Region of Crete
Action Plan

25 MAY 2022
WINPOL Final Conference in Brussels

Lena Kargaki
Executive of the Department of Environment and Spatial Planning of the region of Crete
1. Waste Management Data Collection System.

2. Waste Collection Monitoring Platform at Municipality level

3. Waste Management Monitoring Platform at Regional level

4. Introduction of PAYT systems funding opportunities in Regional Operational Program Crete 2021-2027
Action 1

1. **Name:**
   Waste Management Data Collection System.

2. **Source of inspiration in WINPOL:**
   The Action was based on the good practices of E-TRACK implemented by DEDISA Hania Crete & E-GARBAGE Waste collection weighing implemented by EMULSA.

3. **Policy instrument involved:**
   - Compulsory source separation & recycling of recyclable materials
   - Compulsory biowaste separation at source
   - Landfill tax
Action 1

4. **Details of the action:**

The Action concerns the organization of an innovative system to **collect data from waste collection** in the Municipality of Heraklion. The system focuses on **biowaste at first**, while at a later stage will be expanded to all the main waste streams. The system include the following:

- Special waste collection trucks for biowaste.
- Bin wash vehicle.
- Compostable bags for biowaste collection.
- Bins for biowaste, with barcodes/RFID tags in order to be able to identify each one and record the daily quantities collected from each bin.
- Installation of a weighing system on biowaste collection vehicles.
- GPS tracking systems for all vehicles.
5. **Players involved:**

<table>
<thead>
<tr>
<th>Organization</th>
<th>Role</th>
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</thead>
<tbody>
<tr>
<td>Municipality of Heraklion (MoH)</td>
<td>MoH is responsible for implementing the Action and the maintenance of the system.</td>
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<tr>
<td>Regional Operational Programme Crete (ROPC)</td>
<td>ROPC funded the purchase of the equipment needed.</td>
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<tr>
<td>Region of Crete (RoC)</td>
<td>RoC monitors the success and the effectiveness of the system.</td>
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Apart from the Municipality of Heraklion, the system was available to be implemented by other interested Municipalities.
**Inclusion in NSRF funding in the ROP of Crete for the Municipality of Heraklion.**

Supply of equipment for Sorting at the Source of biowaste.

2 financing of a total budget of 1.721,81€.
6. **Timeframe:**

<table>
<thead>
<tr>
<th>Task</th>
<th>Q4 2020</th>
<th>2021</th>
<th>Q3 2022</th>
<th>Q4 2022</th>
<th>Q1 2023</th>
<th>Q2 2023</th>
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<tbody>
<tr>
<td>Funding preparation &amp; technical specifications evaluation</td>
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<td>Purchase of the Equipment</td>
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<td>Installation and Pilot Operation</td>
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<td>Full Implementation Stage</td>
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Following Heraklion’s Municipality example, other municipalities included in their funding proposals, the acquisition of intelligent equipment for the sourcing at source of bio waste.

The municipalities that applied and got the funding are the following:

- Municipality of Chania (budget of 1.500.000€)
- Municipality of Hersonisos (budget of 1.200.000€)
- Municipality of Minoa (budget of 600.000€)
Action 2

1. **Name:**
Waste Collection Monitoring Platform at Municipality level.

2. **Source of inspiration in WINPOL:**
The Action is based on the good practices of Datacenter - LIPOR project & Waste collection weighting implemented by EMULSA

3. **Policy instrument involved:**
- Compulsory source separation & recycling of recyclable materials
- Compulsory biowaste separation at source
- Compulsory separate collection of other streams (e.g. cloths, WEEE etc)
- Landfill tax
4. **Details of the action:**

✓ The Action concerns the development of a **platform** that aim at both the **monitoring of waste flows** and the **optimization of the supply chain**.

✓ The User enters in an organized manner all the data that collects during the waste collection and management and he is able at any time to monitor and evaluate the performance of the system. The platform has been implemented in such a way that Municipalities, are able to incorporate sensors (e.g. vehicle GPS, bin sensors, etc.).

