

# Private Participation in Infrastructure Municipal Solid Waste (MSW)

## MSW projects being recorded

MSW projects being recorded in the PPI database are the infrastructure projects related to the collection, transfer, treatment and disposal of municipal solid waste as a public service, with minimum 20% private participation and US\$ 1 million investment size.



### Collection & Transport

Facilities involved in either or both collection and transfer and transport of solid waste.



### Treatment & Disposal

Facilities for sorting and recycling, mechanical and biological treatment, incineration or generating waste to energy, as well as sanitary landfills.



### Integrated Municipal Solid Waste

Facilities which combine collection and transport of solid waste as well as treatment and disposal.

## In The Numbers

2009

**US\$35.2  
BILLION**

2018

Total investment commitments in MSW Sector with private participation in emerging market and developing economies (EMDEs), 2009 - 2018.

Accounts for 2 percent of global investment in PPI.

 **353**

MSW projects with private participation worldwide from 2009 to 2018.



**US\$2.87 billion**

invested into the largest MSW project in Brazil called Sao Bernardo do Campo Integrated MSW.



**452 million**

tonnes of throughput of MSW processed with private sector participation over ten years.

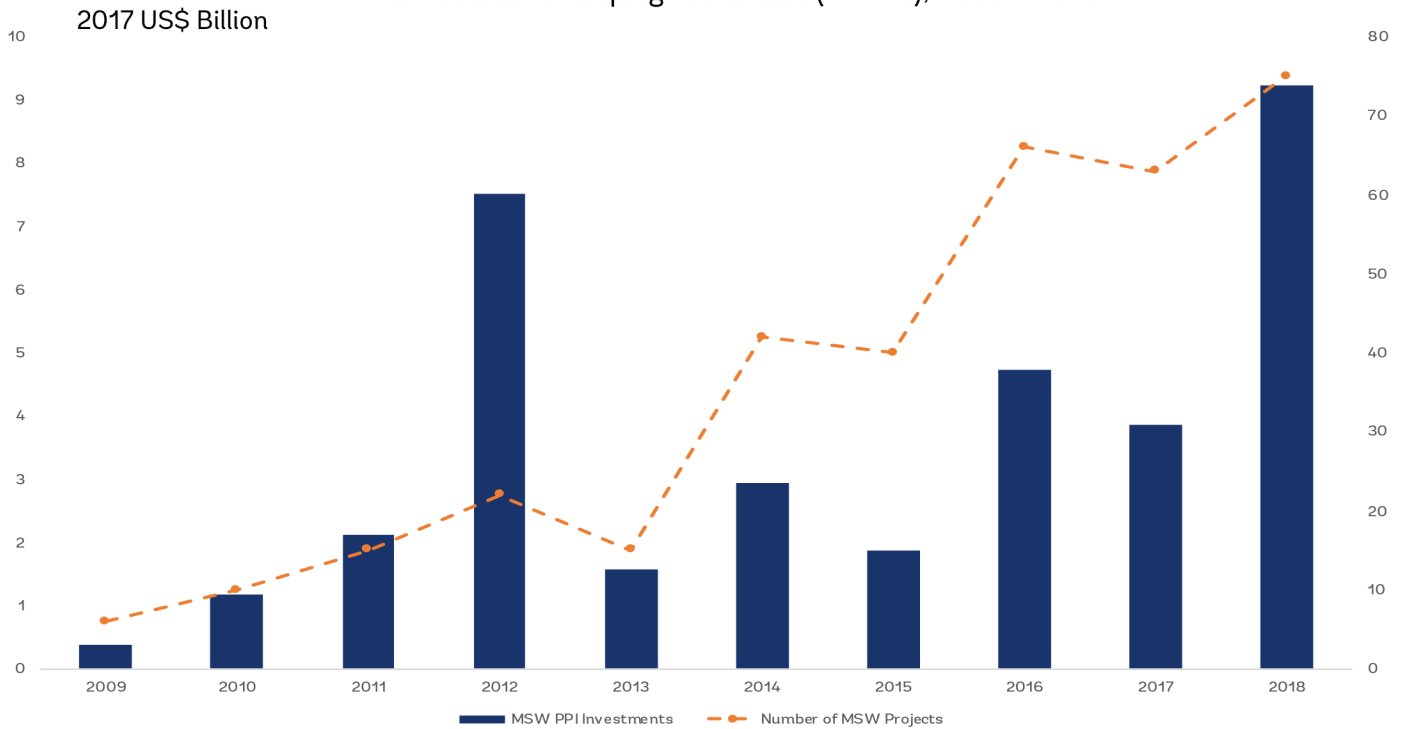


**25.7**

years in the average contract period across 197 projects based on available information.

# Over The Years

Investment Commitments in MSW Sector with Private Participation in Emerging Market and Developing Economies (EMDEs), 2009 - 2018



Investment levels in MSW infrastructure were the lowest in ten years at **US\$391 million** following the global financial crisis.

