

VALDEMINGÓMEZ TECHNOLOGY PARK

2025

Annual report *Executive Summary*



Valdemingómez Technology Park (VTP), located in the southeastern region of Madrid, is a distinguished technological hub encompassing a range of waste management facilities administered by the City Council of Madrid (Ayuntamiento de Madrid).

Within these state-of-the-art facilities, waste materials undergo various advanced processes, including sorting and resource recovery. These processes also include the production of biogas via anaerobic digestion of organic matter (biomethanation), the upgrading and injection of biomethane into the Spanish gas transport grid, and the production of compost and biostabilized materials.

Non-recoverable fractions are transformed into electricity at Las Lomas treatment plant, or they are sent to Las Dehesas controlled landfill, also situated within the Technology Park enclosure. Biogas obtained by forced degasification of both Valdemingómez operating and non-operating landfills is subjected to energy recovery.

Finally, the digestate resulting from the selectively collected organic matter subjected to anaerobic digestion is sent to the new composting plant "Los Cantiles" to produce high-quality compost.

Valdemingómez Technology Park receives 3,448 tons of waste per day, managed in nine large industrial facilities operating 24/7, every day of the year:

- Two waste sorting and treatment plants: "La Paloma" (nº 8) and "Las Dehesas" (nº 2).
- Two anaerobic digestion plants: "Bio Las Dehesas" (nº 3) and "Bio La Paloma" (nº 8), where the organic fraction of municipal waste is managed to produce biogas.
- A biogas treatment plant (PTB, nº 6), where biogas is upgraded and transformed into biomethane for injection into the national gas grid.
- A waste sorting and energy recovery plant, "Las Lomas" (nº 1), which produces electricity from the waste treatment rejects after sorting and recovery (mixed waste).
- A degasification and energy recovery plant, "La Galiana" (nº 9), managing the biogas obtained from the Valdemingómez non-operating landfill, as well as part of the biogas produced in the anaerobic digestion plants.
- An automated composting facility, "Los Cantiles" (nº 7), in operation since the end of 2024.
- An operating landfill, next to "Las Dehesas" plant (nº 4).



Valdemingómez Technology Park map

There are also other facilities for municipal offices and environmental education activities (Visitors Centre, nº 5).

Waste management in these facilities is carried out through public service management contracts, one for each waste treatment plant. Due to their environmental relevance, these industrial facilities are subject to numerous internal and external controls and are continuously monitored to ensure compliance with strict environmental standards according to European, national, and regional legislation related to the environment and waste management.

The monitoring and supervision of these facilities are conducted by the City Council of Madrid in collaboration with companies specialized in quality and environmental control, responsible for verifying that these activities comply with contractual terms and current regulatory requirements.

WASTE TREATMENT IN VALDEMINGÓMEZ TECHNOLOGY PARK

Waste treatment has three main objectives:

- Recovery of recyclable materials, which are delivered to authorized recyclers for reuse in the production cycle.
- Energy recovery, which exploits the energy contained in the rejects resulting from treatment, and
- The treatment of organic matter used either for biomethanation to produce biogas or composting to obtain compost or biostabilized material.

A. Treated Waste

During 2025, a total of 1,258,611 tons of domestic waste was treated at Valdemingómez Technology Park, 1.8 % more than in 2024, mainly due to the socioeconomic situation and to the raise of population in the City of Madrid (According to the [Municipal Population Register 2025](#) the population increased in 1.9%).

The fraction that has increased the most in percentage terms in 2025 has been the yellow bin (plastics, metals, and cartons), which grew by 5% (from 131,612 t in 2024 to 138,063 t in 2025). In this fraction, since 2024, the yellow container has been opened to plastic materials, metals, and cartons (whether they are packaging or not).

Biowaste collected separately in the brown bin continues to increase; in 2025 it rose by 1.5% compared to the previous year (from 317,835 t to 322,663 t). However, the growth rate of this fraction has decreased compared to previous years, suggesting that the annual amounts of Biowaste collected may be showing signs of stabilization.

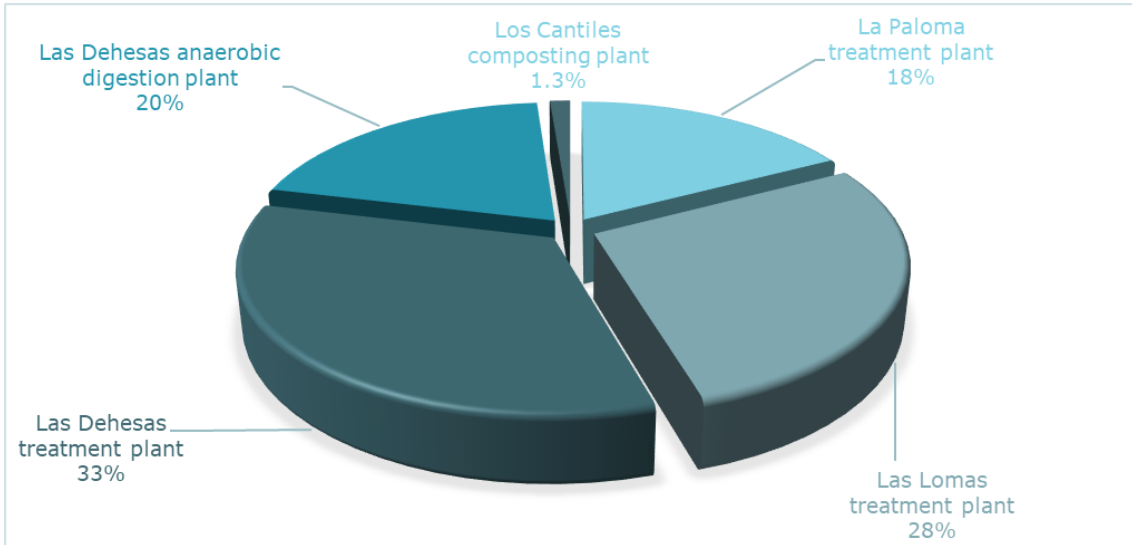
The mixed waste fraction increased by 1% compared to the previous year, approximately one percentage point below the population growth rate of 1.9%.

