Essential fact-based strategic and business planning data

Waste Market Insight

The in-depth facts, statistics and trends shaping waste development markets globally

In this issue:

- 95 new or planned waste and related projects were reported in December 2021, with a total estimated value of US$5.5 billion, equal to US$58 million each. Around 48% by value are due to become operational in 2026 and beyond.
- Waste-to-fuel was the leading sector for new investment this month, with 11 new projects totalling US$2.3 billion. Waste-to-energy was second with 26 projects worth US$1.7 billion. There were 17 new recycling projects announced this month, worth US$511 million.
- The Americas and Asia were the leading regions in December 2021, accounting for 32% of new investment each.
- AcuComm has identified 159 companies involved with the 95 new projects this month. 52% of these are headquartered in Europe.

New plant developments • Waste technologies employed • Development by feedstock type • Geographic analysis • Forecasts of capacity availability • Company activity

Issue 88, January 2022
Data to December 2021

AcuComm
Opportunities in Waste • Bioenergy • Recycling

Welcome to Waste Market Insight

Waste Market Insight provides an ongoing and comprehensive analysis of current projects in the global waste industry, enabling you to establish the level of activity in the different sectors of the waste industry around the world.

For this month, we have made some improvements to our methodology for calculating the value feedstock size and likely power output of projects, where these figures are not known. We have done this to give a more realistic appraisal of the likely size of projects. While the overall size of the database has not changed greatly, readers will observe differences when looking at specific regional/country data in particular. We have been able to make these improvements due to the growing size of the database overall, which gives us more 'real world' data to work on. This allows us to present today's most accurate and consistent picture of the waste investment market.

The data is taken from AcuComm's proprietary Business Database. This is a database of projects compiled and maintained by us on a daily basis. The information in it – and therefore in Waste Market Insight – is not readily available from any other source. The analytics use a combination of reported and modelled data. We collect many thousands of points of data regarding investment values, project capacity, power output and likely timescales. This enables us to build models for determining these values on an industry-wide and industry-specific scale. As a result, we are able to provide comprehensive analytic data which remains firmly grounded in 'real world' information.

Waste Market Insight has two main sections. The first examines the entire database of investments held by AcuComm, going back to 2012. This also includes a section dealing with activity over the past twelve months. The second looks at newly-reported projects and investments for the latest month.

How do we present the data? Firstly, each project is allocated a principal facility type, such as anaerobic digestion, gasification plant or WtE incineration plant. Secondly, each project is allocated a principal feedstock type, such as municipal solid waste (MSW), plant biomass or food for example. Then, the waste capacity and power generation capacity of each project is examined. Finally, we look at which world regions, countries and companies are most active, and when projects are reported as being likely to become operational. We also present data looking at the three major slices of the market: municipal solid waste, recycling and the related field of bioenergy.

At various points in the PDF document, subscribers reading on their laptop or tablet will be able to click through to see more data on projects, countries or companies mentioned in this issue.

I hope Waste Market Insight is useful to you. If you have any questions, queries, data requests, or if you are involved with a project which you would like to see included in our database – free of charge – then please do get in touch.

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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. Using 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.

AcuComm

Opportunities in Waste • Bioenergy • Recycling

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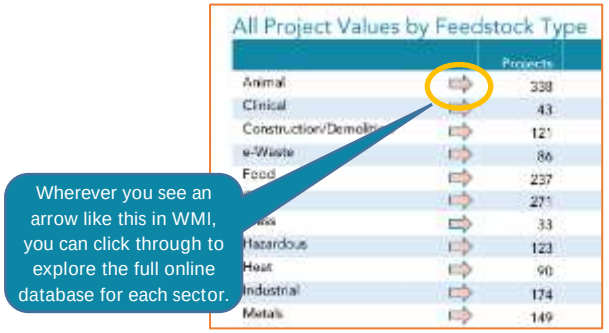
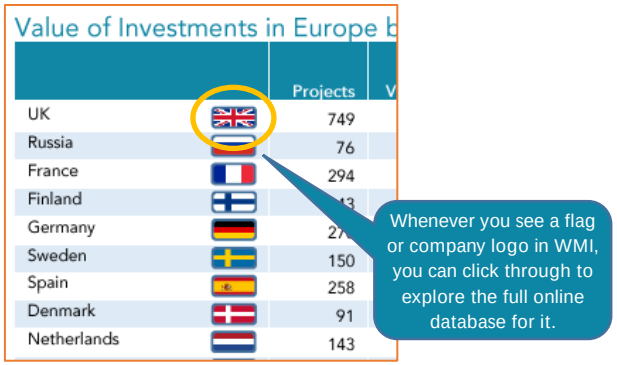
Introduction: How to get the best from WMI

Waste Market Insight is a monthly-updated 60+ page interactive assessment of the global waste and waste-related investment market. It presents analysis of data in AcuComm's unique waste investment database, and allows you to click through to fully explore sectors and individual projects of interest. Click each underlined element below to go direct to the relevant section of this report.

- Page 4: **Assess the overall size of the global waste investment market**, and see how much has been added in the last month and quarter. See how the investment total divides in terms of planning or operational status, and click through to explore each in full in the AcuComm database.
- Pages 5-8: **View the $ value, tonnage capacity and power generation capacity of all new investments over the past 12 months**. View where investments are going, in terms of feedstock type and technology type over the past 12 months. Click through to explore each in detail in the AcuComm database. See clearly where these investments are located on AcuComm's heat map.
- Page 9: **Gauge the past and future performance of the industry** with data for realised waste investments since 2013, and estimated operational investments to 2023.
- Pages 10-15: **Compare the size of investment in different feedstock and technology types** since 2013, in terms of $, tonnage and power generation. Click through to explore each in detail in the AcuComm database.
- Page 16: **See how many projects are currently operational** in terms of $, tonnage and power generation, and the size of the pipeline to 2023 and beyond.
- Pages 17-28: **Focus on specific parts of the world**, with regional analysis for Africa, the Americas, Asia, Europe, the Middle East and the Pacific. See which countries lead investment in each region, and in which feedstock/technology types. Click through to explore each in detail in the AcuComm database.
- Pages 29-34: **Specific global sector analysis** for investments in three major industry areas, namely Municipal Solid Waste (MSW), recycling, and bioenergy. Assess the value, location and completion status of interest in each. Click through to explore each in detail in the AcuComm database.
- Page 35: **See which companies have been most active over the past 12 months**, and click through to assess the activity for each in detail in the AcuComm database.
- Pages 36-48: **Detailed information on the very latest investments**, for the most recent month. See how many projects have been newly-announced, where they are, and in what sectors. Click each project summary to access the full latest details in the AcuComm database.
- Pages 49-end: **See which companies have been active in the past month**, in terms of company role, feedstock type and technology type. Click through for a complete assessment of each company's activity since 2013 in the AcuComm database, including contact details for relevant named individuals.





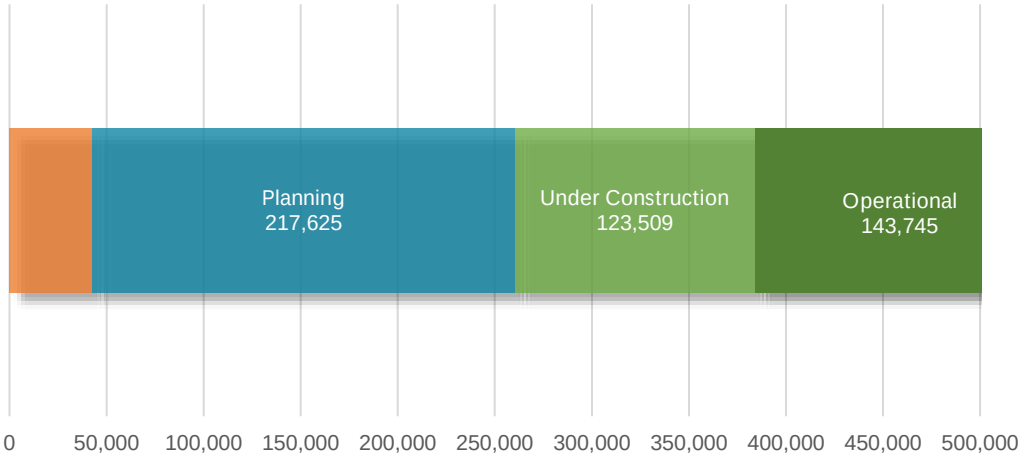
The Current Waste Investment Landscape

Overview

AcuComm has tracked new investments in the waste and waste-related industries since 2013. Waste Market Insight is a monthly analysis of the database we have created. Our team of researchers added 248 new projects in the last quarter, of which 95 were added in the last month, with an estimated value of US$5,519 million. See Page 36 for information on these recent developments.

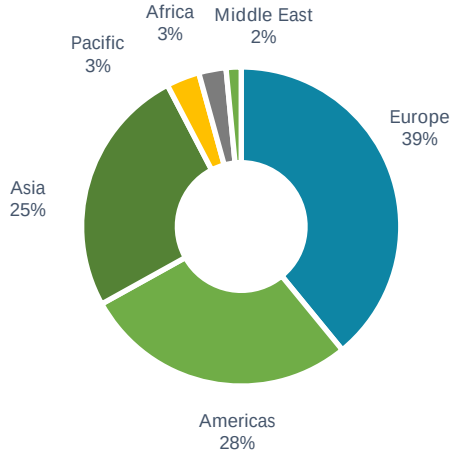
These investments cover the whole world, although most are in Europe, Asia and North America. They are naturally at various stages of progression. Most are still in the planning stage, equal to just over US$217.6 billion. Projects under construction account for US$123.5 billion, and those which are operational for US$143.7 billion. Waste projects typically take 18-24 months to become operational once work starts.

Investments by Operational Stage, (US$m)



Source: AcuComm database, 31st December 2021.

Investment Values By Region (%)



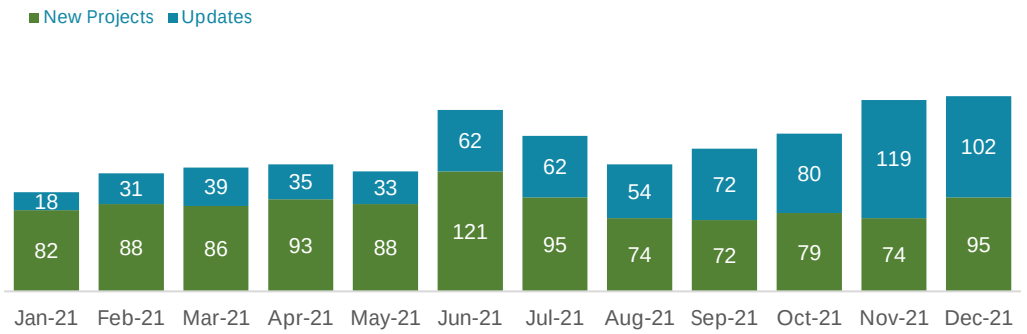
Source: AcuComm database, December 2021

Investment Activity in the Past 12 Months

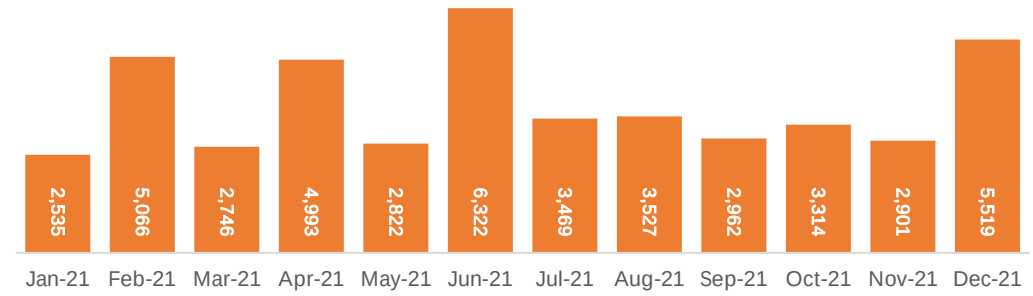
Over the past 12 months, AcuComm has added 1,754 waste investments to its database. Of these, 1,047 have been new projects, and 707 have been status updates of existing projects.

The total estimated value of new projects reported was US$46,177 million, equal to US$44 million on average. These projects have an estimated feedstock capacity of 178.7 million tonnes, equal to an average of 533 tonnes per project per day. Power/heat generation is estimated to be a feature for 549 out of the 1,042, totalling 7,090 MW or 13 MW each on average.

Number of New & Updated Projects, January 2021 to December 2021



Value of New Projects, January 2021 to December 2021 (US$m)



Summary of Project Activity in the Past 12 Months

	November 2020 to December 2021	% of All
Number of projects	1,754	
New	1,047	59.7
Updates	707	40.3
Estimated Value (US$m)	151,291	
New	46,177	30.5
Updates	105,115	69.5
Average Value (US$m)	86	
New	44	n/a
Updates	149	n/a
Annual Feedstock Capacity (tonnes)	431,019,841	
New	178,673,970	41.5
Updates	252,345,871	58.5
Average Tonnes Per Day Per Project	768	
New	533	n/a
Updates	1,115	n/a
Estimated Power Generation (MW)	23,169	
New	7,090	30.6
Updates	16,079	69.4
Average Power Generation (MW)	23	
New	13	n/a
Updates	36	n/a
Tonnes per US$m	2,849	
New	3,869	n/a
Updates	2,401	n/a
MW per US$m	0.24	
New	0.25	n/a
Updates	0.24	n/a

New Projects in the Past 12 Months by Leading Feedstock Type

	Number	Value (US$m)	Average Value (US$m)	Feedstock Capacity (tonnes m)	Average Daily Tonnes Per Project	Power Generation (MW)	Average Power Generation (MW)	Tonnes Per US$m	MW Per US$m
MSW	242	15,264	63	69.1	892	2,652	23	4,527	0.23
Wood	112	5,698	51	13.9	389	2,021	18	2,446	0.36
Plastics	125	4,146	33	7.7	192	50	50	1,855	3.78
Oil	22	3,699	168	11.0	1,569	1	1	2,986	0.09
Organic (general/unspecified)	98	3,693	38	12.4	395	673	8	3,353	0.20
Plant Biomass (waste)	73	3,438	47	12.5	534	544	8	3,630	0.18
Sewage/wastewater	54	2,070	38	4.3	250	110	3	2,085	0.08
Animal	69	1,212	18	9.5	432	173	3	7,874	0.17
Gas	34	1,156	34	4.7	436	603	19	4,105	1.08
Plant Biomass (non-waste)	11	1,134	103	8.4	2,374	49	4	7,369	0.04
Food	40	878	22	2.5	198	61	3	2,881	0.17
Hazardous	32	836	26	0.8	82	0	-	1,008	-
Metals	24	680	28	4.6	595	0	-	6,726	-
Industrial	24	616	26	5.5	723	125	21	9,005	0.46
e-Waste	15	520	35	1.6	326	0	-	3,008	-
Rubber	16	463	29	0.9	179	0	-	1,986	-
Construction/Demolition	24	182	8	5.9	775	0	-	32,628	-
Other	14	164	12	1.6	353	0	-	9,614	-
Paper	5	136	27	0.6	352	20	20	4,142	0.52
Heat	3	92	31	0.4	442	8	4	4,637	0.20
Clinical	5	55	11	0.1	37	0	0	1,084	0.00
Glass	5	46	9	0.5	332	0	-	11,623	-
Total	**1,047**	**46,177**	**44**	**178.7**	**533**	**7,090**	**13**	**3,869**	**0.25**

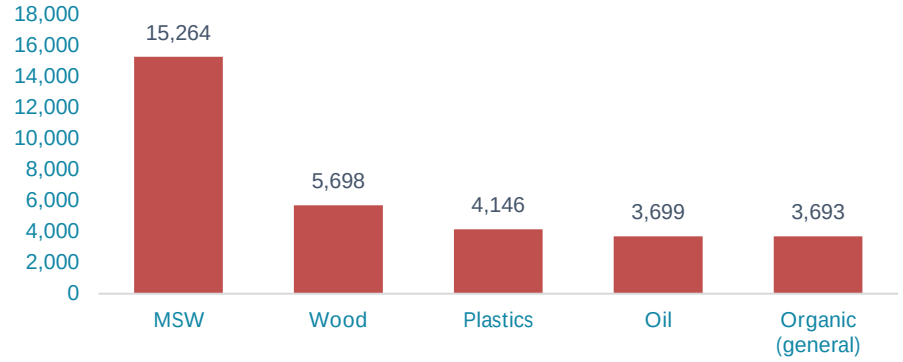
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

