of MNCA.

Activities
Dissemination of translated instructions as well as stickers (QR code) for uploading WasteApp is still going on.
Tourism offices of 5 cities have been involved in the dissemination of translated instructions from March to October: Nice, Cagnes-sur-Mer, Beaulieu-sur-Mer, Èze and Villefranche-sur-Mer.
In Nice, 70 owners were provided with the instructions directly by MNCA during meetings. Concerning the other 33 owners, they came directly to tourism offices to get the instructions or were provided by mail.

In the city of Villefranche-sur-Mer, waste instructions were given to owners and renters of 20 apartments by the end of August. The provision of translated instructions to 13 owners in the cities of Cagnes-sur-Mer, Beaulieu-sur-Mer and Èze ended by mid-October.

In addition, in July and August, 4 seasonal workers have been employed for the distribution of instructions in specific stands during events organized in down town and Promenade des Anglais in Nice (see measure 19).

**Results**

5 tourism offices have received translated instructions, distributing them from March to October.

In total, 103 owners and renters of tourist accommodations registered by tourism offices in MNCA have been provided with instructions. They represent 79% of 130 mapped by MNCA.

3,750 instructions were distributed from March to October.

Regarding gender issues, the communication materials have been written in a gender sensitive way, and the main decision maker was female.

**Challenges faced and lessons learnt**

This measure put in place within the framework of URBAN-WASTE has permitted to edit the instructions for sorting waste in different languages. Such a translated document has never been produced up to now in MNCA. The carrying out of the measure has make it possible to meet and work closely with tourist offices of MNCA’ communes and foster new partnership.
Measure 19: Awareness campaign on marine litter

Main actors and stakeholders
MNCA established a partnership with the relevant stakeholders: Centre de Découverte du monde Marin (CDMM), port authorities and MNCA’ cities. Cities, tourism offices and Port authorities participate to communication actions.

Timing
January 2018 : mobilisation of stakeholders.
May 2018: finalization of the communication materials.
June: signature of Charters (seaports), communication actions (cities, tourism offices and seaports).
June / July / August: beach events and communication campaign.
5th of August / 5th of September: display of posters on billboards and tramways.

Activities
On 15th of September a clean-up day was organized in Nice from place Massena up to the beach in partnership with the association World Clean-up Day. A stand was put in place for promoting URBAN-WASTE during this event more than 250 people have participated to the waste collection.
In July and August, stands were put in place on 7 beaches (Cap d’Ail, Èze, Saint-Jean-Cap-Ferrat, Beaulieu-sur-Mer, Villefranche-sur-Mer, Nice, Cagnes-sur-Mer) for raising awareness on marine litter. In total, 16 stands were organized (7 in July and 9 in August) on half day each from 4 pm to 8 pm to avoid hottest temperatures of the day. Two persons held each stand. The event was led by CDMM.

Specific brochures on marine fauna and impacts of plastic waste in the sea have been disseminated as well as the translated instructions for sorting waste.

MNCA has allocated a budget of 20,000 € for the following communication actions on marine litter:

- Poster displayed on one tramway in August;
- Poster displayed from 8th of August to 4th of September on 242 street billboards;
- Digital display of posters in Nice centre from 9th of August to 4th of September in the main pedestrian zone;
- Facebook campaign from 20th of August to 2nd of September (estimated impact: 400,000 view indexed on the marine topic. See annex);
- Advertisement in full page in the regional newspaper Nice-Matin and Le Petit Niçois (see annex).
Poster displayed on one of the 242 billboards (here in Saint-Laurent-du-Var)

Digital display of the poster in city centre of Nice
Results

During the implementation of the measure 16 communication events was organized. The number of people attending these events was 1,287.

About 5 million of tourists visit Nice each year. In August, tourists’ attendance is at the highest point and their number can be estimated between 500,000 and one million. With the massive campaign done in August (poster displayed on one tramway, posters displayed on 242 street billboards and digital display of posters in Nice centre in the main pedestrian area and advertisement in full page in the 2 regional newspapers), it can be possible to estimate that at least 25% of all tourists staying in Nice in August have been reached, that is to say from 125,000 to 250,000 people.

Social media

Number of Facebook, Instagram “share”: 1,111.

Estimated impact of Facebook campaign from 20th of August to 2nd of September: 400,000 views indexed on the marine topic.
The banner displaying the picture and message of the awareness campaign on marine litter appearing after an Internet search on marine topic, have been printed or registered 1,142,730 times.

The banner have been disseminated on Facebook more than 1 million time according to the interest of people.

As regards gender issues, the publicity was designed to be gender sensitive, and it is estimated that males and females participated in equal numbers.

**Challenges faced and lessons learnt**

Organizing a clean-up event is difficult on the beach and time consuming: beach must not be cleaned the day before the event. This imply a good coordination with the clean-up service. The absence of cleaning must not last more than one day because the amount of waste produced is so enormous in one day. The logistical organisation is real challenge for MNCA.

The result is small in terms of waste volume collected but its impact in terms of communication can be important.

Another issue is the necessity to find an association and enough volunteers for such an event to avoid the beach to remain too dirty if it cannot be cleaned up during the event.

Moreover, the weighting of the collected waste could be complex to organise especially when there are many collection points and containers. This requires the same number of people to count the collected bag on each point.

However, this is the first time MNCA organises such events. More experience has to be gained and the partnership reinforced. Thanks to URBAN-WASTE and the very positive feedback from people and tourists, this measure will be renewed next year.
Communication campaign and promotion of the WasteApp

The communication campaign carried out by MNCA started during the signing of the Charter in January in Nice. On 24th of January, Nice and 4 other pilot cities signed the URBAN-WASTE Charter of commitments during the Community of Practices meeting held in Nice. This event was well covered in the local media: Nice-Matin (newspaper) and France 3 Provence-Alpes-Côte d’Azur (regional TV).

The implementation of the 4 measures in MNCA (doggy bag, tap water, translated instructions and Awareness campaign on marine litter) have been promoted through the organisation of many events (i.e. launch of doggy bags in restaurants, stands on the beaches...) implying an important participation of tourists (e.g. World Clean-Up Day) relayed either in the local media (Nice Matin, 20 minutes newspaper, France 3 TV) or the social media (Facebook, Instagram, Youtube) with millions of views. 250 Stickers for downloading WasteApp were also printed in August and September and stuck on the big containers of cities on the coast.

MNCA has chosen to communicate specifically on each URBAN-WASTE measure.

To ensure efficiency to the implementation of the measures, MNCA has combined three factors: the quality of the partnership with the different actors (restaurants, associations, and tourism offices), the well-publicized communication campaign in the local media and the strong political support.

For the dissemination of WasteApp, MNCA has provided tourism offices with leaflet containing the QR codes for uploading the WasteApp. Tourism offices also awarded with a cup tourists that have uploaded the WasteApp.

Owners and renters of tourist accommodations and the Centre de Découverte du monde Marin (CDMM), participated to communication actions by distributing a leaflet describing the WasteApp and by informing tourists on the objective of the application.

On stands set up on the beached or for other events, tourists were invited to download WasteApp. In return they could get for free an eco-cup and a reusable bag. The number of the WasteApp registered users amounts to 58. The gender of users who downloaded WasteApp is mostly female 60% against 31% for male (9% unknown). 17% of the users have a university degree and 12% a high school certificate.
Being the WasteApp not guaranteed to be functioning after the end of the URBAN-WASTE project, MNCA has found some problems in getting a full commitment of all the administration in promoting the application. Also, MNCA wishes restaurants participating in the doggy bags measure would have been displayed in the application for promoting them, but this function has not been possible to implement.

*Partnership with public museum or other type of public bodies for rewarding tourists has not been put in place because MNCA has not been convinced about the efficiency of such partnership and anyway it would have taken a lot of time to be established.*
Annex: other communication materials

Press:

https://www.20minutes.fr/nice/2323367-20180821-nice-lance-campagne-sensibilisation-lutter-contre-pollution-mer


Movies:

https://www.youtube.com/watch?v=PkJDzbzUO1sw


https://www.youtube.com/watch?v=bAjtspHKIBM
7. NICOSIA

Measure 11: Recycling advisors for tourist establishments
This measure introduces the role of recycling advisors to inform and help restaurants reducing and sorting their waste. Two training sessions and visits of recycling advisors team to the establishments situated in or near the pedestrian areas of the walled city and in the commercial area of Nicosia (Tripiotis parish) were carried out for training purposes and the provision of advice.

Measure 14: Waste sorting instructions in foreign languages
Multilanguage guides (Greek and English) were distributed to tourists staying at hotels as well as to other tourism related entities with information on waste sorting. Waste management instructions were widely distributed and communicated to tourists.

Measure 20: Food tracking device
Implementation of the food waste tracking device in 5 restaurants, one cafe and one hotel which are situated within Nicosia Municipality limits. Each facility was following a different monitoring procedure for the collection of food waste and guest’s number data. Together with this monitoring system every business has implemented waste reduction actions.
Measure 11: Recycling advisors for tourist establishments

Main actors and stakeholders

- Facilities working in the food businesses: participating to training activities and providing quantitative data for monitoring.
- Green Dot Cyprus: providing communication material and participating in regular visits and in educational seminars.
- Department of Environment: providing communication material during events and making presentations.
- Isotech Ltd and Cyprus Marine Environment Protection Association taking part in training seminars and in regular visits.
- Cyprus Sustainable Tourism Initiative: taking part in presentations during training seminars.
- Cyprus Tourism Organisation: participating in regular visits especially for hotels.

Timing

Planning/start up phase (preparing materials, organising stakeholders etc): May 2018

Implementation phase (running + monitoring activities): middle of June – end of November

First training event: 24th of July 2018

Two other businesses signed the agreement: 29/10/18, 7/11/18

Second public event (communicating the results, provide training): 31st of October 2018 (during July and August is a low season period in Nicosia. Therefore, we thought that it was more fruitful for the facilities to organise the event in October than in September.

Activities

During the start up phase, communication materials dealing with recycling issues were designed and printed out. Material deals with recycling issues received from Green Dot Cyprus. This leaflet describes the three main categories of recyclables (paper, glass and PMD (plastics, metals and beverage packaging).
Regular visits to businesses have taken place (training, flyers etc). The recycling advisors team performed visits mostly on Wednesdays. Were taken place 18 visits from the 20th of June until the 12th of November. During the training the facilities informed how to reduce their residual waste as well as about the three streams of recyclable materials that are collected separately from the collective system Green Dot. Moreover, during the visits any potential problems regarding the door to door collection of recyclables and special bins installation were solved.

A training course / event was held on the 24th of July. The total number of participants was 26. Specifically, were trained 14 people who were representing 20 facilities of the pilot area.

A Public event was organized on the 31st of October to communicate the measure results, involve other businesses and provide training. The total number of participants was 20. Specifically, were trained 9 people who were representing 13 facilities of the pilot area. At the end of the second event 7 people from different businesses or firms signed as a proof that they got advice.

**Results**

By the end of the implementation phase 89 facilities (more than the 50 foreseen as a minimum target) have been involved in training activities and informed through regular visits: 8 hotels (100% of hotels in pilot area), 40 restaurants (73% of restaurants in pilot area) and 41 other. The number of people trained is 117.

23 food businesses employees attended the two events and signed for their participation.

- First event: The total number of participants was 26 (12 women and 14 men: 46% female).
- Second event: The total number of participants was 20 (8 women and 12 men: 40% female).

At the end of the second event 7 people from different businesses or firms signed as a proof that they got advice.

Total number of actions applied in 15 facilities that signed the agreement: 57 (means 3-4 actions in each). 13 facilities involved at the beginning of the implementation phase for the provision of quantitative data and 2 other facilities during the implementation period.

For 11 restaurants (out of the 15 sending monitoring data) it has been possible to calculate the waste production in relation to the number of transactions or the number of customers. Due to the fact that each restaurant reported data on different sorted waste fractions, it is not possible to give an overall assessment of the results in terms of separated collection rate. PMD (plastic, metal and beverage boxes) collection was introduced and increased (in absolute values) in 4 restaurants, while paper collection increased in 5 restaurants out of 7.
A more general assessment, conversely, can be related to the quantity of unsorted waste produced for each customer or transaction. This value showed a general decrease in 90% of the restaurants during the implementation of the measure, even if the percentage of the decrease not always seems to be reliable.

Regarding gender issues, in 56% of the restaurants involved the ultimate decision is taken mostly by men, in 19% by women and in the remaining 35% both men and women. 50% of the advisor leading training activities were women, while the audience being trained in 56% of the restaurants was composed (more or less) by the same number of men and women, in 22% mostly by men and in 22% mostly by women.

**Challenges faced so far and lesson learnt**

Changes to the personnel, rather common in food businesses, represents a problem. New employees are not aware for the requirements of the project. The implementation of the measures and the collection of data is not their priority. Restaurant employees are always too busy: in some cases they sent us wrong data e.g. they didn’t count mixed waste correctly or the tables were not fully completed. Most of them delayed in sending data.

A possible solution is to provide analytical written instructions via email communication along with personal calls and visits (frequent communication). The municipality hired an employee on temporary basis for visiting the facilities for training purposes and the provision of advice in order to facilitate the collection of the data. The manager of each facility has to be responsible for the provision of the data in order to reduce potential confusion and misunderstanding.

Some restaurants stated that it is difficult for them to recycle more materials because they have not enough space to store them until the collection takes place.

It’s very important for the municipality to provide effective solutions and facilitate the participation of the different stores in recycling. The recognition / identification of the special characteristics in each area is important (e.g. new bins placement, extra collection shifts).

In cooperation with Green Dot collective system the municipality have tried to find a suitable place for the placement of new bins outside of some stores. If applicable the bins for PMD (tins and plastic containers) have been provided without charge. The municipality has introduced extra collection shifts in the walled city. Moreover, the collective system has been able to deliver free bins for the collection of recyclable glass to the business willing to acquire one or two of them.

Some managers stated that they had already implemented many waste reduction actions in their store and it was difficult to apply additional actions for reducing residual waste or recycling more quantities of materials.

Regular visits to businesses are very important for solving particular problems and transfer the information to the responsible personnel. Therefore, organizing one instead of two training events during the implementation phase would be acceptable. The training events have not to be too long (half a day each or less) because the facilities have not extra staff to participate.
Measure 14: Waste sorting instructions translated in foreign languages

**Main actors and stakeholders**

- Collective System Green Dot Cyprus Ltd: Provide to the municipality information material in English. Promote/ disseminate the communication material to other entities and through their office.
- Cyprus Tourism Organisation: Promote/ disseminate the communication material e.g. to other hotels, through CTO information office in Laiki Geitonia Nicosia, to Marina Larnaka and through their office.
- Cyprus Marine Environment Protection Association: Promote/ disseminate the communication material through their office, at the event for environment and through organisations they cooperate with.
- Cyprus Sustainable Tourism Initiative: Promote/ disseminate the communication material through their office.
- ISOTECH LTD: Promote/ disseminate the communication material through their office.
- Department of Environment: Promote/ disseminate the communication material through their office.
- Union of Cyprus Municipalities: Promote/ disseminate the communication material to other municipalities.
- Nicosia Tourism Board: Promote/ disseminate the communication material through their office, to hotels and to travel agencies.
- Philippou Bross Energeia: Promote/ disseminate the communication material through their office.
- Pancyprian Restaurants & Entertainment Establishments Owners: Promote/ disseminate the communication material through their office, to Cyprus hoteliers association.

**Timing**

Planning/start up phase (preparing materials etc): May 2018
Distribution of existing communication material to stakeholders (Green Dot material): June 2018
Finalisation of communication material: middle of July 2018
Distribution of communication material to stakeholders: end of July 2018
Implementation phase: August – November 2018
Distribution of communication material in hotels: August 2018
Promoting the instructions through municipal buses: October 2018

The implementation phase has been delayed due to the preparation and printing of the communication material, which took more time than foreseen. In order to solve this problem the municipality, in a first phase, decided to distribute existing communication material (made available by the Green Dot), but distributing it...
only to stakeholders and not to other entities because, it would have been better to have only one brochure with all the waste sorting instructions to clearly communicate the information to visitors.

Activities

During the start up phase the communication material (brochure) have been designed and printed.

