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From waste to returns: Organic waste platforms are gaining traction with PE and strategic investors

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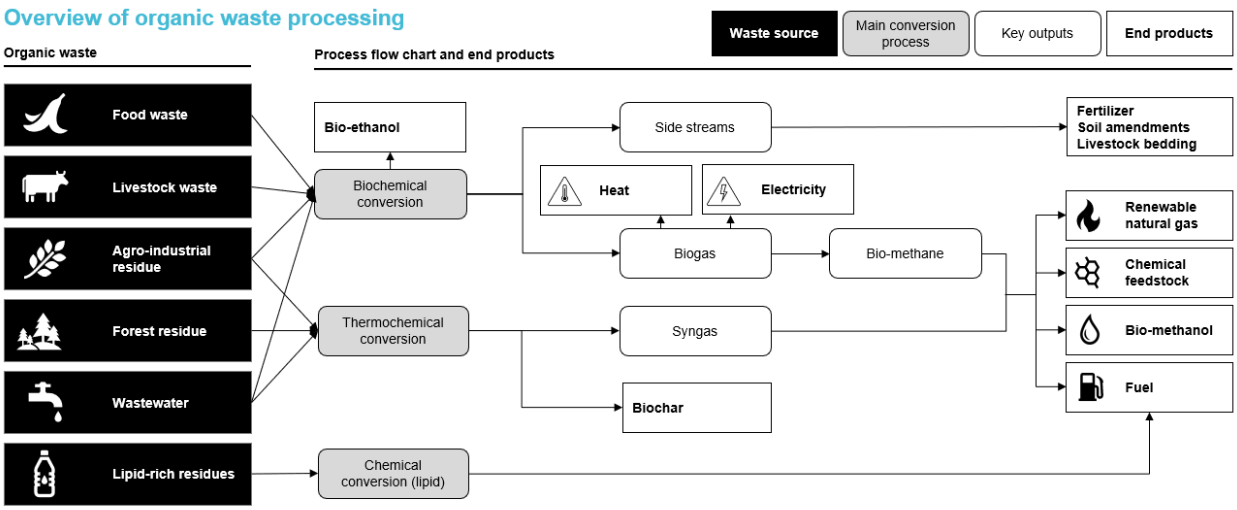
Organic waste is attracting PE and strategic capital as a circular platform, but scaling returns depends on navigating feedstock risk, mandate-led demand, and platform flexibility.

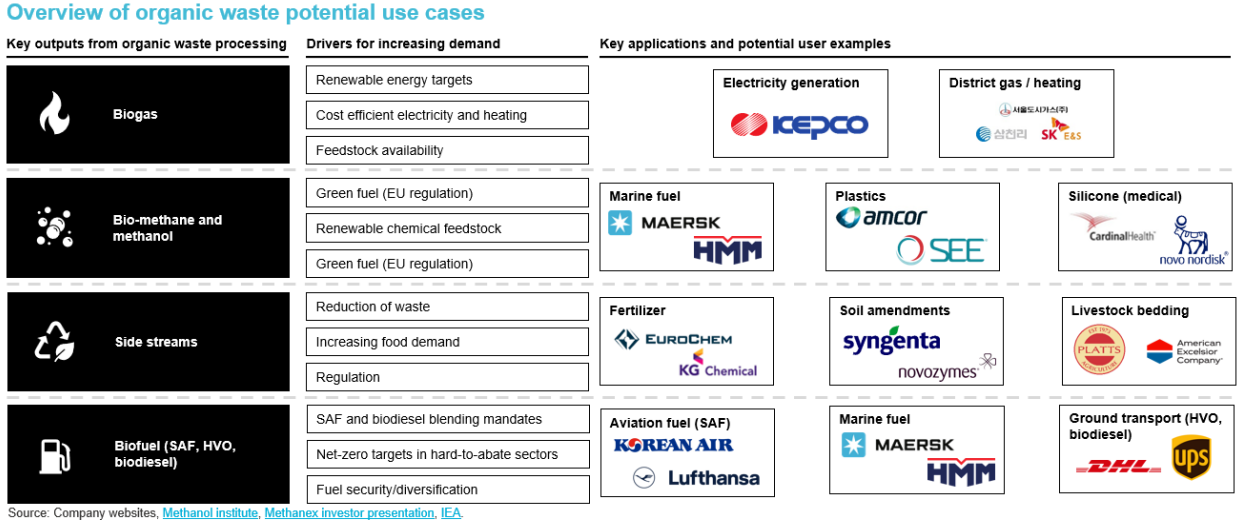
Organic waste is gaining traction as a scalable, cross-sector feedstock

Organic waste, from food scraps and livestock manure to industrial residues and used oils, is no longer just a disposal problem. It's becoming a key input for producing high-value products such as biofuels, biogas, fertilizers, and renewable chemicals. This shift is driven by growing pressure to decarbonize, reduce landfill reliance, and close resource loops across sectors.