New Projects in the Past 12 Months by Leading Technology Type

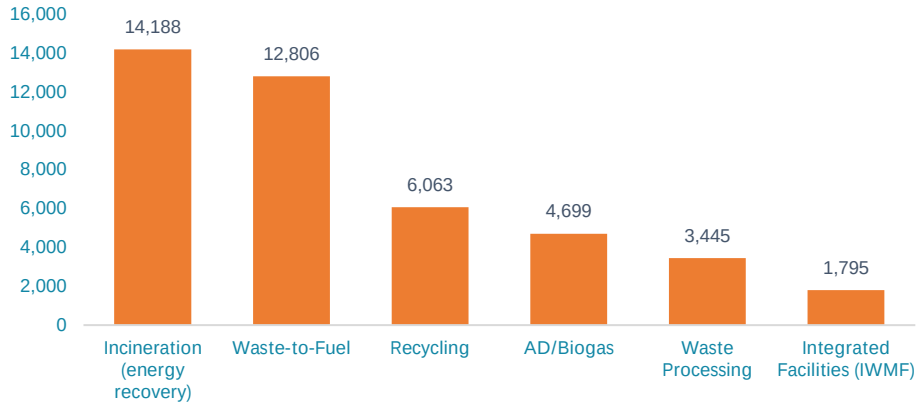
	Number	Value (US$m)	Average Value (US$m)	Feedstock Capacity (tonnes m)	Average Daily Tonnes Per Project	Power Generation (MW)	Average Power Generation (MW)	Tonnes Per US$m	MW Per US$m
Incineration (energy recovery)	213	14,188	67	42.2	620	4,890	23	2,977	0.35
Waste-to-Fuel	132	12,806	97	41.0	972	325	5	3,205	0.05
Recycling	239	6,063	25	23.8	311	0	-	3,922	-
AD/Biogas	221	4,699	21	22.9	324	1,116	5	4,878	0.24
Waste Processing	145	3,445	24	24.2	521	4	4	7,018	0.40
Integrated Facilities (IWMF)	16	1,795	112	4.2	816	274	17	2,328	0.15
Gasification	23	1,790	78	1.3	177	211	15	727	0.18
Landfill	37	663	18	17.1	1,444	87	5	25,789	0.51
Others	10	453	45	0.7	203	183	92	1,438	1.16
Incineration (no energy recovery)	6	184	31	0.2	98	0	-	1,020	-
Total	**1,047**	**46,177**	**44**	**178.7**	**533**	**7,090**	**13**	**3,869**	**0.25**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Leading Feedstock Types by Value, January 2021 to December 2021 (US$m)



Leading Technology Types by Value, January 2021 to December 2021 (US$m)



Map of New Investments in the Past 12 Months

This map shows the location of all projects added to the AcuComm database over the past year. While investments are found all over the world, there is a strong correlation with population density. Leading areas for investment are western Europe, eastern China, Japan, the south-east coast of Australia and the coastal/mid-western regions of the USA.

Market development 2013-2025

This page looks at the actual and estimated value of realised projects between 2013 and 2025. This refers to projects which become operational during the given year; in other words, they have moved beyond a planning or conceptual stage, to the point where the investment becomes real.

There were 635 such projects in 2021. They had an estimated value of just over US$32.8 billion. The average value was US$52 million. The total is currently projected at US$24.2 billion in 2022, equal to US$62 million on average.

These projects represented estimated annualised capacity of 111.3 million tonnes in 2021. The average capacity per project was 175,349 tonnes or 548 tonnes per day. This is currently projected for 2022 to be 73.3 million tonnes or 590 tonnes per day.

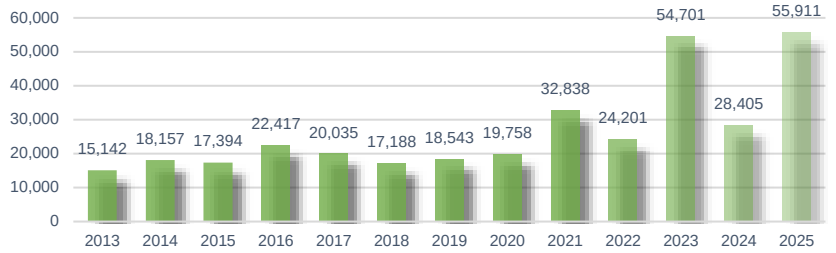
Estimated new power/heat generation was 6,024 MW in 2021. Average generation per project was 9 MW, not significantly different from previous years. This is currently projected at 5,071 MW in 2022, equal to an average of 13 MW per project.

Estimated Value, Capacity and Power Generation of Realised Projects, 2013-2025

	Projects	Total Estimated Value (US$m)	Average Value (US$m)	Estimated Annual Capacity (tonnes)	Average Capacity (tonnes)	Average Tonnes Per Day	Estimated Power Generation (MW)	Average Power Generation (MW)
2013	278	15,142	54	37,718,169	135,677	424	3,043	11
2014	457	18,157	40	75,147,159	164,436	514	3,747	8
2015	497	17,394	35	70,630,388	142,113	444	3,441	7
2016	509	22,417	44	75,658,579	148,642	465	4,102	8
2017	465	20,035	43	70,797,802	152,253	476	4,337	9
2018	411	17,188	42	63,330,399	154,089	482	4,542	11
2019	419	18,543	44	76,231,978	181,938	569	3,607	9
2020	392	19,758	50	58,995,917	150,500	470	3,159	8
2021	635	32,838	52	111,346,857	175,349	548	6,024	9
2022	388	24,201	62	73,312,673	188,950	590	5,071	13
2023	269	54,701	203	119,542,878	444,397	1,389	6,993	26
2024	575	28,405	49	122,753,005	213,483	667	5,377	9
2025	786	55,911	71	198,057,131	251,981	787	8,869	11

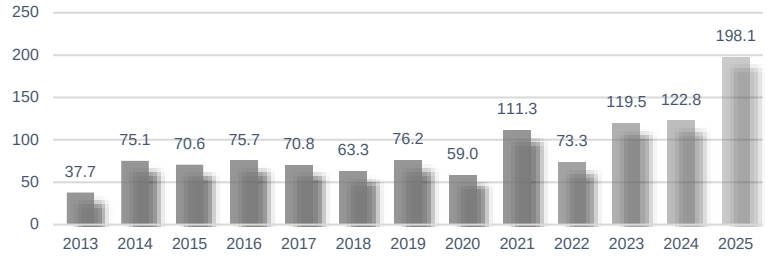
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Value of Realised Waste Investments, 2013-2025 (US$m)



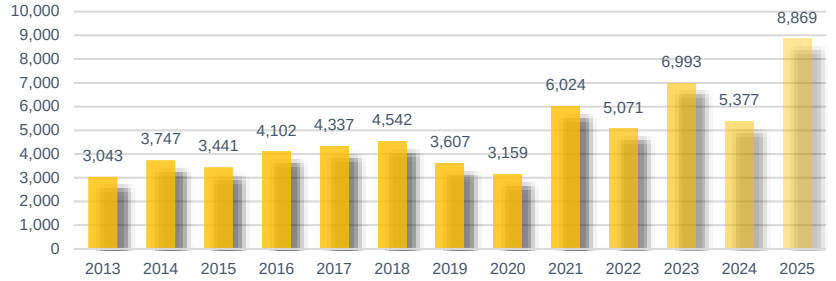
Source: AcuComm database, December 2021

Capacity of Realised Waste Investments, 2013-2025 (mil. tonnes)



Source: AcuComm database, December 2021

Power Generation of Realised Waste Investments, 2013-2025 (MW)



Source: AcuComm database, December 2021

Feedstock types: investment values

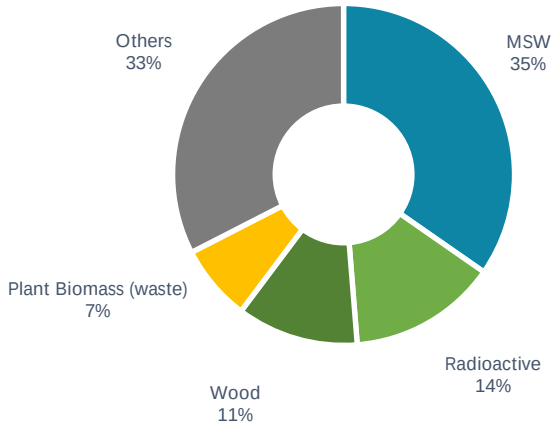
Which feedstock types attract the most investment? Municipal solid waste (MSW) is the single largest sector, accounting for 2,331 projects worth US$182.9 billion: that is 35% of the total value of the AcuComm database and US$78 million each on average. Other leading feedstocks are wood and other biomass, followed by a range of specialised waste types.

All Project Values by Feedstock Type

	Projects	Total Estimated Value (US$m)	Average value (US$m)
Animal	445	7,405	17
Clinical	53	541	10
Construction/Demolition	156	1,593	10
e-Waste	105	1,901	18
Food	294	4,991	17
Gas	319	14,504	45
Glass	38	504	13
Hazardous	170	7,407	44
Heat	97	4,530	47
Industrial	210	11,189	53
Metals	182	6,896	38
MSW	2,331	182,924	78
Oil	143	20,071	140
Organic (general/unspecified)	654	33,674	51
Paper	63	2,173	34
Plant Biomass (non-waste)	151	14,765	98
Plant Biomass (waste)	706	38,104	54
Plastics	421	10,669	25
Radioactive	37	74,124	2,003
Rubber	82	2,024	25
Sewage/wastewater	472	24,908	53
Wood	1,097	60,778	55
Other	89	1,917	22
Total	**8,315**	**527,593**	**63**

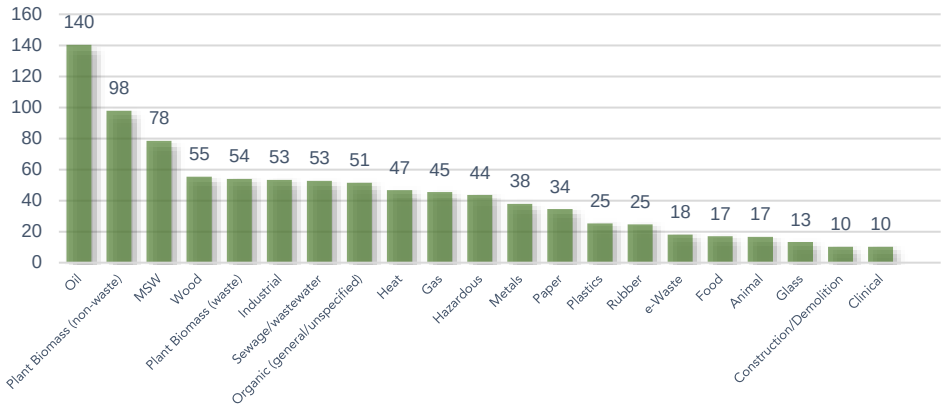
Source: AcuComm database, 31st December 2021. Click the arrows above to search the latest data for each category.

Investment Values By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

Average Investment Values by Feedstock Type (US$m)



Source: AcuComm database, December 2021. Figure for radioactive waste not shown.

Feedstock types: project capacity

In terms of annualised tonnage, MSW again heads the field with an estimated 722.1 million tonnes. That is an average of 309,780 tonnes per project and 968 tonnes per day (assuming a 320-day working year). This is equal to 42% of all tonnage recorded in the AcuComm database.

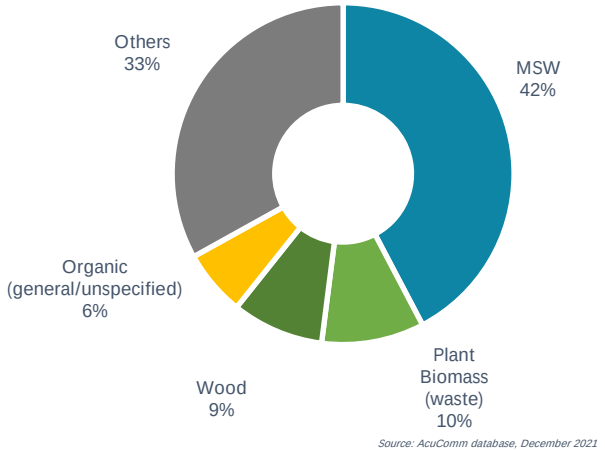
Average daily feedstock levels vary widely. The highest is for projects fed by specially-sourced biomass, while the lowest is for clinical waste.

All Project Capacities by Feedstock Type

	Projects	Total Estimated Capacity (tonnes)	Average Estimated Capacity (tonnes)	Average tonnes per day*
Animal	445	58,930,606	132,428	414
Clinical	53	755,056	14,246	45
Construction/Demolition	156	46,104,158	295,539	924
e-Waste	105	8,981,369	85,537	267
Food	294	16,321,144	55,514	173
Gas	319	35,790,359	112,195	351
Glass	38	5,997,103	157,818	493
Hazardous	170	9,769,403	57,467	180
Heat	97	16,633,278	171,477	536
Industrial	210	64,920,908	309,147	966
Metals	182	38,159,472	209,667	655
MSW	2,331	722,096,714	309,780	968
Oil	143	60,364,381	422,129	1,319
Organic (general/unspecified)	654	106,276,158	162,502	508
Paper	63	8,610,471	136,674	427
Plant Biomass (non-waste)	151	97,328,450	644,559	2,014
Plant Biomass (waste)	706	165,847,020	234,911	734
Plastics	421	21,209,939	50,380	157
Radioactive	37	583,971	15,783	49
Rubber	82	4,747,677	57,899	181
Sewage/wastewater	472	51,375,373	108,846	340
Wood	1,097	148,375,205	135,255	423
Other	89	17,843,780	200,492	627
Total	**8,315**	**1,707,021,995**	**205,294**	**642**

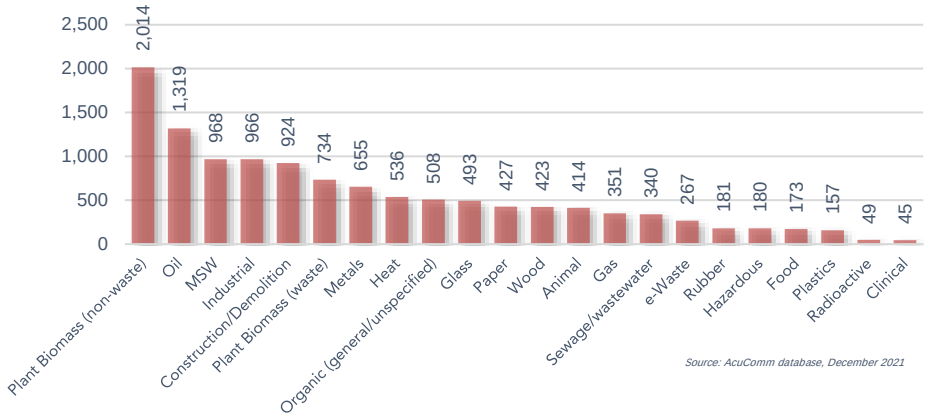
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Capacity By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

Average Tonnes Per Day* by Feedstock Type



Source: AcuComm database, December 2021

** TPD calculated using a standard 320 day year*

Feedstock types: power generation

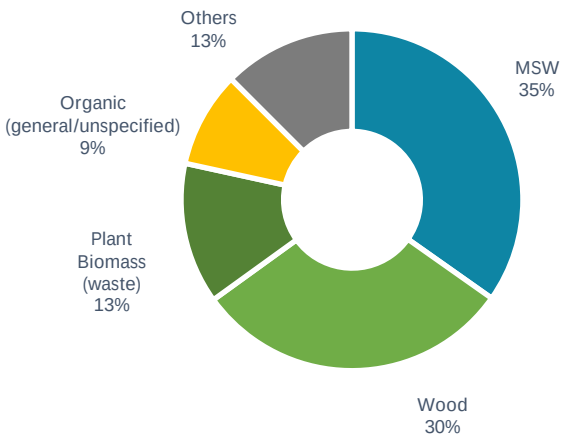
Power and/or heat generation is a major driver behind many waste projects; electricity and/or heat generated can either be used internally by the company concerned or sold to the local grid to boost national capacity – increasingly vital for a growing economy. AcuComm currently holds 4,925 such projects, with total estimated generation of 89,291 MW. This is equal to 18 MW per project. While MSW is a major feedstock, wood and other biomass materials are the most widely used feedstocks in terms of power/heat generation.