**2009**

**55%**

of the investment came from the South Asia region, largely driven by India.

**US\$7.5 billion** investment in MSW infrastructure with private participation

**2012**

**75%**

of which was made up of investment from Latin America and the Caribbean, led by Brazil.

Investment levels in MSW infrastructure picked up to **US\$4.7 billion** after falling to an average of US\$2.1 billion between 2013 and 2015.

**2016**

**274%**

increase in MSW investment in East Asia and the Pacific from 2015 to 2016 with a substantial contribution from China.

Highest level of private investment in MSW infrastructure at US\$ 9.2 billion, accounting for **9% of total PPI investment**.

**2018**

**63%**

of investment came from East Asia and the Pacific, driven by China.

**33%**

of investment came from Europe and Central Asia, driven by Russia.

# Regional Breakdown

46%

of total investment from 2009 to 2018 was recorded in the **East Asia and the Pacific**, driven by China.



31%

of total investment over the decade was recorded in **Latin America and the Caribbean**, driven by Brazil.



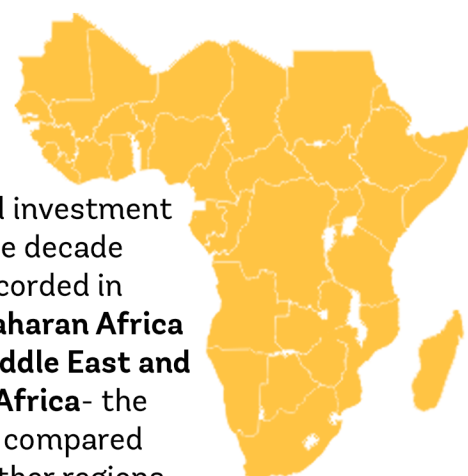
16%

of total investment from 2009 to 2018 was recorded in **Europe and Central Asia**, largely driven by Russia and Romania.



2%

of total investment over the decade was recorded in **Sub-Saharan Africa and Middle East and North Africa**- the lowest compared to all other regions.



5%

of total investment from 2009 to 2018 was recorded in the **South Asia region** with India accounting for 97% of the investments.



90% of total investment were accounted for by the top five countries.



**China** is adopting a market approach to the MSW industry with individuals paying for waste disposal by 2020. The industry has grown rapidly in China since 2017. Chinese investment commitments in MSW amounted to US\$ 14.9 billion in 169 projects.

In 2010, **Brazil** established a national policy requiring the development of integrated solid waste management municipal plans for all municipalities. Brazil invested US\$ 10.8 billion into the MSW sector with only 24 projects.



In response to local pressure, **Russia** overhauled its approach to waste management and has adopted a policy of processing 80% of its waste by 2030. Russia had US\$ 3.1 billion worth of investment in MSW with 7 projects.

**India's** Swachh Bharat campaign has increased investment into MSW infrastructure. Municipal level policies have also aided in increasing investment levels in the country. India reported US\$ 1.6 billion of investment commitments to MSW with 41 projects.



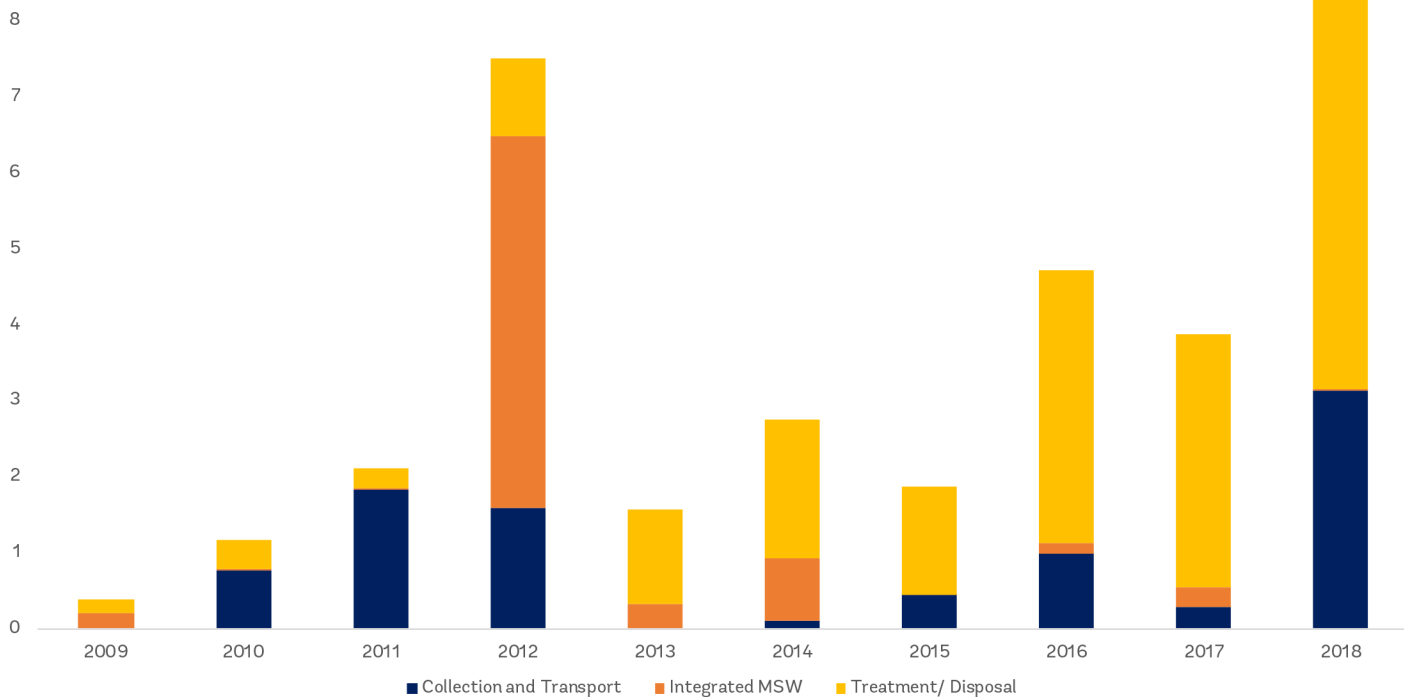
**Romania** has increased investment into MSW projects as it improves compliance with EU standards and meets the required conditions set out. Romanian investment commitments in MSW amounted to US\$ 1.2 billion in 42 projects.