Governments are pushing this trend with strong policy support. Both EU and Korea have expanded biogas and biofuel targets, while strengthening circular economy strategies. Meanwhile, maturing processing technologies including biochemical, thermochemical, and lipid conversion are unlocking diverse pathways to high-value outputs. The result is growing relevance across sectors – energy, transport, agriculture, and advanced materials – setting the stage for more integrated, scalable waste-to-value strategies.



Overview of organic waste processing



Overview of organic waste potential use cases

Despite strong policy signals, structural challenges still shape how scale can be achieved

Core inputs like UCO are supply-constrained and imported, often with traceability concerns. Other feedstocks like food and manure are fragmented, under-utilized, or logistically costly to collect. Policy continues to drive growth, while commercial demand from end-users' lags, weakening long-term offtake security. Capex-heavy infrastructure and limited affordable renewable electricity also make supply slow to respond to mandate or subsidy shifts. Winning platforms will secure diverse feedstock and remain flexible in output to ride policy waves while building real demand pull.

Structural challenges in organic waste processing

Key challenges in organic waste processing

Feedstock availability remains fragmented or limited.

- Despite the theoretical abundance of organic waste, practical constraints significantly limit its availability for bioproduct conversion
- Biofuel feedstock like UCO and animal fats face supply shortages and heavily rely on imports
  - UCO demand far exceeds domestic collection; EU collects around 1M tons while 7M tons used in biofuels in 2023; over 85% of UCO is imported
  - Korea recycles nearly 100% of its industrial/commercial UCO (~200k tons); however, current volume covers only 20% of biodiesel feedstock needs
- Rapid growth in biodiesel, HVO, and SAF demand is fueling cross-sector competition for the same limited feedstock
- Traceability and fraud risks (especially for imported feedstocks) add operational uncertainty
- Others (like food waste, manure, forest residue) are scattered, under-collected, or logistics-intensive
- The variability in organic waste feedstocks can lead to inconsistent processing outcomes, affecting the efficiency and reliability of bioproduct production

Demand is real, but largely driven by mandates, not markets.

- Current demand is compliance-driven (SAF blending, biofuel quotas, landfill bans)
- Both the EU and Korea have strong long-term policy support for biofuels, SAF, and organic waste valorization, with ambitious targets for 2030 and beyond
- However, supply is slow to respond; production infrastructure is capital-intensive and takes years to build
- The business case is weaker for next-gen bioproducts like synthetic fuels by limited access to abundant, low-cost renewable electricity needed for production at scale
- Voluntary pull from end-users is not yet mature, leading to slow offtake in bioproducts and temporary overcapacity risks in early-mover projects
- While long-term policy tailwinds are strong, policy uncertainty and volatility – short-term shifts in mandates or subsidies can drive rapid demand swings, which the supply side cannot easily adjust to
- The mismatch increases investment risk and hinders scalable, flexible production

Consideration

Secure, scalable feedstock access is a strategic differentiator

- Scalable returns hinge on securing reliable, traceable feedstock through vertical integration or local sourcing partnerships
- Diversified, logistics-ready feedstock reduce exposure to single-stream volatility
- Platforms with secure, scalable upstream control or differentiated sourcing is gaining competitiveness with margin protection and long-term viability

Flexibility protects against policy and timing risk

- Project pipelines built solely on compliance-driven demand face policy and timing risks – market pull strengthens the business case
- Models that are modular, co-located, support multiple feedstocks or output types can offer resilience amid market volatility

Source: ACI, IEEFA, Sustainability (2024), European Biogas, KEITI, E-platform, T&E 1 2, expert interviews, Reddal analysis.

