

Global Waste Investment: AcuComm's 2018 forecast

In 2018:

- AcuComm anticipates 373 planned projects in our database to become operational.
- These will have a combined investment value of US\$24.9 billion, equal to US\$78 million each on average.
- Overall estimated feedstock capacity is 66 million tonnes. This is equal to 646 tonnes per day per project.
- These projects represent power generation capacity of 5,434 MW, equal to 24 MW on average.
- Municipal Solid Waste (MSW) accounts for 76 projects, with a total estimated value of US\$6.2 billion.



A complimentary market update

January 2018



About AcuComm

Helping organisations selling into the global Waste, Bioenergy and Recycling sector through strategic sales information, delivering tangible sales results

We passionately believe in good quality business intelligence. It plays a central part in developing great companies. In our years of providing leading multi-national companies, government bodies and trade organisations with strategic market information, we have never seen this to be more relevant than it is today.

Today, AcuComm is the market leader in providing business intelligence for global companies that sell into the Waste, Bioenergy and Recycling markets. Our unique and 'real-time' Business Intelligence fulfils the strategic needs at management level, as well as being directly implementable by the sales function.

The Leading Industry Authority

Our unique content and dedicated industry research, have inspired many prestigious organisations and multi-national companies, such as ISWA, UN (UNEP), Veolia, SITA, Waste Management Inc, Metso, SACYR INDUSTRIAL and more, to forge close strategic relationships with AcuComm.

30 years experience

The AcuComm team has wide research and editorial experience in international project information services going back 30 years, across a range of industries, including water & waste management, mining, construction, healthcare and leisure.

Unparalleled global coverage

Our comprehensive projects database is updated, maintained and expanded by our committed team of experienced researchers. Utilising the latest technologies, industry connections and research tools, AcuComm is able to deliver unparalleled coverage of existing, new and pending Waste, Bioenergy and Recycling projects across the globe.

Unique & 'real-time'

The strategic and practical sales information we provide is unique, 'real-time' and not available anywhere else.

© 2018 AcuComm Ltd All rights reserved

4 Northgate Chichester

West Sussex

PO19 1BA

UK

Tel: +44 (0)1243 788686

www.acucomm.net





What next in 2018?

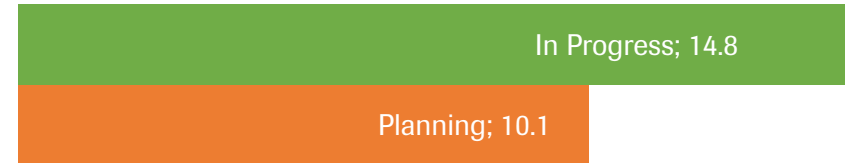
This report provides a preview of major project developments in the waste industry currently expected to take place in 2018. Specifically, it looks at investments worldwide which are expected to become operational during the year. Only projects where a firm indication of this has been given by the developers concerned are included. All data is sourced from AcuComm's waste database of project investments, which currently holds around 5,000 active or planned investment projects in the waste, bioenergy and recycling fields.

The AcuComm database currently holds 319 projects due to become operational during 2018, according to their developers. These have a total estimated value of US\$24.9 billion, equal to US\$78 million each on average. Of these, 180 are currently under construction, worth US\$14.8 billion or US\$82 million each on average, while the remaining 139 are in various stages of planning, as of January 2018.

In terms of capacity, these 319 projects represent annualised tonnage of just under 66 million. This is equal to 206,758 tonnes per project on average, or 646 tonnes per day (using a crude 320-day year for conversion purposes). The projects under construction account for 36.9 million tonnes, equal to 204,753 tonnes per project and 640 tonnes per project per day. Those still in the planning stages account for 29.1 million tonnes, equal to 209,355 tonnes per project and 654 tonnes per project per day.

Of the 373 projects, AcuComm estimates that 226, or 71%, involve some form of power generation. The total planned generation from these is 5,434 MW, equal to 24 MW on average. There are 131 projects currently under construction involving power generation, totalling 2,861 MW or 22 MW on average. A further 2,573 MW is in planning, equal to 27 MW on average.

Status of 2018 Projects by Value (US\$ billions)



Status of 2018 Projects by Capacity (million tonnes)



Status of 2018 Projects by Power Generation (MW)



Source: AcuComm database, January 2018. Status correct at time of publication, see www.acucomm.net for the latest updates.