Total waste sent to landfill decreased by 1.6% (576,975 t in 2025 compared to 586,523 t in 2024). Rejects from PTV treatment plants decreased by 3.7% (476,886 t in 2025 versus 495,056 t in 2024). However, direct landfilling amounted to 100,090 t, representing an increase of 8,623 t compared to the previous year. This increase is due to the higher inflow of screening waste and storm tank cleaning residues from Madrid's wastewater treatment plants, associated with the high rainfall in 2025, which was one of the wettest years on record.

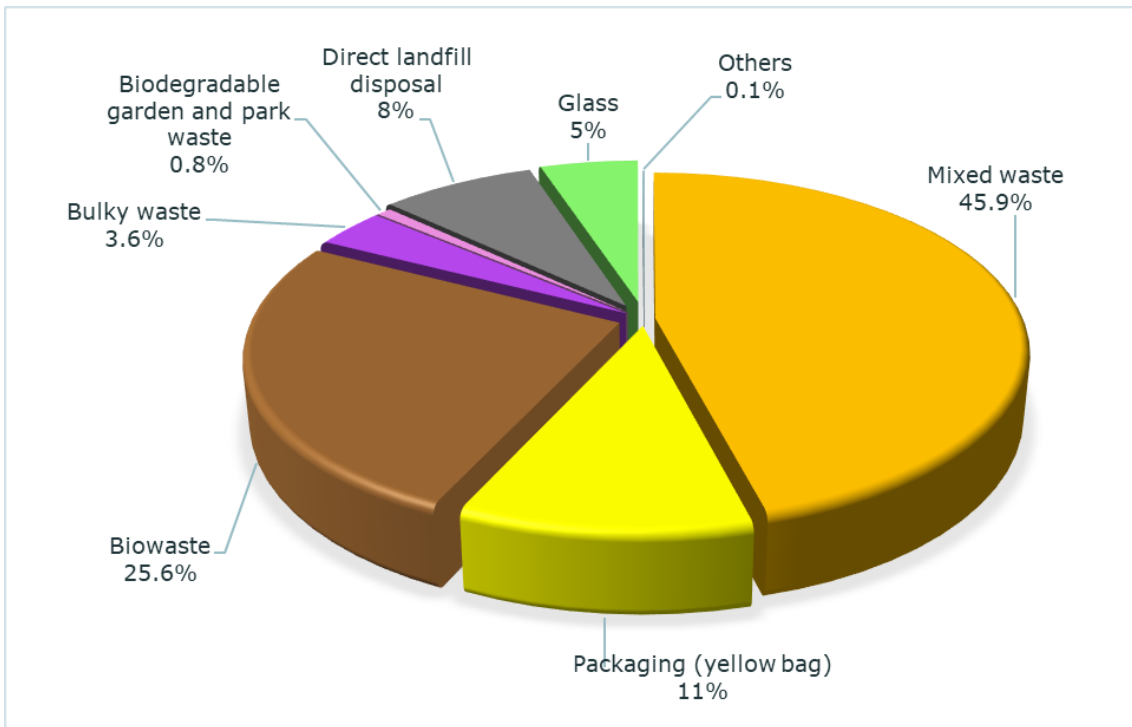


WASTE INPUT TO VALDEMINGÓMEZ TECHNOLOGY PARK BY FRACTION AND PLANT (2025)							
TREATMENT	FRACTION	LA PALOMA	LAS LOMAS	LAS DEHESAS	BIO LAS DEHESAS	LOS CANTILES	TOTAL
MIXED WASTE fraction	Mixed waste bag	110,833	281,490	88,950			481,274
	Cleaning	1	69,084	5,897			74,982
	Commercial activity	7	2,563	18,201			20,771
	Other	-	36	645		316	996
	Subtotal	110,841	353,173	113,693	-	316	578,024
PACKAGING Plastic, metal, carton fraction	Packaging bag	41,492		94,978			136,470
	Cleaning			344			344
	Commercial activity			966			966
	Other			-		284	284
	Subtotal	41,492	-	96,288	-	284	138,063
BIOWASTE fraction	Biowaste bag	65,519			235,105		300,624
	Commercial activity	375			16,030	5,153	21,558
	Other				-	480	480
	Subtotal	65,894	-	-	251,135	5,634	322,663
Bulky waste treatment	Bring-in collection points			14,103			14,103
	Cleaning			30,180			30,180
	Commercial activity			271			271
	Other			1,353			1,353
	Subtotal			45,908			45,908
Dead animals	Subtotal			94			94
Biodegradable garden and park waste	Subtotal			58	194	9,380	9,633
Waste to energy recovery	Subtotal		582				582
Direct landfill disposal	Mixed waste			3,955			3,955
	Packaging			8			8
	Garden and park cleaning			16,842			16,842
	Bulky waste			16			16
	Street cleaning			10,852			10,852
	Commercial activity			68,158			68,158
	Other			259			259
	Subtotal			100,090			100,090
Glass transfer station	Glass			62,479			62,479
	Commercial activity			925		80	1,005
	Subtotal			63,404		80	63,484
Paper/ Cardboard characterizations	Subtotal					71	71
TOTAL ENTRIES		218,227	353,755	419,535	251,329	15,765	1,258,611