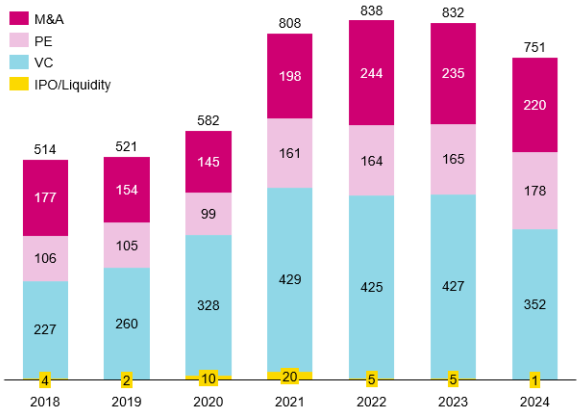
Structural challenges in organic waste processing

Recent exits in organic waste processing validate 2-3x return potential; investment is picking up in Europe and Korea, while returns hinge on platform strategy and timing

In Europe, large circular waste platforms like Urbaser and Renewi are attracting infrastructure and PE funds. Korea is showing momentum through traditional and biofuel-linked investments; Daekyung O&T's exit (2.75x return) with SK's SAF play demonstrates rising interest in integrated biofuel assets. These exits validate short to mid-term potential, but success depends on investor ability to time market entry, scale flexibly, and integrate across feedstock and output pathways.

Investment activity in the waste management sector in the Europe

European investment deal counts in waste management sector[1]



[1]As of February 13, 2025.
Source: Pitchbook.

Largest deals done in European waste management sector since Jan 2024

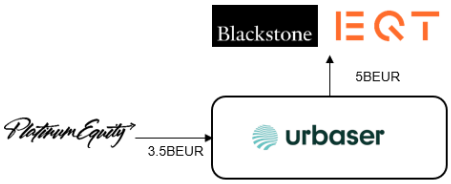
Company	Description	Deal type	Timeline	Deal size
Viridor Waste Management	Waste management services	M&A	Jan 2025	6 705MEUR
Urbaser	Environmental management service provider	Buyout	Apr 2024	5 000MEUR
Solor Bioenergi Group	Sustainable data centre operator	Debt Refinancing	Feb 2024	1 955MEUR
GreenScale	Waste-to-product	VC	Nov 2024	1 198MEUR
SLR Consulting	Environmental consulting services	Debt Refinancing	Aug 2024	882MEUR
Renewi	Waste-to-product	Buyout	Nov 2024	840MEUR
Fortum (Recycling and Waste Business)	Recycling and waste business across Finland, Sweden, Denmark, and Norway	Buyout	Nov 2024	800MEUR

Investment activity in the waste management sector in the Europe

Urbaser

General information

Entities involved	Platinum Equity, Blackstone, EQT
Entry	2021
Exit (expected closing)	Q2 2025, with final bids due by late February 2025
Estimated valuation	5BEUR
Estimated return	~1.4x



Key development areas

Company description

- Spanish integrated waste management provider; originally part of the Spanish construction group ACS, Urbaser was acquired by China Tianying in 2016 before Platinum Equity's acquisition in 2021
- Global presence across Europe (mainly Spain, Frand, the UK), Latin America, Asia, and Africa, supported by various specialized subsidiaries

Technological capabilities

- Waste-to-energy
- Waste recovery
- Municipal, construction and demolition, industrial waste treatment
- Advanced urban cleaning and waste collection

Learnings

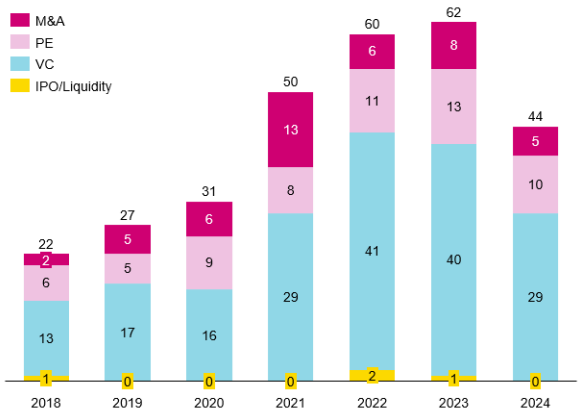
- Under Platinum Equity, Urbaser revamped its identity to offer an integrated circular solutions model, linking urban cleaning, waste collection, and treatment in a single, cohesive value proposition
- Increased R&D spending has enabled service expansions (e.g., biorefinery, hydrogen projects), while a new operational management system drives efficiency and performance while a new operational management system drives efficiency and performance
- Urbaser streamlined its footprint, channeling resources into higher-potential regions, selling the Nordic business and reinforcing its presence in core markets like Spain through M&A
- These shifts reflect a strategic response to rising EU standards and demands for circular economy
- Multi-year contracts in both municipal and industrial segments provide predictable revenue streams, appealing to investors seeking resilience in uncertain markets
- With private equity's typical 3–7-year horizon, Urbaser's strategic realignment, and the ongoing momentum in green infrastructure investment, the potential sale could yield strong returns