All Projects, Estimated Power/Heat Generation by Feedstock Type

	Projects	Total Estimated Power (MW)	Average Estimated Power (MW)
Animal	406	1,413	3
Clinical	7	2	0
Construction/Demolition	0	0	-
e-Waste	0	0	-
Food	213	533	3
Gas	277	3,180	11
Glass	0	0	-
Hazardous	14	162	12
Heat	61	729	12
Industrial	47	1,532	33
Metals	1	40	40
MSW	1,136	31,052	27
Oil	8	118	15
Organic (general/unspecified)	575	8,100	14
Paper	5	113	23
Plant Biomass (non-waste)	144	2,202	15
Plant Biomass (waste)	650	11,948	18
Plastics	1	50	50
Radioactive	0	0	-
Rubber	0	0	-
Sewage/wastewater	319	1,041	3
Wood	1,055	27,029	26
Other	6	48	8
Total	**4,925**	**89,291**	**18**

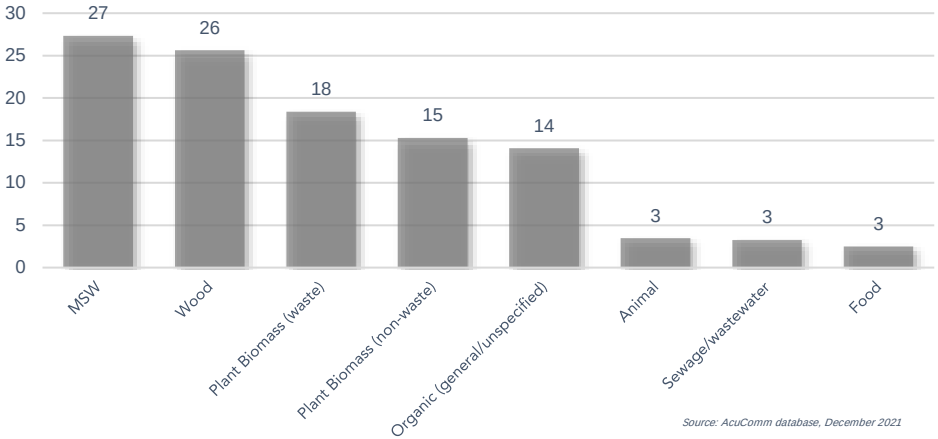
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

MW Generation By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

Average Power Generation by Leading Feedstock Type (MW)



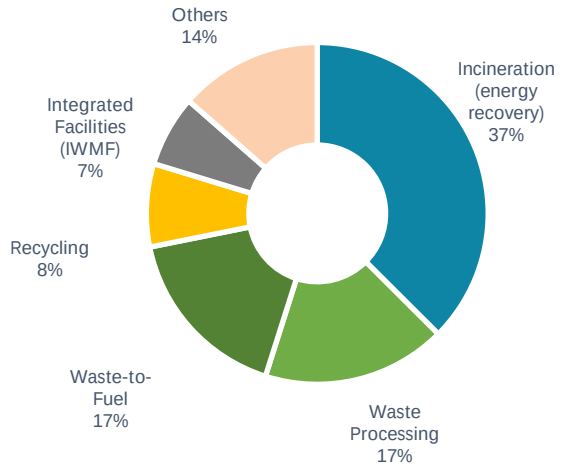
Source: AcuComm database, December 2021

Technology types: investment values

Incineration with energy recovery (WtE incineration) is the leading broad technology type, used to burn either MSW or biomass (whether waste or specially-grown) in order to generate heat and/or electrical power. There are 2,216 such projects, with a total value of US$197.7 billion. This is equal to 37% of the total and an average of US$89 million per project.

This is considerably above the overall average value of US$63 million. Project values can vary widely. Larger, more complex projects such as integrated mixed sites, gasification plants or Waste-to-Fuel facilities naturally have the highest values, while recycling, AD/Biogas or landfill gas sites tend to be smaller in scope, if equally high-tech.

Investment Values By Leading Technology Type (%)



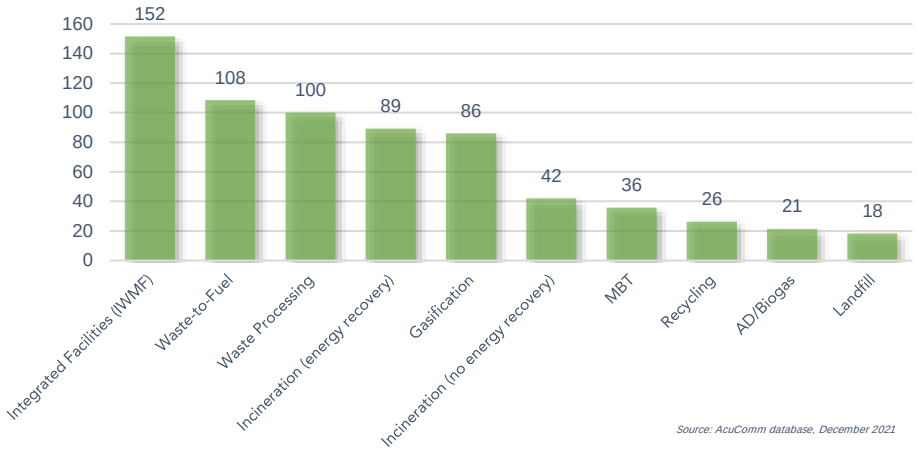
Source: AcuComm database, December 2021

All Project Values by Technology Type

	Projects	Total Estimated Value (US$m)	Average value (US$m)
AD/Biogas	1,524	32,526	21
Waste-to-Fuel	824	89,375	108
Gasification	170	14,620	86
Incineration (energy recovery)	2,216	197,714	89
Incineration (no energy recovery)	91	3,824	42
Integrated Facilities (IWMF)	235	35,626	152
Landfill	460	8,344	18
MBT	98	3,500	36
Recycling	1,583	41,475	26
Waste Processing	919	91,944	100
Others	195	8,646	44
Total	**8,315**	**527,593**	**63**

Source: AcuComm database, 31st December 2021. Click the arrows above to search the latest data for each category.

Average Investment Values by Technology Type (US$m)



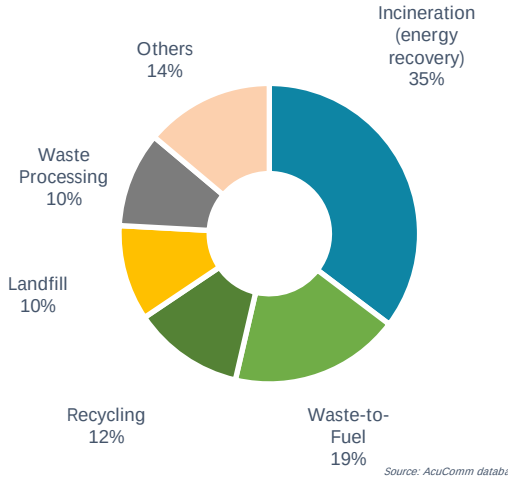
Source: AcuComm database, December 2021

Technology types: project capacity

WtE incineration is the leading technology type in terms of capacity, accounting for an estimated annual 602.5 million tonnes, or 35% of the total. This is equal to average annual capacity per project of 271,917 tonnes or 850 tonnes per day*. Waste-to-Fuel is the second largest, accounting for 312.9 million tonnes, equal to 19% of the total and 1,187 tonnes per day.

Average capacity varies widely, depending on the project. While landfill, WtE incineration and Waste-to-Fuel are at the higher end of the scale, most other technologies such as MBT, MRF, gasification, recycling or AD/Biogas tend – on average – to have far lower daily throughput.

Capacity By Leading Technology Type (%)



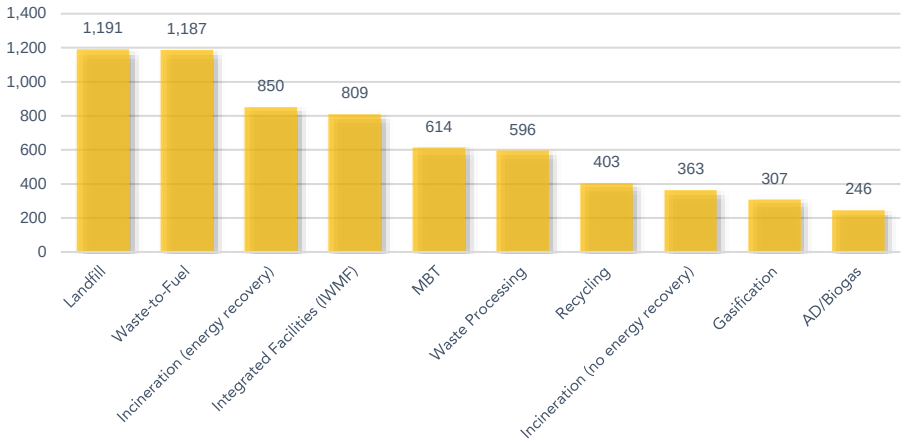
Source: AcuComm database, December 2021

All Project Capacities by Technology Type

	Projects	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Average Tonnes Per Day*
AD/Biogas	1,524	119,784,625	78,599	246
Waste-to-Fuel	824	312,934,607	379,775	1,187
Gasification	170	16,719,913	98,352	307
Incineration (energy recovery)	2,216	602,567,815	271,917	850
Incineration (no energy recovery)	91	10,562,376	116,070	363
Integrated Facilities (IWMF)	235	60,835,093	258,873	809
Landfill	460	175,387,740	381,278	1,191
MBT	98	19,254,486	196,474	614
Recycling	1,583	204,066,439	128,911	403
Waste Processing	919	175,252,986	190,700	596
Others	195	9,655,913	49,518	155
Total	**8,315**	**1,707,021,995**	**205,294**	**642**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Average Tonnes Per Day* by Technology Type



** TPD calculated using a standard 320 day year*

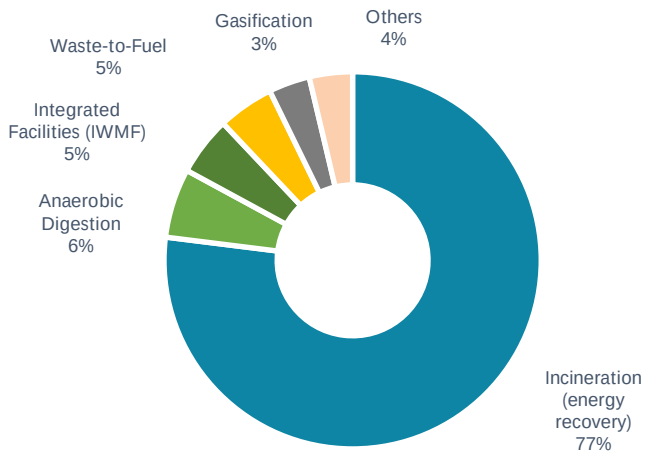
Source: AcuComm database, December 2021

Technology types: power generation

Incineration is unsurprisingly the leading source of power/heat generation, accounting for 68,728 MW or 77% of the total. This is from a combination of MSW incinerators and biomass-burning facilities. The remainder is largely composed of gasification and biogas plants.

WtE plants have the largest average generation, at 31 MW. Of the major categories, gasification plants have the second largest output capacity, at 21 MW on average. Waste-to-fuel plants are in third place with 8 MW on average. At the other end of the scale, landfill gas sites and AD/Biogas facilities generally generate far lower amounts of power and/or heat, which is nevertheless useful to the local community or company/farm which is operating them.

Power Generation By Leading Technology Type (%)



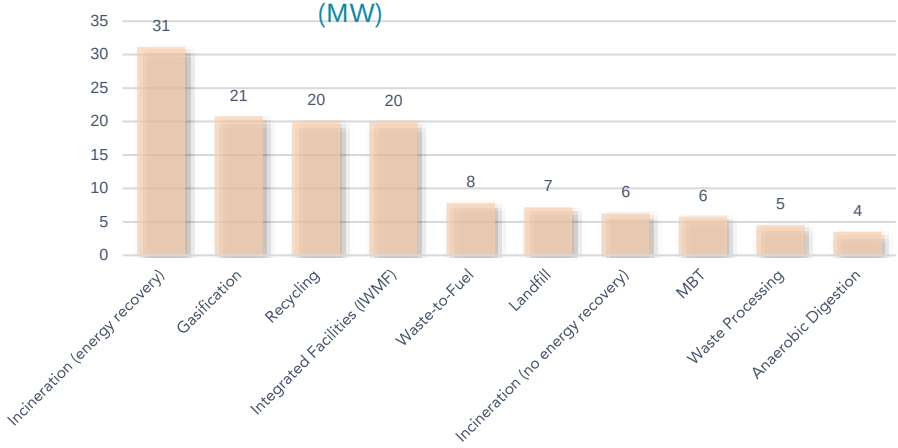
Source: AcuComm database, December 2021

All Projects, Estimated Power Generation by Technology Type

	Projects	Total Estimated Power (MW)	Average Estimated Power (MW)
AD/Biogas	1,505	5,305	4
Waste-to-Fuel	548	4,297	8
Gasification	152	3,155	21
Incineration (energy recovery)	2,207	68,728	31
Incineration (no energy recovery)	1	6	6
Integrated Facilities (IWMF)	225	4,498	20
Landfill	167	1,204	7
MBT	6	35	6
Recycling *	27	541	20
Waste Processing	5	23	5
Others	82	1,499	18
Total	**4,925**	**89,291**	**18**

*Source: AcuComm database, 31st December 2021. Click here to search the latest data. * Refers almost exclusively to the recycling of waste heat*

Average Power Generation by Leading Technology Type (MW)



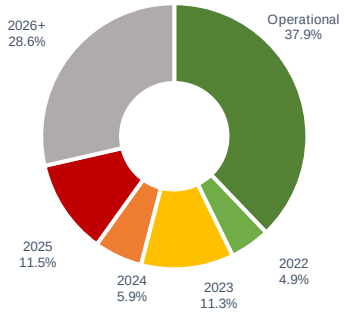
Source: AcuComm database, December 2021

Timescales & operational dates

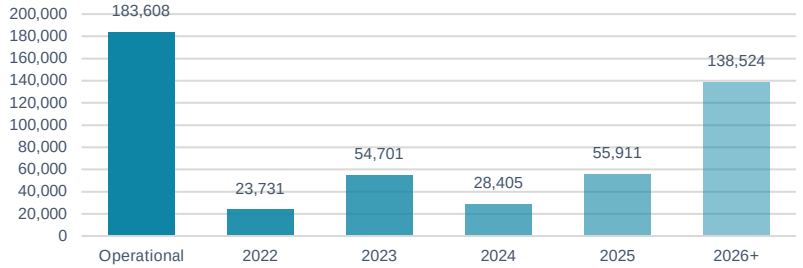
An estimated 37.9% of projects (by US$ value) are operational, equal to US$183.6 billion. This figure will peak in 2023 at US$54.7 billion, although given the average 18-24 month timescale for new projects, more will be announced to raise the figures for 2021 and beyond.

Newly-operational capacity will peak at 198.1 million tonnes in 2025 and new power generation will peak in the same year at 8,869 MW.

