

Source separation scheme for solid waste in the Historic Center of Rethymno

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The Municipality of Rethymno has implemented an integrated source separation scheme for the management of solid waste, produced by Food and Beverage establishments in the Historic Centre, known as “Old Town”. This initiative, aims to enhance the environmental sustainability, in line with national and European Directives on reducing waste sent to landfill.

The distinctive urban layout of the old town and its narrow road network have complicated the implementation of conventional waste collection methods. Residential houses and commercial shops in the area have been served through a door-to-door collection system, since 2014, operating on predetermined days and at specific hours, using small bins distributed by the Municipality.

The most significant challenge, faced by the Municipality, concerned the effective management of the large volume of waste, generated by Food and Beverage establishments in the Old Town, which constitute a key component of the area’s economic activity. In order to address this issue, the Department of Environment developed and implemented a new, specialized source separation system, designed specifically for the catering sector of the Old Town.

The new scheme commenced on 31 March 2025 and currently serves 100 Food and Beverage establishments in the Old Town. It is based on source separation of four distinct waste streams (recyclables, organics, glass and mixed waste). These materials are collected through scheduled routes and specific collection points, in order to ensure efficient waste management, since the waste produced by F&B establishments is the major component of the area’s economic activity.

Objectives of the Scheme

The scheme aims:

- (a) To maintain the cleanliness and functionality of the Historic Centre, and
- (b) To increase the quantity and the quality of recyclable materials and bio-waste collected, while concurrently reducing the volume of mixed waste sent to landfill.

The scheme is based on two fundamental pillars:

- 1) Collection strictly “by appointment” at predetermined points and times, preventing uncontrolled disposal in public spaces,
- 2) Mandatory source separation into the following streams:
 - a) Recycled material: Include paper, plastic, metal, and aluminum,
 - b) Organic waste: Proper management facilitates the production of high-quality compost,

c) Glass: Collected separately, as it's mixing with other materials complicates and increases the cost of processing.

d) Mixed waste: materials that cannot be recycled or composted. Reducing the volume of this stream is the key objective of the program, as it is directly linked to the environmental performance and operational efficiency of the Municipality.

Structure of the scheme

The collection scheme was developed in collaboration with the Union of Hospitality Establishment Owners of Rethymno to accommodate the operational and seasonal needs of F&B establishments in the Historic Centre.

Two operational periods have been defined:

- Winter period: November – March
- Summer period: April – October

Five central collection points have been designated within the Historic Centre, where (F&B) establishments deliver their waste. Waste collection occurs during three fixed time windows – morning, afternoon, and night—as follows:

- Morning (07:30–09:30): Glass is collected “door-to-door”, since the weight of the material makes transportation to the points difficult for businesses.
- Afternoon (15:30–17:35): Collection of organic waste and recyclables.
- Night: Collection of organic waste and mixed waste.

- Winter period: (22:45–00:55)

- Summer period: (23:45–02:55)

During afternoon and night shifts, two specialized municipal vehicles carry out the collections to ensure proper stream separation and accommodate the high volume of organics generated by F&B establishments. Vehicles follow a predefined circular route covering the mapped locations in the Old Town, remaining at each point for approximately 10–20 minutes, depending on the waste volume and number of establishments served.

Promotion of the new system and Compliance Monitoring

For the proper implementation of the new system, an informational campaign was initially carried out by a team of Environmental Directorate and the Union of Hospitality Establishment Owners of the Municipality of Rethymno, who visited all (F&B) establishments and provided detailed instructions, along with informational leaflets. Daily inspections and briefings continue to this day, in order to monitor compliance with the scheme's requirements.

Results

Annual weighing data per ton, show a substantial increase in the quantities collected in the three separately collected streams (recyclables, organics, and glass), with the most significant rise observed in organic waste, as this stream had not previously been separately collected in the Old Town. Simultaneously, a marked reduction in the volume of mixed waste has been recorded. Estimated changes are as follows:

Waste Streams	Change %	2024	2025
Recyclables:	+70%	146, 00 tn	248, 00 tn
Organic waste:	+100%	-	360, 00 tn
Glass:	+60%	17, 00 tn	27, 00 tn
Mixed waste:	-70%	907, 00 tn	272, 00 tn

1. Recyclables have shown a substantial 70% increase, rising from 146 tonnes in 2024 to 248 tonnes in 2025,
2. Organic waste saw an effective 100% increase, starting from zero in 2024, we reached 360 tonnes in 2025,
3. Glass collection improved by 60%, growing from 17 tonnes in 2024 to twenty seven tonnes,
4. Mixed waste has plummeted by 70%, dropping from 907 tonnes in 2024 down to 272 tonnes in 2025.

Conclusion

The above changes indicate that the implementation of source separation and separate collection significantly reduces the amount of material ending up in the mixed-waste stream. Combined with the improved cleanliness levels in the Historic Centre, the observed trends demonstrate the effectiveness of the new scheme and the strengthening of environmentally responsible practices.