Source: Urbaser company websites, Platinum Equity (2021), BloombergNEF (2023), PR News (2021), Reuters (2024).

Urbaser

Investment activity in the waste management sector in South Korea

Korean investment deal counts in waste management sector[1]



[1]As of February 13, 2025.
Source: Pitchbook.

Largest deals done in Korean waste management sector since Jan 2022

Company	Description	Deal type	Timeline	Deal size
Ssangyong C&E	Sustainable cement	Buyout	Jul 2022	1 462MEUR
Ecorbit	Waste management services	Buyout	Dec 2024	1 394MEUR
KJ Environment	Waste management services	Buyout	Aug 2024	666MEUR
Eco Management Korea	Waste-to-energy	Buyout	Oct 2022	449MEUR
SK Eco Prime	Biofuel	Buyout	Dec 2023	385MEUR
Daekyung O&T	Biofuel	M&A	Oct 2023	351MEUR
SK Ecoplant	Waste management services	PE Growth	Feb 2022	287MEUR
Kwangjin Chemical	Chemical waste management	Buyout	May 2023	171MEUR

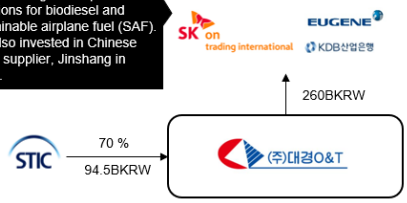
Investment activity in the waste management sector in South Korea

Daekyung O&T

General information

Entities involved	STIC, SK Trading International, KDB, Eugene PE
Entry	2017
Exit	Q4 2023
Final valuation (offered)	370BKRW (of which 70% equity sold)
Estimated return	2.75x

SK is looking for drop-in solutions for biodiesel and sustainable airplane fuel (SAF). SK also invested in Chinese UCO supplier, Jinshang in 2023.



Key development areas

Company description

- Producer of biodiesel derived from used cooking oil (UCO) and abattoir byproducts
- STIC transformed the company from an animal feed supplier to a sustainable energy products supplier
- Expanding the supply of used cooking oil is needed for scaling SAF raw material production capacity
- SK's Chinese supply network, Jinshang, may provide a viable solution to secure the necessary UCO supply; however, China is expected to limit or ban its UCO exports, posing a significant risk

Technological capabilities

- Raw materials for SAF
- Refining and rendering oils
- Trading and storage tanks
- Inland transport

Learnings

- Domestic conglomerates' demand for sustainable fuel products has been identified, and major petrochemical players like SK, GS Caltex, HD Hyundai, and S-Oil are aiming to scale SAF production in anticipation of stricter regulations
- SAF market is mandate driven – EU has set an SAF mandate of 2% by 2025, increasing to 6% by 2030 and 70% by 2050; in Korea, a 1% SAF mix mandate is expected to be introduced by 2027, driving further demand for the product
- Despite rising demand, Korea's SAF supply lags behind global competitors such as the US, EU, and China; while there are over 320 SAF production facilities globally, Korea currently has none
- Various governments (including the US) are incentivizing SAF production, which poses potential competition for Korean petrochemical players in these markets
- Significant challenges remain with SAF feedstock (such as UCO) procurement, as tough competition, high price volatility, and domestic protectionism exist

Source: Yonhap (2023), Seoul Daily (2023), Chosun Biz (2023), Financial News (2024), SK Innovation (2024), Kiwoom (2024), Greenium (2024).

Daekyung O&T

The future of organic waste platforms will be defined not only by technology or regulation, but by who can turn fragmented inputs into integrated, scalable value chains, and deliver returns in an evolving policy landscape.

Download the full report here