The distribution of printed material in hotels was done both through the reception desks and via email (if they want). The municipality arranged visits to all the hotels of the defined area (8) in August as well as to all the licensed accommodation establishments in Nicosia Municipality limits (7) in September (15 hotels). Centrum hotel place the brochure in all rooms (47 rooms) since last September.

The waste sorting instructions were promoted also through the museums (9 museums in October) situated in Nicosia Municipality limits, to Marina Larnakas and through municipal buses (7 municipal buses) where it has been put a file with brochures on the partition behind the driver's seat (with the note: “free of charge”).
Moreover, last month the municipality was invited to visit a school and to inform children about recycling (in total, 93 children), mentioning the URBAN-WASTE program and showing the brochure and explaining them to bring it home and show it to their visitors or relatives who not stay in Nicosia. The brochure was given to the children along with a gift (tale/story) and a small reusable green bag.

The municipal magazine having not been issued/printed any more, it was decided to send an article with the waste management information to a Cypriot newspaper (in English language) in the beginning of the implementation phase. Because the aforementioned newspaper was not publishing the article, the Municipality decided to pay for its publication. It was published on the 1st of December 2018.

**Results**

During 4 months 1,840 printed waste instructions were disseminated to hotels and other entities (August 350, September 550, October 250, November 370). The instructions have been promoted through museums and hotels, in hotel rooms, municipal buses and also outside Nicosia, in other municipalities.

The information on waste sorting procedures has been distributed to all the 15 licensed tourist accommodation establishments (all of them are hotels, 8 of them are in the pilot area). The overall number of distribution points involved is 202 (points where leaflets given, number of websites show the information, emails sending the information etc).

The evaluation of tourists potentially informed during the implementation phase through the web is, at least, 3,677 (number of visits in municipal website – URBAN-WASTE banner). Regarding a more qualitative aspect, feedbacks have been collected by 113 tourists.

The translated information was in a gender sensitive format, avoiding to use the words she or he, but it has been difficult to monitor who effectively received the information.

**Challenges faced so far and lesson learnt**

Some facilities have complained that there is not enough space in the reception area (desk) to place the printed material. Moreover many tourists avoid to take the brochure with them regardless if they read it or
not. A solution has been to promote communication material through the facilities’ website if it was possible, a further opportunity to reduce paper consumption. Of course, in this case it is not easy to understand the number of visits in their website where the material appears.

In Nicosia there are a lot of one day visitors. Hence, it is difficult to evaluate if they have received or not the information. People who stay in a hotel are more interested to be informed about waste management issues than the one day visitors / groups. Some interviews have been done involving small groups of tourists in the walled city of Nicosia showing them about the URBAN-WASTE brochure. Mainly people who stayed in a hotel recognized the brochure, while the one day visitors as well as the guided groups of people didn’t know about it.

The tourism high season in Nicosia is in winter. In August both hotels and restaurants have few guests and many rooms are empty, so the municipality decided to send the information to tourist facilities that are situated outside of the municipal limits (e.g. hotels and Marina Larnakas).
Measure 20: Food tracking device

Main actors and stakeholders

- Cyprus Tourism Organisation and ISOTECH LTD: performing visits to food business.
- Sveriges Landbrugsuniversitet (SLU): do the installation, training, data handling and service of the device.
- One hotel, one café and five restaurants: adding new waste reduction actions for systematic improvement.

Timing

Planning/start up phase (preparing and distributing materials etc): May 2018.
Installation of weighting scales by SLU: Beginning of June 2018.
Training events were taken place in conjunction with the training seminars of the measure no.11: in July and October 2018.

Activities

During the start up phase, the devices/ food waste tracking devices were introduced to seven facilities. SLU introduced the food waste tracking device to 5 restaurants, one cafe and one hotel at the beginning of June, giving technical support throughout the implementation phase.

During the implementation phase, guidance and consultancy supporting to the facilities and information material was provided. Due to the fact that most of the facilities already used doggy bags, the foreseen URBAN-WASTE doggy bags were not printed.

Some of the communication materials created for this measure are similar to the materials of measure n. 11 about recycling advisory, because all the facilities involved (except Hilton hotel) have been involved in that measure too. Some of the visits to the facilities and the distribution of communication materials took place in conjunction with the visits for recycling advisory. Two different common training events were organized in July and October 2018. During the second event the business owners/ managers who were willing to share with the
other participants their experience and the actions they implement so far, were invited to make a brief presentation

Visits to the facilities involved had taken place at least once per month for training purposes, to fix the device, to discuss with the responsible personnel or the manager any problems or difficulties they face and the reasons they forgot (in some cases) to use the scale etc.

Results

The facilities effectively using the food tracking devices has been 7. Most of them implemented, on average, at least 2 food reduction measures like: implementing fresh food from wrong orders can be consumed by personnel, get ready meat portions, buy shrimps without shell and head, prepare less rice than before, buy chicken wings without tips, train personnel to be careful when cut cheese and vegetables to reduce trimmings etc.

The number food businesses employees attending the two training events and signing for their participation is 23.

First event: The total number of participants was 26 (12 women and 14 men: 46% female)
Second event: The total number of participants was 20 (8 women and 12 men: 40% female)

As regards gender issues, in general extra work was mainly distributed to males because a significant majority of kitchen staff are men. In four establishments the ultimate decisions are made by a woman and in the three other by a man.

6 out of the 7 restaurants involved used the food tracking device for most of the implementation period, even if only 4 of them were able to collect also data about the n. of customers or transactions for at least 3 months. Having an evaluation of the n. of customers or transactions is necessary to calculate not the overall amount of waste produced (which is, of course, strongly influenced by the n. of customers), but the average quantity of organic waste produced per each customer served. This indicator, calculated for the 4 restaurants, shows a very high range of values (from 50 g/customer to more than 500 g/customer) and only in one case, it has a rather clear decreasing trend during the implementation of food reduction measures.
Challenges faced so far and lesson learnt

In some facilities the device was out of order. By using the instructions of SLU the restaurants’ staff fixed the problem, but in some cases the device was broken again. The municipality visited these facilities more frequent in order to solve the problem and give requested support.

Changes to the personnel, rather common in food businesses, represents a problem. New employees are not aware for the requirements of the project. The implementation of the measures and the collection of data is not their priority. Restaurant employees are always too busy: many of them forget to introduce/add the number of portions, so the municipality send customers number to SLU to introduce them in the system.

A possible solution is to provide analytical written instructions via email communication along with personal calls and visits (frequent communication). The municipality hired an employee on temporary basis for visiting the restaurants and facilitate the collection of the data.

Some managers stated that they have already implemented many organic waste reduction actions in their store and was difficult to apply additional actions. The municipality suggested to them to use the graphical results of the food tracking in order to identify the categories where the most food waste is produced and to implement specific measures related only to these categories.

Some managers stated that the participation in this measure is time consuming because they have to slightly modify some processes and collect the different food waste fractions separately. Moreover, the kitchen staff must learn how to use the scale. They consume a lot of time and they found this process tiring. Therefore, it has been difficult to involve more facilities. They haven’t got extra personnel and in some cases there is not enough space available in the kitchen for this purpose.

It would be preferable to train the personnel at least one month prior the implementation of the measure and insert on the tablet of the scale as less categories as possible. The process will be simpler and the potential of receiving inaccurate data will be reduced. Additionally, it would be useful if the personnel had the choice to introduce customers previous data (e.g. one month ago data) not only recent data.

Some managers mentioned that the waste produced during the preparation process is not easy to be reduced due to the trimmings. Due to the policy of the facilities they have to prepare more quantity of food and always be able to serve all their customers. The fact that these facilities separate their food waste is very positive because if they cooperate with a licensed private company which collects this fraction of waste for special treatment, then the overall residual waste produced will be decreased significantly and quickly.
Communication campaign and promotion of the WasteApp

The main materials supporting the promotion of the WasteApp have been: WasteApp leaflet in Greek and English, posters of the program that mention this application. Specific visits to bus stations (three different points) where only tourist buses arrive were organized in order to disseminate the WasteApp instructions directly to visitors / tourists or/and to the bus driver or to the tour guide.

Moreover, the municipality communicated with tourists visiting the pedestrian areas of the walled city distributing them the waste sorting brochure or the promo card showing the actions implemented in the city together with the WasteApp leaflet in order to convince them to apply and win prizes.

Despite this communication efforts, the registered users of the WasteApp have been only 64 during the implementation phase (of those users who stated their gender - 41 did not - 10 were female and 13 were male). Despite this, people downloading the App participated actively to the gamification: 174 recycling events were registered and 8 prizes offered.

In order to increase the number of downloads and registered users it will be organised a communication campaign mainly in hotels, visiting the reception and lobby area of some hotels situated in the city centre and informing them about the application. The people who will react positively, download WasteApp and register will gain a gift for their interest and participation. Possibly, this communication activity will be replicated in the
information office of Cyprus Tourism Organisation and maybe in specific places in the walled city even if it was observed than the visitors who walk in the streets are not willing to be informed because their time is limited. The majority of visitors are groups of one day visitors and it seems that their timeframe is too limited. Therefore, the implementation of WasteApp in Nicosia is difficult because many foreign people visit the city just for some hours.
8. PONTA DELGADA

Measure 7: Substitution of disposable products in hotels

One of the main problems of amenities in hotels’ rooms is the excessive waste generated from the use of hygiene products, plastic cups and paper napkins. The replacement of amenities in the bathroom by dispensers is estimated to reduce the total waste generated in hotels by 5%. Hotels implementing this measure have committed to substitute these single use and disposable products by – for instance – shampoo and soap dispensers.

Measure 11: Recycling advisors for tourist establishments

Well informed and duly advised establishment help, for instance, diverting large amounts of waste from the landfill to recycling. This measure introduces the role of recycling advisors to inform and help restaurants sorting their waste. Training sessions and regular visits to these establishments were carried out to monitor and collect the different indicators. Two teams of recycling advisors were created, and restaurants adhering to the measure obtained a “seal of good practice”.

Measure 14: Waste sorting instructions in foreign languages

Waste management systems usually differ from country to country and information on waste sorting may not be available nor accessible for tourists, making waste sorting difficult. Throughout the city there are selective collection containers for plastic, cans, glass and paper. Multilanguage guides (Portuguese and English) were distributed to tourists staying at hotels, B&B and apartments with information on waste sorting and containers with instructions were installed to increase the recovery and recycling of waste products.
Measure 7: Substitution of disposable products in hotels

Main actors and stakeholders
Coordination, implementation and monitoring of the measure:

- Fundo Regional para a Ciência e Tecnologia (FRCT) – Responsible for the coordination of the measure. Planning the meetings and the deadlines for the methodology. Responsible for printing and delivering the dissemination and communication materials to the hotels. Responsible for asking the raw data and analyse it.

Implementation and monitoring:

- Azoris Royal Garden – Responsible for replacing the paper napkins in the hotel restaurant for cloth napkins and for the replacement of plastic cups in the bathrooms for glass cups. Responsible for the new contracts for new products. Coordination within the hotel staff to implement the changes. Responsible for providing the raw data.

- Hotel Talisman – Responsible for replacing the amenities in the bathrooms. Responsible for the new contracts for the new products. Coordination within the hotel staff to implement the changes. Responsible for providing the raw data.

Promotion and dissemination activities:

- Câmara Municipal de Ponta Delgada – Disseminating and promoting the measure through their institutional channels.

- Direção Regional do Turismo – Disseminating and promoting the measure through their institutional channels.

- MUSAMI (Operações Municipais do Ambiente EIM SA) – Disseminating and promoting the measure through their institutional channels.

- AHRESP (Associação da Hotelaria, Restauração e Similares de Portugal) – Disseminating and promoting the measure through their institutional channels.

- Quinta do Bom Despacho (including exchange of good practices) – Disseminating and promoting the measure through their institutional channels.

Timing

UrBAN-WASTE PUBLIC PRIVATE PARTNERSHIP’s signing: 16th March 2018

Preparation phase: March to May 2018

Implementation and Monitoring phase: 1st June to 31st October 2018

Final event: To be confirmed.
Activities

In the planning phase, several meetings were carried out by FRCT with Azoris Royal Garden and Hotel Talisman. The meetings occurred in 16th March after the Signature ceremony of the PUBLIC PRIVATE PARTNERSHIP’s and subsequently on 12th April. The first meeting was to discuss the monitoring indicators, to select the most feasible and reliable to use in each case. Also, to have updates from the hotels regarding the contracts review with products suppliers and if the hotels had chosen the most ecological products for kits substitutions. The hotels informed they had the concern to select the most ecological products for replacement of disposable products and there was a revision of existing procurement contracts with suppliers. As a result, Azoris Royal Garden informed that they made a new contract with other suppliers to be able to substitute disposable products. The second meeting was to discuss the methodology to collect the data and to present to the hotels the dissemination and communication materials (stickers). Some concerns and doubts regarding the implementation phase were also evaluated.

FRCT proceeded with the printing of the dissemination and communication materials (stickers), 50 stickers for the bathrooms and two for the Hotels entrance and delivered to both hotels. A time sheet was prepared in collaboration with the Urban-Waste WP leader to collect the data, filled by the hotels in a monthly basis.

During the implementation phase, the Azoris Royal Garden replaced 386 plastic cups by glass cups and replaced the paper napkins by cloth ones for all the breakfast meals in the hotel. The purchase of glass cups and cloth napkins took place in April 2018.

On the other hand, the Hotel Talisman replaced hygiene products included in the “amenity kit” by shampoo and soap dispensers in the bathroom of 20 of the 57 hotel rooms. These dispensers were bought in May 2018. In addition, 20 UrBAN-WASTE informative stickers were designed and placed in every bathroom.
Both hotels continuously informed guests about the eco-friendly action implemented and the feedback from them were very positive.

The FRCT was in charge of supporting the two hotels in the implementation of this measure and also to collect the necessary data to assess the results. Regular monthly visits were organized for this effect.
These activities were concluded with an assessment phase, in which all indicators monitored were analyzed in order to evaluate the efficiency of the measure.

A final communication event will be organized to inform about the results and enhance replication and uptake of this measure by other tourist establishments.

Results

In total, two hotels were fully involved in the implementation and monitoring of the measure: Azoris Royal Garden and Hotel Talisman, meaning a total of 213 out of 270 rooms (79%) equipped with dispensers. In addition, three more hotels expressed their interest in implementing the measure in the future. These hotels are Hotel Marina Atlântico, Azor Hotel and Neat Hotel Avenida.

Two different types of communication materials were distributed, 50 stickers to be placed in the bathrooms (enough soap) and two stickers at the entrance of the hotels with the message “We join the entrance”. It is estimated that a total of 12,789 tourists were reached during the implementation phase, which corresponds to the total number of guests during this phase.

When it comes to gender considerations, the distribution of gender in the ultimate decision-making at the hotels involved was 50% female and 50% male. However, the percentage of women in charge of undertaking the work was 75%.

The target set in the operative plan to implement the measure in three of the major hotels in Ponta Delgada by the 31st of May and five hotels by 1st of June 2018 could not be met, although a total of five hotels were eventually involved in the project (two of them implementing the measure during the established phase and three more that expressed a high interest for the implementation during 2019).

The implementation of this measure has resulted in a significant reduction in the amount of plastic waste generated in the rooms and paper waste in the common areas of the hotels. During the period of 5 months the implementation took place, a total of 1,350 kg of plastic waste was avoided in both hotels, and 1,620 kg of paper waste were avoided at the Azores Royal Hotel.

Challenges faced so far and lesson learnt

At the time the Hotel Azoris Royal Garden was contacted to inform staff about the UrBAN-WASTE project and the interest in collaboration, the hotel had all amenity kits replaced. Therefore, it was decided to replace all plastic cups in the bathrooms and paper napkins at breakfast.

With regards to Hotel Talisman, there was a large number of amenity kits stored when the hotel was reached for the first time. The solution was to start the implementation phase in June instead of May, and it was decided to select 20 out of 57 rooms included in the hotel.

The Hotel Marina Atlântico (initially included in the operative plan) dropped out due to a lack of human resources to start implementing the measure in the high season.