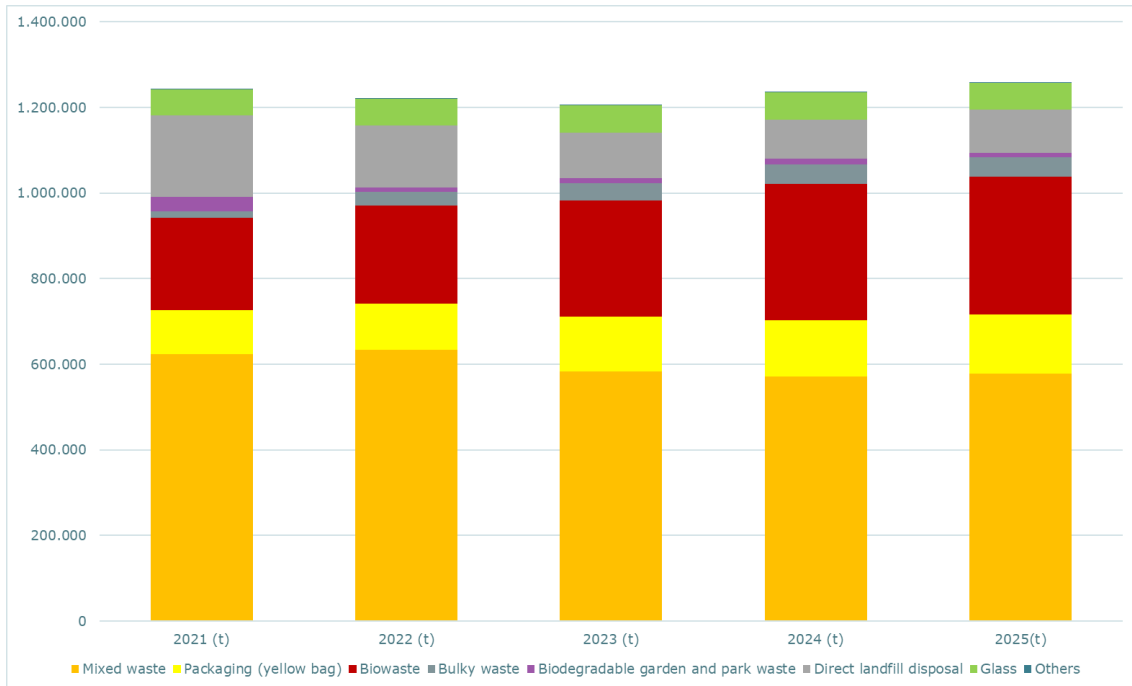
Treated waste destination in Valdemingómez Technology Park (2025, in tonnes)



Waste input distribution in the Valdemingómez Technology Park, per plant (2025)



Waste input distribution in the Valdemingómez Technology Park, per fractions (2025)



	2021 (t)	2022 (t)	2023 (t)	2024 (t)	2025 (t)
Mixed waste	624,172	633,590	584,029	572,179	578,024
Packaging (yellow bag)	103,009	108,804	127,335	131,612	138,063
Biowaste	215,485	228,496	271,575	317,835	322,663
Bulky waste	15,592	31,571	39,723	45,452	45,908
Biodegradable garden and park waste	33,641	10,241	11,658	13,136	9,633
Direct landfill disposal	189,625	145,039	107,490	91,467	100,090
Glass	60,399	63,183	64,081	63,924	63,484
Others	1,270	636	680	508	748
TOTAL	1,243,192	1,221,559	1,206,573	1,236,114	1,258,611

Input flow evolution in the Valdemingómez Technology Park (2021-2025, in tonnes)

Analysing the 2021-2025 evolution of waste fractions generated in the City of Madrid (excluding waste treated at Valdemingómez Technology Park from other municipalities), there has been a reduction in the mixed waste fraction and an increase in the biowaste and packaging fractions.

It is remarkably that direct landfill disposal has decreased by approximately 101.255 t since 2020, related to the implementation of various municipal measures in waste collection and treatment. These include operational measures in the different plants of the Technology Park and improvements in new contracts for waste collection, street cleaning, and green area services, allowing for better separation of different fractions at the source before treatment.

