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Thermal Waste Treatment in Italy 2045

Extract

Market development and future projections

November 2026

ecoprog GmbH

Thermal Waste Treatment in Italy 2045

Italy is currently shaping the market for thermal waste treatment (TWT). It is the largest exporter of waste for thermal treatment in Europe; at the same time, the country is the largest emerging market for the construction of new TWT plants in the EU. The background to this development is a waste disposal crisis, primarily resulting from the closure of landfill sites for pre-treated mixed waste.

Against this background, ecoprog has carried out a detailed analysis of the Italian TWT market. The study includes, amongst other things:

- Analysis of the current market: waste volumes, disposal routes, treatment infrastructure, competition, current developments and the reasons behind them.
- Detailed profiles of all 20 Italian regions, covering ATO structures, current disposal of mixed waste, regional waste management plans, treatment infrastructure, competition and known projects.
- Analysis of the key market drivers – from population and waste generation to separate waste collection, the consequences of the EU PPWR, waste exports and carbon pricing.
- Waste model projection of waste volumes, disposal capacities, the disposal gap and gate fees until 2045 in three scenarios – for Italy and for the macro regions North, Central and South Italy.
- Overview of more than 20 WtE projects with a combined capacity of around 5 million tonnes per year.

The study is available starting from **4,900.– €** (net).

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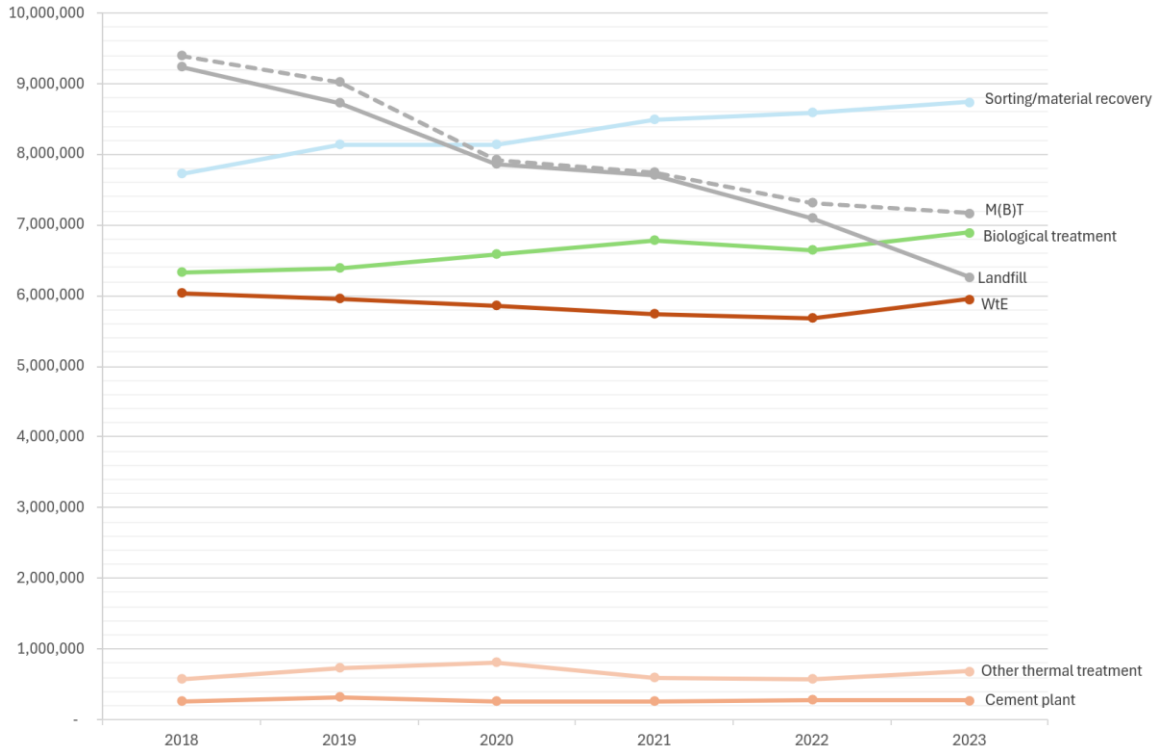
Figure 11: Development of waste treatment of chosen waste types in Italy 2018-2023



Note that this graph excludes the category of "other C&I wastes" which would dominate the graph if included due to their large volume.