According to the operative plan, the idea was to reach 5 hotels until the 1st of June and get them on board for the implementation of this measure. The 3 hotels managers thought that the planning phase was too short to implement this measure for the next high season. So, they are interested in implementing for the next year, with more time to make the proper changes.
Measure 11: Recycling advisors for tourist establishments

Main actors and stakeholders

Support in implementation and monitoring:

- FRCT (Fundo Regional para a Ciência e Tecnologia) – Responsible for the overall coordination of the measure. Establish the deadlines for the methodology. Responsible for printing and delivering the dissemination and communication materials to the hotels. Responsible for analysing the raw data.

Operational coordination for implementation, management supporting resources, monitoring, promotion and dissemination:

- Câmara Municipal de Ponta Delgada – Responsible for the operational coordination of the measure. Responsible for the articulation with MUSAMI for the training capacity training and monitoring visits. Responsible for the meetings with AHRESP for the engagement of the restaurants. Managing the interaction with restaurants and the team of advisors and responsible for providing the plastic bags to the restaurants. Responsible for getting the raw data from the restaurants.

Know-how on similar programs and assistance to implementation, promotion, dissemination and monitoring:

- MUSAMI (Operações Municipais do Ambiente EIM SA) – Integrating the advisor teams and sharing their experience from similar programmes implementation. Disseminating the measure with their stakeholders.

Responsible for recruiting restaurants (case studies), promotion and dissemination:

- AHRESP (Associação da Hotelaria, Restauração e Similares de Portugal) – Responsible for the engagement of the restaurants to participate in the measure.

Timing

UrBAN-WASTE PUBLIC PRIVATE PARTNERSHIP’s signing: 16th March 2018

Planning phase: until 30th April 2018

Training, Implementation and Monitoring phase*: from 1st May to 31st October 2018 (20 restaurants trained, only 18 monitored). From 1st July to 31st October 2018 (additional 20 restaurants were trained but just 10 restaurants were monitored).

Final event: To be confirmed.

Activities

This measure was embedded into the “Programa Parceiros” (Partners Program), developed by MUSAMI, which consisted in providing recycling training to the coffee-shops and bars in São Miguel island. Regular visits were made to evaluate the recycling procedures and then a sustainability certification was given to the establishments.
The program “Programa Parceiros” was scheduled to happen in Ponta Delgada only in 2019, so FRCT and Ponta Delgada Municipality proposed a joint action through implementation of measure 11 of UrBAN-WASTE. AHRESP was the entity responsible for recruiting the adherent restaurants and several experts from MUSAMI and Ponta Delgada Municipality constituted the recycling advisors’ team with one element from FRCT to follow up. Three teams of recycling advisors were created in May, each mixed team of 2 advisors from MUSAMI and Ponta Delgada Municipality.

The involvement of the different restaurants was recognised by the assignment of participation seal “We join UrBAN-WASTE project”, institutional publicity on the websites of MUSAMI and Câmara Municipal de Ponta Delgada, and free publicity in the WasteApp.

During the planning phase (March-April 2018), the required human resources, budget, schedule and the methodology to be followed for the next months was defined. Three meetings were done between Ponta Delgada Municipality and MUSAMI to set the correct articulation for the capacity training and monitoring visits. Likewise, a meeting between Ponta Delgada Municipality and AHRESP took place to organize the engagement of the restaurants by AHRESP.

During the implementation and monitoring phase (from May to October) the recycling capacity training and monitoring visitors were as follow:

**First set of 20 restaurants:**
- First training was done in each restaurant with the presence of all staff of the restaurant (more than 5 people per restaurant) during the month of May.
- After the training, 2 restaurants acknowledged the importance of recycling but declined to provide the data for the monitoring every week.
- Every end of the week the advisory and monitoring teams went to each adherent restaurant to collect the indicators and follow-up the training, answering any questions the staff may have.

**Second set of 20 restaurants:**
- First training was done in each restaurant with the presence of all staff of the restaurant (more than 5 people per restaurant), during the month of July.
- After the training, 4 restaurants acknowledged the importance of recycling but declined to provide the data for the monitoring every week. Six more restaurants did not follow the rules for the monitoring, as some weeks they did introduce the data and other weeks did not (depending on the staff working).
- Every end of the week the advisory and monitoring teams went to each adherent restaurant to collect indicators, and follow-up the training answering any questions the staff may had.

Ponta Delgada Municipality was responsible for the purchase of 10,000 waste bags for URBAN-WASTE disposal and 40 seals were printed and delivered by FRCT. The recycling advisor’s team was always dressed in UrBAN-WASTE t-shirts purchased by FRCT.

During the assessment phase (from September to November), all indicators were analysed and reported by FRCT, AI and BIOAZUL.
Recycling advisors (consulting and monitoring team)

Recycling advising sessions at the restaurants Singular Bistro and Mimo-Cucina Italiana
Monitoring sheet for daily verification of waste generated at the restaurant Nacional. The seal “We join UrBAN-WASTE project” at the door of Treze restaurant.

Results

In total, 40 restaurants were involved and trained, although only 28 were fully monitored during the implementation of the measure. This required the training of 87 staff members from all restaurants and 40 stickers were designed and delivered as communication materials. The other 12 restaurants had the first training and expressed their interest in start implementing the measure in the beginning of 2019.

Regarding the number of campaigns and events carried out, 24 training sessions took place in the first set of restaurants (considering that each end of the week May-October the visits were intended to answer questions and talk with the restaurant staff) plus 13 visits in the second set of restaurants (zero week in July and during August-October). It is estimated that the number of customers potentially reached during the implementation phase was 576,208 customers (considering the 28 restaurants).

When it comes to gender dimension in the measure implemented, 21 men and only 7 women were in charge of the ultimate decision-making at the 28 restaurants. Regarding the gender distribution of advisors and staff trained, the percentage of female involved in advising was 33% and of 48% in the staff trained.

In conclusion, 28 restaurants were trained and finished the implementation phase successfully, and the target of reaching 15% of all restaurants in Ponta Delgada was achieved. The implementation of this measure resulted in the following figures regarding the number of bins (with 50 litres of capacity) collected with sorted waste:

- Plastic waste: 4,906.5 bins
- Paper waste: 4,471 bins
- Glass waste: 5,285.5 bins
- Unsorted waste (including organic waste): 10,362 bins
• Number of customers and guests reached: 576,208

**Challenges faced so far and lesson learnt**

In general, staff from restaurants were always very busy and it was challenging to initially engage them. To overcome this situation, FRCT scheduled a meeting with the manager/owner to try to engage them and schedule regular visits to the restaurants during off-peak hours.

Even though the restaurants were contacted by AHRESP to enter this pilot implementation and they had accepted, it was necessary to convince them to follow the training and to register the data every day. First of all, it was necessary to convince the manager that separating waste would not delay the service, and second, it was necessary to convince the workers that the workload would not be increased.

The first set of restaurants were engaged in April-May, when the tourism peak had not begun, and the second set was engaged in June-July, right during peak season. We believe that this was the reason why there was 10 restaurants which dropped out, as it meant too much workload for them to engage in other activities. The lesson learnt here was to start the implementation of this measure outside of the tourism peak so that when the workload increases the methodology is already in place.
Measure 14: Waste sorting instructions translated in foreign languages

**Main actors and stakeholders**

**Coordination, implementation and monitoring:**

- FRCT (Fundo Regional para a Ciência e Tecnologia) – Responsible for the overall coordination of the measure and engagement of the actors. Responsible for printing and delivering the dissemination and communication materials to all the actors. Responsible for analysing the data.

**Implementation, promotion and dissemination:**

- Câmara Municipal de Ponta Delgada – Disseminating and promoting the measure through their institutional channels.
- Azoris Royal Garden – Delivering the dissemination material and placing the waste instruction stickers on their bins.
- Hotel Talisman – Delivering the dissemination material and placing the waste instruction stickers on their bins.
- ANA – Aeroportos – Placing the waste instruction stickers on their bins.
- AAFTH (Associação Açoriana de Formação Turística e Hoteleira) – Placing the waste instruction stickers on their bins.
- Portos dos Açores – Placing the waste instruction stickers on their bins and a poster with waste instructions in different languages.

**Promotion and dissemination:**

- Direção Regional do Turismo – Disseminating and promoting the measure through their institutional channels.
- MUSAMI (Operações Municipais do Ambiente EIM SA) – Disseminating and promoting the measure through their institutional channels.
- AHRESP (Associação da Hotelaria, Restauração e Similares de Portugal) – Disseminating and promoting the measure through their institutional channels.

**Timing**

UrBAN-WASTE PUBLIC PRIVATE PARTNERSHIP’s signing: 16th March 2018

Planning phase: March to April 2018

implementation phase: May 2018 to May 2019

Assessment dates: August 2018 and May 2019
Activities

The dissemination of the waste sorting instructions in foreign languages was carried out using different approaches, as it is described below.

During the planning phase, the type of dissemination and communication materials, layouts and texts to be produced in Portuguese and English were selected following the stakeholders’ advices provided during a meeting held on the 16th March 2018. Afterwards, FRCT organised an online meeting with each stakeholder to properly estimate the amount of materials to be printed. FRCT was responsible to print all the materials.

Through the implementation phase, the materials with translated instructions on waste sorting were distributed to the different establishments, as follows:

- 1 poster (120x70cm) for the main city avenue, delivered to Ponta Delgada Municipality.
- 1 poster (120x70cm) for the Marina of Ponta Delgada, delivered to Portos dos Açores.
- Materials delivered to 120 local accommodations:
  - 120 magnets with waste instructions for local accommodations freezers.
  - 1,500 brochures with waste instructions to be distributed to guests in the local accommodations.
  - 300 stickers for bins with waste instructions translated into Portuguese, English and pictograms delivered to ANA airports, Portos dos Açores, AAFTH (Associação Açoriana de Formação Turística e Hoteleira), Hotel Azoris Royal Garden and Hotel Talisman.

Two assessment dates were foreseen to gather information about the amount of materials delivered, to estimate the number of tourist potentially reached and to evaluate the measure efficiency.

Poster design for bus stop (left) and with waste instructions for the Marina (right)
Design of magnets for fridge and freezers (left) and hostel freezer (right)
D6.2 – Monitoring reports of pilots
Results

In total, 122 establishments were involved in the implementation of this measure (incl. 120 local accommodations and 2 hotels), taking advantage of 150 distribution points. It is very important to mention that the number of tourists reached during the implementation phase was 471,950. Regarding the number and...
type of materials with translated instructions distributed by establishments, the following materials were created and delivered:

- 1 poster for the main city avenue, delivered to Ponta Delgada Municipality.
- 1 poster for the Marina of Ponta Delgada, delivered to Portos dos Açores.
- 120 magnets with waste instructions for 120 local accommodations freezers.
- 1,500 brochures with waste instructions to be distributed to guests in 120 local accommodations and 2 hotels.
- 300 stickers for bins with waste instructions translated instructions in Portuguese, English and pictograms delivered to ANA airports, Portos dos Açores, AAFTH (Associação Açoriana de Formação Turística e Hoteleira), Hotel Azoris Royal Garden and Hotel Talisman.

With regards to gender dimension of this measure, it is relevant to mention that all materials were translated in a gender sensitive format.

As to the targets previously set in the operative plan, the final results have been achieved and exceeded the objectives established. In total, 122 establishments were involved in this measure by the end of May 2018. In addition, 5 adherent establishments had made use of containers for waste sorting in shared areas at the end of May 2018.

**Challenges faced so far and lesson learnt**

Due to the large number of actors involved in the implementation of this measure, it was difficult and time consuming to deliver in person the communication materials to every tourist local accomodation. The solution was to send an email to the 120 accomodations explaining the project goals and what was expected from them. In addition, a post office service was hired to deliver all materials and, as a result, FRCT received a very positive feedback from 100 establishments.
Communication campaign and promotion of the WasteApp

The signature of the Public-Private Partnership Agreements was held at Hotel Marina Atlântico, in Ponta Delgada on the 16th March 2018. The event started with a welcome session from the President of Fundo Regional para a Ciência e Tecnologia (FRCT), the President of Ponta Delgada Assembly and the President of Portuguese Association of Hotels and Restaurants (AHRESP/Azores). The speeches were followed by a brief presentation of the Private-Partnership Agreement and a short explanation of the three strategic measures that will be implemented in Ponta Delgada (which were selected in the previous Community of Practice). The second part of this event was the discussion of the three strategic measures Operative Plans. First, Gisela Nascimento from FRCT presented the operational plans for the measures 11 and 14, Vânia Pimentel (Head of the Waste division of Ponta Delgada Municipality) presented the operational plan for the measure 11. Afterwards, Gisela presented some examples for communication materials that will be used in the measure implementation. The stakeholders also proposed strategies to implement each measure and the most feasible options for monitoring indicators. The type of stakeholders involved were waste management authorities, local authorities, hotel accommodation services, food and beverage services, and transport providers. The stakeholders suggested to publish a news in “SATA’s Magazine” and “Boats Magazine” aiming to increase the measures visibility and the WasteApp dissemination. A total 35 people attended the event and 27 Public-Private Partnerships (Public Private Partnership) were signed.

Between the 16th and 17th of May 2018, the UrBAN-WASTE project was presented in the 5th Technical Seminar ERSARA “Water and Waste in Azores-Systems sustainability” in the city of Horta (Azores). ERSARA is the Azores Regulatory entity for Water and Waste and is a regional stakeholder in our project. The project was presented...
by the President of FRCT, Bruno Pacheco, and Gisela Nascimento, and it was highly praised for its innovation, implementation measures and stakeholder mobilization in the pilot city of Ponta Delgada.

Regarding the WasteApp, two dissemination events were organised for tourists:

First, a campaign for WasteApp tourist engagement was carried out on the 17th of August in the Ponta Delgada Municipal Market. Almost 50 people received the information about the App and 50 UrBAN-WASTE brochures and 50 maps of Ponta Delgada with the project information were delivered to tourists.

A second dissemination campaign for the WasteApp was done on the 21st of November in front of the local Theatre. The campaign aimed at engaging tourists to download the App and log in, and to make the first QR code reading on the spot. After doing so, tourists would win a UrBAN-WASTE T-shirt. Finally, tourists were encouraged to continue playing the game and go for the big prizes.

In Ponta Delgada, the number of the WasteApp registered users was 53, with a gender distribution as follows: 43.4% female, 41.5% male, 15.1% empty. When it comes to the educational level of registered users, a clear majority had a university degree (i.e. 1.8% primary, 17% high school, 37.8% university degree, 18.9% superior education, 7.5% prefer not to say, and 17% empty). Moreover, 12 recycling events have been organised until now. Resulting from the participation of such users and the involvement of 6 sponsors in the project, a total of 4 prizes were delivered until now.
Monitoring reports of pilots

WasteApp 1st dissemination campaign in August 2018 in Municipal Market

WasteApp 2nd dissemination campaign in November 2018 at the local Theatre
WasteApp and QR codes stickers in the city bins

Figures and details about other important dissemination activities about the UrBAN-WASTE project are included below:

UrBAN-WASTE project and WasteApp 3-months advertisement on the My Plan SATA’s magazine distributed to each company planes and flights.
Stickers placed by AATH at the reception of a tourist accommodation establishment.

"We Join" sticker at the airport entrance doors
Maps (information and map)
9. SANTANDER

Measure 9: Communication campaign on reuse through swap markets

Swap markets of goods that are no longer valuable to local citizens and tourists contribute to the promotion of reuse and prevent these from ending up in landfills or being treated in recycling plants. The Municipality of Santander, in collaboration with several NGOs, organized a swap market where local residents and tourists could exchange goods or donate non-perishable food products to participate.

Measure 13: Promotion of tap water

The promotion of tap water aims at decreasing the consumption of bottled water, in particular PET bottles. Tourists are particularly big consumers of bottled water when on holiday, both directly through their purchases and indirectly through their tourist lifestyle (hotels, restaurants, etc.). In order to promote the consumption of tap water and decrease the consumption of plastic bottles, the Municipality of Santander has included information on available public fountains around the city in the WasteApp, placed promotional stickers in fountains and offers reusable bottles as prizes through the WasteApp.

Measure 14: Waste sorting instructions translated into different languages

As the waste management system may be very different when on holiday, and the information is not necessarily easily accessible to tourists (language barriers, lack of information), waste sorting can be difficult for tourists. This measure intends to solve this problem by making it easier for tourists to understand the waste management system in Santander and therefore reduce the amount of litter produced by them.