All Projects, Est. Operational Dates (%)

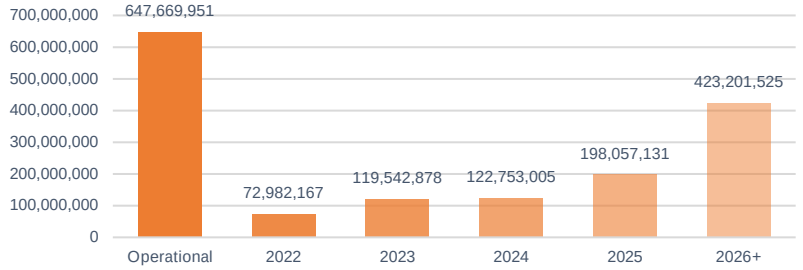


Projected Value of Newly-Operational Projects (US$m)



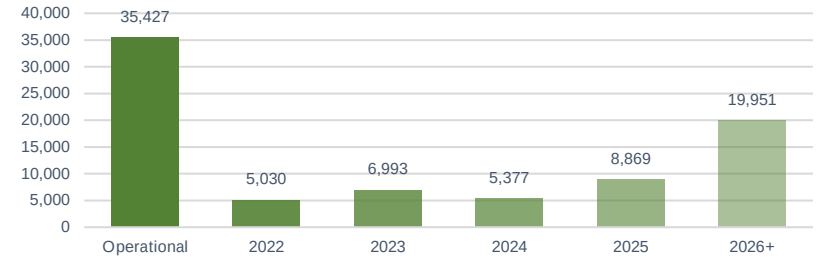
Source: AcuComm database, December 2021

Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

All Projects, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	4,088	183,608	647,669,951	35,427
% of Total	*53.3*	*37.9*	*40.9*	*43.4*
2022	385	23,731	72,982,167	5,030
% of Total	*5.0*	*4.9*	*4.6*	*6.2*
2023	269	54,701	119,542,878	6,993
% of Total	*3.5*	*11.3*	*7.5*	*8.6*
2024	575	28,405	122,753,005	5,377
% of Total	*7.5*	*5.9*	*7.7*	*6.6*
2025	786	55,911	198,057,131	8,869
% of Total	*10.2*	*11.5*	*12.5*	*10.9*
2026+	1,566	138,524	423,201,525	19,951
% of Total	*20.4*	*28.6*	*26.7*	*24.4*
Total	**7,669**	**484,880**	**1,584,206,657**	**81,647**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Regional focus: Africa

AcuComm currently lists 280 active investments in Africa, worth an estimated US$14.6 billion. This is equal to an average per project of US$52 million. Total feedstock capacity is just over 67.1 million tonnes, equal to 239,852 tonnes on average or 750 tonnes per day. Total estimated power generation is 3,642 MW, or 23 MW on average.

The leading country is South Africa, with 48 projects worth a total estimated US$2,094 million, equal to US$44 million each on average. Nigeria accounts for 27 projects worth a total of US$1,816 million, while Egypt's 20 projects account for US$1,440 million.

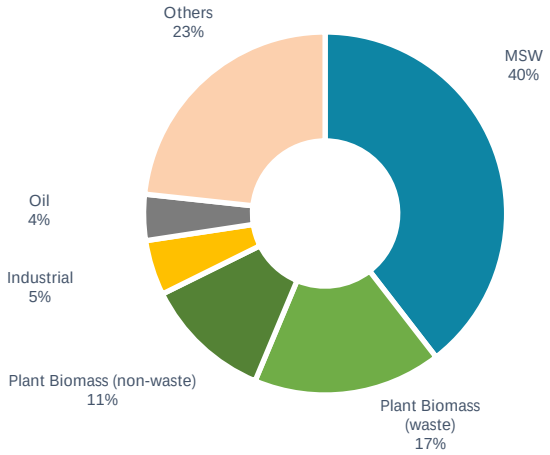
MSW as a feedstock accounts for 40% of the total value. Biomass and general organic matter account for a combined 28%. The leading technology types are WtE incineration and Waste-to-Fuels, accounting for 38% and 19% of the estimated investment values in Africa.

Value of Investments in Africa by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
South Africa	48	2,094	44	8,489,436	394
Nigeria	27	1,816	67	7,828,531	600
Egypt	20	1,440	72	4,398,835	212
Ghana	41	1,388	34	11,680,818	239
Zimbabwe	5	1,034	207	1,010,589	409
Ivory Coast	8	842	105	3,152,090	303
Kenya	20	689	34	3,941,119	136
Ethiopia	9	643	71	3,018,720	255
Rwanda	12	568	47	2,049,114	217
Reunion	7	560	80	1,971,128	396
Others	83	3,474	42	19,499,583	481
Total	**280**	**14,549**	**52**	**67,039,962**	**3,641**

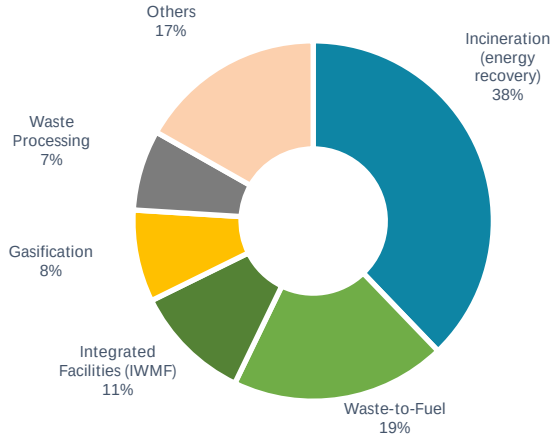
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Africa, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Africa, Waste Investments by Leading Technology Types (%)



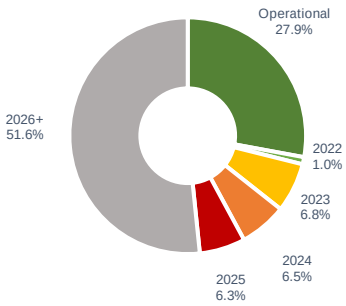
Source: AcuComm database, December 2021

Africa: timescales & operational dates

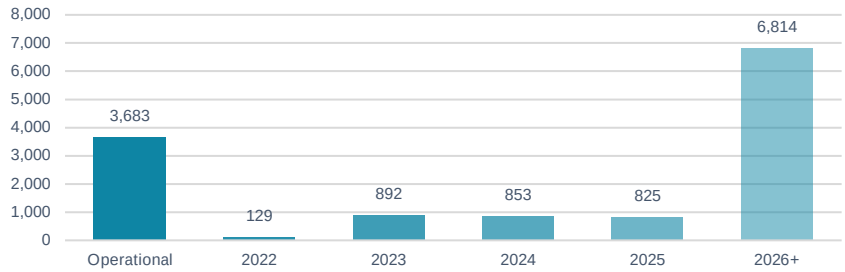
While many smaller projects are running, relatively few major projects in Africa are currently operational: 122 projects, equal to US$3,683 million or 27.9% of the total estimated monetary value.

While a steady stream of new plants is expected to become operational over the next few years, the bulk of planned investments are some way off, with estimated dates of 2026 or later.

Africa, Est. Operational Dates (%)

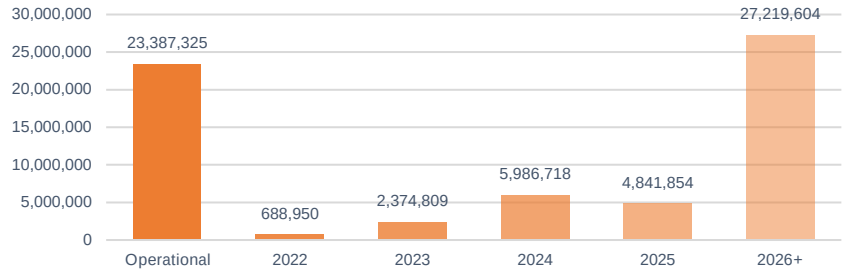


Africa: Projected Value of Newly-Operational Projects (US$m)



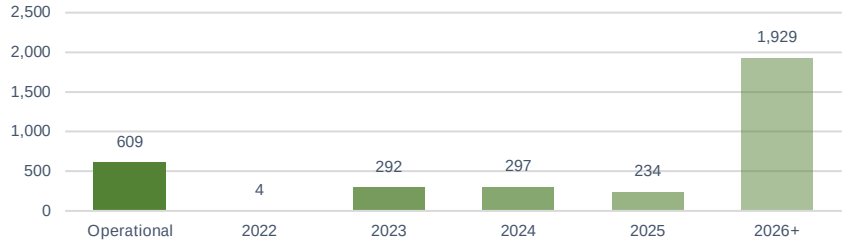
Source: AcuComm database, December 2021

Africa: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Africa: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in Africa, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	122	3,683	23,387,325	609
% of Total	*46.2*	*27.9*	*36.3*	*18.1*
2022	6	129	688,950	4
% of Total	*2.3*	*1.0*	*1.1*	*0.1*
2023	7	892	2,374,809	292
% of Total	*2.7*	*6.8*	*3.7*	*8.7*
2024	15	853	5,986,718	297
% of Total	*5.7*	*6.5*	*9.3*	*8.8*
2025	22	825	4,841,854	234
% of Total	*8.3*	*6.3*	*7.5*	*6.9*
2026+	92	6,814	27,219,604	1,929
% of Total	*34.8*	*51.6*	*42.2*	*57.3*
Total	**264**	**13,196**	**64,499,259**	**3,365**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Regional focus: Americas

AcuComm currently lists 2,110 active investments in the Americas, worth just under an estimated US$146.7 billion. This is equal to an average per project of US$70 million. Total annual feedstock capacity is 505.1 million tonnes, equal to 239,401 tonnes on average or 748 tonnes per day. Total estimated power/heat generation is 15,074 MW, or 13 MW on average.

The leading country by some margin is the USA, with investments worth US$109.4 billion or 75% of the total. The average value of a project in the USA is US$76 million. Canada is in second place with just over US$17.1 billion, and Brazil is third with just under US$9.3 billion.

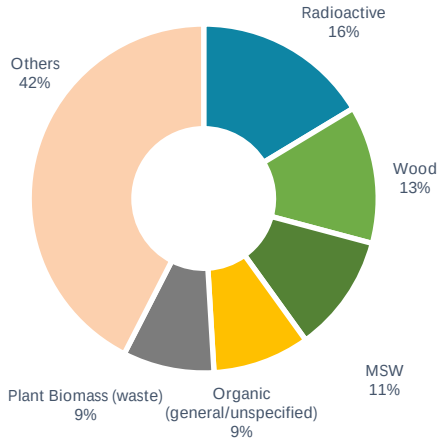
MSW is not a major feedstock, as it only accounts for 11% of the total value. Biomass, wood and general organic matter account for a combined 37%. The leading technology types are waste-to-fuels and waste processing, accounting for 37% and 20% of the estimated investment values in the Americas.

Value of Investments in the Americas by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
USA	1,441	109,432	76	348,458,883	6,718
Canada	328	17,137	52	58,089,869	1,914
Brazil	129	9,277	72	49,774,458	4,397
Mexico	40	1,810	45	8,003,422	332
Paraguay	4	1,160	290	6,527,339	44
Chile	23	1,136	49	3,329,431	455
Colombia	15	819	55	2,756,297	102
Argentina	34	691	20	4,891,743	136
Uruguay	8	475	59	2,419,165	151
Ecuador	12	453	38	1,270,098	88
Others	76	4,296	57	19,614,910	736
Total	**2,110**	**146,687**	**70**	**505,135,614**	**15,074**

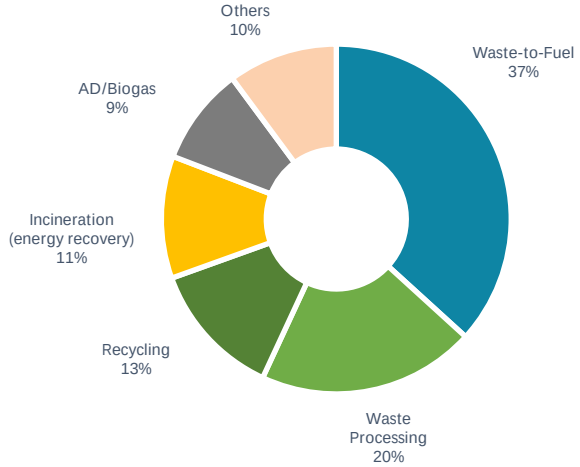
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Americas, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Americas, Waste Investments by Leading Technology Types (%)



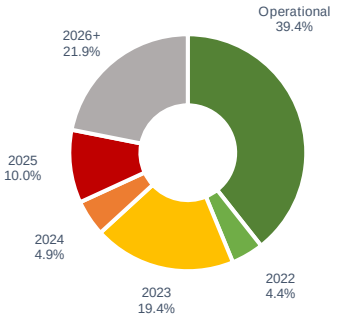
Source: AcuComm database, December 2021

Americas: timescales & operational dates

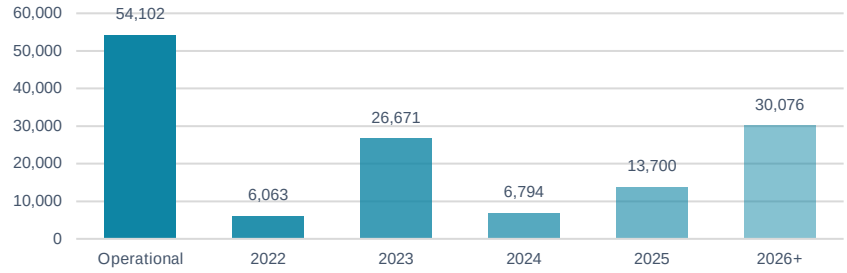
An estimated 39.4% of investments in the Americas are in projects which are already operational, equal to just over US$54.1 billion.

The figure will peak at US$26.7 billion in 2023. There is currently a further US$30.1 billion due in 2026 or later.

Americas, Est. Operational Dates (%)

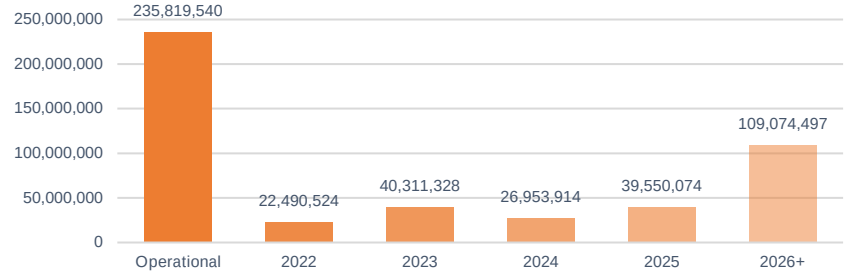


Americas: Projected Value of Newly-Operational Projects (US$m)



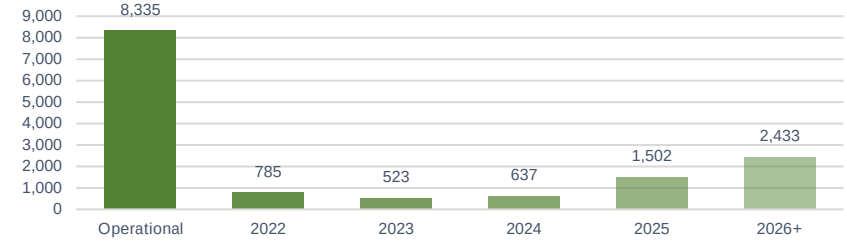
Source: AcuComm database, December 2021

Americas: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Americas: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in the Americas, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	1,192	54,102	235,819,540	8,335
% of Total	*61.0*	*39.4*	*49.7*	*58.6*
2022	111	6,063	22,490,524	785
% of Total	*5.7*	*4.4*	*4.7*	*5.5*
2023	69	26,671	40,311,328	523
% of Total	*3.5*	*19.4*	*8.5*	*3.7*
2024	104	6,794	26,953,914	637
% of Total	*5.3*	*4.9*	*5.7*	*4.5*
2025	139	13,700	39,550,074	1,502
% of Total	*7.1*	*10.0*	*8.3*	*10.6*
2026+	340	30,076	109,074,497	2,433
% of Total	*17.4*	*21.9*	*23.0*	*17.1*
Total	**1,955**	**137,406**	**474,199,878**	**14,215**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Regional focus: Asia

AcuComm currently lists 1,710 active investments in Asia, worth an estimated US$133.8 billion. This is equal to an average per project of US$78 million. Total feedstock capacity is just under 455.4 million tonnes, equal to 266,309 tonnes on average or 832 tonnes per day. Total estimated power/heat generation is 25,777 MW, or 21 MW on average.

The leading country is China, with investments worth US$48.0 billion or 36% of the total. The average value of a project in China is US$90 million. This is followed by Japan with US$36.4 billion, equal to 27% of the total and US$105 million on average. Both these figures are significantly above the global average.