2.5 Sewage sludge

In ISPRA's statistics, sewage sludge (*fanghi*) from urban wastewater treatment is listed as exclusively entering biological treatment, i.e. it is composted or treated in sludge digestion tanks that many wastewater treatment sites are equipped with. After biological treatment, the sludge is reclassified as special waste (although it is of municipal origin). According to our interpretation, it reappears in the special waste statistics in a category together with industrial sludges and other chemical-physical treatment residues.

According to the most recent Report on Special Waste (2025), treated sewage sludge is predominantly used in agriculture, accounting for around 87% of final treatment destinations. Smaller shares are sent to incineration (10%) and landfill (3%). The total volume incinerated amounts to around 135 kt in 2023. Although the report does not further specify the type of incineration, we assume this to be mainly sludge mono-incineration, for which Italy has a handful of small to mid-scale facilities mostly located in the Milan urban area.

Given the small share entering the TWT market and the absence of significant regulatory drivers for the sewage sludge market in Italy (in contrast to e.g. Germany or Austria), sewage sludge is not expected to shape the TWT market over the projection period. It is therefore not further analysed and not included in the model as a separate waste stream.

[…]

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Figure 29: Current biowaste collection per region and assumed targets until 2045 by scenario [kg/capita]

	Status quo (2024)	Lower-Growth Scenario	Assumed targets Reference Scenario	Higher-Growth Scenario
Abruzzo	110	[…]	[…]	[…]
Aosta Valley	74	[…]	[…]	[…]
Apulia	106	[…]	[…]	[…]
Basilicata	90	[…]	[…]	[…]
Calabria	95	[…]	[…]	[…]
Campania	109	[…]	[…]	[…]
Emilia-Romagna	93	[…]	[…]	[…]
Friuli-Venezia Giulia	102	[…]	[…]	[…]
Lazio	80	[…]	[…]	[…]
Liguria	80	[…]	[…]	[…]
Lombardy	81	[…]	[…]	[…]
Marche	103	[…]	[…]	[…]
Molise	87	[…]	[…]	[…]
Piedmont	75	[…]	[…]	[…]
Sardinia	132	[…]	[…]	[…]
Sicily	98	[…]	[…]	[…]
Trentino-Alto Adige/Südtirol	93	[…]	[…]	[…]
Tuscany	118	[…]	[…]	[…]
Umbria	113	[…]	[…]	[…]
Veneto	99	[…]	[…]	[…]
Italy	**95**	**[…]**	**[…]**	**[…]**

7.5 Increased separate collection and recycling of packaging and other MSW fractions

Separate collection and recycling

As analysed in section 2.2, Italy has seen a strong increase in separate collection of dry recyclables over the past decade. This increase includes all major material fractions: paper and cardboard, plastics, glass, metals, wood, as well as smaller streams such as textiles and WEEE. The growth has been driven by the expansion of collection infrastructure, which in turn has been driven by regulatory pressure and financial incentives. In Italy, the most significant financial support scheme for the waste sector is the National Recovery and Resilience Plan (PNRR). The PNRR continues to co-finance the construction and modernisation of waste treatment facilities across Italy, with a particular focus on closing the infrastructure gap between North and South.