Measure 19: Awareness campaign on marine litter

Marine litter originates mainly from land-based activities. It covers any solid material which has been deliberately discarded, or unintentionally lost on beaches and on shores or at sea, including materials transported into the marine environment from land by rivers, drainage or sewage systems or winds. Among the sea and land-based activities are included littering actions caused by tourism in coastal areas. To tackle this issue, the Municipality of Santander organized 30 recycling workshops in three local beaches, targeting mainly children.

Measure 20: Food tracking device

The food waste tracking device is used to quantify the food waste in 5 restaurants in Santander in order to generate knowledge on how much is wasted, when is it wasted and what is waste. The gathered data can be used to reduce over production.

Measure 21: WasteApp

WasteApp measure represents, for the Municipality of Santander, a new innovative awareness campaign addressed to visitors and citizens. In order to collaborate with ULGC in the development and evaluation of the WasteApp in Santander, the Living lab methodology was followed, which is part of the general strategy as Santander Smart city.
Firstly, the municipality collaborated with ULPGC from the beginning, defining the requirements of the gamification WasteAPP based on the information gathered in the focus groups with stakeholders and on their own experience testing and launching experimental APP. Afterwards the APP was tested with “friendly users”, and a workshop was organized to present and test the APP with stakeholders prior to the official launch. This workshop was very interesting to evaluate and collect new suggestions, which were later included in the version of the APP that was launched in December 2017 in Santander and Ponta Delgada before being implemented in the rest of pilot cases.
Measure 9: Communication campaign on reuse through swap markets

Main actors and stakeholders

Santander stakeholders can be divided between those who belong to the municipality and those who are not part of the municipality, such as NGOs and private companies.

From the Municipality:

- **Coordinators:** The Innovation Area in cooperation with the Environmental director of the municipality for the organization, development and promotion of the Swap Market. The coordinators cooperate with the Environmental Service of the municipality for all the activities needed for the organization of the Swap Market.

- **Municipal maintenance department:** responsible for the logistics of the event, provide and install tables for exchange, counter for reception, roll ups etc.

- **Security measures, risk analysis and prevention:** Municipal firefighters, Civil Protection and Municipal Police.

Private entities and non-profit organizations:

- **Ascan-Geaser:** supplier to the City Council in charge of URBAN-WASTE management. Placement of the mobile clean spot

- **AMICA:** NGO in charge of organizing recycling workshops for children.

- **Nuevo Futuro:** NGO that takes responsibility for products delivered by citizens ready for swapping

- **Seo Bird /Life:** Environmental NGO collaborating in the exhibition zone.

- **Teiba marketing,** supplier to the City Council which it is a company specialized in image, design and organization of events. Teiba was in charge of the communication material, the staff at the reception counter, the weighing scale and the screen to update every half hour the kg of items swapped.

Timing

**Start-up phase:** January - end of May 2018

- Organisation of preliminary audits.
- Working on monitoring indicators
- Drafting the PUBLIC PRIVATE PARTNERSHIP
- Finalisation of the new communication materials by first of June 2018.

Distribution of the new communication materials to stakeholders by beginning of June 2018.

**Public launch:** 17th May 2018

- 4th Community of Practice event
- Signing of Public-Private Partnerships and official launch of implementation phase

**Full implementation phase:** May – June 2018

- Promotion of information material through the website, social networks and offices by stakeholders.
- Organization of First Santander Swap Market on 9th June 2018 from 10:00-17:00

**Activities**

On 9th June 2018 the Municipality of Santander, in collaboration with NGOs (AMICA, SEO/BirdLife, Nuevo Futuro), organized the First Santander Swap Market in the framework of the World Environment Day, where the municipality planned and organized different activities to promote sustainability and environmentally friendly initiatives.

*Swap market in the programme of the World Environment Day*

The Swap Market took place in the central Alfonso XIII square, one of the most touristic areas in the city.
While planning the organization of the market, the Municipality of Santander prepared the regulations in order to ensure that event was compliant with different laws in terms of data protection, security, etc. The regulation was published in the web portal: https://santander.es/evento/i-mercado-intercambio-santander

In this regulation it was also specified the categories that donated/exchanged goods would fall into:

a) Books, magazines, collectibles and comics (only originals)
b) Music and cinema (only originals)
c) Small household items (decorative objects, paintings and similar products)
d) Sports equipment (skates, rackets and similar products ...)
e) Plants and Gardening.

Certain goods and products were forbidden in the market, such as perishable food, chemical products or medicines, and no profit could be made with the exchange of goods.

In addition, three modalities for the citizens and tourists to participate were established:

1. **Donation**: participants could donate to the collaborating NGOs and receive no compensation in return.
2. **Exchange**: participants provided 2 items to the NGOs and could collect one item in exchange.
3. **Visitor**: visitors entering the market were asked to donate 1 kg of non-perishable food to one of the collaborating NGOs.
The Municipality of Santander used different promotion and communication materials, including 500 bracelets for participants, 3,000 brochures in Spanish and English, 2 flags, and one roll-up for dissemination purposes.
Results

The Municipality of Santander envisaged one swap market to organize within the URBAN-WASTE project and this main objective was successfully achieved. Following the good results obtained and acceptance from the participating local community and tourists, the municipality intends to organize at least one more swap market event every year.

- Swaps markets organised 1 annual/1 annual (Results/Operative plan targets)
- Swapped material 128 kg/ (*)

(*) The municipality did not have any reference as a target. However, after the First Swap Market, a specific target can be fixed for the next swap market (> 128kg).

In this First Santander Swap Market, 300 people attended the event, from which 70 donated and swapped goods. Out of the group of 70 people, 67 were from Spain (95.7%) and 3 from other European countries (4.3%), 42 were females (60%) while 28 were males (40%), and 8 participants were aged under 15 years old (11.4%), 56 between 15 and 59 years old (80%) and 6 were 60 years old or above (8.6%).

In total, 128 kilograms of goods were swapped and therefore saved from ending up in landfill or having to be treated in recycling plants. In this sense, the initiative presented immediate environmental, social and economic benefits.

As regards gender issues, most of people working in the development and coordination of this measure are women so in this case there is no gender balance. Decision makers that belong to the municipal department of environment, and are in charge of the development and coordination in setting up, monitoring and maintaining the swap market, are women. In the case of Santander City Council the local government is led by a woman,
the mayoress Gema Igual, and in the position of Environment Director, there is another woman, Belén Dominguez. On the other hand, gender sensitivity of publicity for the swap market was taken into account.

The gender bias towards women reflects that of the department developing and coordinating the measure. Our observation is that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

**Challenges faced and lessons learnt**

Some of the challenges encountered were that the exchange of goods is a relatively new concept in Santander and, therefore, the municipality found it difficult to explain to citizens and tourists that the Swap Market was a meeting point to exchange goods instead of selling them. To tackle this, a brief explanation of the reuse concept and rules for participating were included in the brochure and individual assistance was provided when needed.

On the administrative sense, the main challenge was to ensure that the regulation of the Swap Market was in compliance with different laws, such as data protection and security amongst others. The Municipality of Santander set up their own specific local regulation for swap markets to face this issue.

In relation to the lessons learnt, the Municipality of Santander identified that:

- The communication campaign should start at least one month before the event takes place.
- One week before the day of the swap market, it is important to organize a collect campaign of the goods in order to ensure that there are different good in the swap market at the inauguration moment.
- The event was planned through the Santander City Hall and published in the intranet portal.
- It is important to organize in different categories of the goods, and include toys in a main category to attract and involve parents with children.
• It is recommended to organize the swap market in conjunction with another big event in the city to ensure maximum citizen participation.

• It is recommended to organize workshops for children near the swap stands.

• In order to delimit responsibilities, the NGO Nuevo Futuro collaborated with the municipality by acting as the entity responsible for the donated goods and making them available to the participants.

Due to the interest aroused among citizens and participants, the Environment Councillor has decided to include the organization of Swap Markets in the Environment Department agenda based on the lessons learnt coming from this measure, which proves the influence of URBAN-WASTE in Santander’s municipal policies.
Measure 13: Promotion of tap water consumption

Main actors and stakeholders
Municipality of Santander:
- Innovation area and the Environmental Service of the municipality, provided the coordination for the planning and implementation of the measure. The coordinators cooperated with the stakeholders in order to develop and promote the measure;
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.
Aqualia:
- technical support in the development and implementation of the measure; provided the digital information of the public fountains to include it into WasteAPP.
- communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.
Ascan-Geaeser:
- organization and financing of communication activities.
Urbaser
- technical support in the development and implementation of the measure.

Timing
Start-up phase: September 2017 - December 2017
- Organisation of preliminary meetings.
- Design and purchase of reusable bottles for rewarding good practices through WasteApp
- Including in WasteApp the georeferenced information of the fountains around the city
- Promotion in municipal web portal.
- Public sponsors search.

Public launch: 11th December 2017 (3rd Community of Practice event)
Full implementation phase: January - November 2018
Looking for sponsors.

Promotion in local TV, local newspaper, municipal web portal, video on municipal buses.

Signing the Public-Private Partnerships.

Finalisation of the new communication materials by 1st June 2018.

Distribution of the new communication materials to stakeholders by beginning of June 2018.

Promotion of new information material through the website, social networks and offices by stakeholders.

Special effort during summer time and bank holidays

Data collection

After implementation phase, Municipality of Santander will keep running the measure 13 until May 2019.

Activities

During the planning phase, the Municipality of Santander provided the geolocation of the public fountains to include in the WasteApp. The public fountains are located mainly in public gardens and playgrounds.

Furthermore, a GIS web application was developed to update the information of existing fountains in real time by Department of Informatics and Communications of the City Council. The operator in the street can use a mobile device (tablet) to update the information, which is uploaded directly in the fountains database.

The Municipality of Santander translated the communication material related to the promotion of tap water, which included 200 vinyl stickers and 1,000 aluminium flasks with the URBAN-WASTE and Santander logo.

Activities to promote the use of water fountains were organized during WasteApp promotion events and URBAN-WASTE workshops.

Sticker layout and reusable bottles distributed
A specific video to promote WasteApp was displayed on the screens of municipal buses for 15 days, and then displayed periodically throughout the months for a week. [https://youtu.be/kRpXsWvwH4g](https://youtu.be/kRpXsWvwH4g)

**Results**

The promotion of water fountains has been carried out in two stages, in a first stage (October 2017) was carried out through the WasteApp including the geoposition of the sources in the APP and adding aluminium bottles as prizes in exchange for points. In a second stage, and as a way of strengthening the measure, stickers would be placed on public fountains (October 2018). In connection with this second stage it is planned to organize a promotional campaign in collaboration with Aqualia (water supplier) in the coming months.
Up to date, 7 reusable bottles have been awarded through the WasteApp out of the 100 set as an objective in the operative plan. On the other hand, 171 reusable bottles have been distributed in workshops and other events from the 500 set as target.

In relation to the number of available public fountains, 102 have been identified and mapped in the WasteApp. One sticker has been placed until now but the municipality plans to add stickers in the rest of available fountains.

In addition, it is estimated that approximately 40,000 persons use municipal bus service on a daily basis and hence, this is considered the potential number of people reached through the communication campaigns launched. Regarding the gender aspect, for the designing of the reusable bottles, it was taken into account whether these were suitable for all women, men and children. In the same way, location of fountains and communication campaigns were considered appropriate and gender sensitive.

There is gender balance in high-level decision-making, thus the Municipality of Santander has interacted with both male and female decision makers. The person in charge of the municipal environmental service is a woman and the person in charge of the water service provider and of parks and gardens are men. Gender indicators about users’ gender is provided through the WasteApp reports from WP5 (see measure 21).

The gender bias towards women reflects that of the department developing and coordinating the measure. Our observation is that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

**Challenges faced and lessons learnt**

The main challenge encountered has been the update of the digital inventory of the fountains due to the fact that the Municipality of Santander was in the middle of the process of changing the provider of Parks and Gardens service in the city.

Also the deployment of stickers in the public fountains has being affected by the changes of the municipal supplier. Once this issue has been solved and the new supplier is in operation, in the next weeks, we are going to paste the stickers on all public sources.

In relation to collecting data about the cubic meters of water distributed through the automatic fountains, and thus be able to measure the impact in water use, it was not feasible given that automatic fountains are currently available only in areas with basically no tourist affluence. Therefore, data would not be representative.

The choice of material for stickers from public sources is important. The material have to be adequate for outdoor use and also for the different shapes of the public fountains.
Measure 14: Waste sorting instructions translated into different languages

Main actors and stakeholders

Municipality of Santander:

- Innovation area and the environmental Service of the municipality, provided the coordination for the planning and implementation of the measure. The coordinators cooperated with the stakeholders in order to develop and promote the measure;
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities in collaboration with the municipal tourist officers, civil centers and Viveros municipal environmental center;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

AMICA

- Technical and logistical support in the development and implementation of the measure;
- Collaboration in the dissemination of contents and activities.

City Sightseeing Santander

- Provide voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Santander Bahía Tours

- Collaboration in the dissemination of contents and activities.

AFID Congresos

- Collaboration in the dissemination of contents and activities.

Timing

Start-up phase: finalisation of the designing, translation of the communication materials end of July 2018.

Public launch: the official launch of the all measures implemented in Santander, (except measure 21 WasteApp) was in the framework of the 4th Community of Practice event 17/05/2018.

Full implementation phase (August - November 2018): distribution of the online new communication materials to stakeholders by the beginning of August, and the distribution of printed brochure by the end of September.

After implementation phase, Municipality of Santander will keep running the measure 13 until May 2019.

The design and distribution of the communication material was foreseen to begin in June 2018, however it was delayed due to the difficulty in agreeing on the right content of the brochure in order to communicate the message in a simple and clear way.
Activities

The Municipality of Santander, with support from project partner Ambiente Italia, designed the brochures that included instructions for a correct waste sorting into the different bins available in Santander: glass, plastic, paper and mixed waste. These were translated and made available in Spanish, English and French.

Once the design of the instructions was finalized, the Municipality of Santander distributed it online among Santander School, neighborhood associations and the stakeholders.

Brochures were printed and distributed to the tourism offices, to the municipal environmental center and some stakeholder; for instance, printed brochures were delivered to AMICA for a campaign with foreign Erasmus students in Santander.
Results

Out of the 2,000 waste instructions leaflets foreseen in the operative plan to be printed the total 2,000 was achieved. From these, 1,200 have been distributed up to date in 4 of the 6 public and private points of distribution that were set as a target.

Taking into account that the instructions were also distributed online through the stakeholder’s networks, it is estimated that approximately 3,000 tourists have been potentially reached.

Regarding gender issues, the text included and translation of the brochures into different languages was done in a gender sensitive way. However, in relation to the distribution of brochures, in this case this was not done to private accommodations but mainly to tourism offices and service providers. Nevertheless, most of the decision makers involved in developing and coordinating this measure have been women and therefore no gender balance has been reached in this aspect. Our observation is that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

The targets foreseen in the operative plan are partially reached, and in the coming months up until the end of the project the Municipality of Santander will work to try to improve the indicators.
Challenges faced and lessons learnt

The main challenge encountered by the Municipality of Santander was finding the simplicity required in order to communicate in a simple and clear way the message. Nevertheless, the solution proposed was to include some realistic pictures, include the appropriate color of the different waste fractions and also include some short sentences of the main messages, such as, the waste deposit time.

*Pictures included in the brochures*
Measure 19: Awareness campaign on marine litter

Main actors and stakeholders

Municipality of Santander:
- Innovation area and the Environmental Service of the municipality, provided the organization and promotion of the recycling workshops on the beach during summer time;
- implementation of project activities and monitoring of measures with stakeholder involvement;
- technical and logistical support in the development and implementation of the measures;
- organization and financing of communication activities;
- promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

Ascan-Geaeser:
- Technical support in the development and implementation of the measures;
- provided the recycling workshops targeting children at the different beaches.

Both entities provided voluntary services for the promotion of the workshops, mainly through their website, social networks and their offices.

Timing

Start-up phase: January - final of May 2018
- Conducted a successful pilot experience in August 2017 in Sardinero beaches.
- Organisation of preliminary meetings
- Working on monitoring indicators
- Finalisation of the new communication materials by 1st June 2018.
- Distribution of the new communication materials to stakeholders by beginning of June.