What types of investments are these?

Focus on Municipal Solid Waste (MSW)

Municipal solid waste (MSW) is the principal feedstock for 76 projects due to become operational in 2018. These have a combined estimated value of US\$6.2 billion, equal to US\$82 million on average. They have combined estimated annual capacity of 23.2 million tonnes, equal to 305,147 per project and 953 tonnes per day per project. There is some form of power generation component to 45 of these, totalling 1,204 MW or 27 MW per project on average.

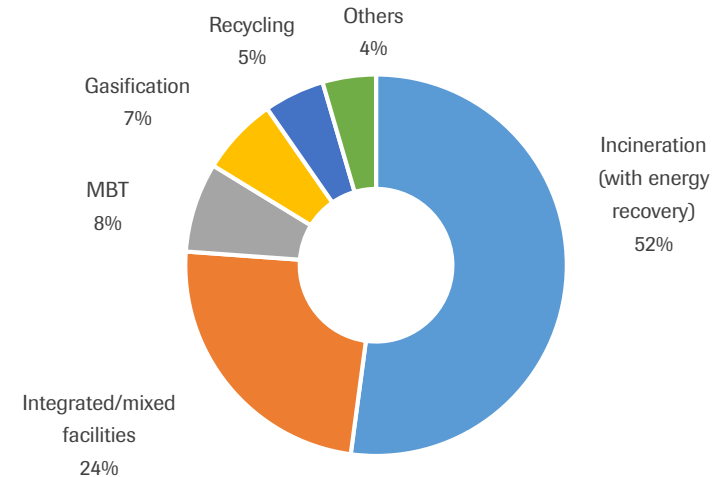
The leading broad technology type for MSW projects will be incineration with energy recovery, also termed WtE (Waste-to-Energy) incineration. This will account for just over half the newly-operational projects by value in 2018, equal to just under US\$3.3 billion. This is followed by large integrated/mixed facilities (which often incorporate a major WtE element) with US\$1.5 billion, and MBT plants with US\$474 million. Other significant categories include gasification and recycling.

MSW Projects Due to Become Operational in 2018, by Facility Type

	US\$m	% of Total
Anaerobic Digestion	34	0.5
Biogas	34	0.5
Gasification	411	6.6
Incineration (with energy recovery)	3,251	52.1
Incineration (without energy recovery)	22	0.4
Integrated/mixed facilities	1,498	24.0
Landfill	60	1.0
MBT	474	7.6
Recycling	321	5.1
Waste processing	132	2.1
Total	6,237	100.0

Source: AcuComm database, January 2018

MSW Projects Due to Complete in 2018



Source: AcuComm database, January 2018



Where are these MSW investments being made? Europe is the leading location, accounting for US\$3.1 billion or 50% of the total. This is followed by Asia with US\$2.2 billion or 36%. Three countries in particular stand out. The UK heads the field, with US\$2.2 billion, or 35.9% of the total. This is followed by China, accounting for US\$759 million (12.2%) and Japan with US\$650 million (10.4%).

MSW Projects Due to Become Operational in 2018, by Region

	US\$m	% of Total
Africa	100	1.6
Americas	461	7.4
Asia	2,215	35.5
Europe	3,130	50.2
Middle East	58	0.9
Pacific	272	4.4
Total	6,237	100.0