Overall, Italy collected around […] kg dry recyclables per capita in 2024, thereof [...] kg paper & cardboard, […] kg glass, […] kg plastics, […] kg wood, […] kg metals, […] kg WEEE and […] kg textiles. These figures are generally above average in EU comparison, reflecting both Italy's high packaging consumption as well as comprehensive collection systems. […]

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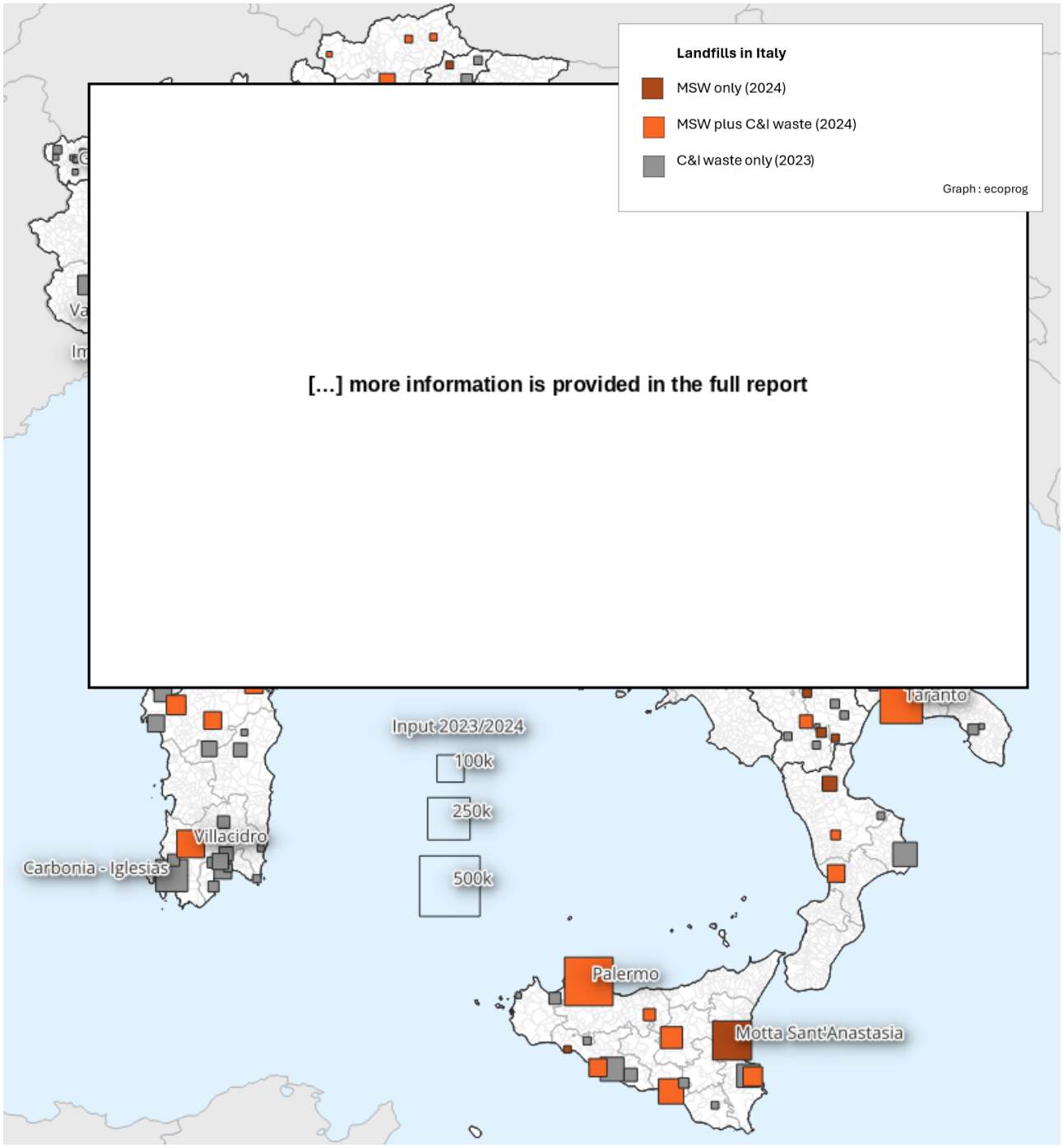
Figure 50: Landfills with waste input in 2023/2024



Note: For better visibility, only plants with input ≥ 100 kt were labelled

[…]