Public launch: 17th May 2018
- Official launch of implementation phase in the framework of the 4rd Community of Practice event 17/05/2018.

Full implementation phase: July – September 2018
- Conducted recycling workshops for children during summer season.
- Promotion of the workshops through the website, social networks and offices by stakeholders.
- Data collection
Activities

Following the lessons learned from the pilot experience organized in August 2017 under the URBAN-WASTE project guidelines and labels #YoRecicloTambien#Vacaciones #Santander #UrbanWasteEU, the Municipality of Santander, in collaboration with ASCAN-GEASER, organized a set of workshops in the three of most local touristic beaches: Sardinero first beach, Sardinero second beach (El Sardinero is divided into two well-differentiated beaches by the gardens of Piquio) and Los peligros beach.

During the star-up phase, the Municipality of Santander organized preliminary meetings with ASCAN-GEASER for the designing of the workshops, and posterior follow-up meetings. The structure of the workshops was established in different sections:

- Introduction to the recycling workshop and the waste manage and sorting rules in Santander
- Brainstorming about recycling
- Waste sorting game
- Mural painting Sorting of waste in the correct bins in the mural
- Thanks for collaborating and distribution of promotion materials (postcards, caps) for children and waste sorting information brochures for parents.

Before the organization of the workshops a communication campaign was deployed, and it involved the promotion of the workshops through the municipal website and tourist offices, and printing and distribution of communication material, which implied caps, postcards, WasteApp brochures and project brochures.

During the full implementation phase, the workshops were organized at the 3 locations in 10 different days between July and September 2018, when the high season for tourism is taking place in Santander. Different activities were organized according to the number of participants of every workshop, most of them based on some handicraft work with recycled material and previously to this activity a brief Introduction to the waste manage and sorting rules in Santander.

Workshop activity and communication material
**Results**

In total, out of the 33 set as a target before the implementation phase, 30 recycling workshops were organized between July and September 2018 in the three different beaches. In these, 304 people participated in the workshops in contrast to the target set for 250 people.

From the total of participants, 232 people were aged between 5 and 10 years old (76.32%), 64 people between 11 and 16 years old (21.05%), 7 people between 17 and 60 years old (2.30%) and 1 person above 60 years old (0.33%).

In relation to their origin, 172 persons were originated from Cantabria (56.58%), 109 persons from the rest of Spain (35.86%), 8 persons from United Kingdom (2.63%), 8 persons from France (2.63%), 5 persons from México (1.64%), 1 person from Italy (0.33%) and 1 person from the United States (0.33%).

In addition, during the workshops 146 brochures were distributed out of the 250 foreseen: 72 WasteApp brochures and 74 URBAN-WASTE brochures. Moreover, 186 postcards and 256 caps were distributed among attending people.
No waste sorting instructions leaflets were distributed at the workshops as foreseen in the Operative Plans given the delay on that measure as we have explain in the previous section (see Measure 14).

In total, 30 recycling workshops were provided in the 3 different beaches between July and September 2018, with a participation of 304 people altogether.

From the total of participants, 232 people were aged between 5 and 10 years old (76.32%), 64 people between 11 and 16 years old (21.05%), 7 people between 17 and 60 years old (2.30%) and 1 person above 60 years old (0.33%).

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As regards gender, the distribution of workshops participants was: 189 females (62%) and 115 males (38%), while only women participated in the organization of the events. In addition, the publicity of the workshops was done in a gender sensitive way.

In relation to the decision makers involved in the development and coordination of this measure most of them are women. Our observation is that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

**Summary of results from the recycling workshops**
Challenges faced and lessons learnt

The Municipality of Santander found that the dissemination of the workshops was not as effective as expected due to the large number of events, local festivals, workshops and other activities that were organized in summer in the city.

In addition, the weather was a barrier at times. Specifically, during the third week of July when the workshops could not be organized on the beach due to the rainy conditions. This factor should be taken into account whenever possible.

On the other hand, although the workshops were targeted to children, it was expected that they would have an influence in their parents’ behavior towards waste prevention and sorting by providing them with the project brochures and by directly transmitting to them what was learned in the workshops.
Measure 20: Food waste tracking device

Main actors and stakeholders

Municipality of Santander

- Innovation area coordinated the implementation of the measure and acted as link between the project and the local stakeholder involved.
- Personnel for the monitoring and advising of the implementation of the measure.

Sveriges Lantbruksuniversitet (SLU)

- Provided the trainings for the personnel and managers from the restaurants, set up of the food tracking device.
- Technical support and periodic reports during the implementation phase.

Grupo Deluz y Compañía

- This is a familiar company with 9 restaurants in Santander and Madrid and one social catering. Each restaurant has its own ambient, way to cook its personality and is focused on different client profiles.
- Grupo Deluz y Compañía had the devices installed in 5 of their restaurants, collected data and proposed new waste reduction actions for systematic improvement.
- Management staff of the restaurants in charge of coordinating and supervising the compliance with the eco innovative measure and organizing the human resources and materials necessary for its implementation.
- Support staff for coordination tasks and to be in charge of data collection through the waste tracking device.
- Staff responsible for serving food.
- Promoted and disseminate the measure.

Timing

**Start-up phase:** January - May 2018

- Organization of preliminary audits.
- Distribution of waste tracking device to quantify food waste (end of April 2018)
- Training of personnel by the SLU for the proper use of the device and how to use the general statistical results for a further improvement to contribute to a lower generation of waste (April 2018)
- Initial meeting for the establishment of objectives, commitments, etc.
- Completion of the initial diagnosis (May 2018)

**Public launch:** 17th May 2018
4th Community of Practice event

**Full implementation phase:** May 2018 - ongoing

- Implementation of food waste prevention actions and monitoring of measures
- First report of data collection (June 2018)
- Final diagnosis and analysis of results (D7.1)
- Publication and dissemination of results

**Activities**

During the planning phase the Municipality of Santander organized the preliminary audits together with managers from the 5 different restaurants from Grupo Deluz y Compañía ([https://deluzycia.es](https://deluzycia.es)) where the food tracking device was planned to be installed (EL MACHICHACO, DELUZ, DIAS DESUR, EL ITALIANO, LA CASETA DE BOMBAS).

Afterwards, SLU provided the food tracking device, which consists of a scale connected to a tablet that runs an application developed by the university. Followed by on-site trainings for each restaurant’s personnel and managers. The trainings and application setting was adapted to each restaurant’s internal processes.

Once the device was up and running, restaurant owners received reports from SLU on a regular basis showing statistical data on the evolution of food waste generation divided in the categories adapted to each restaurant. With this information, restaurant managers were allowed to make decisions on the further actions they could take to prevent food waste. In this sense, Grupo Deluz Grupo Deluz y Compañía previously to the collaboration with URBAN-WASTE project used to offer doggy bags to their clients as a normal habit in all the restaurants.

**Results**

Since the first report in June 2018, SLU has been sending periodic reports of the restaurants involved. The Final diagnosis and analysis of results will be included in D7.1 by Sveriges Lantbruksuniversitet (SLU).
Food waste production during the implementation phase of Restaurant El Machichaco

Sample of one-week monitoring from Restaurant El Italiano
A gender balance in high-level decision-making has been achieved, as the Municipality of Santander has interacted with both male and female decision makers. As for the personnel managing the food track device, the gender distribution is considered balanced as well since 45% of employees were males and 55% females. In terms of publicity of the measure, this was carried out in a gender-sensitive way.

The municipality believes that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

**Challenges faced and lessons learnt**

Since each of the 5 restaurants involved has its own ambient, way to cook, personality and is focused on different client profiles, changing or adapting the internal daily “Grupo Deluz” procedures in order to measure the food waste was challenging. Nevertheless, after some adjustment time of those internal processes, the personnel managed to become efficient in using the device.
Measure 21: WasteApp

Main actors and stakeholders

Municipality of Santander

- Innovation area and the Environmental Service of the municipality, provided the coordination for the planning and implementation of the measure. The coordinators cooperated with the stakeholders in order to develop and promote the measure.
- Implementation of project activities and monitoring of measures with stakeholder involvement.
- Technical and logistical support in the development and implementation of the measures;
- Organization and financing of communication activities.
- Promoting a communication that is sensitive to gender differences by eliminating gender stereotypes.

Universidad de Las Palmas de Gran Canaria (ULPGC)

- App developer.
- Technical support and periodic reports during the implementation phase.

Ascan-Geaeser

- Technical support in the development and implementation of the measures; provided the digital information of the bins to include it into WasteAPP.
- Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.
- Organization and financing of communication activities.

AMICA

- Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Ecovidrio

- Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Grupo Deluz y Compañía

- Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Santander Bahía Tours
• Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

City Sightseeing Santander

• Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Turybike

• Communication activities, voluntary services for the promotion of information material mainly through their website, social networks and their offices.

Timing

**Start-up phase:** September 2017 - December 2017

• Organisation of preliminary meetings.
• Public sponsors search.
• Design and purchase the prize for rewarding good practices through WasteApp
• Including in WasteApp the georeferenced information of the fountains and the selected bins around the city in the main touristics zones
• Deployments of the QR stickers in the city
• Workshop for testing the APP 7th November 2017
• Promotion in municipal web portal.

**Public launch:** 11th December 2017

• 3rd Community of Practice event

**Full implementation phase:** January - November 2018

• Looking for sponsors.
• Promotion in local TV, local newspaper, municipal web portal, video on municipal buses.
• Signing the Public-Private Partnerships.
• Finalisation of the new communication materials by 1st June 2018.
• Distribution of the new communication materials to stakeholders by beginning of June 2018.
• Promotion of new information material through the website, social networks and offices by stakeholders.
• Special effort during summer time and bank holidays
• Data collection
• Finalisation of the new information vinilo sticker to deploy in the bins

**After implementation phase,** Municipality of Santander will keep running the measure 13 until May 2019.
Activities

During the planning phase, the Municipality of Santander provided the geolocation of the public fountains and bins. Followed by the selection of the zones of the city to stick the QR codes in the bins to include in the WasteApp, and finally the deployment of the stickers was done. The 120 QR codes were stuck in paper containers (blue ones) and in plastic containers (yellow ones).

Following the Living lab methodology an event was organized in collaboration with the Municipal “escuela taller” to test the APP. The ULPGC introduced the WasteApp in a specific workshop held on 7th November 2017 in Santander with more than 20 friend users from the Santander municipal workshop school. The purpose of this event was testing the APP and gathering feedback and new insights, and to be ready for launching the WasteAPP to the real final users in December 2017.

The WasteApp was presented during the 3Community of Practice on 11th December 2017 as the municipal new awareness campaign based on a mobile App that rewards users for their good practices. The municipality presented the purpose of the APP, the location of the bins in the city, the QR codes in place and the sponsors so far.
As described in “Measure 13: promotion of tap water”, a specific video to promote WasteApp was made to be displayed on the screens of municipal buses. In addition, a report was filmed on a local TV on February 2018 about the URBAN-WASTE project describing the measures to be implemented in Santander with special focus on the WasteAPP https://youtu.be/gb4x-uxH0yA?t=703
The awareness campaign through the WasteAPP was published in the Santander municipal portal web: http://santander.es/content/santander-incentivara-reciclaje-entre-vecinos-turistas-app-urban-waste

During the “Environmental week” there were two occasions to disseminate the WasteAPP in conjunction with the following events:

- an informative talk about Urban-Waste project carried out the 8th of June in the “Centro de información del Litoral” (CIL), open to general audience;
- during the Swap Market the 9th of June, a temporary “clean point” was established for this occasion including bins with QR code, and the WasteApp was promoted in the called “WasteApp corner”.

Regarding the functionalities of the WasteAPP, specifically in Santander two new features have been included to make WasteAPP more end-user and sponsor friendly:

- sponsors ranking;
- comparison of an user activity with respect to all Santander users.
Feedback from local stakeholders was collected, indicating that when you see the QR codes on the containers, it is not clear what they are for, many citizens think they are for internal use of the City Council to, for example make inventory of the containers. In this way it was understood that citizens and visitors sometimes do not relate the QR codes stuck on the containers with the gamification experience offered through the WasteApp.

To try to solve this situation, a new self-explanatory sticker was designed and translated with the slogan "Play and win prizes with us...".
The deployment of this new sticker started in November 2018, during the next months the Municipality of Santander plans to extend the QR codes and the self-explanatory sticker to new zones in the city, which are, Sardinero beaches and Cantabria University Campus. In addition, in collaboration with Ecovidrio, it is planned to include QR codes in glass bins (green ones). After the implementation phase, the Municipality of Santander will keep this, and measure 13, running until the end of the project in May 2019.

Results

- WasteAPP instructions leaflets distributed: 4000/3500 (Results/Operative plan targets)
- Public and private sponsors involved: 4/4
- Public and private points of information involved: 7/6
- WasteApp Downloads from markets: 262/>200
- Registered users 140/>150
- Prizes swapped for points: 28/>100

The targets foreseen in the operative plan have been partially reached, in the coming months up until until the end of the project will strive to improve the indicators.

The graph below represents the installs on active devices by country, the orange line corresponds to users in Spain, (mostly Santander users). It is noted in the graph that at the beginning users have been growing, then the numbers seem to stabilize right before the months of May and June, when a peak increase of users takes place mainly as a result of various events organized (4 Community of Practice and Swap Market). Finally, the number of users slightly decreases and remains stable up to date.

By looking at the evolution of the graph, a preliminary conclusion can be drawn in the sense that it is important to organize events to disseminate the initiative and/or maintain a constant communication campaign, putting special emphasis on the days of more tourists affluence.
The following figure represents the dashboard from current results in Santander. From 262 recycling events, 144 correspond to plastic, 102 correspond to paper and 16 to litter bins. There are no mixed and glass recycling events, due to the fact that there are not QR codes stickers for these fractions of waste.

The number of downloads amounts to 322 of which 140 have been registered. The number of swapped awards is 28, (10 Santander's books, 7 reusable aluminium bottles, 5 children's drawing books, 4 backpacks and 2 umbrellas).

At first sight the results obtained in terms of number of users and exchanged prizes might seem not as satisfactory as expected, however, given the municipality’s experience as a living lab and in other European
projects where other experimental APPs have been tested, these numbers seem reasonable. At the same time, the municipality acknowledges and strives to improve the results in the following months.

The location of bins and stickers within those bins was considered appropriate for both women and men, and the communication campaigns were delivered in a gender-sensitive way.

The gender distribution from the users registered in the WasteApp is reported below from WP5:

- Female: 58 (41.4%)
- Male: 61 (43.6%)
- Other: 1 (0.7%)
- Prefer not to say: 9 (6.4%)
- No answer: 11 (7.9%)

In relation to the decision makers working in the development and coordination of this measure, most of them are women. Our observation is that the most important thing is to have people (male and female) interested in and aware of caring for the environment. This was evident throughout the project, but especially in the focus groups and communities of practice. For all the measures, the idea of taking gender into account throughout the project has forced those involved to reflect on gender, and the interest people have taken in this has influenced their attitudes on gender in the project.

**Challenges faced and lessons learnt**

A key point was that, for the Santander municipal environmental department, the WasteApp was from the beginning the new official municipality awareness campaign, betting on using this innovative gambling experience to increase the awareness of visitors and citizens regarding waste.
Another important point was, to launch the APP including municipal sponsors in order to assure awards from the beginning to the end of the implementation.

The choice of material for QR stickers is relevant, the material have to be adequate for outdoor use.

A self-explanatory sticker should be stuck near the QR codes on the containers to facilitate visitors participate into the gamification experience through the WasteApp.

In order to increase the numbers of users, it is important to organize events to disseminate the initiative and/or maintain a constant communication campaign, putting special emphasis on the days of more tourists affluence.
10. SYRACUSE

**Measure 4: Collection points for used cooking oils**

1 Bin for collecting UCO of private accommodation (citizens and tourists) with a capacity of 300 litres installed in a strategic place close to the old city and the popular market. 23 facilities and 3 touristic info-points were committed to promote the initiative. 6 tailored events have been organized for collecting the UCO (47 liters in 3 months). The measure was supported by a massive and wider communication campaign about waste separated collection and waste reduction (stickers, Promocards, T-Shirt, info-point during main cultural and public events, involvement of touristic info points, association of guides and facilities, social communication).