✓ The platform can be easily adapted to any Municipality that shows interest and could be combined with the automatic data collection system (see Action 1) and PAYT systems (see Action 4) providing an excellent monitoring tool.
5. **Players involved:**

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<thead>
<tr>
<th>Organization</th>
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</thead>
<tbody>
<tr>
<td>Region of Crete (RoC)</td>
<td>RoC financed with its own resources and developed the platform on behalf of the MoH</td>
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<tr>
<td>Municipality of Heraklion (MoH)</td>
<td>MoH is now responsible for implementing the action and maintenance of the Platform.</td>
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<tr>
<td>Other Municipalities of Crete</td>
<td>Apart from the Municipality of Heraklion, the platform can be easily adapted to any other interested Municipality. Municipalities will be responsible for funding the adaptation of the platform to their needs, and for its maintenance.</td>
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### Action 2

6. **Timeframe:**

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<th>Task</th>
<th>Q4 2020</th>
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<th>Q2 2021</th>
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<td>Full Implementation Stage</td>
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<td>Possible PAYT system integration</td>
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7. **Costs:**
The costs include the development of the platform for the 1st stage of the development (25,000 €), and its maintenance (500 € per annum). The adaptation costs to other Municipalities is expected to be less than 3,000 €.
The municipal biowaste platform is ready to go
Action 3

1. **Name:**
   Waste Management Monitoring Platform at Regional level.

2. **Source of inspiration in WINPOL:**
   The Action was based on the good practices of Amsterdam Sharing Waste Data project, COLLECTORS web platform & USE OF DATA DATASUREHOUSE WASTE project

3. **Policy instrument involved:**
   - Compulsory source separation & recycling of recyclable materials
   - Compulsory biowaste separation at source
   - Compulsory separate collection of other streams (e.g. cloths, WEEE etc)
   - Landfill tax
4. **Details of the action:**

✓ The aim of this **platform** is to provide a systematic monitoring approach that connects the available data and to provide immediate and visualized information on the operation of the **Green Points**. At a later stage, other facilities (e.g. Waste Treatment Facilities, etc.) will be able to be included in the platform.

✓ Through the platform, citizens will be able to be informed about the basic operating characteristics of the municipal infrastructures (e.g. location, opening hours, acceptable waste streams, etc.). The platform also supports the communication and social connection between citizens and management bodies.

✓ The platform also helps monitor the diversion objectives that the Region must achieve in waste management, but also the waste management reporting to the Ministry of Environment and the EU.
5. **Players involved:**

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<tbody>
<tr>
<td>Region of Crete (RoC)</td>
<td>RoC funded with its own resources and developed the platform and the preparation of a guide for Municipalities &amp; Waste Management Authorities, presenting technical specification regarding data collection and input to the platform.</td>
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<tr>
<td>Municipalities &amp; Waste Management Authorities in Crete</td>
<td>Will be responsible for data collection and input to the platform.</td>
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### 6. **Timeframe:**

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</table>
7. **Costs:**
The costs include the development of the platform and the technical guide (25,000 €). Its maintenance is expected to cost less than 500 € per annum. Data collection and input to the platform can be easily performed by Municipalities & Waste Management Authorities’ personnel.
The regional platform for Green Points is ready to go
1. **Name:**
Introduction of PAYT systems funding opportunities in Regional Operational Programme Crete 2021-2027

2. **Source of inspiration in WINPOL:**
The Action was based on the good practices of PAYT system that was successfully implemented in the Municipality of Hersonissos & Waste4Think project

3. **Policy instrument involved:**
   - Weight-based waste collection fee
   - Compulsory source separation & recycling of recyclable materials
   - Compulsory biowaste separation at source
   - Landfill tax
**Action 4**

**Pay As You Throw – An Incentive Based System**

4. **Details of the action:**
   ✓ The Action concerns the inclusion of PAYT system funding opportunities in the Regional Operational Programme Crete 2021-2027.

   ✓ The systems should include special equipment, as well as a monitoring platform. The latter, will be based on the aforementioned Action 2, while the equipment list will include:
   - Installation of a weighing system on all waste stream collection vehicles.
   - Purchase lockable bins with barcodes/RFID tags & volume or weight-based track systems (e.g. sensors or fixed volume doors)
   - Purchase of RFID cards and bin keys for citizens
5. **Players involved:**

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<tr>
<th>Organization</th>
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<tbody>
<tr>
<td>Regional Operational Programme Crete (ROP)</td>
<td>ROP will include PAYT systems funding opportunities in Regional Operational Programme Crete 2021-2027</td>
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<tr>
<td>Region of Crete (RoC)</td>
<td>RoC will support ROP providing technical guidance if needed</td>
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So far the ROP has not finalized its actions but in general provides, soft actions for Recycling and reuse of waste in accordance with the EU Circular Economy Directives.
Thank you for your attention