B. Recovery of Recyclable Materials

Plastic, metal, carton, paper-cardboard and glass

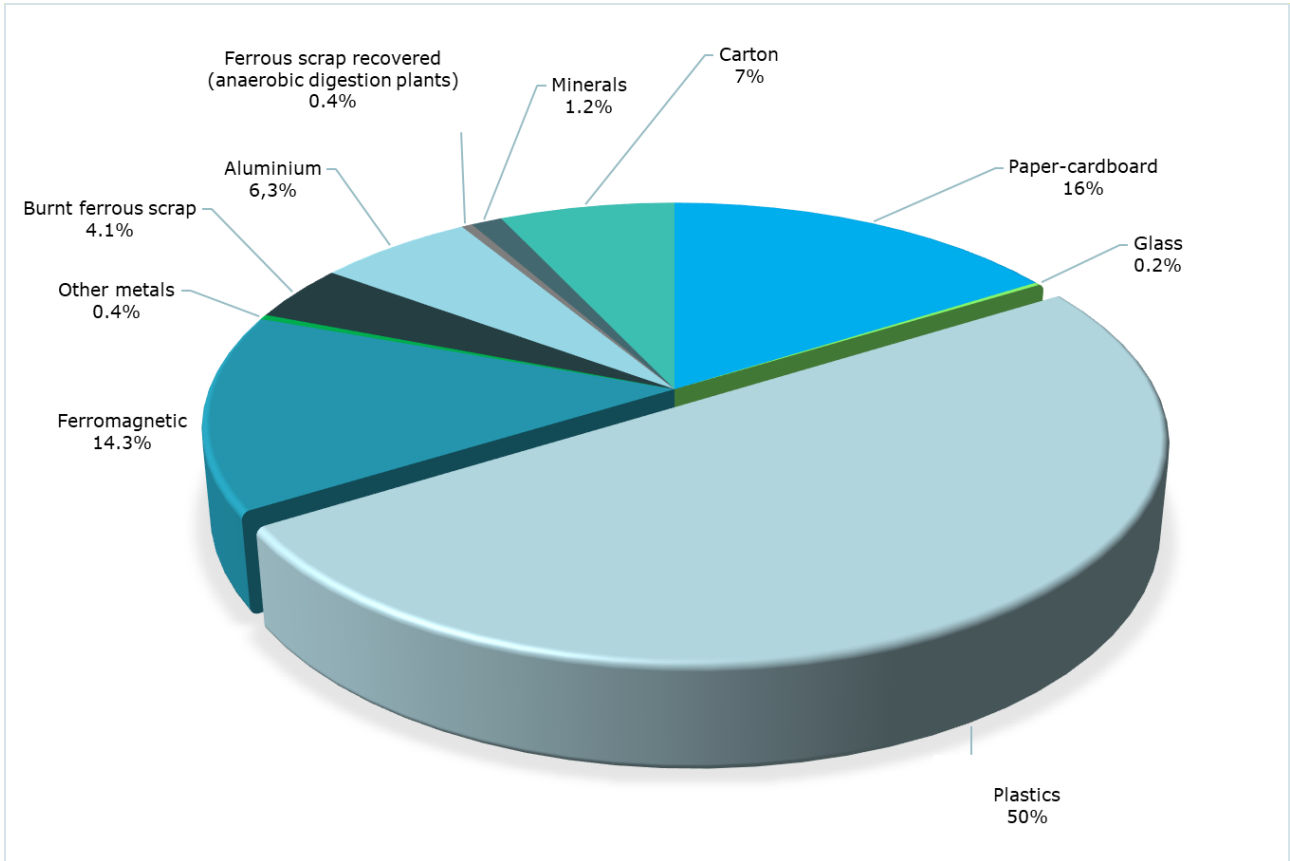
Once treated, 79,750 tonnes of recyclable materials were recovered in 2025, a 6.3 % increase from 2024.

RECOVERED RECYCLABLE MATERIALS	YEAR				
	2021	2022	2023	2024	2025
Paper-cardboard (recovered in plant)	11,416	10,858	9,793	13,675	12,757
Glass (recovered in plant)	306	223	220	215	172
Plastics	31,431	32,403	35,440	36,446	39,896
Ferromagnetic	12,131	11,546	10,836	10,919	11,436
Other metals (no packaging)	608	662	465	488	286
Burnt ferrous scrap	5,254	5,802	12,052	3,961	3,284
Aluminium	2,762	3,015	3,252	4,494	4,988
Ferrous scrap recovered (Anaerobic digestion plants)	296	349	401	309	343
Carton	3,513	3,387	4,831	4,540	5,594
Minerals	0	0	0	0	996
TOTAL	67,715	68,246	77,289	75,048	79,750

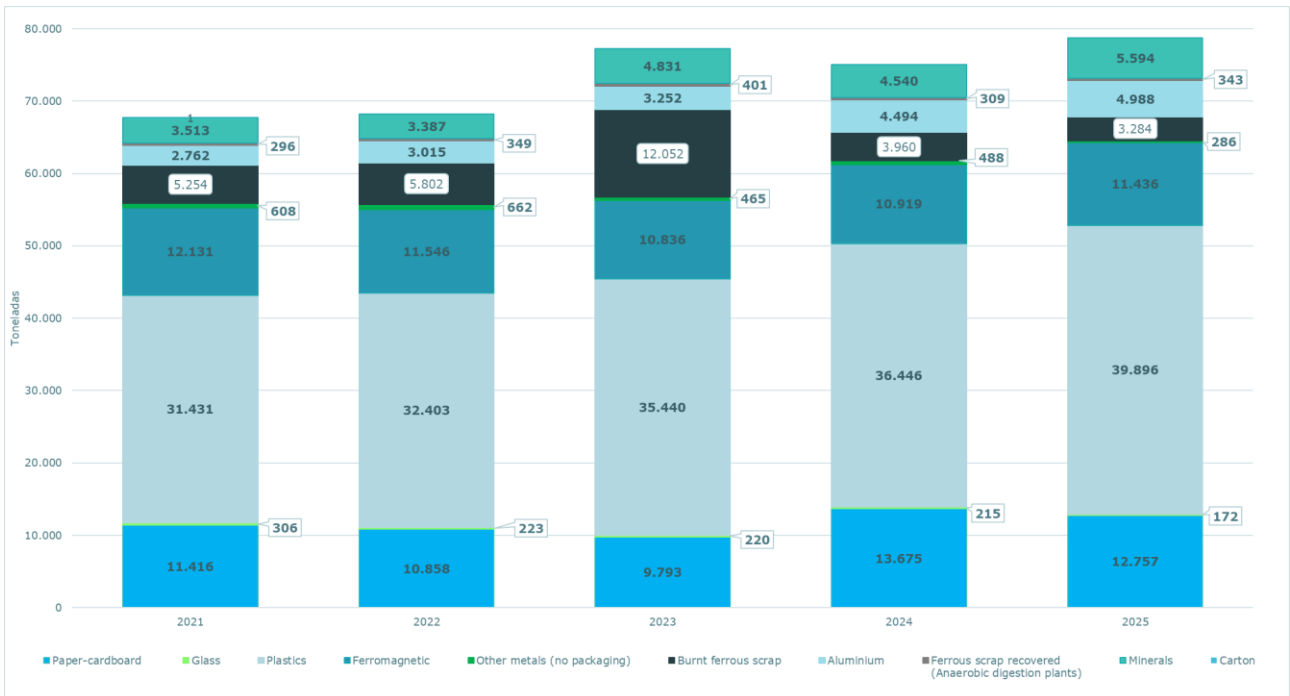
Recovered materials in Valdemingómez Technology Park (2021-2025, in tonnes)