**Measure 14: Waste sorting instructions in foreign languages**

3850 Waste instructions leaflets distributed to the 23 facilities involved and 3 info-points, further than during the main events where the project Urbanwaste was promoted with a info-corner, also for interviews with tourists and citizens. The activity was also supported by a massive communication campaign about waste separated collection and waste reduction (stickers, Promocards, involvement of touristic info points, association of guides and facilities, social communication).

**Measure 12: Sorting bins in public and touristic places**

26 new bins for waste sorting collection (paper+plastic+unsorted, single paper, single glass and plastic+cans) was installed in 5 touristic points of interest: “scalagreca”, Archaeological Park, Santuario Madonna delle Lacrime, the touristic harbour and Molo Sant’Antonio, supported by a massive communication campaign about waste separated collection and waste reduction (stickers, Promocards, info-point during main cultural and public events, involvement of touristic info points, association of guides and 23 facilities involved in the dissemination phase, social communication).
Measure 4 - Collection points for used cooking oils

Main actors and stakeholders

The actors involved (as foreseen in the operative plan) and their role during the implementation phase:

- IonicaAmbiente, private enterprise managing hazardous and non-hazardous waste and selection platform in Syracuse was involved from the beginning and they: installed the bin on Via De Benedictiscorner Via V. Veneto and monitoring the deliveries monthly (September – November)
- IGM, the enterprise of waste management service in Syracuse, promoted the measure integrating the communication inside the standard information about separate waste system managed in Syracuse
- Municipality of Syracuse, managed all the communication campaign, organized 6 events for promoting the separation, collection and delivery of UCO
- Facilities, apartments, hotels, info points, promoted the measure sharing main communication products:

  Hotel Mastrarua
  Hotel Sbarcadero
  Made in Ortigia
  Syracosia holiday house
  seaView
  Piccolo Hotel Casa Mia
  ArchimedeVacanza
  Orfeo e Euridice
  Tourist Information Centre - Wonderful Italy Sicilia Orientale (apartments)
  SOS Tourist
  Hotel Le Muse
  Casa VacanzeOrtigia
  Casa VacanzaEuripide
  MaisonOrtigia
  Siracusa Sweet Home
  Concept Sicily
  Residence ArcoAntico
  Hotel POSTA
  Palazzo del Sale
Domus Marie  
B&B Diana  
B&B ResaLibera  
B&B OperadeiPupi

**Timing**

- Organization of a public initiative/launch event (could be during or in parallel with the 4th Community of Practice event); 26th of April 2018.
- Start-up phase (about 2 months): final design of materials, organisation of training activities: April-June 2018.
- Full implementation phase involving all the selected tourist facilities and targeting the different tourist categories with dedicated communication activities during July-October 2018.

The starting phase was affected by a retard of few months, due to the difficulties to define, according with the local communities, the final location of the Bin for collecting UCO. This retard finally created some problems for the involvements of the facilities already committed for the high season that in Syracuse starts very soon.

Also if some events were organized for promoting the measure during main cultural initiatives organized in the city center, the foreseen target wasn’t reached. Anyway an increment of the total kg of UCO collected around the city show that the promotional campaign was efficacy, but we need more time for concretely involve the citizens and tourists of the city center.

The full implementation phase actually had a duration of about 3/4 months.

**Activities**

Description of the activities done:

- operational meetings and training with Ionica, IGM and Municipality and guide/hotel association for identifying the better strategy for reaching final audience and targets (20/02 meeting with restaurateurs, 13/03 meeting with hotel association, IGM and IonicaAmbiente)
- brainstorming with Ionica, IGM and Municipality for defining the contents of the promocard to distribute together with the separate collection instructions of the city
- Municipality launched an open tender for involving facilities and public event during the 4 Community of Practice for obtaining the contact of the owners and renters of tourist accommodations
- Municipality launched an initial communication campaign to raise awareness on waste sorting and to inform on the new system being implemented, during the public signature of the PUBLIC PRIVATE PARTNERSHIP (during the 4th Community of Practice event, 26th of April 2018)
- The collection point was installed on 13th of July in Ortigia (city center)
- 3 info point was involved to promote the measure
• IGM, Municipality and Ionica distributed communication materials to the citizens and facilities (September/November 2018), further than by means of the Urbanwaste info corner promoting the measures during the main summer events (August/September 2018)

• Monitoring data collection developed in September and in November

• Publicinfodayforcollecting UCO: n. 50 participants

Some articles related to the measure
https://www.nuovosud.it/78432-ambiente-siracusa/progetto-“urban-waste”-ortigia-il-contenitore-degli-oli-esauriti

Results

By the end of November 2018, the accommodations involved for promoting the measure and collecting UCO was 23 and 47 liters of UCO have been collected. In order to increase the number of accommodations involved (which is lower than the 45 accommodations foreseen in the operative plan) the municipality will continue promoting the measure in next months (until the end of the project). By now, all the info points of Syracuse
have been involved for promoting the measure, 3 public info day for collecting UCO were organized and 3 corners installed during the most important events which took place in the city.

Regarding gender issues, the persons who makes the ultimate decisions in establishments are men, while 60% of the staff involved in oil collection and doing the extra work involved is female.

**Challenges faced so far and lesson learnt**

Taking in account that the involved area has an extension of 1,000 m² (Ortigia) and there are 45 registered accommodation, the Municipalities involved 23 facilities (thus the 51%) located around the Bin for collecting UCO. Other UCO collection points already installed outside the city centre, so for the tourists and citizens in Ortigia there wasn't any existing system. Only restaurants (for law) already collected UCO. The exhausted oil is normally collected by the Company IonicaAmbiente to be recovered mainly as biodiesel and industrial soaps.
47 liters of UCO have been collected since the installation on 13th of July until 25/11/2018. 6 events have been organised directly for collecting UCO and for promoting in general the measure (21th of June - 9th and 11th of July - 21st, 23rd and a bigger one on 25th of November) but it’s not immediate communicate to the people how managing UCO and the day after collect kg or liters of UCO. So the project impact will be in a medium-long period and for improving the results, we will involve more and more facilities, so as restaurants (already about 20 reached during the event of the 25th of November), supermarket and so on. Furthermore we decided to involve the high school on Tourism management (invited the 25th of the event) in order to start with them also a dissemination of the measure for its sustainability and enhancement in the future
Measure 14: Waste sorting instructions translated in foreign languages

Main actors and stakeholders
The actors involved (as foreseen in the operative plan) and their role during the implementation phase, are:

- Manager: IGM, the enterprise of waste management service in Syracuse which will supply the contents of the promocard and share the promocard around the involved facilities together with the regular waste collection instructions. It will integrate the information on the measure during the planned events.
- Supporters: Tourist offices (info points) which will distributes the promocard and support tourists to separate waste correctly supplying information related to the promocard.
- Stakeholders: Owners and renters of tourist accommodations and secondary residences, Companies, marketplaces of holiday rentals, Local authorities in charge of collecting visitors’ tax (Questura, police headquarters) which will distributes the promocard and info about the waste collection system of the apartments.
- The municipality of Syracuse will develop the communication campaign supplying ad hoc communication items (promocard, stickers and map) further than supervise the entire implementation and monitoring phases.

Timing
Organization of a public initiative/launch event in parallel with the 4th Community of Practice event: 26th April 2018.

Organization of a public initiative/launch event (could be during or in parallel with the 4th Community of Practice event); 26th of April 2018.

Start-up phase (about 2 months): final design of materials, organisation of training activities: April - June 2018.

Full implementation phase involving all the selected tourist facilities and targeting the different tourist categories with dedicated communication activities during July-October 2018.

Monitoring phase developed in September and November 2018.

Activities
The main activities implemented can be summarized as it follows:

- operational meetings and training with IGM, Municipality and guide/hotel association for identifying the better strategy for reaching final audience and targets (20/02 meeting with restaurateurs, 13/03 meeting with hotel association and IGM);
- brainstorming with IGM and Municipality for defining the contents of the promocard to distribute together with the separate collection instructions of the city;
- the municipality launched an open tender for involving facilities and public event during the 4 Community of Practice for obtaining the contact of the owners and renters of tourist accommodations
• the municipality launched an initial communication campaign to raise awareness on waste sorting and to inform on the new system being implemented, during the public signature of the PUBLIC PRIVATE PARTNERSHIP (during the 4th CoP event, 26th of April 2018);
• during the start up phase was designed and printed the related instruction in English;
• N. 3 public and private points of distribution (info point, etc.) involved to promote the measure;
• IGM and Municipality distributed communication materials to the citizens, apartments’ owners and info points (September/November 2018), further than by means of the URBAN-WASTE info corner promoting the measures during the main cultural events involving tourists for promoting the measure and distribute the promocards (September – October 2018);
• Monitoring (September- November 2018).

Results
By the end of November 2018, the accommodations involved for distributing waste sorting instructions to tourists was 23. In order to increase the number of accommodations involved (which is lower than the 45 foreseen in the operative plan) the municipality will continue promoting the measure in next months (until the end of the project).

By now, all the info points of Syracuse have been involved and 3 public info day were organized for promoting the measure.

About 3,850 waste instructions leaflets (between info-points, apartments and events) were distributed (reaching more people than the 1,500 foreseen in the operational plan).

A map of touristic establishments providing tourists with waste instructions leaflets was realised.

Furthermore, secondary high schools were involved in the project “Analysis of tourist flows in Syracuse”, supported by Hoteliers Association which will enhance the development of the measure and the general promotion of the project and its objective.

Regarding gender issues, in general, the persons who makes the ultimate decisions in the accommodations are female. The sorting waste instructions have been translated in a gender sensitive format

Challenges faced so far and lesson learnt
The first important problem was that IGM, the main involved stakeholder and waste manager, have some administrative problem with the Municipality and until December 2018, it worked partially before being substitute. This bring some problems for reaching the foreseen target.

Furthermore, during the high season there were the local elections so the change of the mayor slowed the implementation of the measure so as the identification of a new waste manager for promoting and monitoring the URBAN-WASTE measure

Summer season in Syracuse starts very early and finish late so it was complicated to involve the facilities, guides and other stakeholders that were already busy in the management of touristic flows. The measure implementation will continue also after the closure of the test phase involving the Tourism school and linking with an Erasmus about Environmental impact of tourism related activities. Meeting foreseen in April 2019.
A new round of distribution of communication material will be done soon, taking in account that since 10 days a new waste manager has been identified, also if the testing phase is officially closed, the objective is to involve new facilities as the 20 reached during the final event organized the last 25th of November.
Measure 12: Sorting bins in public and touristic places

Main actors and stakeholders

The actors involved (as foreseen in the operative plan) are Syracuse Municipality, IGM (the enterprise in charge of the waste management in Syracuse), tourism associations (Proloco, SiracusaTurismo per tutti and NoiAlbergatori) and the Tourist Guide Association, in particular the role are divided as follow:

- Syracuse Municipality and IGM: are the structures in charge of the measure’s implementation and monitoring (manager), in particular the referents are: Antonio Di Stefano (IGM), Stefano Selleri (IGM) and Nunzio Marino (Syracuse Municipality).
- The tourism associations (SiracusaTurismo per tutti, Proloco and NoiAlbergatori) and the Tourist Guide association will guarantee the promotion and the dissemination of the measure distributing the promocard related to the measure by means of events, info-point, guided visits of the city and attending the informative activities about the measure and waste management related issues.

Timing

Operative meetings between IGM and Syracuse municipality for identifying the final places, the layout of the bins, the related communication tools (as posters, promocard, map and so on) and planning agenda of the communication and training events.

Launching an initial communication campaign to raise awareness on waste sorting and to inform on the new system implemented, during the public signature of the PUBLIC PRIVATE PARTNERSHIP (4th CoP event, 26th of April 2018)

Placing the sorting bins in the 5 selected areas.

Creating a map compiling all the sorting bins located on a touristic area and providing the tourist offices/touristic establishments with it.

Informing the guide, the people working on the info-points and the owners of touristic facilities to communicate the measure (together with the measure 14) to the tourists.

Distributing communication materials (promocard measure 12+14).

Organization of preliminary audits (where unsorted bins are present, they have been monitored daily before installing the other bins, for a week).

Corso Umberto and Piazzale Marconi could be equipped with other bins after this experience.

Final event, communicating the results and involving new facilities for disseminating the initiative, is foreseen for the next months.

Activities

The main activities implemented can be summarized as it follows.
Operative meetings between IGM and Syracuse municipality for identifying the final places, the layout of the bins, the related communication tools (as posters, promo card, map and so on) and planning agenda of the communication and training events.

Municipality launched an initial communication campaign to raise awareness on waste sorting and to inform on the new system being implemented, during the public signature of the PUBLIC PRIVATE PARTNERSHIP (during the 4th CoP event, 26th of April 2018).

Placing the sorting bins in the 5 selected areas in April/May.

Creating a map compiling all the sorting bins located on a touristic area and providing the tourist offices/touristic establishments with it (October 2018).

Informing the guide, the people working on the info points and the owners of touristic facilities to communicate the measure (together with the measure 14) to the tourists by the promocard.

Distributing communication materials (promocard measure 12+14).

Monitoring phases: before installing the bins, in September and in November 2018.

N. 3 public and private info points involved to promote the measure.

IGM and Municipality distributed communication materials to the citizens, apartments’ owners and info points (September/November 2018), further than by means of the Urbanwaste info corner promoting the measures during the main cultural events involving tourists for promoting the measure and distribute the promocards (September – October 2018).

Results

This measure reached good results, taking in account the interest of many local actors to solve the problem of the separate waste in some touristic area. It was clear the need and the tourists appreciated the possibility to separate their waste finding clear indication to do it. They appreciate also the “artistic” design of the bins which were very attractive. In general:

- N° 26 of sorting bins installed in 5 touristic points of interest
- Up to now was distributed about 3,850 promocards to facilities, info points and tourists
About 4,000 persons have been reached through the off line communication and through the communication campaign on the social networks and articles published on the MEDIA (see list of the articles at the end of the report).

Only 200 tourists were involved for interviews, while at the beginning the Municipalities wanted to commit in a more concrete way the association of Guide for collect feedback. However the high season period didn’t allow to plan better this collaboration and the people were reached during some event, by means of the info-corner.

For the future, it will be discussed the possibility to equip other 2 touristic areas with separate bins, following also the feedback of the involved tourists, in particular Corso Umberto and Piazzale Marconi, which are facing similar problems of the pilot area.

About the results reached in terms of separate collection: the third monitoring phase confirm that mainly the waste is composed of 60% of glass and 25% of plastic and 15% paper and in the last 2 months (Sept-Oct) was collected about 4.3 kg per day of waste (2 daily emptying in high season – no Sunday), confirm more or less the monitoring results of September, where the production of the summer period was around 7 kg, but with the same percentage per fraction.

Taking in account an annual average weight of 5,5 kg of total separate waste collected per week, until May 2018, to November 2018, we can calculate a reduction of unsorted waste produced of about 700/800 kgs, that means that in this system we will reduce yearly the unsorted waste produced, just in that 5 touristic places, of about 1,500 kg.

Regarding gender issues, a gender balanced consultation was done regarding the placing of the new bins in the city. They are accessible both for men and women, and the communication campaign has been gender sensitive.

**Challenges faced so far and lesson learnt**

The first important problem was that IGM, the main involved stakeholder and waste manager, have some administrative problem with the Municipality and until December 2018, it worked partially before being substitute. This bring some problems for reaching the foreseen target.

Furthermore, during the high season there were the local elections so the change of the mayor slowed the implementation of the measure so as the identification of a new waste manager for promoting and monitoring the URBAN-WASTE measure.

Summer season in Syracuse starts very early and finish late so it was complicated to involve the facilities, guides and other stakeholders that were already busy in the management of touristic flows. The measure implementation will continue also after the closure of the test phase involving the Tourism school and linking with an Erasmus about Environmental impact of tourism related activities. Meeting foreseen in April 2019.

A new round of distribution of communication material will be done soon, taking in account that since 10 days a new waste manager has been identified, also if the testing phase is officially closed, the objective is to involve new facilities as the 20 reached during the final event organized the last 25th of November.
Communication campaign and promotion of the WasteApp

The Municipality launched an initial communication campaign to raise awareness on waste sorting and to inform on the new system being implemented, during the public signature of the Public Private Partnership (during the 4th CoP event, 26th of April 2018).