8.1 National projection

Reference Scenario

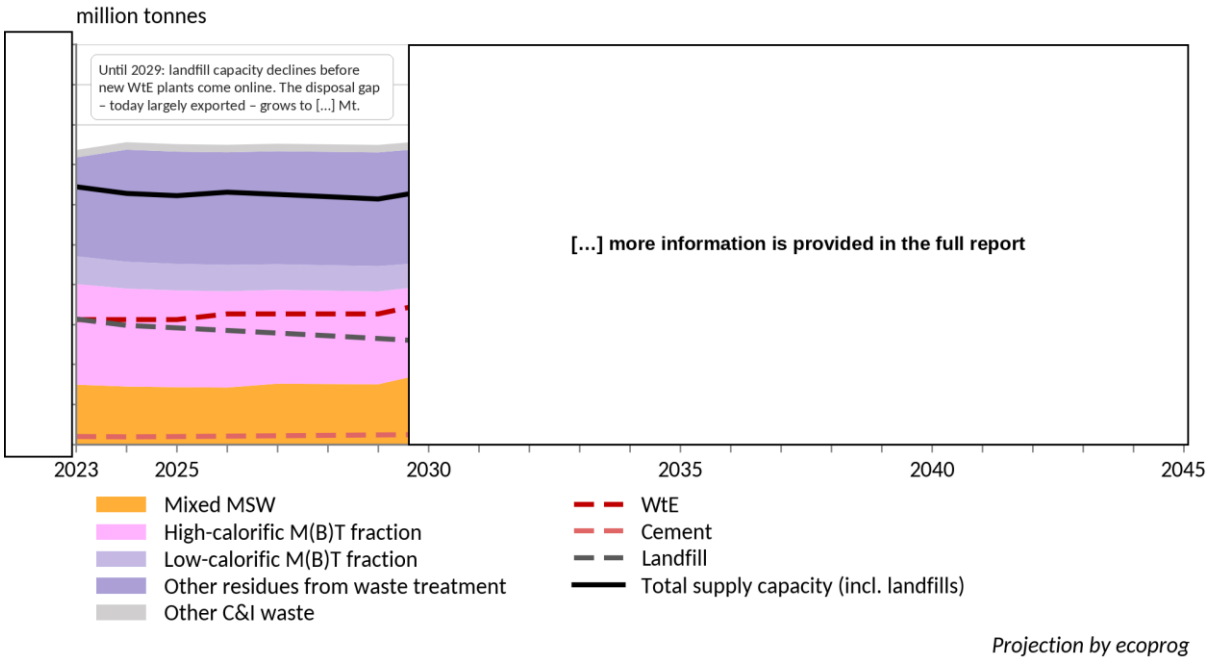
In the Reference Scenario, overall waste volumes increase from […] in 2023 to […] in 2040, and then remain at this level until 2045. This is mainly because waste intensity is assumed to return to its pre-crisis growth trend, slowing down only gradually due to the effects of legislation around waste reduction (most notably, the PPWR). This increase outweighs the effect of population decline, which drives down waste volumes throughout the entire projection period.[1]

Overall, mixed residual waste streams experience a decline in contrast to separately collected waste streams. This is because of the ongoing diversion of wastes into separate collection. Combined, mixed MSW and the M(B)T outputs decline from […] in 2023 to […] in 2045, a reduction of […]. Separately collected streams grow over the same period, from […] in 2023 to […] in 2045. Sorting residues and other residues from waste treatment are driven by the growth in separate collection of dry recyclables and thus they grow from […] in 2023 to […] in 2045.

Exported volumes are not shown as a separate category but are included in the respective waste streams: exported RDF in the high-calorific M(B)T fraction and exported sorting residues in the other residues from waste treatment. Like the domestic streams, they follow the domestic market drivers. As a result, they decline only slightly, from […] in 2023 to around […] in 2045. The volumes that cannot be treated domestically are shown by the disposal gap, i.e. the part of demand that exceeds domestic supply capacity (see Figure 62).

[…]

Figure 61: Projection of the Italian TWT market, Reference Scenario



[…]

[1] Note that this excludes large volumes of other C&I wastes that were deemed irrelevant for the thermal waste treatment market in Italy and therefore excluded from the model.