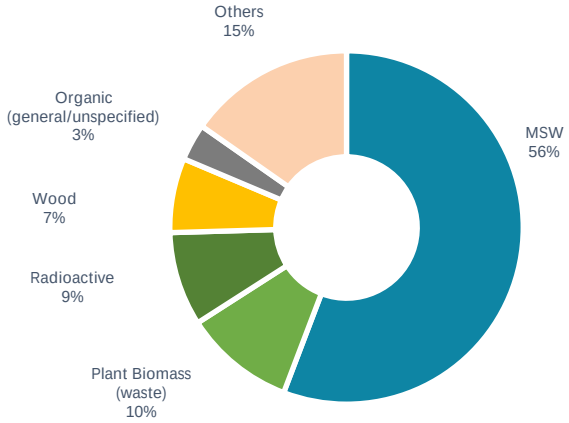
WtE incineration of municipal solid waste is the principal focus of investment in Asia, accounting for around 57% of all estimated investment. Waste-to-fuel and recycling are comparatively under-developed in comparison with Europe or North America.

Value of Investments in Asia by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
China	534	48,010	90	203,909,988	10,777
Japan	348	36,444	105	65,532,899	6,601
India	287	13,984	49	60,081,223	1,778
Hong Kong	30	5,426	181	7,045,322	119
Thailand	89	4,550	51	16,615,400	1,192
Singapore	24	4,051	169	11,779,364	351
Philippines	67	3,685	55	15,284,361	939
Vietnam	39	3,601	92	12,589,888	657
Indonesia	56	3,491	62	14,335,077	702
Malaysia	67	2,755	41	12,277,273	451
Others	169	7,773	46	35,937,908	2,209
Total	**1,710**	**133,769**	**78**	**455,388,703**	**25,777**

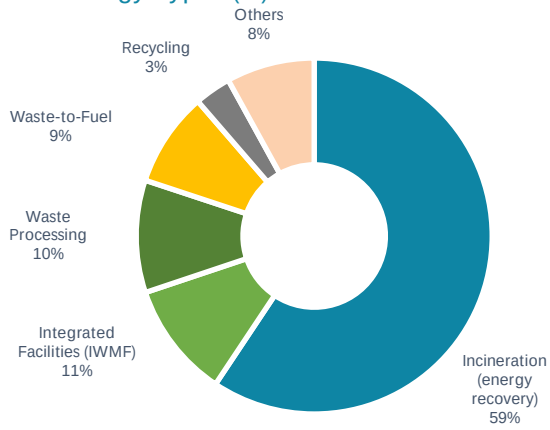
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Asia, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Asia, Waste Investments by Leading Technology Types (%)



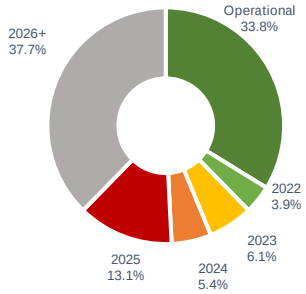
Source: AcuComm database, December 2021

Asia: timescales & operational dates

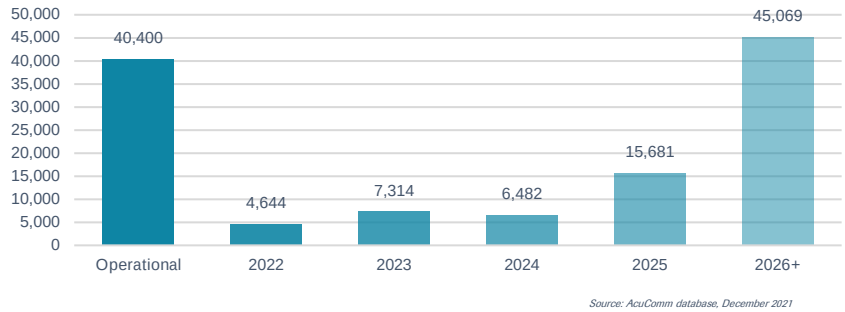
Many projects in Asia have long lead times. While 33.8% by value are currently operational, around 50% are not due to enter service until 2025 or later.

There is, however, a steady stream of new projects due to become operational over the next few years. These average US$6.1 billion per year for the 2022-2024 period.

Asia, Est. Operational Dates (%)

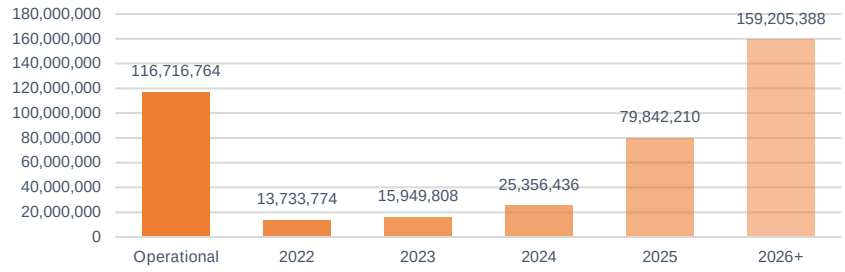


Asia: Projected Value of Newly-Operational Projects (US$m)



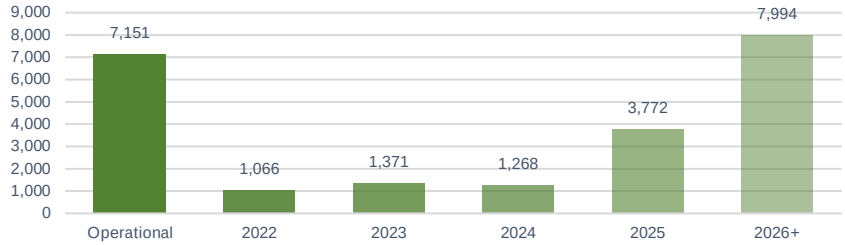
Source: AcuComm database, December 2021

Asia: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Asia: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in Asia, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	558	40,400	116,716,764	7,151
% of Total	*36.2*	*33.8*	*28.4*	*31.6*
2022	66	4,644	13,733,774	1,066
% of Total	*4.3*	*3.9*	*3.3*	*4.7*
2023	55	7,314	15,949,808	1,371
% of Total	*3.6*	*6.1*	*3.9*	*6.1*
2024	108	6,482	25,356,436	1,268
% of Total	*7.0*	*5.4*	*6.2*	*5.6*
2025	234	15,681	79,842,210	3,772
% of Total	*15.2*	*13.1*	*19.4*	*16.7*
2026+	520	45,069	159,205,388	7,994
% of Total	*33.7*	*37.7*	*38.8*	*35.3*
Total	**1,541**	**119,590**	**410,804,379**	**22,622**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Regional focus: Europe

AcuComm currently lists 3,707 active investments in Europe, worth an estimated US$205.7 billion. This is equal to an average per project of US$55 million. Total feedstock capacity is just over 571.5 million tonnes, equal to 154,179 tonnes on average or 482 tonnes per day. Total estimated power generation is 41,145 MW, or 18 MW on average.

The leading country is the UK, with investments worth US$56.4 billion or 27% of the total. The average value of a project in the UK is US$67 million. An increasing number of projects are also being announced in Russia, with 25 new WtE plants proposed in May 2020. Other leading areas of activity include France, Germany, Spain and the Scandinavian countries.

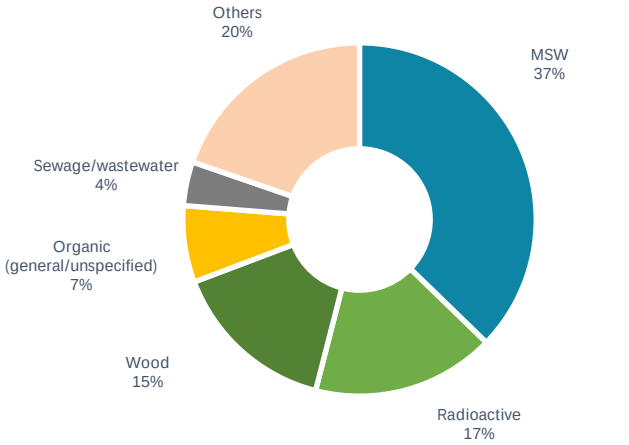
MSW is a significant feedstock, accounting for 37% of investments. Wood-based feedstocks are also a major source for power/heat generation. The leading technology type is incineration – of either waste or biomass - accounting for 43% of estimated investments across Europe.

Value of Investments in Europe by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
UK	848	56,394	67	127,847,281	8,284
Russia	84	18,856	224	65,855,722	3,596
Germany	346	15,217	44	38,576,125	2,951
France	367	14,527	40	34,787,711	2,651
Finland	160	10,209	64	25,803,306	4,528
Sweden	193	8,928	46	27,453,509	3,132
Spain	330	8,424	26	38,561,120	1,902
Denmark	119	8,393	71	23,047,469	2,339
Netherlands	185	8,038	43	24,897,899	1,129
Ukraine	48	6,429	134	7,580,637	407
Others	1,027	50,311	49	157,129,052	10,225
Total	**3,707**	**205,725**	**55**	**571,539,831**	**41,145**

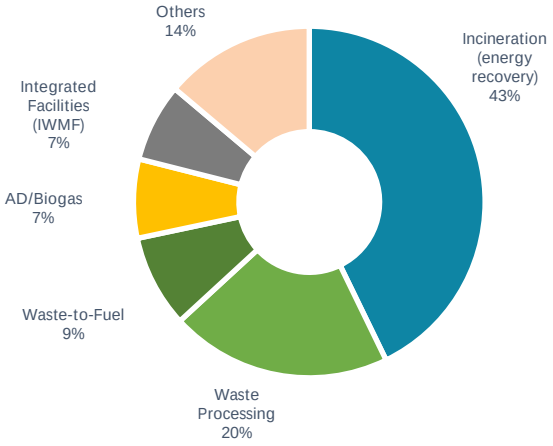
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Europe, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Europe, Waste Investments by Leading Technology Types (%)



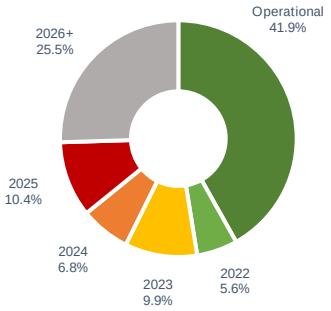
Source: AcuComm database, December 2021

Europe: timescales & operational dates

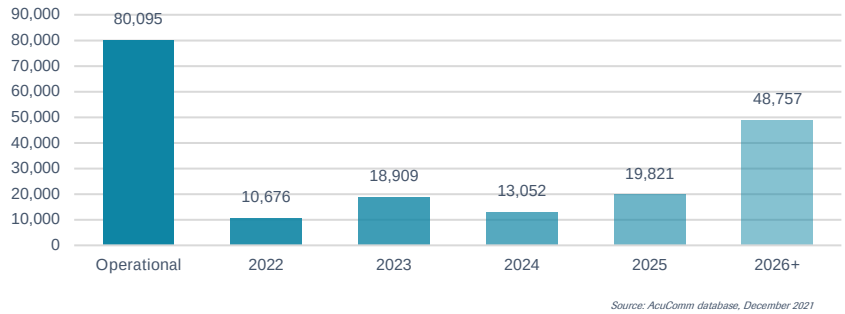
An estimated 41.9% of European investments are in projects which are already operational, equal to just under US$80.1 billion.

The figure will then peak at US$18.9 billion in 2023, although there is already a steady pipeline of earlier-stage projects due to become operational in 2024 and beyond.

Europe, Est. Operational Dates (%)

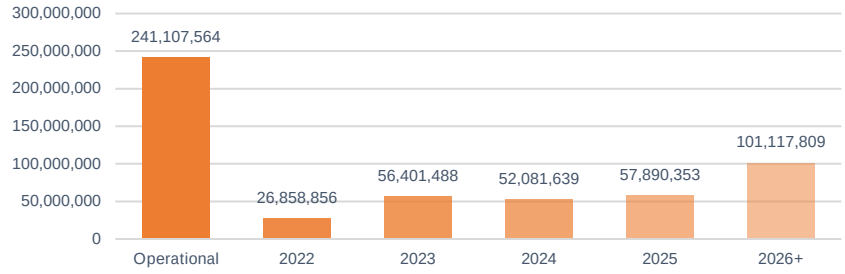


Europe: Projected Value of Newly-Operational Projects (US$m)



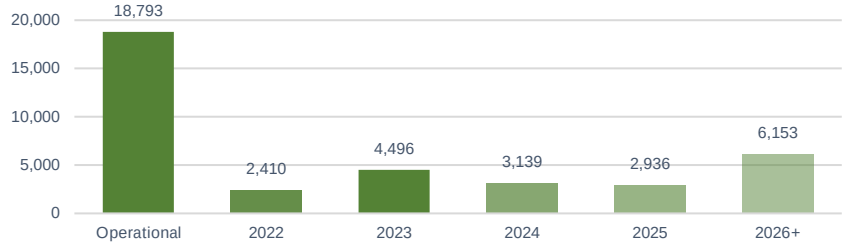
Source: AcuComm database, December 2021

Europe: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Europe: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in Europe, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	2,018	80,095	241,107,564	18,793
% of Total	*58.5*	*41.9*	*45.0*	*49.6*
2022	189	10,676	26,858,856	2,410
% of Total	*5.5*	*5.6*	*5.0*	*6.4*
2023	124	18,909	56,401,488	4,496
% of Total	*3.6*	*9.9*	*10.5*	*11.9*
2024	291	13,052	52,081,639	3,139
% of Total	*8.4*	*6.8*	*9.7*	*8.3*
2025	335	19,821	57,890,353	2,936
% of Total	*9.7*	*10.4*	*10.8*	*7.7*
2026+	494	48,757	101,117,809	6,153
% of Total	*14.3*	*25.5*	*18.9*	*16.2*
Total	**3,451**	**191,310**	**535,457,710**	**37,926**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Regional focus: Middle East

AcuComm currently lists 145 active investments in the Middle East, worth just over an estimated US$8.0 billion. This is equal to an average per project of US$55 million. Total feedstock capacity is just under 39.8 million tonnes, equal to 274,372 on average or 857 tonnes per day. Total estimated power generation is 947 MW, or 24 MW on average.

The leading country is the United Arab Emirates (UAE), with investments worth just over US$4.1 billion or 52% of the total. The average value of a project in the UAE is US$69 million. In second place is Oman with 21 projects worth a total of US$981 million.

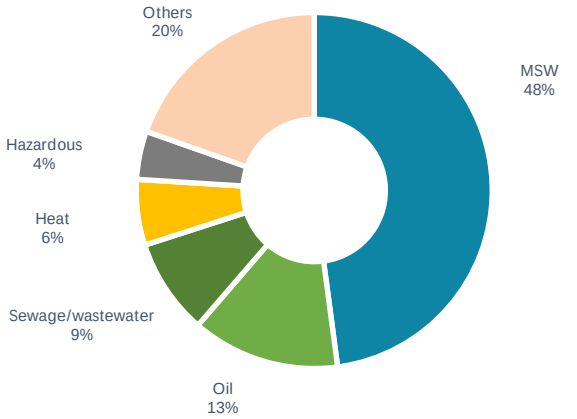
MSW is the leading feedstock, accounting for an estimated 48% of investments. There are also a small number of large projects in niche areas such as metals or rubber recycling. WtE incineration and recycling are the leading technology types in the Middle East.