Promotional Material was disseminated in parallel with trainings, info corner and involved facilities and touristic info-point (26 Window films, 1,000 fans, 3,850 promocard, 700 T-Shirt) and during three informative events on the road during the Music festival on 21th of June and during the Ortigia Film Festival on 9th and 11th of July and other three events during the EWWR on 21st, 23rd and a bigger one on 25th of November

- Music festival on 21th of June: n. 26 participants
- Ortigia Film Festival on 9th and 11th of July: n. 110 participants
• EWWR on 21st, 23rd and a bigger one on 25th of November: n. 100 participants

A final event/informative initiative will be organize during the next months for involving new restaurant owners and hotels/B&B presenting the results achieved.

The communication material produces and distributed to the involved facilities, so as directly to the people, are:
brochure with the map with all the locations related to Urbanwaste

promocard related to the promotion of WasteApp and Measure 12+14
promocard for promoting the measure 4

A CITY TO TAKE CARE OF

BE A RESPONSIBLE TOURIST. Enjoy our city and help us to make it a more sustainable and tidy Tourist! Be responsible, care about our city! A clean and tidy environment is a requirement for a better city.

HORIZON 2020 URBAN WASTE PROJECT

ADV for the Bus
Stickers for the involved info points, facilities and waste bins

Fan

Info corner
About the WasteApp a dedicated promocard was produced and distributed to the 23 facilities involved and by means of the 3 info points. About 4,000 people have been reached. The 25th of November during the event other 20 restaurants where involved for starting promoting the action and an agreement was closed with the high school for tourism management for testing the App and promoting it inside the Erasmus project involving other countries (next even the 18th of December 2018). The main results of this campaign will be measured during the next months.

By November 2018 the number of registered users are only19 (60% female) and nobody requested the prizes, which are tickets for the electric bus around the city centre. The objective of the Municipality is to enhance the communication campaign during the next months, until the end of the project, with specific communication on-line and off-line, thanks also to the support of the students of schools involved in the Community of Practice.

Many articles were published to support the off-line promotion, made by the info corner, further than with the ADV on the Bus and the promocards. During the events the most important actors related to the tourism and waste management sector were involved.

A Siracusa l'Urban Waste EU, buone pratiche per i rifiuti
https://www.nuovosud.it/81196-ambiente-siracusa/siracusa-lurban-waste-eu-buone-pratiche-i-rifiuti
Siracusa, progetto Urban Waste: oggi conclusa la seconda giornata

http://www.siracusapost.it/1.69532/cronaca/sicilia-siracusa-provincia-siracusa/1097/siracusa-progetto-urban-waste-oggi-conclusa

Here below other articles related to the on-line promotion of the project’s development and the measures.

http://www.siracusapost.it/1.68098/cronaca/sicilia-siracusa-provincia-siracusa/1097/siracusa-progetto-urban-waste-arriva-il


http://www.noialbergatorisiracusa.it/nostri-progetti/

In general the communication campaign has contributed to create a great attention on the project, but for reaching concrete results, the concrete involvement of the facilities, so as of the association of the guide is important and the objective for the sustainability of the measures is to enhance it with a clearer involvement, exploiting the first months of the new year, normally a quiet moment at touristic level.
11. TENERIFE

Measures 2+20: Food waste prevention at buffets and restaurants + Food Tracking Device

It is estimated that around 12% of the total food waste in Europe is generated at tourist establishments such as buffets, restaurants, catering and canteens. This issue requires special attention as it immensely contributes to the total municipal solid waste generation in many tourist cities in Europe. The hotels engaged in URBAN-WASTE in Tenerife have committed to reduce and prevent food waste generated from their kitchens and buffets by reusing food scraps and leftovers, offering smaller sized plates, offering original, colorful and elegant dishes with reduced portions, and by replacing rectangular trays for convex ones in buffets.

Measure 3: On-site composting in tourist establishments

Whenever organic waste is not collected separately in a city or region, on-site composting is presented as a sustainable alternative to recycle food waste generated in canteens, restaurants, buffets, etc. and turn it into a valuable fertilizer. The installation of an on-site electric composting machine, a shredder and biofilters in one of the hotels in Tenerife has allowed to reduce the amount of organic waste produced in all areas of the hotel while producing such high-value natural fertilizer, which is mainly applied to its own gardens.

Measure 5 - Selective collection of biowaste from hotels and restaurants

Nowadays, there is an increasing number of cities that include separate waste collection systems as a strategy to increase the recycling rate of the different waste fractions as well as to improve the quality of such separation. The selective collection of biowaste in cities has a great number of benefits (e.g. saving of landfill space, avoidance of greenhouse gas emissions, etc.) and it facilitates the separated treatment for production of high-quality compost or biogas. Through this measure, the participating establishments deepened in awareness and training of both personnel and guests with aims at improving the waste sorting of biowaste, which was collected via door-to-door system.

Measure 11- Recycling advisors for tourist establishments

Well informed and duly advised establishments will help, for instance, diverting large amounts of waste from the landfill and incineration plants to recycling. In Tenerife, four companies adhered to the project and provided trainings, guidance and monitoring of results in 9 touristic establishments with aims at reducing the amount of mixed waste produced and increase levels of recyclable waste fractions correctly sorted.
Measures 2+20: Food waste prevention at buffets and restaurants + Food Tracking Device

Main actors and stakeholders

- **Cabildo Insular de Tenerife (CIT)** coordinated and supervised the overall implementation of the measures in the municipalities involved in Tenerife (Arona, Adeje and Puerto de la Cruz). Moreover, it managed the communication campaigns deployed for the promotion of the measures and involvement of the hotels as well as for the engagement of more hotels in the initiatives.

- **Hotel El Tope, Hotel Edén and Hotel Marte** implemented the measures within their respective hotels, providing internal coordination and supporting personnel to carry out the tasks/ actions related to both food waste prevention and food tracking device. **Hotel Noelia** and **Hotel La Paz** also provided internal coordination and supporting personnel for food waste prevention actions but did not implement the food tracking device, as they had their own means to measure food waste generation.

- **Sveriges Lantbruksuniversitet (SLU)** provided the installation of the food tracking device in the hotels as well as on-site training to their staff. Furthermore, it provided continuous technical support and delivered periodic reports during the implementation phase and will continue to do so until the end of the project.

Timing

**Hotels applying the Food Track Device: Hotel El Tope, Hotel Marte and Hotel Edén**

- **March / April 2018**: Installation of food tracking device and on-site training for hotel staff and managers

- **May 2018**: Meetings with the hotels for establishment of objectives and commitments and signing of Public-Private Partnerships.

- **June 2018**: Initial diagnosis and baseline monitoring data collection.

- **June / October 2018**: full implementation of measures and data collection (food track device data collection, use of convex trays, reuse of food scraps and leftovers, smaller-sized plates used, and reduced portions offered)

- **October 2018**: final diagnosis, publication and dissemination of results.

**Hotels that do not apply the system Food Track device: Hotel La Paz**

- **May 2018**: Meetings with the hotel for establishment of objectives and commitments and signing of Public-Private Partnership.

- **June 2018**: Initial diagnosis and baseline monitoring data collection.

- **June / October 2018**: full implementation of measure and data collection (reduced portions offered)

- **October 2018**: final diagnosis, publication and dissemination of results.
Activities

In July 2018 *Cabildo de Tenerife* printed and distributed posters, stickers and guides, designed with help of Ambiente Italia, to the three hotels implementing food waste prevention actions and the food tracking device (*Hotel El Tope, Hotel Marte* and *Hotel Edén*) and to the hotel implementing food waste prevention actions alone (*Hotel La Paz*).

*Hotel El Tope* increased the reuse of food scraps and leftovers for the preparation of other dishes and, hence, giving these a second life (stewed potatoes, ham, cheese, ...). The hotel also made available smaller-sized plates to customers by giving them the option to choose between the bigger and smaller plates, reducing the chances of there being leftovers from the customers’ side. Furthermore, the traditional rectangular trays located at the buffet were replaced by convex trays. In this sense, the amount of food needed to fill one tray was lower than for a rectangular one and the presentation of the buffet service was not affected. The hotel has also measured and monitored regularly, with help of the food tracking device, the amount of food waste produced in 4 areas: room service, restaurant, kitchen and bar.
Hotel Marte and Hotel La Paz offered original, colorful and elegant dishes with reduced portions compared to the rest of the menu in order to avoid customers taking more food than they could consume and, hence, reduce the amount of food waste produced. In addition, Hotel Marte also reused as much food scraps and leftovers as possible for the preparation of other dishes (fruit, stewed potatoes, ham, cheese, ...), and monitored the amount of food waste produced in both restaurant and kitchen within the hotel with the food tracking device.

Hotel Eden monitored the amount of food waste produced through the food tracking device. The objective of the hotel was to reduce the amount of food deposited in the container by 10%, carrying out various measures such as increasing the percentage of food to which a second life is given.

Results

All hotels involved in this measure are located in Puerto de la Cruz municipality. Out of the 82 hotels that are located in the area, 4 participated in the URBAN-WASTE project, which accounts for roughly 5% of the total. Although no additional hotels were engaged during the implementation phase to replicate the measures, the dissemination campaigns mentioned above are expected to attract new hotels and restaurants and, thus increase the impact in Tenerife. Approximately 5,200 tourists were reached during the implementation.

Two hotels offered reduced portions and other two reused edible leftovers in the kitchen, while another hotel offered reduced-sized plates and one more used convex trays in their buffet.

The main target set by Cabildo de Tenerife and its stakeholders was to reduce food waste by 10% at the end of the pilot test. Hotel El Tope has reached a reduction of up to 43% in food that would have otherwise been deposited in waste bins, while Hotel Marte and Hotel Edén have reduced by 46% and 29%, respectively, their food waste produced. Not enough data was available from Hotel La Paz to determine the food waste reduction progress. An example of the evolution of food waste generated in one of the hotels can be found in the graph below.
In relation to gender considerations, in one out of the four of the establishments gender sensitivity was taken into account in advertising/communication of the measures. Furthermore, in three of the establishment the final decisions were made by men and in one there is no data available. Therefore, senior decision making is taken by men, and generally, gender considerations have not been taken into account in the implementation of the measure, although they have in the overall workload.

**Challenges faced and lessons learnt**

Although it was clear from the beginning the involved hotels’ intention in reducing food waste in their kitchens and buffets, it was not clear for them which specific actions will be more suitable for each one. Therefore, it took longer than expected to decide on them as all considerations had to be taken into account and, hence, the launch of the implementation phase was slightly delayed. Nevertheless, once this was decided the implementation of such actions started and developed without major problems.

On the other hand, some specific actions that were considered suitable to undertake for some hotels at first were eventually discarded at a later stage due to their complexity. For example, penalization or incentives to avoid food waste was considered to have a negative impact on client perceptions and overall satisfaction.

In relation to the food tracking device, some technical problems had been encountered during the implementation, but SLU have been able to solve most of them. However, it was considered that, for security reasons, the device installed in Hotel Noelia should have been installed with an anti-theft frame but it was not possible to provide. Thus, the device will be used by the Hotel La Paz that had been monitoring food waste production by tracking the number of bins filled out and litter their capacity.
The distribution containers or bins for the different waste fractions to the participating establishments was delayed due to the lack of consensus over the characteristics. Before this challenge the Cabildo de Tenerife studied the preferences suggested by each establishment and eventually distributed the containers. All the models will have the project logotypes printed.
Measure 3: On-site composting in tourist establishments

Main actors and stakeholders

- **Cabildo Insular de Tenerife (CIT)** coordinated and supervised the overall implementation of the measure between the different stakeholders involved. It also managed the communication campaigns deployed for the promotion of the measure and potential engagement of more hotels.

- **Hotel Tigaiga** provided the supporting personnel in charge of the management, the maintenance of the equipments needed, weighting of food waste sent to the composting machine, separating food waste properly from other waste fractions at kitchen level, and the maintenance of gardens.

- **Valoriza Servicios Ambientales** facilitated personnel for the supervision of indicators measurement and analysis of achievements of objectives from the actions.

- **Berca Canarias** dealt with the supervision of the composting process and training of hotel personnel on the proper material suitable for composting, operation of the composting machine and application of compost (analytical and ripening time)

Timing

**April 2018**: Initial meeting for the establishment of objectives and commitments and signing of the Public-Private Partnership, installation of composting machine, personnel training, initial diagnosis and machine adjustments.

**May / September 2018**: setting-up and fully operational composting machine at maximum capacity with gradual increase in food waste treatment, visual control, manual separation of improper waste and gradual reduction in organic waste bins, and application of compost produced in gardens.

**October 2018**: final diagnosis and dissemination of results

Activities

In April 2018 the electric composting machine, shredder and biofilters were installed in the premises of Hotel Tigaiga. During that month, Berca Canarias trained kitchen, restaurant and rest of personnel in charge of the process on how to separate organic waste correctly, how to identify the improper waste that should not enter the machine, how to transport in bagless bins and insert the organic waste in the machine, how to evacuate the compost produced from the machine, how to weight organic waste and compost, the maturation, application and monitoring of compost, and the overall operation and maintenance of the machine. The application of the produced compost was done mainly to Hotel Tigaiga’s own gardens. Valoriza Servicios Ambientales supervised the process and monitored initial, intermediate and final results.
Results

From the 58 staff members from Hotel Tigaiga 15 were trained on the whole process, thus accomplishing the objective set in terms of personnel trained of 31%. Such training also allowed to achieve a presence of only 2% of improper waste per day and a reduction of plastic waste generation as no plastic bags were used for the bins to transport both food waste into the composter and the compost produced into the gardens. In terms of tourists potentially reached by this measure, around 20,800 were estimated.

For the implementation of the measure, only one electric composting machine was installed in the hotel’s premises, which was leased for a fixed period of time that goes beyond the end of the implementation phase.

In terms of food waste generation, the objective was set at sending 54,20 kg/day of food waste to the composting machine by the end of 2018. Although the measure will keep being implemented at least until February 2019, during the 5 months that the composting machine had been running a maximum of 34,57 kg/day. Nevertheless, the results are improving day by day and, overall, 3,071 kg of food waste have been sent.
to the composter out of the 14,284.9 kg produced in the hotel and thus avoided. This accounts for roughly 21% of food waste transformed into compost.

In addition, 1,151.7 kg of compost has been produced and used in the hotel’s gardens.

Regarding gender considerations, senior decision making is taken by men and the gender distribution of the tasks carried out as of technical personnel in charge of the composting process and gardening accounts for 89% men and 11% women.

**Challenges faced and lessons learnt**

In these months the design and follow-up of the procedures to optimize the use of the machine has been deepened. A set of good practices and knowledge has been generated.

Sawdust has been used as a structuring material to absorb the moisture generated in the process, significantly improving the results. This structuring material comes from the carpentry of the area, giving a second use to this type of waste.

The food waste that has been introduced in the composter is fruits and vegetables, providing a high-quality compost and removing such waste from the collection and off-site treatment circuit.

It was found that, in general, the composting process did not generate bad odors while the outlet had been channeled through a ventilation conduct to mitigate these in any case. Furthermore, it was noticed that the process facilitated the cleaning of the waste storage area.
The data and results obtained from the self-composting measure are being analyzed with the aim of evaluating the implementation in other areas, such as schools, hospitals, canteens of military installations, etc.

Hotel establishments adhering to other measures of this project in Tenerife have shown interest in self-composting and expect to know the final results of this action, as well as the "Know How" and the challenges presented by its implementation to evaluate the technical and economic feasibility of developing a similar project in the future.
Measure 5: Selective collection of biowaste from hotels and restaurants

Main actors and stakeholders

- **Cabildo Insular de Tenerife (CIT):** Coordinated, advised and supervised the general implementation of the measurement at the different establishments. During the course of the implementation there were many meetings, in situ visits and contact via email and telephone. In addition, they also managed the involved entities promotion in different media.

- **Hotel El Tope, Hotel Marte, Hotel Edén, Hotel La Paz, Hotel Noelia** and **Restaurante Nielsen** implemented the measures in their corresponding hotels and restaurants, designating staff in charge of coordinating and supervising the compliance of the eco innovative measure, support star for coordination and data gathering and staff in charge of depositing organic waste properly in the corresponding containers.