Recovered aluminium bales



Recovery percentage for each material with respect to total recovery (2025)



Recovered materials in the Valdemingómez Technology Park, in tonnes (2021-2025, in tonnes)

Production of biostabilized material and compost

From the organic matter in household waste, two types of materials are obtained: compost (from selective collection at source, OFSC¹) and biostabilized material (from other fractions). These materials can be used as soil structuring agents or fertilizers due to their physicochemical characteristics. In 2025, the management of organic matter resulted in 31,373 tonnes of biostabilized material and compost, with 16,927 tonnes coming from separately collected organic matter.

There has been a significant increase in the production of biostabilized material and compost in 2025, related to the commissioning of the Los Cantiles composting plant and the new operating contract for the La Paloma plant.

PRODUCTOS OBTENIDOS A PARTIR DE LA MATERIA ORGÁNICA	YEAR				
	2021	2022	2023	2024	2025
Biostabilized material	6.734	6.630	6.114	3.276	14.446
Compost from separately collected organic matter	6.674	6.192	4.556	3.943	16.927
TOTAL	13.409	12.822	10.670	7.219	31.373

Recovered products from organic matter (2021-2025, in tonnes)

¹ OFSC: Organic Fraction from Selective Collection

C. Waste Energy Recovery

In 2025, energy recovery from the separation and classification process rejects, as well as the biogas generated from both operating and non-operating landfills, provided 228,471 MWh of electricity, enough to supply approximately 71,397 households for one year (average annual consumption per household of 3.2 MWh). Of the total electricity generated, 69,719 MWh (30.5 %) was used for self-consumption within the facilities, and the remaining 158,752 MWh (69.5 %) was exported to the electricity grid.

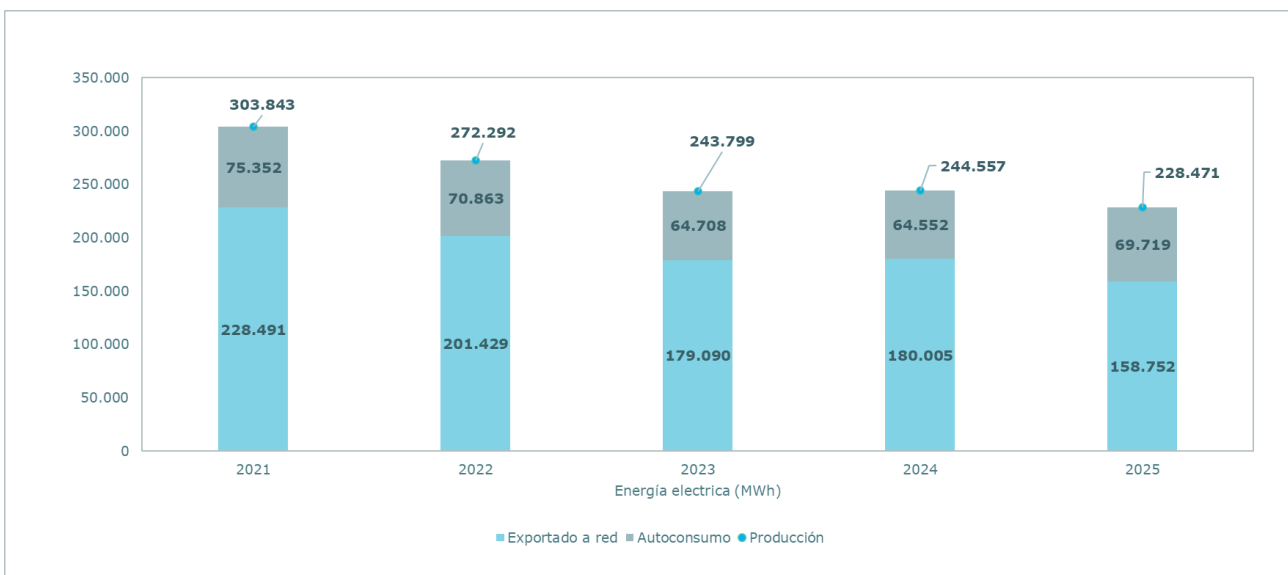
The biogas treatment plant injected 14,487,494 Nm³ of biomethane into the gas grid, equivalent to 156,150 MWh of thermal energy, 0.4 % less than in 2024. This amount of biomethane could supply more than 30,636 households (average annual gas consumption per household of 5.097 MWh) or 480 buses of the Municipal Transport Company (Empresa Municipal de Transportes).