Value of Investments in the Middle East by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
United Arab Emirates	60	4,157	69	14,946,254	674
Oman	21	981	47	6,925,810	17
Israel	8	567	71	3,717,019	12
Qatar	6	550	92	1,302,067	50
Kuwait	4	438	110	1,658,074	101
Saudi Arabia	16	435	27	1,903,262	24
Jordan	9	322	36	4,766,669	21
Lebanon	8	205	26	1,149,866	2
Bahrain	5	141	28	1,616,956	0
Palestine	3	131	44	527,814	40
Others	5	112	22	1,270,161	6
Total	**145**	**8,040**	**55**	**39,783,952**	**947**

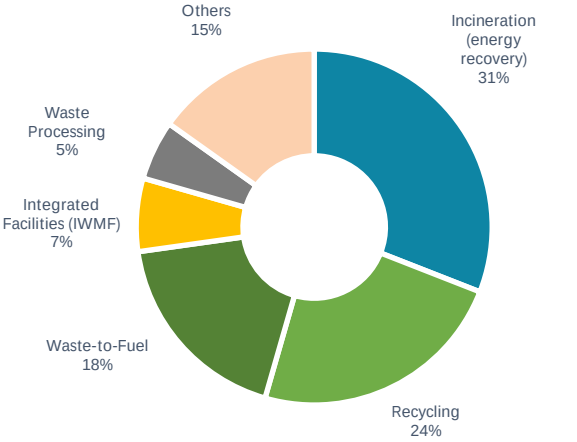
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Middle East, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Middle East, Waste Investments by Leading Technology Types (%)



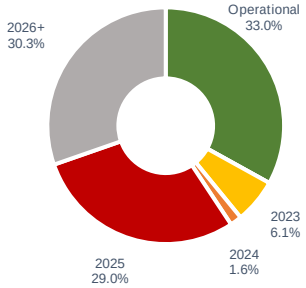
Source: AcuComm database, December 2021

Middle East: timescales & operational dates

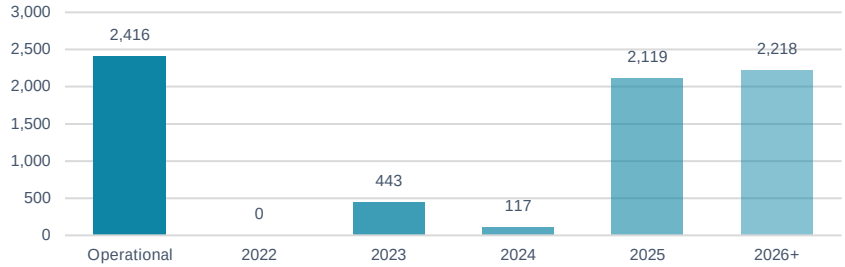
An estimated 33.0% of Middle Eastern investments are in projects which are already operational, equal to US$2.4 billion.

A further 53 projects worth US$4.3 billion have been collected by AcuComm, with anticipated operational dates of 2025 or later.

Mid East, Est. Operational Dates (%)

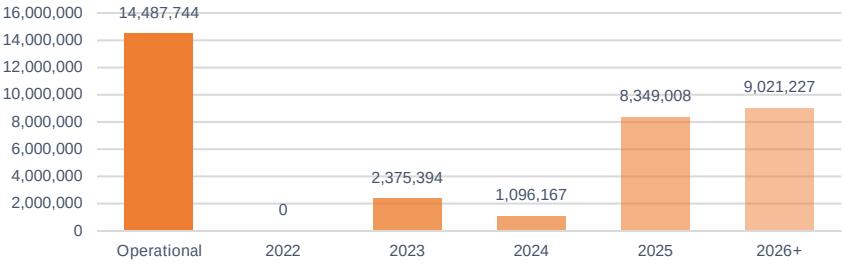


Mid East: Projected Value of Newly-Operational Projects (US$m)



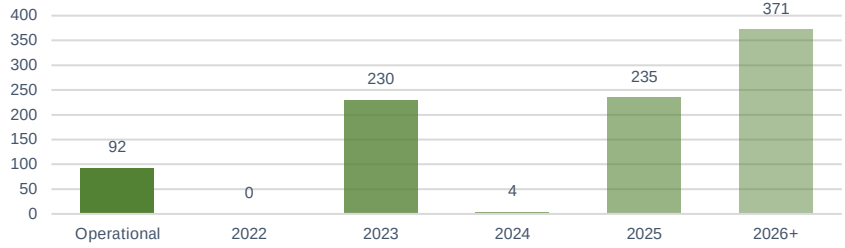
Source: AcuComm database, December 2021

Mid East: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Mid East: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in the Middle East, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	68	2,416	14,487,744	92
% of Total	*52.3*	*33.0*	*41.0*	*9.9*
2022	0	0	0	0
% of Total	*0.0*	*0.0*	*0.0*	*0.0*
2023	2	443	2,375,394	230
% of Total	*1.5*	*6.1*	*6.7*	*24.7*
2024	7	117	1,096,167	4
% of Total	*5.4*	*1.6*	*3.1*	*0.4*
2025	20	2,119	8,349,008	235
% of Total	*15.4*	*29.0*	*23.6*	*25.2*
2026+	33	2,218	9,021,227	371
% of Total	*25.4*	*30.3*	*25.5*	*39.8*
Total	**130**	**7,312**	**35,329,539**	**932**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

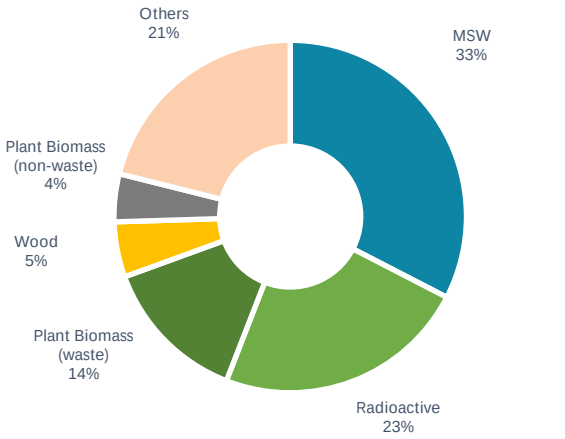
Regional focus: Pacific

AcuComm currently lists 337 active investments in the Pacific region, worth an estimated US$17.7 billion. This is equal to an average per project of US$53 million. Total feedstock capacity is 63.7 million tonnes, equal to 189,021 on average or 591 tonnes per day. Total estimated power generation is 2,347 MW, or 19 MW on average.

The region is dominated by Australia, which accounts for 287 projects worth US$15.9 billion, or 90% of the total investment in the Pacific.

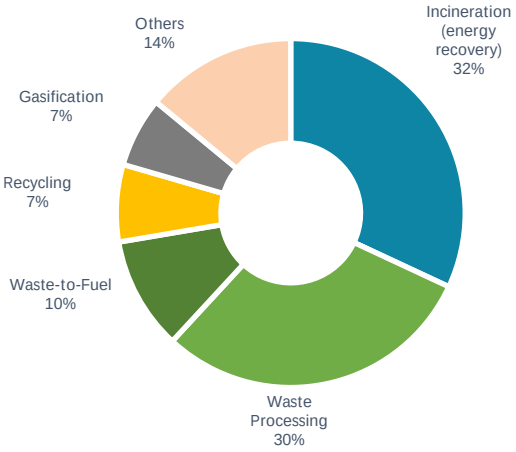
MSW is the leading feedstock, accounting for 33% of estimated investment. The Australian radioactive waste sector is also currently a major focus of investment. Incineration and waste processing are the leading technology types in the Pacific, accounting for 32% and 30% of investments respectively.

Pacific, Waste Investments by Leading Feedstock Types (%)



Source: AcuComm database, December 2021

Pacific, Waste Investments by Leading Technology Types (%)



Source: AcuComm database, December 2021

Value of Investments in the Pacific by Leading Country

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Capacity (tonnes)	Power Generation (MW)
Australia	287	15,943	56	57,727,109	2,000
New Zealand	38	1,219	32	3,821,852	255
Fiji	4	422	105	1,289,662	86
Samoa	2	39	20	22,400	4
Guam	1	25	25	268,288	0
Northern Marianas	1	25	25	268,288	0
Solomon Islands	1	25	25	268,288	0
American Samoa	1	5	5	26,490	1
Marshall Islands	1	0	0	413	0
Other	1	3	3	7,216	1
Total	**337**	**17,706**	**53**	**63,700,008**	**2,347**

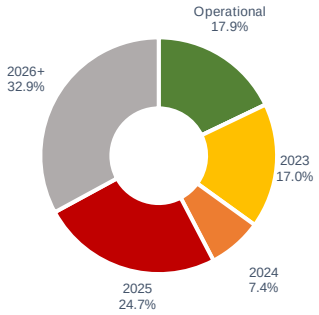
Source: AcuComm database, 31st December 2021. Click each flag in the table above to go to the latest full online data for projects in each country.

Pacific: timescales & operational dates

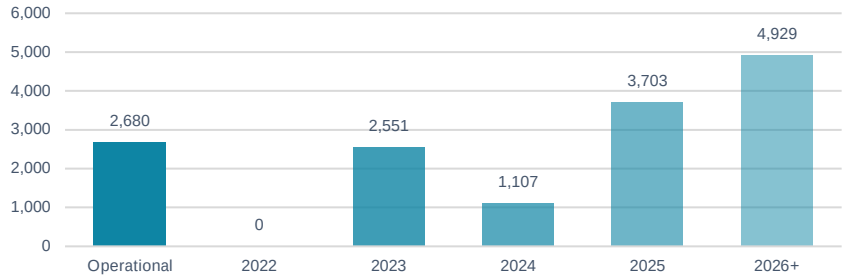
An estimated 17.9% of Pacific investments are in projects which are already operational, equal to just under US$2.7 billion.

The figure will peak at US$3.7 billion in 2025, although there is a steady pipeline of new projects with estimated completion dates of 2026 and beyond.

Pacific, Est. Operational Dates (%)

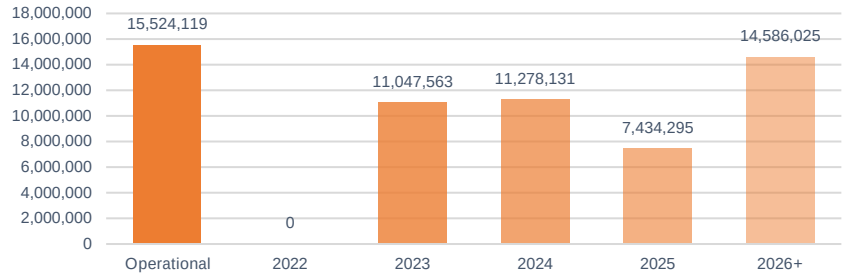


Pacific: Projected Value of Newly-Operational Projects (US$m)



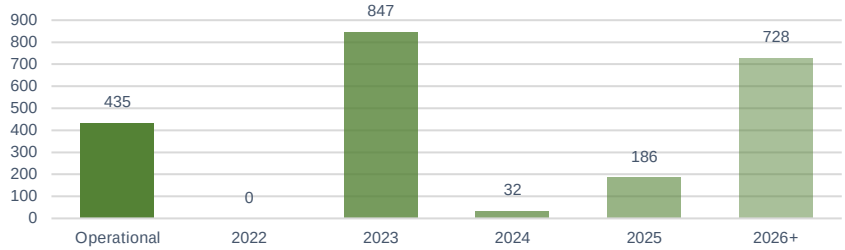
Source: AcuComm database, December 2021

Pacific: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

Pacific: Projected Power Generation of Newly-Operational Projects (MW)



Source: AcuComm database, December 2021

Projects in the Pacific, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	127	2,680	15,524,119	435
% of Total	*41.8*	*17.9*	*25.9*	*19.5*
2022	0	0	0	0
% of Total	*0.0*	*0.0*	*0.0*	*0.0*
2023	12	2,551	11,047,563	847
% of Total	*3.9*	*17.0*	*18.5*	*38.0*
2024	10	1,107	11,278,131	32
% of Total	*3.3*	*7.4*	*18.8*	*1.4*
2025	50	3,703	7,434,295	186
% of Total	*16.4*	*24.7*	*12.4*	*8.3*
2026+	105	4,929	14,586,025	728
% of Total	*34.5*	*32.9*	*24.4*	*32.7*
Total	**304**	**14,970**	**59,870,134**	**2,228**

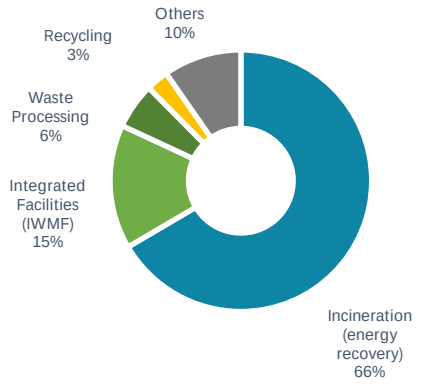
Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Sector focus: MSW – summary data

This section looks at the MSW sector of the market. AcuComm currently holds 2,331 projects dealing primarily with MSW. These have a combined value of US$182.9 billion, equal to US$78 million on average. The average tonnes per day is 968, and average power/heat generation is 27 MW. Incineration plants, either stand-alone or as part of larger integrated sites, form the majority of MSW projects.

Europe and Asia dominate the sector, accounting for 42% and 41% of project values respectively. WtE projects in Asia are particularly large, at US$98 million each on average. In contrast, there are many investments in the Americas, but these only average US$39 million each.

MSW US$ Investments by Tech Type (%)



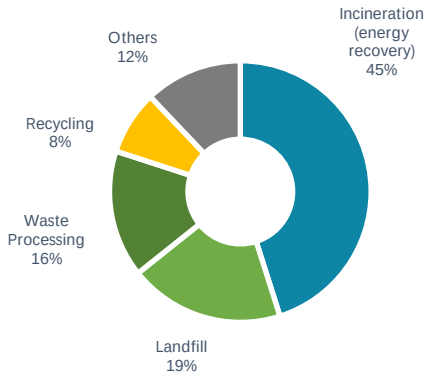
Source: AcuComm database, December 2021

Summary Data, all MSW Projects

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
AD/Biogas	31	551	18	3,556,498	114,726	359	128	8
Waste-to-Fuel	42	4,260	101	7,745,926	184,427	576	10	10
Gasification	51	4,755	93	7,790,203	152,749	477	1,131	22
Incineration (energy recovery)	865	121,736	141	325,661,915	376,488	1,177	26,282	30
Incineration (no energy recovery)	12	880	73	1,384,506	115,375	361	6	6
Integrated Facilities (IWMF)	189	28,103	149	48,921,441	258,844	809	3,413	18
Landfill	218	3,791	17	138,518,827	635,407	1,986	30	10
MBT	83	3,164	38	16,971,635	204,478	639	35	6
Recycling	423	5,059	12	57,186,910	135,194	422	2	2
Waste Processing	414	10,354	25	113,529,569	274,226	857	14	5
Others	3	271	90	829,286	276,429	864	0	-
Total	**2,331**	**182,924**	**78**	**722,096,714**	**309,780**	**968**	**31,052**	**27**

Source: AcuComm database, 31st December 2021. Click the arrows in the table to search latest data in each category.

MSW Feedstock Capacity (tonnes) by Tech Type (%)



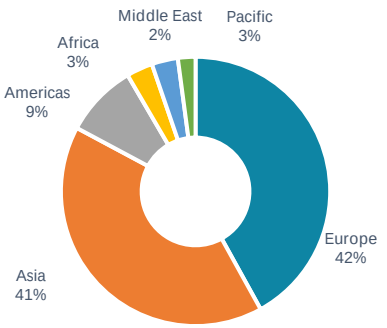
Source: AcuComm database, December 2021

Sector focus: MSW – regional summary & operational status

MSW Projects by Region

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
Africa	100	5,751	58	32,313,899	323,139	1,010	822	23
Americas	412	16,018	39	130,390,554	316,482	989	1,416	19
Asia	758	74,624	98	264,330,379	348,721	1,090	13,370	22
Europe	894	76,655	86	240,982,141	269,555	842	13,934	38
Middle East	53	3,851	73	23,832,463	449,669	1,405	618	41
Pacific	111	5,769	52	29,151,239	262,624	821	852	30
Unknown/unspecified	3	256	85	1,096,038	365,346	1,142	4	1
Total	**2,331**	**182,924**	**78**	**722,096,714**	**309,780**	**968**	**31,052**	**27**

MSW Project Values by Region (%)

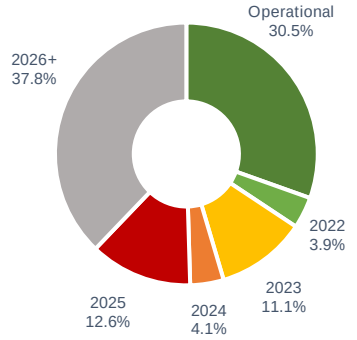


Source: AcuComm database, December 2021

MSW Projects by Estimated Year of Operation

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
Operational	923	52,847	57	212,088,568	229,782	718	8,189	20
2022	83	6,719	81	21,303,480	256,668	802	1,260	31
2023	67	19,250	287	50,793,642	758,114	2,369	3,657	81
2024	131	7,143	55	39,430,763	300,998	941	981	34
2025	263	21,917	83	103,296,059	392,761	1,227	3,440	31
2026+	695	65,662	94	248,520,547	357,584	1,117	11,692	23
Total	**2,162**	**173,539**	**80**	**675,433,059**	**312,411**	**976**	**29,220**	**26**

MSW, Est. Operational Dates (%)



Source: AcuComm database, December 2021

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total in the second table on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Sector focus: Recycling – summary data

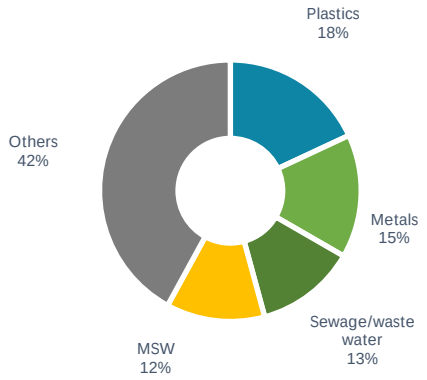
AcuComm currently holds 1,583 recycling projects, worth an estimated US$41.4 billion or US$26 million each on average. General MSW, metals and plastics are the leading feedstock types. Investment is heavily concentrated in the Americas and Europe.