- **Valoriza Servicios Ambientales:** is the municipal waste collection company and has been responsible for transferring different fractions of waste to the plants for its later transfer to Complejo Ambiental de Tenerife, for its treatment in the organic matter plant.

Timing

The marked landmarks for this measure were the following:

- **May/June 2018:** Initial meeting to establish objectives, compromises, and signing the public-private agreements.
- **June 2018:** Producing the initial diagnosis and training staff for the proper separation of organic matter and instalment of the containers.
- **June - October 2018:** Implementation and tracking of the measure: separation at origin of the organic waste, deposit in containers and transfer to the treatment plant.
- **October 2018:** Final analysis of the obtained results and dissemination

The deviations that took place in the planning were the following:

- Training was extended until October because of the late incorporation of hotels.
- Analysis dissemination of results were extended until November.

Activities

In June the initial diagnosis was done of El Hotel El Tope, Hotel Marte, Hotel Edén, Hotel Noelia and restaurante Nielsen. Result of this diagnosis the training could be designed specifically for the needs of each establishments.
As of June 2018, the prevention and organic matter management measure was implemented in the involved establishments. Due to the difficulties of the incorporation or modification of the processes in the different organizations, the data gathering and tracking couldn’t be done through constant tracking during 6 months (180 days) and the samples were taken during 3 weeks.

In July, Cabildo de Tenerife printed and distributed the project dissemination materials, as it was indicated in the previous measures. In the same month, thanks to the dissemination efforts of the project done by the involved agents, there was a new joining, Hotel Marte.

There has been no distribution of containers or bins for the different waste fractions to the participating establishments due to the lack of consensus over the characteristics. Before this challenge the Cabildo de Tenerife has studied the preferences suggested by each establishment and will soon buy and distribute the containers and bins. All the models will have the project logotypes printed.

Finally during October and November there has been a data analysis of the obtained results by all the involved agents.

**Results**

The main results obtained with the measure implemented in the establishments were the following:

- 6 tourist establishments joined the project reaching the marked objectives.
- The percentage of staff trained exceeded the objective of 25%, in some establishments like Hotel La Paz and Hotel Marte they reached 100% and 83,33% respectively.
- An awareness campaign was done for the hotel staff and guests. The training and communication materials distributed contributed to the awareness objective. Approximately 5,400 tourists were potentially reached by this communication campaign.
During the monitoring phase, a total of 4,166.9 kg of organic waste was collected and sent to the organic matter treatment plant.

In terms of genders considerations, in 4 of the 6 establishments final decisions were made by men, while in one was made by women and in other data was not available. In all establishments the separation of organic waste and overall extra work was made by both men (50%) and women (50%) with exception of one establishment where organic waste was separated by 40% men and 60% women. Moreover, in all establishments the trainings were provided by men excepting one establishment where the distribution was 50% men and 50% women. Therefore, senior decision making is taken by men, although gender considerations have been taken into account in the overall workload.

**Challenges faced and lessons learnt**

There were failures in the tracking device to measure the quantity of organic matter generated, which was resolved thanks to the SLU technical support.

One of the establishments couldn’t have the tracking or weighing device due to its late incorporation to the project, and not having those devices complicated data gathering.

Staff training and raising awareness has been very important to influence in the obtained results in the selective organic waste.

Synergies have produced between the establishments which have simultaneously participated in these eco-measures. In this sense, they have not only improved selective collection but also reducing buffet and kitchen waste.

Workers have assimilated to their processes good practices regarding prevention and management of organic waste. The firsts months of the measure implementation, changes made a combination of imbalances, but were solved with time. The main imbalances happened during separation and weighing, for example, during weighing there were errors with measuring units. Tracking and training were key to surpass these difficulties.
Measure 11: Recycling advisors for tourist establishments

Main actors and stakeholders

- **Cabildo Insular de Tenerife (CIT):** Coordinated, advised and supervised the general implementation of the measurement at the different establishments. During the course of the implementation there were many meetings, in situ visits and contact via email and telephone. In addition, they also managed the involved entities promotion in different media.

- **Fundación Canarias Recicla, Ecoembes, Limpiezas Apeles y José E. Ascanio:** are the organizations which have appointed to the project with the objective of advising the touristic establishments in prevention and management of waste in touristic establishments.

- **Hotel Sunlight Bahía Príncipe San Felipe, Parque Vacacional EDEN (EDEN Esplanade + EDEN Luz), Hogar Santa Rita, Diamante Suites (GEMA Hoteles), Turquesa Playa (GEMA Hoteles), Perla Tenerife (GEMA Hoteles), Hotel Marte, Hotel La Paz and Hotel El Tope:** are the touristic establishments which have received counseling and training.

Timing

The marked landmarks for this measure were the following:

- **June 2018:** Initial meeting to establish objectives, compromises, etc., initial diagnosis and the improvement ability of the organization, and design of training content and elaboration of the teaching calendar.

- **June - October 2018:** Result measuring

- **July - August 2018:** Training Sessions

- **August 2018:** Intermediate diagnosis and complementary actions fulfillment based on the intermediate diagnose

- **September 2018:** Final diagnosis

- **October 2018:** Determination of improvements at the hotel and dissemination of the results

The deviations that took place in the planning were the following:

- Training was extended until October because of the late incorporation of hotels.

- Analysis dissemination of results were extended until November.

Activities

In the planning phase Cabildo de Tenerife had initial meetings with the involved to coordinate the actions and mark objectives. The four main people involved decided what hotels in Tenerife could be trained. The main activities carried out in this measure were the following:
1. *Fundación Canarias Recicla*

La Fundación Canarias Recicla carried out established actions in the Hotel Sunlight Bahía Príncipe San Felipe plan. The action's timing are described:

**Initial Meeting**

In the rules of the call and adhesion of the European URBAN-WASTE project by Fundación Canarias Recicla was decided to contact and invite Grupo Piñero to participate in the project, convening a meeting July 3rd, having sent a previous email.

Three representatives of Recycling and Sustainable Development of Fundación Canarias and five representatives of different departments of Grupo Piñedo took part in the meeting, where different proposals of the action plan were exchanged.

**Elaboration of the initial diagnosis and the ability to improve the organization**

July 11th 2018 the initial diagnosis about the current generation of the different waste fractions in the four restoration areas in Hotel Bahía Príncipe San Felipe (2 restaurants, a snack bar and a lobby bar), as the gender indicators.

**Intermediate diagnose**

July 31st a data gathering was done before trainings.

**Content design for the training sessions**

Three trainings were done, August 1st, of about three hours each, gathering different departments that exist in the hotel:

- 1st Training: Reception, Administration and Accounting, Human Resources, Public Relations and Direction.
- 2nd Training: Laundry, Cleaning and Technical Service.
- 3rd Training: Restoration, kitchen and storage departments.
Trainings, even though they were guided towards each department, have been based on the correct management of waste by parts. It is necessary, that all workers in the hotel know how to divide waste correctly in their corresponding containers and the hotel direction; as well as public administrations, private companies which take part in waste managers and advisers, should help with: infrastructure, ways of collecting waste (cleaning service, kitchen and restoration), establishment of a collecting logistics, naming people responsible, continuous trainings, etc.

**Counseling**

During the counseling to Hotel Sunlight Bahía Príncipe San Felipe about good management of waste, there has been relevant information offered as the following ones described.

The Sistema de Información Ambiental de Canarias system (SIMAC) of the Gobierno de Canarias([www.gobiernodecanarias.org/medioambiente/piac/temas/informacion-ambiental/simac](http://www.gobiernodecanarias.org/medioambiente/piac/temas/informacion-ambiental/simac)) where you could find all the information related to waste:

- Waste production.
- Waste management.
- Tracking and control of waste.
- Production register and management in Canary Islands.
- European Waste List (EWL).
- Extended responsibility of the producer (EPR).
- Procedures and process of waste.
- More information about waste.

The Glasstar Hotels stamp of Ecovidrio and Gobierno de Canarias ([www.glasstarhotels.es](http://www.glasstarhotels.es))

Different companies which provide buckets and containers for the selective separation waste.

- Final diagnosis and measures results.
- Data was gathered during 20 days in August, from the 11th to the 31st.
- Posters delivery

September 12th the report of diagnose and results of the data gathering during the 20 days in August and the URBAN-WASTE posters were turned in.

Communication material provided to one of the hotels trained

2. Ecoembes

Ecoembes took part in advising actions in the operating plan in three of Puerto de la Cruz establishments (Parque Vacacional Edén, Gema Playa Hoteles y Hogar Santa Rita).

Initial diagnose and container distribution

One of the first actions consisted in making a diagnosis about container needs of every establishment and based on the study, the following distribution took part.

<table>
<thead>
<tr>
<th>Hotel</th>
<th>Papeleras 90 litros</th>
<th>Contenedores 800 litros</th>
</tr>
</thead>
<tbody>
<tr>
<td>Parque Vacacional EDEN</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EDEN Esplanade</td>
<td>30</td>
<td>4</td>
</tr>
<tr>
<td>EDEN Luz</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>GEMA Hoteles</td>
<td></td>
<td></td>
</tr>
<tr>
<td>DiamanteSuites</td>
<td>10</td>
<td>2</td>
</tr>
<tr>
<td>Turquesa Playa</td>
<td>15</td>
<td>5</td>
</tr>
<tr>
<td>Perla Tenerife</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Hogar Santa Rita</td>
<td></td>
<td>10</td>
</tr>
</tbody>
</table>

Design and implementation of operation managing of light containers

To favor the correct management of waste, a different bagging depending on the fraction of the container or bin was proposed:

- Light containers (yellow bags)
• Solid URBAN-WASTE (black bags)

The designated staff, depending on the department, would collect the 90 litre yellow bags and will deposit them in the 800 litre containers situated, in most of the cases, in the garbage rooms.

The 800 litre containers would be collected by Martínez Cano Canarias and would then be transferred to a waste separation plant in Güímar, where the different light container waste would be separated and recycled, ensuring the tracking of waste.

Content design and training sessions

Different department staff training (reception, restoration, maintenance...) of hotels took place July 12th 2018, in which all doubts staff had were resolved as well as the contribution of the location of the yellow containers and the operational management of waste.

In addition hotels were provided with training posters so guests and non trained staff could participate actively managing the light container waste.

Moreover, hotels were provided with a distinguishing “Hecotel” stamp to be recognised as a responsible hotel with the correct management of waste.

Characterization of waste

With the objective of valuing the correct functioning of the project implementation, July 31st 2018, a waste characterization (detailed study about the composition of waste) was carried out at the classification plant of non dangerous waste(Martínez Cano Canarias), una caracterización de residuos de envases.

3. Limpiezas Apeles

Limpiezas Apeles did the advising actions at Hotel El Tope, hotel establishment located in Puerto de las Cruz, where the following actions took place.

Initial meeting

The first meeting took place in July with the agents of Hotel El Tope. The objectives and actions to do were established in this first meeting.
Initial diagnosis

During July the initial diagnosis and the ability to improve the organization took place.

Content design and training sessions

As a result of the diagnosis the training content was adapted to specific needs of the establishments. During the month of July, a training also took place in which the environmental manager was trained. The objective of this training consisted in supporting and increasing the training of the environmental manager, so he could later show the rest of the staff.

Intermediate and final diagnosis of results

The intermediate diagnosis took place in August and the final diagnosis took place in October. These diagnosis were supported by the data gathering which was done from July to October.

4. José E. Ascanio

José E. Ascanio did advising actions in Hotel Marte and in Hotel La Paz, both located in Puerto de La Cruz. Actions done in Hotel Marte were the following.

Initial meeting

During July the first meeting took place with the representatives of the hotel where the objectives and actions were set.

Initial diagnosis

During July the initial diagnosis and the ability of improvement of the organization was done.

Content design and training

As a result of the diagnosis, the content of the trainings was adapted to specific needs of the establishment.

Intermediate and final diagnosis of results

The intermediate diagnosis took place in August and the final diagnosis took place in October. These diagnosis were supported by the data gathering which was done from July to October.

Due to the late incorporation of Hotel La Paz to the project the advising actions were done in the following timing:

- initial meeting in September;
- initial diagnosis in September;
- content design and training in September and October;
- intermediate and final measuring of results in October.

Results
The main obtained results with the measures implementation of the participating establishments were the following:

- advising took place in 9 hotel establishments of the 82 located in the area (about 11%);
- a total of 353 workers have been trained, achieving the objective of training 25% of staff;
- a total of 32,510 guests were potentially positively affected by the correct separation of waste during the two months of the measure implementation.

In relation to the separation of waste, the different consultants obtained the following results.

1. Fundación Canarias Recicla

The light packagings were reduced by 30% approximately facing the objective of increasing 20%.

The paper fraction was reduced 9% approximately facing the objective of increasing 20%.

The organic fraction was reduced about 0.6% approximately facing the objective of increasing a 20%.

There was no weighing of mixed waste.

2. Ecoembes

The fraction of light packaging increased 120% approximately opposed to the objective of increasing 20%.

3. Limpiezas Apeles

The fraction of light packaging increased in approximately 2%, opposed to the objective of increasing 20%.

The fraction of glass increased in 2% approximately opposed to the objective of increasing 20%.

The fraction of organic was reduced by 43% approximately opposed to the objective of increasing 20%.

The mixed waste fraction decreased by 45% approximately opposed to the objective of increasing 20%.

4. José E. Ascanio

The fraction of light packaging increased in 27% approximately opposed to the objective of increasing 20%.

The fraction of paper increased in 27% approximately opposed to the objective of increasing 20%.

The fraction of organic increased in 81% approximately opposed to the objective of increasing 20%.

Not enough data for mixed waste to be able to perform the comparison.

In relation to the gender considerations, out of the 4 organizations providing the trainings, final decisions were taken by both women and men in 2 of them and only men in the rest. The trainings themselves were provided by only women for one organization, only men for other two, and 50% women and 50% men in the remaining one. Furthermore, as for the employees trained in all establishments, one organization reported 50% men and 50% women, another 30% men and 70% women, another one 100% women and the remaining 40% men and 60% women. Therefore, it is considered that there is not gender balance in high-level decision-making and that, generally, the training has been given by men but the trained personnel have been women in a greater percentage.
Challenges faced and lessons learnt

The advising companies that didn’t join the project because of the following difficulties:

- Urbaser: because they don’t have an insular plant of composting organic waste selectively.
- Fundación Ataretaco: Lack of resources to develop the activities.

"Sample" Monitoring of waste production

It is observed that in order to obtain the objectives set for this measure a longer period of monitoring is required. The actors who participated in this measure opted for the sample option for three weeks, this period being affected by variables that prevent obtaining a clear trend and conclusive results.

Characterization of waste

A study of the characterization of collected waste by the establishments in relation to the fraction of containers, revealed that 58,05% had been properly deposited in the yellow containers, and 28,9% could be recycled. Therefore, 86,95% of waste is recyclable. It is considered that a deepening in concept aspects about waste which should be introduced in yellow containers could improve obtained results, although the obtained results are considered positive.

Remaining fraction

The quantity of the remaining fraction is high in general terms, due to the high occupancy. Before this challenge there is a proposal to study the possibility of preparing small recycling containers next to the proper posters so guests could collaborate with the waste management of the hotel. Due to limited space in the rooms it is also proposed to have containers of every plant next to the elevators as a strategic point and communicate it properly to clients.
Communication campaign and promotion of the WasteApp

By December 2018, 55 users have registered to the Wasteapp in Tenerife, from which 25 were females (45.5%), 21 males (38.2%) and 9 did not answer (16.3%). Although there were registrations, no recycling events nor prizes were exchanged by the users. In this sense, it is clear that the app have thrown successful results up to date despite the promotion and communication actions carried out by Cabildo de Tenerife.

To tackle this issue, Cabildo de Tenerife will undertake a different strategy where dedicated promotional actions, in combination with local events in touristic hotspots, will be organized to promote the number of users registered and potential recycling events. This actions will be carried out, at least, until the end of the project in May 2019.

The three town councils involved in the project through the Cabildo the Tenerife, Arona, Adeje and Puerto de la Cruz, have placed the promotional stickers of the application in the containers of each city. Previously, the Cabildo de Tenerife had made the distribution of the same.

Each of the city councils will provide the prizes to be exchanged by points through the application.