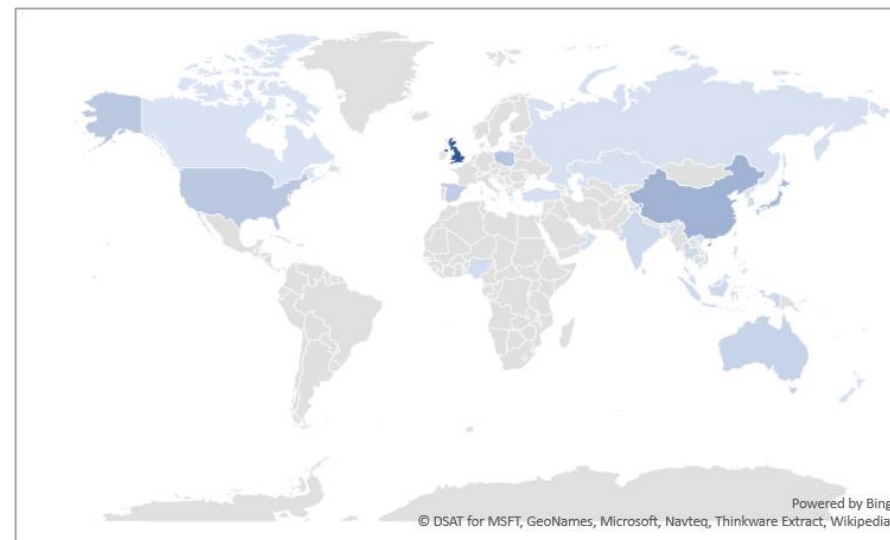
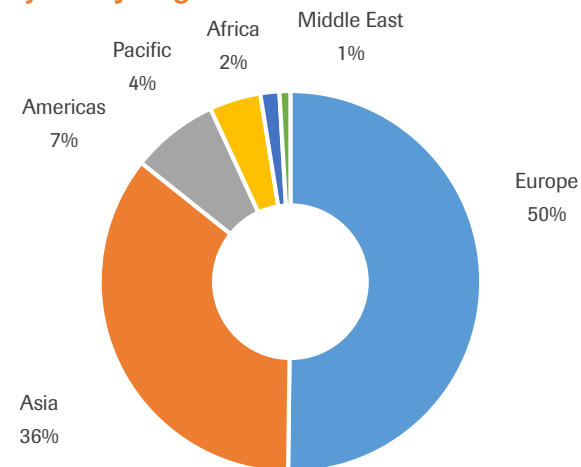
Source: AcuComm database, January 2018

MSW Projects Due to Become Operational in 2018, Top Ten Countries

	US\$m	% of Total
UK	2,241	35.9
China	759	12.2
Japan	650	10.4
Poland	449	7.2
USA	426	6.8
Spain	330	5.3
Australia	236	3.8
Thailand	161	2.6
India	159	2.5
South Korea	135	2.2
Others	691	11.1
Total	6,237	100.0

Source: AcuComm database, January 2018

MSW Projects by Region





Top 20 MSW Projects Due to Become Operational in 2018 (by total estimated US\$ investment value)

	Country	Location	Summary	US\$m	Link
1	UK	Allerton, North Yorkshire	Construction of a >250,000 tonne capacity WtE facility.	431	Full Info
2	Spain	Cerceda	Construction of new waste processing, recycling & composting facilities.	330	Full Info
3	UK	Beddington, South London	Construction of a >25 MW WtE facility.	277	Full Info
4	UK	Hull, East Yorkshire	Development of an energy recovery facility.	270	Full Info
5	Poland	Zabrze, Silesia	Construction of a 220 MW RDF-fuelled CHP plant.	250	Full Info
6	UK	Dunbar, Scotland	Development of a 40 MW WtE facility.	239	Full Info
7	China	Lanzhou, Gansu Province	Construction of a WtE plant.	211	Full Info
8	UK	Glasgow, Scotland	Construction of a recycling & WtE facility.	208	Full Info
9	China	Various	Construction of nine WtE plants.	200	Full Info
10	UK	Millerhill, Scotland	Development of a WtE facility, with integrated MBT & AD plants.	192	Full Info
11	Australia	Bankstown, NSW	Redevelopment of a resource recovery centre following a fire.	189	Full Info
12	USA	Cortina, CA	Development of a landfill, MRF and composting facility.	189	Full Info
13	Indonesia	Marunda, Jakarta	Development of a waste treatment facility.	135	Full Info
14	Japan	Yokohama, Kanagawa Prefecture	Modernisation of a WtE facility.	135	Full Info
15	South Korea	Pohang	Construction of a 50 MW waste-to-energy plant.	135	Full Info
16	Japan	Yatomi, Aichi Prefecture	Rehabilitation of a WtE incineration facility.	135	Full Info
17	India	Indore, Madhya Pradesh	Construction of an 11.5 MW WtE plant.	135	Full Info
18	Thailand	Nong Khai	Development of a waste incineration plant.	135	Full Info
19	China	Shanghai	Development of Phase II of the world's largest thermal waste treatment plant.	135	Full Info
20	China	Changshu, Jiangsu Province	Development of a 1,830 tpd WtE facility.	135	Full Info