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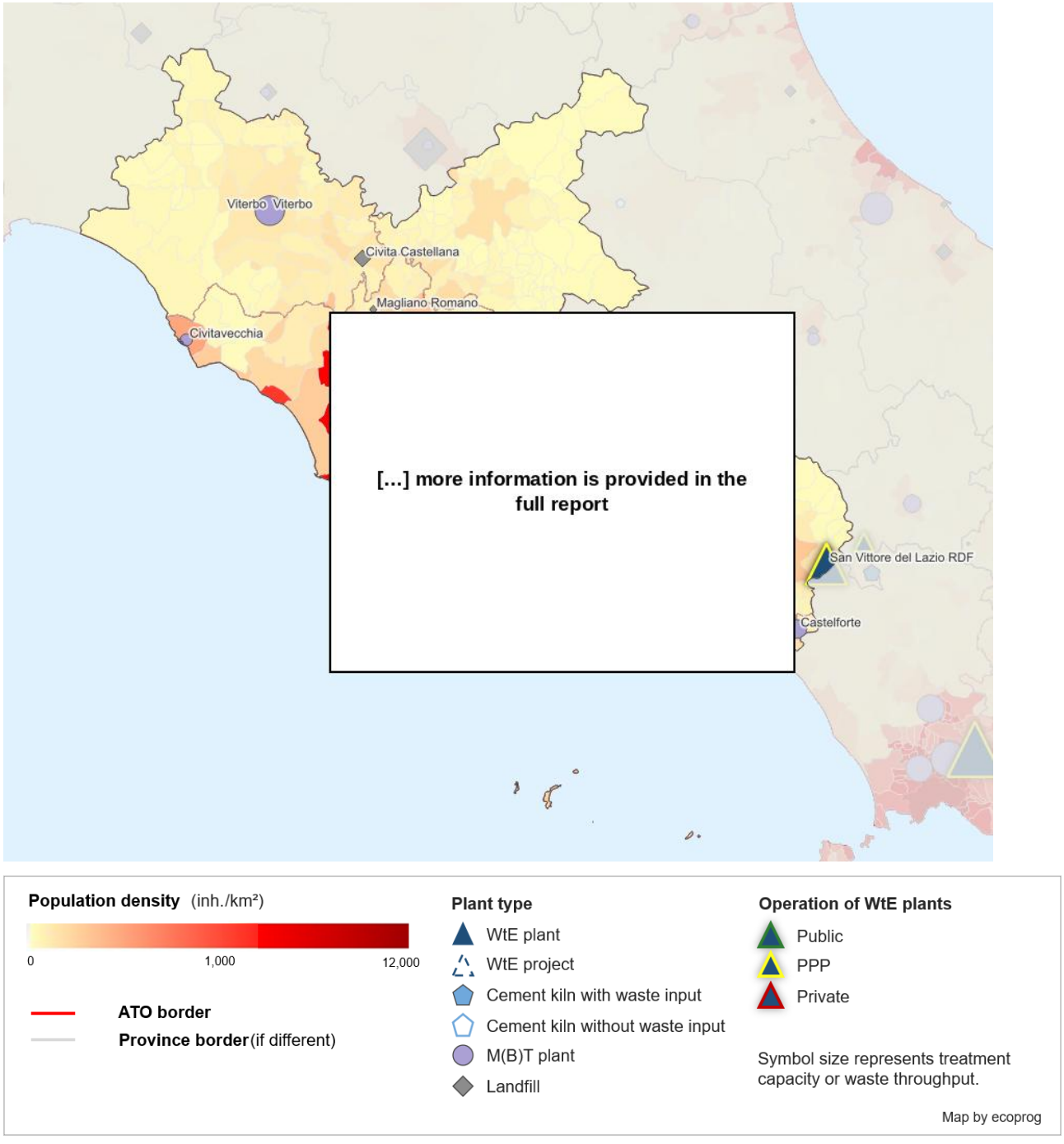
10.9 Lazio

Population [thousand]	5,709	MSW, M(B)T [kt/a]	1,336
MSW generated [kt/a]	2,916	MSW, thermal treatment [kt/a]	290
of which mixed MSW [kt/a]	1,276	MSW, landfill [kt/a]	164

Figure 122: Lazio, overview



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Background

Lazio has a population of about 5.7 million, making it the second most populous region in Italy after Lombardy. The region is dominated by its capital, Rome, with around 2.8 million inhabitants. The next largest cities, Latina and Guidonia Montecelio, have around 125,000 and 90,000 inhabitants respectively.