Summary Data, all Recycling Projects

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average value (tonnes)	Tonnes Per Day
Animal	2	46	23	266,945	133,472	417
Clinical	1	30	30	126,876	126,876	396
Construction/Demolition	109	720	7	35,811,971	328,550	1,027
e-Waste	93	1,684	18	8,824,771	94,890	297
Food	3	78	26	32,658	10,886	34
Gas	13	3,638	280	837,913	64,455	201
Glass	37	454	12	5,823,742	157,398	492
Hazardous	69	2,367	34	1,701,960	24,666	77
Heat	60	2,706	45	11,907,747	198,462	620
Industrial	60	1,187	20	11,192,781	186,546	583
Metals	168	6,333	38	37,022,627	220,373	689
MSW	423	5,059	12	57,186,910	135,194	422
Oil	23	623	27	1,421,682	61,812	193
Organic (general/unspecified)	8	79	10	575,903	71,988	225
Paper	42	1,352	32	4,688,983	111,642	349
Plant Biomass (non-waste)	0	0	-	0	-	-
Plant Biomass (waste)	2	10	5	50,867	25,434	79
Plastics	319	7,488	23	14,549,731	45,610	143
Radioactive	1	121	121	72,501	72,501	227
Rubber	65	1,637	25	3,340,913	51,399	161
Sewage/wastewater	36	5,161	143	4,448,589	123,572	386
Wood	6	24	4	449,000	74,833	234
Other	43	675	16	3,731,370	86,776	271
Total	**1,583**	**41,475**	**26**	**204,066,439**	**128,911**	**403**

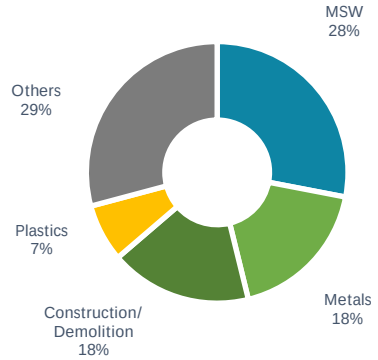
Source: AcuComm database, 31st December 2021. Click the arrows above to search the latest data for each category.

Recycling US$ Investments by Feedstock (%)



Source: AcuComm database, December 2021

Recycling Capacity (tonnes) by Feedstock (%)



Source: AcuComm database, December 2021

Sector focus: Recycling – regional summary & operational status

Recycling Projects by Region

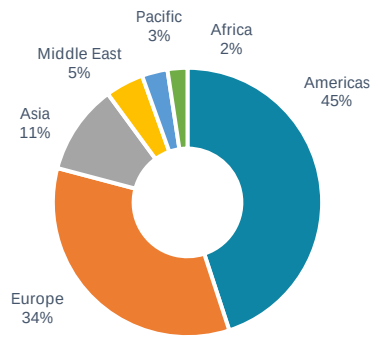
	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day
Africa	50	982	20	5,835,303	116,706	365
Americas	522	18,484	35	76,073,986	145,736	455
Asia	143	4,443	31	22,738,407	159,010	497
Europe	698	14,031	20	78,102,199	111,894	350
Middle East	50	1,891	38	10,405,351	208,107	650
Pacific	105	1,267	12	9,942,856	94,694	296
Total	**1,568**	**41,097**	**26**	**203,098,101**	**129,527**	**405**

Recycling Projects by Estimated Year of Operation

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day
Operational	996	23,600	24	126,373,211	126,881	397
2022	69	1,930	28	6,606,274	95,743	299
2023	59	2,676	45	10,734,805	181,946	569
2024	119	2,549	21	14,362,150	120,690	377
2025	47	2,358	50	5,806,613	123,545	386
2026+	199	6,316	32	30,405,610	152,792	477
Total	**1,489**	**39,429**	**26**	**194,288,663**	**130,483**	**408**

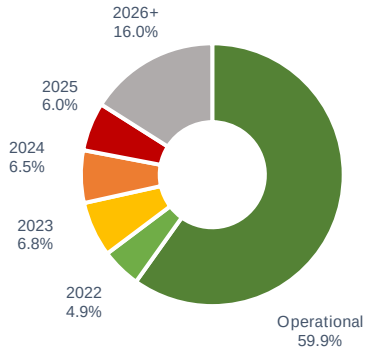
Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total in the second table on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Recycling Project Values by Region (%)



Source: AcuComm database, December 2021

Recycling, Est. Operational Dates (%)



Source: AcuComm database, December 2021

Sector focus: Bioenergy – summary data

AcuComm holds 2,405 projects in the bioenergy field, worth an estimated US$137.7 billion, equal to US$57 million each. Almost all investment is either incineration or Waste-to-Fuel extraction. Wood is the leading feedstock, although many projects are designed to be able to use more than one type. Investment is heavily concentrated in Europe, the Americas and, to a lesser but growing degree, Asia. Total power/heat generation from these projects is estimated at 48,219 MW, or 19 MW per project on average. AD/Biogas projects are the exception, generally being far smaller in size and therefore feedstock capacity/power output.

Summary Data, all Bioenergy Projects by Technology Type

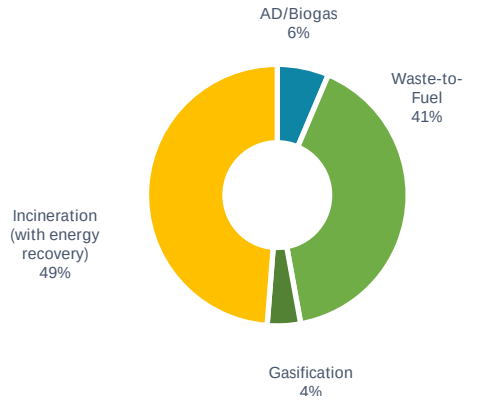
	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
AD/Biogas	570	8,787	15	35,590,170	62,439	195	2,057	3
Waste-to-Fuel	545	56,122	103	210,595,070	386,413	1,208	4,253	8
Gasification	89	5,662	64	5,329,338	59,880	187	1,593	18
Incineration (with energy recovery)	1,201	67,140	56	249,352,738	207,621	649	40,315	34
Total	**2,405**	**137,712**	**57**	**500,867,316**	**208,261**	**651**	**48,219**	**19**

Summary Data, all Bioenergy Projects by Feedstock Type

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
Organic (general/unspecified)	564	29,897	53	98,836,273	175,242	548	7,887	14
Plant Biomass (non-waste)	145	14,491	100	96,785,556	667,487	2,086	2,202	15
Plant Biomass (waste)	645	36,174	56	161,196,192	249,917	781	11,877	18
Wood	1,051	57,150	54	144,049,295	137,059	428	26,253	25
Total	**2,405**	**137,712**	**57**	**500,867,316**	**208,261**	**651**	**48,219**	**20**

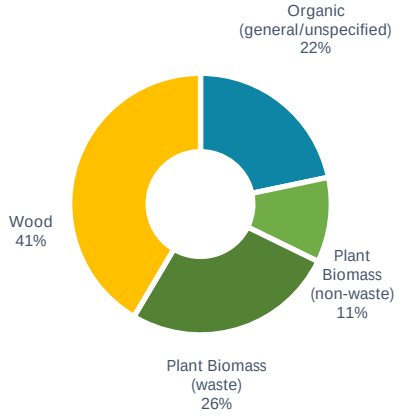
Source: AcuComm database, 31st December 2021. Click the arrows above to search the latest data for each category.

Bioenergy US$ Investments by Tech (%)



Source: AcuComm database, December 2021

Bioenergy US$ Investments by Feedstock (%)



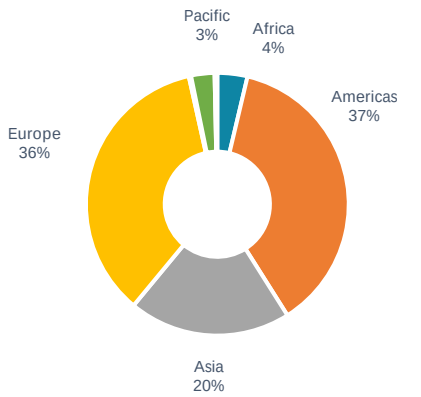
Source: AcuComm database, December 2021

Sector focus: Bioenergy – regional summary & operational status

Bioenergy Projects by Region

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
Africa	78	5,096	65	22,182,379	284,389	889	1,968	25
Americas	562	51,418	91	184,678,784	328,610	1,027	10,663	19
Asia	454	27,491	61	115,440,590	254,274	795	10,890	24
Europe	1,247	48,898	39	159,927,533	128,250	401	23,189	19
Middle East	6	380	63	1,252,913	208,819	653	32	5
Pacific	52	3,967	76	15,775,753	303,380	948	1,158	22
Unknown/unspecified	6	461	77	1,609,364	268,227	838	319	40
Total	**2,405**	**137,712**	**57**	**500,867,316**	**208,261**	**651**	**48,219**	**20**

Bioenergy Project Values by Region (%)



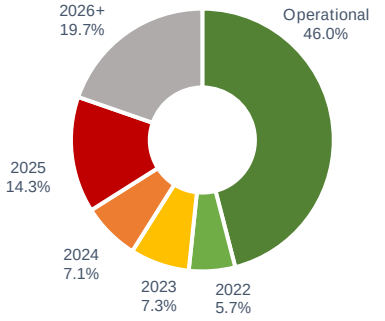
Source: AcuComm database, December 2021

Bioenergy Projects by Estimated Year of Operation

	Projects	Total Estimated Value (US$m)	Average value (US$m)	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Tonnes Per Day	Total Estimated Power Generation (MW)	Average value (MW)
Operational	1,242	58,065	47	208,795,536	168,112	525	22,694	16
2022	113	7,188	64	24,583,729	217,555	680	3,026	27
2023	69	9,213	134	35,615,433	516,166	1,613	2,448	35
2024	127	8,948	70	33,305,482	262,248	820	3,313	24
2025	277	18,040	65	58,812,184	212,318	663	4,822	17
2026+	379	24,867	66	95,793,116	252,752	790	6,769	17
Total	**2,207**	**126,321**	**57**	**456,905,480**	**207,026**	**647**	**43,072**	**18**

Source: AcuComm database, 31st December 2021. Click here to search the latest data. The project total in the second table on this page is lower than the overall total, as it is not possible to estimate operational status in all cases.

Bioenergy, Est. Operational Dates (%)



Source: AcuComm database, December 2021

Leading companies active

Contractors/Engineers

1	Hitachi Zosen Inova	Switzerland
2	Standardkessel Baumgarte (JFE Engineering)	Germany
3	HoSt	Netherlands
4	Valmet	Finland
5	Komptech	Germany

Equipment Suppliers

1	Martin GmbH fur Umwelt und Energietechnik	Germany
2	ANDRITZ	Austria
3	Haldor Topsoe	Denmark
4	Doosan	Korea
5	Honeywell UOP	USA

Operators

1	Enviva	USA
2	Cleanaway Waste Management	Australia
3	Republic Services	USA
4	Tadweer	UAE
5	SUEZ	France

This page presents the top five companies for three categories (contractors/engineers, equipment suppliers and operators). This is based on the number of references to each company across the whole AcuComm database during the past 12 months. It is not intended to reflect a financial ranking.

Click on the company logo to explore the projects associated with each company, including full project data and named company contact details.

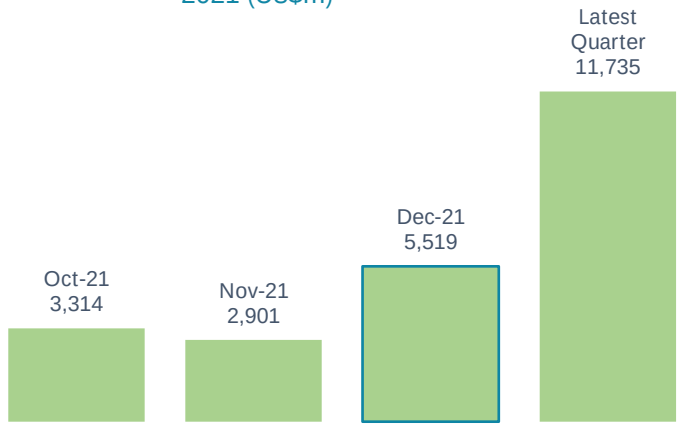
Latest Monthly Activity

Project reporting in the latest month (December 2021)

AcuComm reported on 95 new projects in December 2021, worth an estimated US$5.5 billion. This takes the total for the latest three-month period to 248, worth US$11.7 billion in total. December's total estimated feedstock capacity was 20.4 million tonnes, equal to 214,767 tonnes on average or 671 tonnes per day. Estimated power/heat generation was 711 MW, equal to 12 MW on average.

The Americas and Asia were the leading regions in December 2021, accounting for around US$1.7 billion each, or 32% each. The Pacific was third with US$1.0 billion or 19%.

Value of Newly-Added Projects, Oct 2021 - Dec 2021 (US$m)



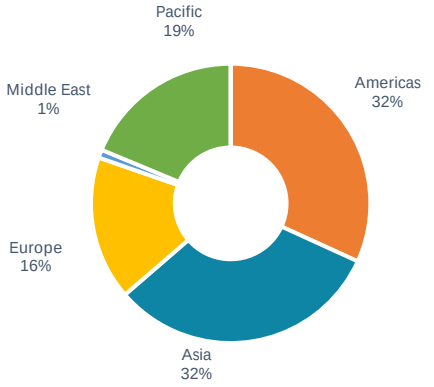
Source: AcuComm database, December 2021

Summary of Newly-Reported Projects

	Oct-21	Nov-21	Dec-21	Latest Quarter
Number of new projects	79	74	95	248
Total estimated value (US$ millions)	3,314	2,901	5,519	11,735
Average value (US$ millions)	42	39	58	47
Estimated waste capacity (tonnes)	13,129,955	14,297,035	20,402,901	47,829,891
Average annual capacity per project (tonnes)	166,202	193,203	214,767	192,862
Average tonnes per day	519	604	671	603
Estimated power generation (MW)	703	357	711	1,771
Average MW per project	15	12	12	13

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: New Project Values By Region (%)



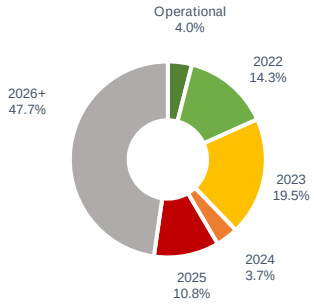
Source: AcuComm database, December 2021

New Projects in December 2021: timescales & operational dates

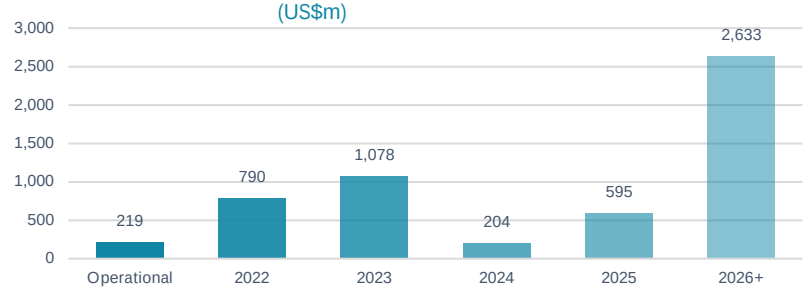
Fifteen of these projects are currently operational, but all are relatively small, worth US$219 million in total.