Source: AcuComm database, January 2018



Contractors & Engineering Companies Involved with the Projects in this Report

Country	Company	Listings
Austria	ANDRITZ	Full Project Listings
Belgium	Keppel Seghers Belgium	Full Project Listings
China	Chongqing Sanfeng Covanta Environmental Industry	Full Project Listings
China	Dynagreen Environmental Protection Group	Full Project Listings
China	Hangzhou New Century Energy Environment Protection Engineering Co Ltd	Full Project Listings
China	Shenzhen Hongye Foundation Engineering	Full Project Listings
Czech Republic	Doosan Skoda Power	Full Project Listings
Denmark	Babcock & Wilcox Volund	Full Project Listings
Finland	Outotec	Full Project Listings
France	CNIM	Full Project Listings
France	VINCI Environnement	Full Project Listings
Germany	BTA International	Full Project Listings
Germany	EnviTec Biogas	Full Project Listings
Germany	Martin GmbH fur Umwelt und Energietechnik	Full Project Listings
Germany	MWM GmbH	Full Project Listings
Germany	Siemens Power & Gas Division	Full Project Listings
Germany	Wandschneider + Gutjahr Ingenieurgesellschaft mbH	Full Project Listings
Germany	ZhongDe Waste Technology	Full Project Listings
Hong Kong	China Everbright International	Full Project Listings
India	Jindal ITF	Full Project Listings
Italy	Astaldi SpA	Full Project Listings
Italy	Termomeccanica Ecologia SpA	Full Project Listings
Japan	Hitachi Zosen	Full Project Listings
Japan	JFE Engineering Headquarters	Full Project Listings
Japan	Mitsubishi Heavy Industries Environmental & Chemical Engineering	Full Project Listings
Japan	Takuma	Full Project Listings
Malaysia	Cypark Resources	Full Project Listings
Malaysia	KNM Group Berhad	Full Project Listings
Poland	CMT	Full Project Listings
Poland	MKL BAU	Full Project Listings
Singapore	Keppel Corporation	Full Project Listings
Singapore	Keppel Infrastructure Holdings	Full Project Listings
South Korea	POSCO Engineering & Construction (E&C) - Head Office	Full Project Listings

The table on this page shows all the construction and engineering companies associated with the projects in this report. They are listed by the location of the company HQ, which may be different to the location of the projects concerned.

Click the "Full Project Listings" link to the right of the table, to view all the projects associated with each company in the AcuComm database.



Country	Company	Listings
Spain	FCC Medio Ambiente & FCC Construccion	Full Project Listings
Spain	Fergo Galicia	Full Project Listings
Spain	Valtalia	Full Project Listings
Switzerland	Hitachi Zosen Inova	Full Project Listings
Thailand	KPN Green Energy Solution	Full Project Listings
Thailand	Satarem (Thailand)	Full Project Listings
Turkey	ISTAC (Istanbul Environmental Management Industry and Trading Company)	Full Project Listings
United Kingdom	Amec Foster Wheeler	Full Project Listings
United Kingdom	Amey	Full Project Listings
United Kingdom	AmeyCespa	Full Project Listings
United Kingdom	Bouygues Energies and Services UK	Full Project Listings
United Kingdom	Capula	Full Project Listings
United Kingdom	Doosan Babcock	Full Project Listings
United Kingdom	Edina UK Ltd	Full Project Listings
United Kingdom	Energos	Full Project Listings
United Kingdom	EnviTec Biogas UK	Full Project Listings
United Kingdom	FCC Environment	Full Project Listings
United Kingdom	Geminor UK	Full Project Listings
United Kingdom	Interserve	Full Project Listings
United Kingdom	Lagan Construction	Full Project Listings
United Kingdom	M+W Group	Full Project Listings
United Kingdom	MWH Treatment Ltd	Full Project Listings
United Kingdom	Powerday	Full Project Listings
United Kingdom	Saxlund International	Full Project Listings
United Kingdom	Taylor Woodrow	Full Project Listings
United Kingdom	Valmet Automation	Full Project Listings
United Kingdom	VINCI Construction UK Ltd	Full Project Listings
United Kingdom	Viridor	Full Project Listings
United Kingdom	Weir Group	Full Project Listings
United States	Amec Foster Wheeler (Global Power Group)	Full Project Listings
United States	Emerson Process Management - Power & Water Solutions	Full Project Listings
United States	Sargent Corporation	Full Project Listings
United States	SCS Engineers - Corporate Headquarters	Full Project Listings

Source: AcuComm database, January 2018