ENERGY BALANCE OF THE VALDEMINGÓMEZ TECHNOLOGY PARK	YEAR				
	2021	2022	2023	2024	2025
Electrical energy produced (MWh)	303,843	272,292	243,799	244,557	228,471
Thermal energy produced (MWh)	98,333	139,651	155,673	156,821	156,150

Biogas production in the Valdemingómez Technology Park (2021-2025)

The waste management activities at Valdemingómez Technology Park contribute to the Circular Economy by reintroducing materials into the market and providing numerous environmental benefits, including:

- Saving natural resources through material recovery.
- Reducing the volume of waste sent to landfills by producing electricity and biogas.
- Reducing greenhouse gas emissions by substituting emissions from other energy sources (e.g., fossil fuels) with renewable energy/biomethane.



Production and destination of the electrical energy in the Valdemingómez Technology Park (2021-2025, in MWh)

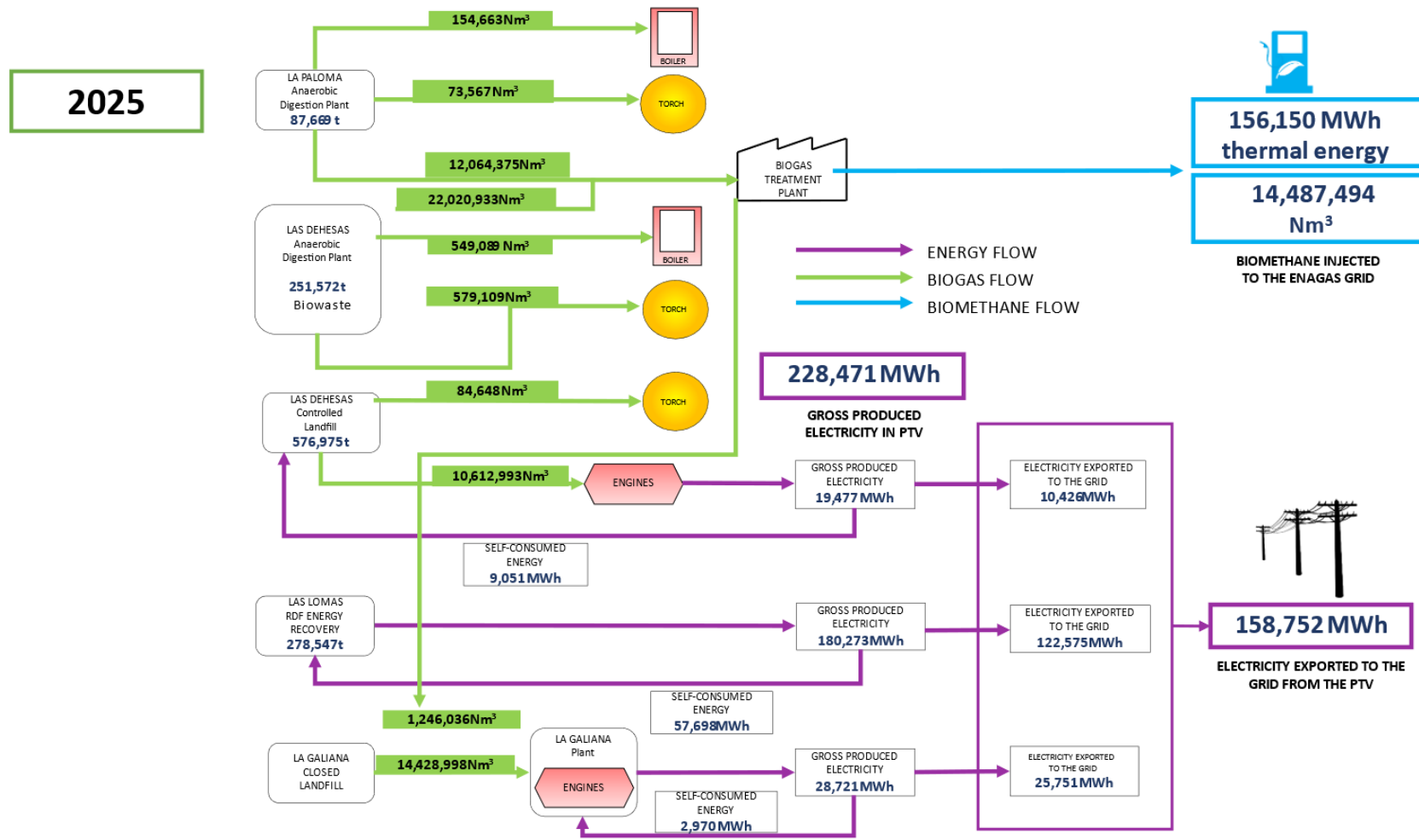
D. Tonnes of avoided emissions of CO₂

Thanks to the replacement of fossil fuels by biomethane and electricity generated from waste in the VTP, an estimated emission saving of 114,974 tonnes of CO₂ equivalent has been achieved in 2025:

- 75,624 tonnes of CO₂ equivalent according to electrical energy produced from renewable sources generated in the VTP, and
- 39,350 tonnes of CO₂ equivalent according to biomethane produced from renewable sources injected to the grid.