[…]

Figure 123: Lazio, ATOs

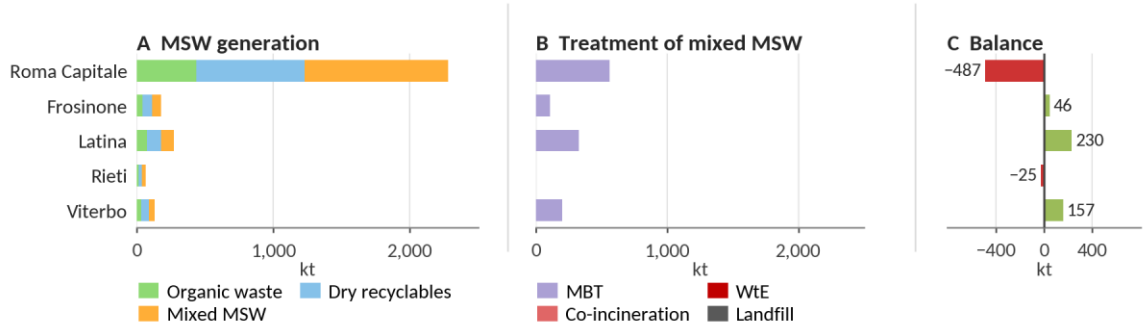
#	Name	Population	Area [km²]	Inh./km²
1	ATO Città metropolitana di Roma Capitale	4,222,648	5,367	787
2	ATO Frosinone	462,661	3,247	142
3	ATO Latina	566,698	2,258	251
4	ATO Rieti	149,766	2,750	54
5	ATO Viterbo	307,405	3,615	85

ATO structure, regional plans

On 22 April 2026, the Lazio Regional Government (Giunta Regionale) adopted a new Regional Waste Management Plan (PRGR Lazio 2026 to 2031), which is intended to replace the 2021 to 2026 framework.

[…]

Figure 124: Lazio, primary treatment of MSW



A: MSW generation by fraction. B: untreated mixed MSW treated in plants within the ATO. C: mixed MSW treated in the ATO minus mixed MSW generated; negative values indicate treatment outside the ATO. Data for 2024. Source: ISPRA

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Current treatment and infrastructure

Primary residual waste treatment in Lazio completely depends on M(B)T technology. In 2024, in Lazio, mixed MSW amounted to […]. According to the waste statistic, in 12 M(B)T facilities in the region […] of untreated MSW were treated.

[…]

Competition

The municipality of Rome is a major player in waste management in the region. Via the multi-utility Acea S.p.A., in which it holds 51%, the city is engaged in the operation of the WtE facility in San Vittore del Lazio. Via its waste company AMA, the city also owns and operates the Rocca Cencia M(B)T plant. However, as a result of past problems with M(B)T facilities and landfills the city has lost relevant infrastructure.

[…]

Future development

According to the Regional Waste Management Plan (PRGR 2026-2031), Lazio's future MSW strategy is based on increasing separate collection and recycling, achieving greater regional self-sufficiency in waste treatment, reducing reliance on landfill disposal, and completing a regional treatment network centred on Rome's new waste management infrastructure.

[…]

Figure 126: Lazio, known projects for mixed MSW

#	Name	Type	Status	kt/a	Start	Developer
1	San Vittore, 4th line	WtE	under construction	[…]	[…]	[…]
2	Santa Palomba	WtE	under construction	[…]	[…]	[…]

[…]

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