# Subsector Overview

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Investment Commitments in MSW Sub-Sectors, 2009–2018

2017 US\$ Billion



 26%

Collection & Transport\*

 55%

Treatment & Disposal\*

 19%

Integrated MSW\*

\*the figures represent the share of total investment commitments in MSW.

## Collection & Transport



US\$5.6

billion worth of investment commitments to collection and transport in **Latin America and the Caribbean**, the highest among all regions.

64%

of all investment commitments in **Europe and Central Asia** were to collection and transport services.

100%

nearly all investment commitments in **EastAsia and the Pacific** were in treatment and disposal services.

91%  
in waste-to-energy plants

4%  
in mechanical & biological treatment

#includes projects that combine multiple forms of waste treatment.

## Treatment & Disposal



3%  
in sorting & recycling

1%  
in sanitary landfills and mixed treatment#

98%

of investment commitments in **Sub-Saharan Africa** and **93% in Middle East and North Africa** were in treatment and disposal services.

47%

of investment commitments in **Latin America and the Caribbean** were in integrated MSW.

70%

**South Asia region** showed a clear preference for integrated MSW, accounting for 70% of regional investment commitments.

## Integrated Municipal Solid Waste



## PPI Project Type



53%

of MSW investments globally were in **greenfield projects.**

87%

of MSW investments in **East Asia and the Pacific** were in greenfield projects.

99%

of MSW investments in the **South Asia region** were in greenfield projects.



6%

MSW investments globally were in **brownfield projects.**

46%

of MSW investments in **Middle East & North Africa** were in brownfield projects.



41%

of MSW investments globally were **management and lease contracts.**

97%

of MSW investments in **Latin America and the Caribbean** were management and lease contracts.

64%

of MSW investments in **Europe and Central Asia** were management and lease contracts.

## Government Contracting Authority



91%

of investment commitments in MSW were made at the **local and municipal level.\***

2%

only 2% of investment commitments in MSW projects were made at the **national level.\***

\* Figures based on information available on 86% of MSW projects in the PPI database.

## Main Revenue Source



99%

of investment commitments in MSW have revenue supported by the **government** through fixed availability payments or purchase agreements with the government.#

1%

only 1% of investment commitments in MSW projects have revenue from **users or sales to wholesale market.#**

# Figures based on information available on 90% of MSW projects in the PPI database.

This analysis was prepared by a team comprising Deblina Saha (Task Team Leader), Seong Ho Hong and Apala Bhattacharya. The team is very grateful for the support and guidance received from Fatouma Toure Ibrahima (Manager, Global Infrastructure Programs and Analytics). The team is thankful to Darwin Marcelo (Senior Infrastructure Economist, IPG Group), Fernanda Ruiz-Nuñez (Senior Economist, IPG Group), Bernard Atlan (Principal Investment Officer, PPP Transactions Advisory Services, IFC) and Frank Van Woerden (Lead Environmental Engineer, Sustainable Development Global Practice) for providing valuable comments which helped shape the analysis.

The PPI Database represents the best efforts of the team to compile publicly available information, and should not be seen as a fully comprehensive resource. Some projects—particularly those involving local and small-scale operators—tend to be omitted because they are usually not reported by major news sources, databases, government websites, and other sources used by the PPI database staff. This is particularly true in the case of MSW projects, many of which may be sub US\$ 1 million in size and hence, will not be captured in the data.