	MWh/year	t/CO₂ avoided	Notas
Electrical energy produced	228,471	75,624	CO ₂ avoided (conversion factor 0.331 kg CO ₂ /kWh)
Thermal energy, biomethane injected to the grid	156,150	39,350	CO ₂ avoided (conversion factor 0.252 kg CO ₂ /kWh)
TOTAL		114,974	

Tonnes of avoided emissions CO₂ (2025)

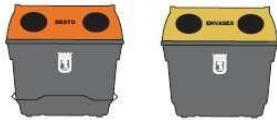


Main biogas and energy flows of the Valdeingómez Technology Park (2025)

2025



FERTILISER AND SOIL AMENDMENT PRODUCTION: COMPOST + BIOSTABILIZED: 31,373 t



RECOVERY OF RECYCLABLE MATERIALS: 79,750 t (CARTONS, CANES, CB, GLASS) + 63,484 t (S.C. GLASS*)

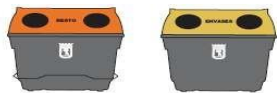
*Separate Collected Glass



+30,636 Home (gas)

+ 480 Buses EMT

BIOFUELS PRODUCTION: 35,441,736Nm³ BIOGAS y 156,150 MWht BIOMETHANE



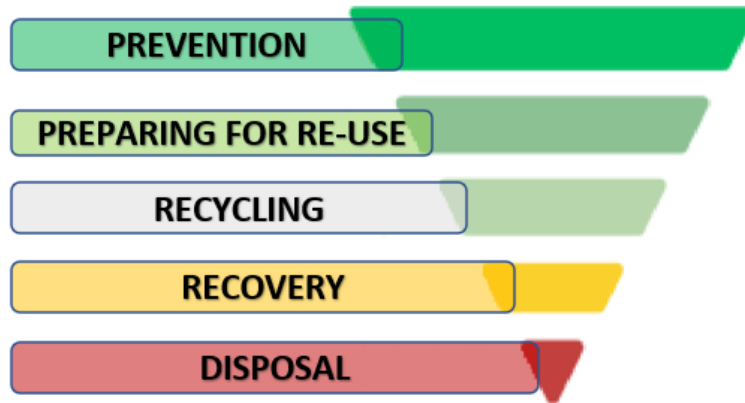
+ 71,397 Home (electricity)

ELECTRICITY PRODUCTION: 228,471 MWh

Main work lines of the Valdemingómez Technology Park for Circular Economy (2025)

E. Compliance with Recycling and Landfill Targets in the City of Madrid

The waste hierarchy defines the order of priorities in national and European waste management legislation: (a) prevention; (b) preparation for reuse; (c) recycling; (d) other types of recovery (e.g., energy recovery); and (e) disposal. The goal is to maximize resource utilization and move towards a circular economic model that prolongs resource use in the production cycle.



European and national legislation set ambitious waste management targets: by 2035, 65% of municipal waste must be recycled and only a maximum of 10% of this waste can be disposed in landfill.

The following intermediate objectives has been established:

BALANCE ENERGÉTICO DEL PTV	YEAR			
	2020	2025	2030	2035
Municipal waste management for recycling and reuse (%)	50	55	60	65
Municipal waste direct disposal in landfill (%)		<40	<20	<10

In 2025 the status of compliance with the main waste management targets of the City of Madrid is as follows: 1,393,537 tonnes of waste were collected; of these, 1,258,611 tonnes were treated at the Valdemingómez Technology Park (VTP), and 134,926 tonnes were managed through the municipal collection service and delivered directly to authorised waste managers, including separately collected batteries, waste electrical and electronic equipment (WEEE), paper and cardboard, vegetable oil, textiles, construction and demolition waste (CDW), or municipal bring-in collection points. Green waste composed of refuse from gardens and green areas is collected by municipal services, and a large portion is treated at Migas Calientes, a municipal composting plant situated out of the VTP.

In addition to the municipal-managed waste, it should be noted that there is commercial waste similar to household waste that is managed directly by private waste managers outside the municipal system. When assessing compliance with regulatory targets for municipal waste management, the total volume of household and commercial waste —whether managed through public or private systems— must be considered.

The city of Madrid has fulfilled the following objectives in 2025:

DOMESTIC AND COMMERCIAL WASTE MANAGED IN THE PTV		DOMESTIC AND COMMERCIAL WASTE MANAGED BY THE CITY COUNCIL OF MADRID		DOMESTIC AND COMMERCIAL WASTE MANAGED BY THE CITY COUNCIL OF MADRID AND COMMERCIAL WASTE MANAGED BY PRIVATE OPERATORS	
% PREPARING FOR RE-USE AND THE RECYCLING	33%	% PREPARING FOR RE-USE AND THE RECYCLING	39%	% PREPARING FOR RE-USE AND THE RECYCLING	54%
% ENERGY RECOVERY	23%	% ENERGY RECOVERY	20%	% ENERGY RECOVERY	15%
% LANDFILL DISPOSAL	45%	% LANDFILL DISPOSAL	40%	% LANDFILL DISPOSAL	31%

Calculations are made based on the "black box" model, i.e. the total amount of waste managed annually is divided into 3 categories: waste that has been disposed in landfill (Las Dehesas landfill), waste that has been sent to energy recovery (Las Lomas plant) and managed waste for recycling and reuse.

When calculating the level of compliance with targets, waste from waste water treatment plants is not taken into account (22,335.86 tonnes in 2025, originating from Canal de Isabel II and sent to landfill), in accordance with the definition of municipal waste set out in Law 7/2022, which states that "*municipal waste does not include waste from production, agriculture, forestry, fishing, septic tanks, and sewerage networks and waste water treatment plants, including sewage sludge, end-of-life vehicles, or construction and demolition waste.*"

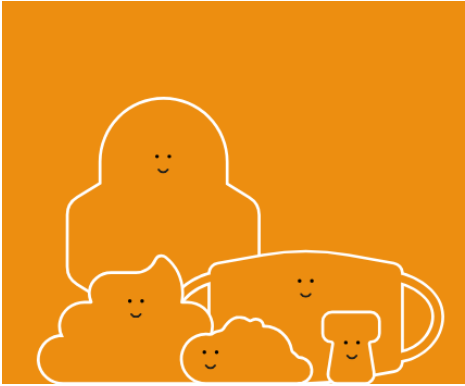
In 2025, the rate of preparation for reuse and recycling was 39% when considering only municipal waste managed through the municipal collection and treatment system. This figure is estimated to rise to around 54% when including commercial waste similar to household waste that is managed directly by private waste managers outside the municipal system. It is therefore very close to the 55% target set for the year 2025.

The landfilling rate has been progressively decreasing. In 2025, it stood at 40% when only waste managed through the municipal system is considered, and at around 31% according to estimates that also include commercial waste similar to household waste managed through private channels. Therefore, the intermediate target set for 2025 of not exceeding a 40% landfilling rate would be met.

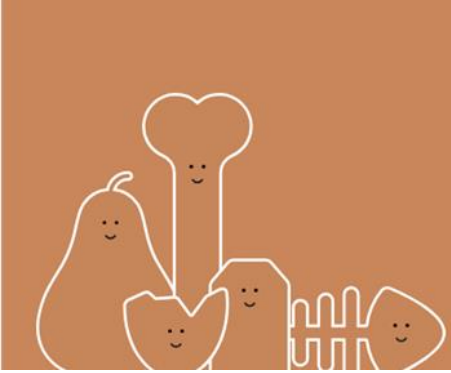
F. Traceability of the Final Treatment of Domestic Waste at Valdemingómez Technology Park

Based on production data for the year 2025, which includes plant balances and information on the processes applied to each waste fraction managed by the Madrid City Council, the treatment and ultimate recovery of various waste types, categorized by fractions, are outlined below:

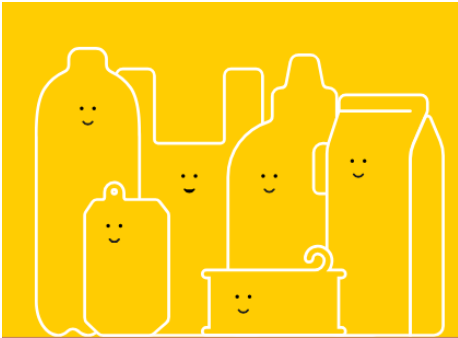
Mixed Waste Fraction (non-recyclables): non-selective mixing of municipal waste (LER 20 03 01)

	42%	Deposit in landfill of non-valuable fraction: D0502. Deposit in non-hazardous waste landfills.
	44%	Reject energy recovery in Las Lomas plant. R0101. Main use as fuel in waste incineration facilities (combustion).
	14%	Management for recycling and reuse. Treatment in separation and sorting plants. R12. Exchange of wastes for submission to any of the operations numbered R1 to R11.

Separately Collected Organic Fraction: organic biowaste (LER 20 01 08)

	43%	Deposit in landfill of non-valuable fraction: D0502. Deposit in non-hazardous waste landfills.
	4%	Energy recovery.
	53%	<p>Management for recycling and reuse. Management in Las Dehesas anaerobic digestion plant, Los Cantiles composting plant and La Paloma treatment plant.</p> <ul style="list-style-type: none"> • R12. Exchange of wastes for submission to any of the operations numbered R1 to R11. • R0302. Anaerobic digestion. Treatment of digestate at the composting plant (La Paloma) • R0301 Composting.

Plastics, Metals and Carton Fraction: yellow container (LER 15 01 06)

	39%	Deposit in landfill of non-valuable fraction: D0502. Deposit in non-hazardous waste landfills.
	8%	Energy recovery.
	53%	Management for recycling and reuse. Treatment in separation and sorting plants (yellow bag). R12. Exchange of wastes for submission to any of the operations numbered R1 to R11. (including pretreatment for recovery).

Separately Collected Glass (LER 15 01 07)

	100%	Management for recycling and reuse. Storage in glass transfer plant (Las Dehesas). R1301. Waste storage, in the scope of collection.
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Biodegradable Garden and Park Waste (LER 20 02 01)

100%	Management for recycling and reuse. R12. Exchange of wastes for submission to any of the operations numbered R1 to R11 (including pretreatment for recovery).
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Bulky Waste (LER 20 03 07)

96%	Deposit in landfill.
4%	Management for recycling and reuse. D13. Blending or mixing prior to submission to any of the operations numbered D1 to D12

ENVIRONMENTAL EDUCATION

The Environmental Education program conducted at the Valdemingómez Technology Park provides a comprehensive view of the industrial processes currently employed in waste management. This unique facility, both technically and educationally, is dedicated to fostering environmental awareness among citizens through training and informative activities centred on waste management and treatment and recycling.

Programmed activities tailored to different demographic groups, offering customised visits. These visits offer insights into the technical, economic, and human resources required daily to ensure that the waste generated by a large city like Madrid undergoes the necessary treatment in accordance with environmental protection and legislation.

For more information on these visits and educational resources, please visit the following:

[Visitas al Parque Tecnológico de Valdemingómez](#)

[Programa de Educación Ambiental "Hazlo Circular"](#)

In 2025 a total of 4,925 visitors coming from Spain and other countries were received: 4,760 visited the Valdemingomez Technology Park facilities and 165 visited the Centre for Innovation in Circular Economy.



Visits and educational activities performed in the Valdemingomez Technology Park and the Centre for Innovation in Circular Economy facilities