Around 48%, by value, are projected to become operational only in 2026 and beyond. For the 2022-25 period, projects with a value of US$2.7 billion are due to become operational, with annual tonnage of 9.8 million and power/heat generation of 367 MW.

December 2021: Est. Operational Dates (%)

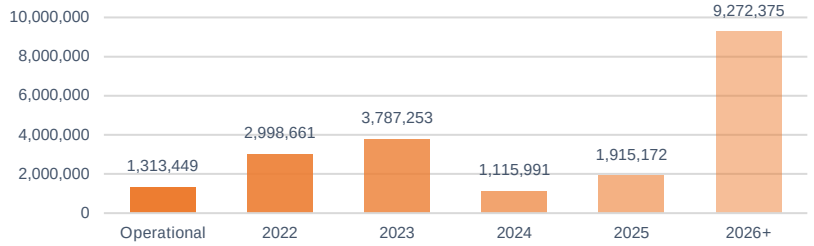


December 2021: Projected Value of Newly-Operational Projects (US$m)



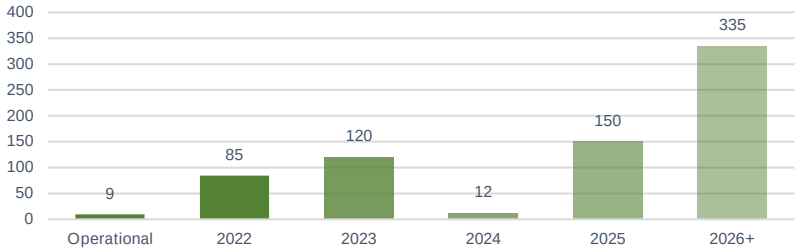
Source: AcuComm database, December 2021

December 2021: Projected Capacity of Newly-Operational Projects (tonnes)



Source: AcuComm database, December 2021

December 2021: Projected Power Generation of Newly-Operational Projects (MW)

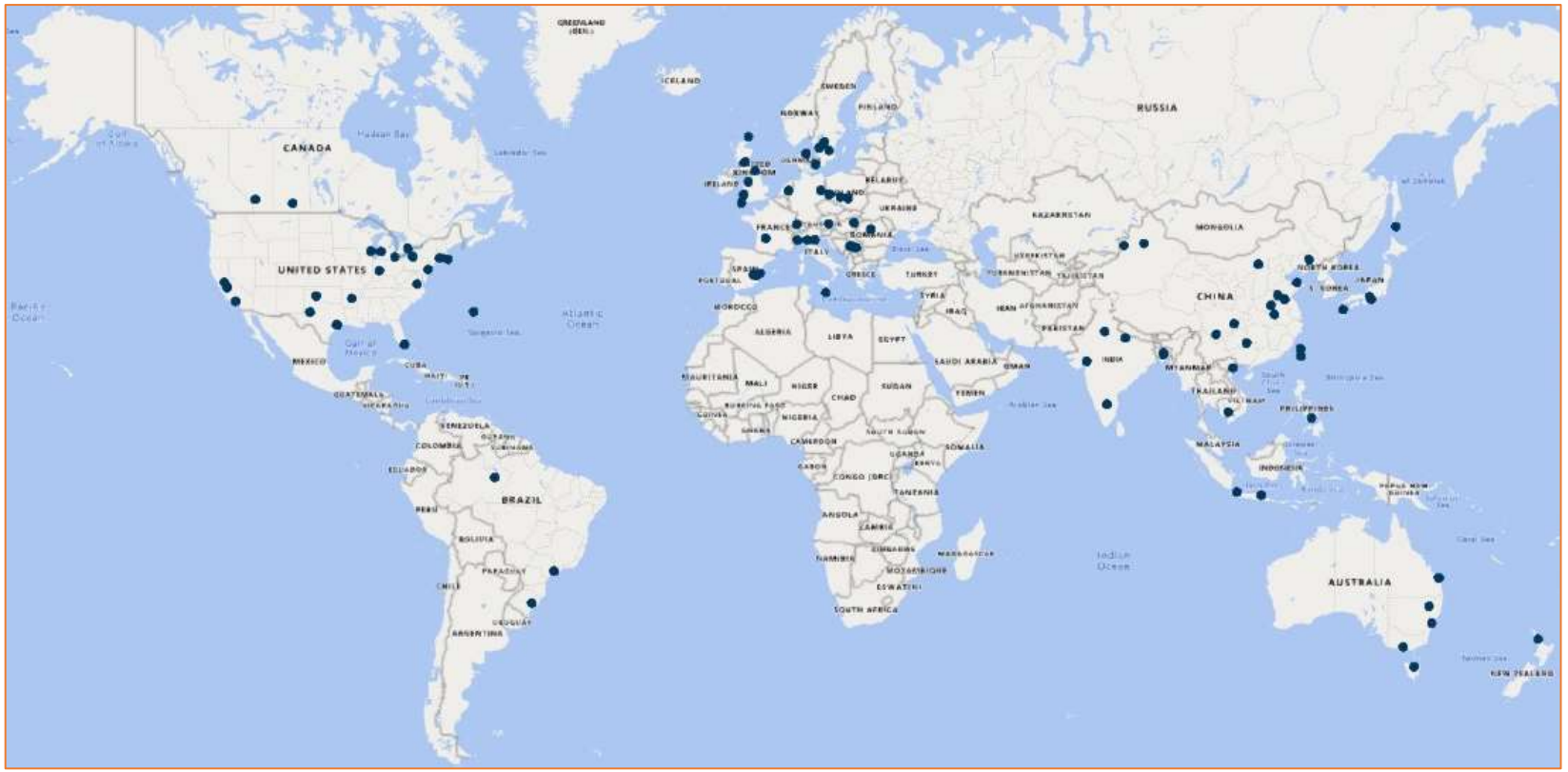


Projects in December 2021, Estimated Year of Becoming Operational

	Projects	Total Estimated Value (US$m)	Total Estimated Capacity (tonnes)	Total Estimated Power Generation (MW)
Operational	15	219	1,313,449	9
% of Total	*15.8*	*4.0*	*6.4*	*1.3*
2022	20	790	2,998,661	85
% of Total	*21.1*	*14.3*	*14.7*	*11.9*
2023	12	1,078	3,787,253	120
% of Total	*12.6*	*19.5*	*18.6*	*16.9*
2024	8	204	1,115,991	12
% of Total	*8.4*	*3.7*	*5.5*	*1.6*
2025	6	595	1,915,172	150
% of Total	*6.3*	*10.8*	*9.4*	*21.2*
2026+	34	2,633	9,272,375	335
% of Total	*35.8*	*47.7*	*45.4*	*47.1*
Total	**95**	**5,519**	**20,402,901**	**711**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

Location map of new projects, December 2021



Source: AcuComm database, December 2021

Click the flag for more information on each project

Top Five New Projects, December 2021, by Reported Value (US$ millions)

1	Australia	600	Development of a US$600 million biorefinery.
2	USA	600	Development of a renewable fuels project.
3	Brazil	317	Construction of a HVO plant.
4	Bangladesh	300	Development of a 42.5 MW WtE plant.
5	Australia	289	Development of a A$400 million green hydrogen and ammonia hub.

Top Five New Projects, December 2021, by Reported Waste Capacity (tonnes)

1	Bangladesh	1,095,000	Development of a 42.5 MW WtE plant.
2	Canada	600,000	Development of a C&D waste recycling plant.
3	Philippines	547,500	Development of an integrated waste collection and WtE facility.
4	China	438,000	Development of a 1,200 tpd WtE facility.
5	China	365,000	Development of a 1,000 tpd WtE facility.

Top Five New Projects, December 2021, by Reported Power/Heat Generation (MW)

1	Japan	112	Construction of a 112 MW biomass plant.
2	Bangladesh	43	Development of a 42.5 MW WtE plant.
3	Bangladesh	43	Development of a 42.5 MW WtE facility.
4	China	12	Development of a 655 tpd integrated waste treatment facility.
5	Bermuda	5	Redevelopment of a WtE facility.

Newly-reported projects in December 2021: feedstock types: investment values

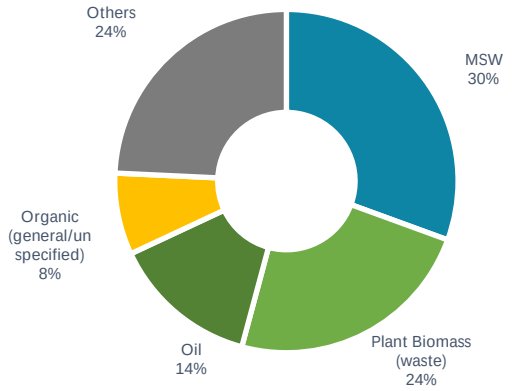
MSW was the leading feedstock in December 2021, accounting for 30 projects with a combined estimated value of US$1,687 million, equal to 30% of the total. Waste biomass was in second place with US$1,303 million, or 24%.

December 2021, Project Values by Feedstock Type

	Projects	Total Estimated Value (US$m)	Average value (US$m)
Animal	6	54	9
Clinical	1	6	6
Construction/Demolition	1	14	14
e-Waste	3	38	13
Food	4	42	11
Gas	4	166	41
Glass	0	0	-
Hazardous	2	78	39
Heat	0	0	-
Industrial	0	0	-
Metals	4	108	27
MSW	30	1,687	56
Oil	2	765	382
Organic (general/unspecified)	7	425	61
Paper	0	0	-
Plant Biomass (non-waste)	1	10	10
Plant Biomass (waste)	8	1,303	163
Plastics	9	283	31
Radioactive	0	0	-
Rubber	3	59	20
Sewage/wastewater	3	235	78
Wood	7	247	35
Other	0	0	-
Total	**95**	**5,519**	**58**

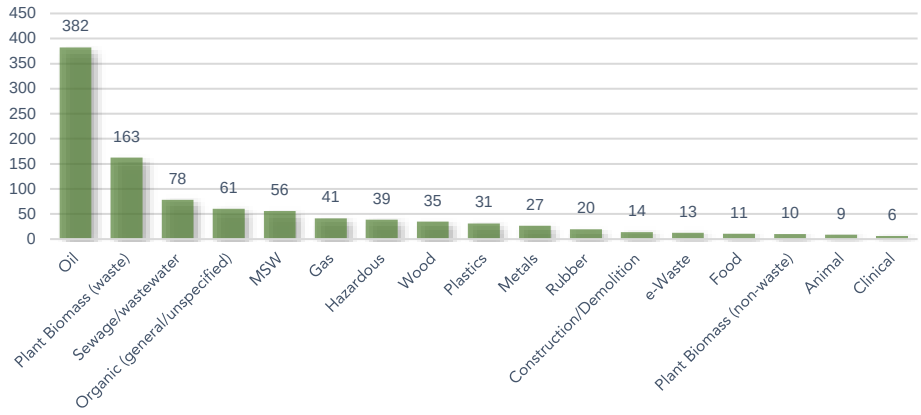
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: Investment Values By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

December 2021: Average Investment Values By Feedstock Type (US$m)



Source: AcuComm database, December 2021

Newly-reported projects in December 2021: feedstock types: project capacity

The total estimated annual feedstock capacity of these projects is just over 20.4 million tonnes. This is equal to an average of 214,767 tonnes per project and 671 tonnes per day*.

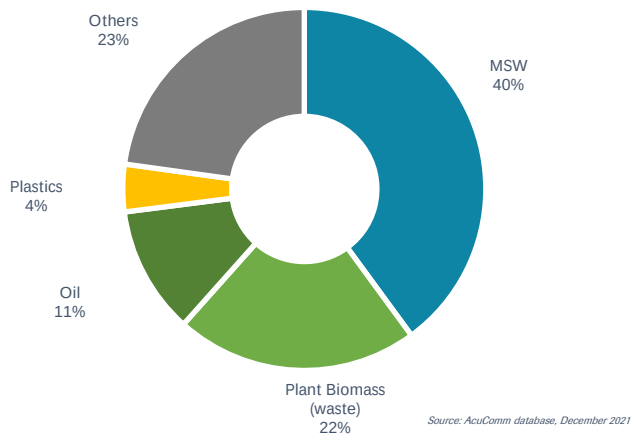
MSW accounts for the greatest capacity, with just over 8.1 million tonnes, followed by waste biomass with just over 4.4 million tonnes.

December 2021, Project Capacities by Feedstock Type

	Projects	Total Estimated Capacity (tonnes)	Average Estimated Capacity (tonnes)	Average tonnes per day*
Animal	6	480,452	80,075	250
Clinical	1	3,504	3,504	11
Construction/Demolition	1	600,000	600,000	1,875
e-Waste	3	248,096	82,699	258
Food	4	211,983	52,996	166
Gas	4	312,035	78,009	244
Glass	0	0	-	-
Hazardous	2	89,727	44,863	140
Heat	0	0	-	-
Industrial	0	0	-	-
Metals	4	671,224	167,806	524
MSW	30	8,150,378	271,679	849
Oil	2	2,320,848	1,160,424	3,626
Organic (general/unspecified)	7	845,796	120,828	378
Paper	0	0	-	-
Plant Biomass (non-waste)	1	88,880	88,880	278
Plant Biomass (waste)	8	4,416,956	552,119	1,725
Plastics	9	862,535	95,837	299
Radioactive	0	0	-	-
Rubber	3	216,098	72,033	225
Sewage/wastewater	3	204,170	68,057	213
Wood	7	680,219	97,174	304
Other	0	0	-	-
Total	**95**	**20,402,901**	**214,767**	**671**

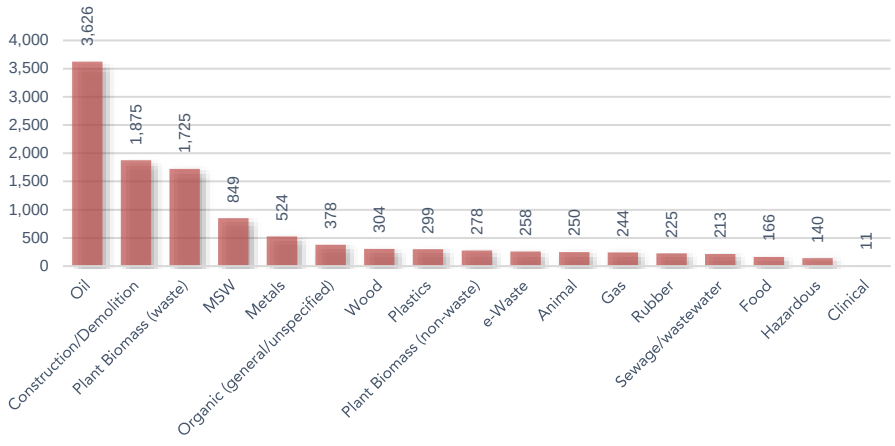
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: Capacity By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

December 2021: Average Tonnes Per Day* By Feedstock Type



Source: AcuComm database, December 2021

** TPD calculated using a standard 320 day year*

Newly-reported projects in December 2021: feedstock types: power generation

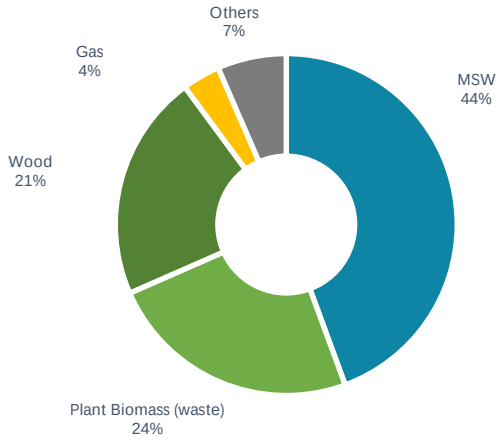
AcuComm estimates that 57 of the 95 projects this month involve some amount of power/heat generation. This totals 711 MW, or 12 MW per project on average. MSW was the leading feedstock, accounting for 315 MW or 44% of the total. Waste biomass was second with 171 MW, or 24%.

December 2021, Estimated Power Generation by Feedstock Type

	Projects	Total Estimated Power (MW)	Average Estimated Power (MW)
Animal	5	9	2
Clinical	1	0	0
Construction/Demolition	0	0	-
e-Waste	0	0	-
Food	4	6	1
Gas	3	25	8
Glass	0	0	-
Hazardous	0	0	-
Heat	0	0	-
Industrial	0	0	-
Metals	0	0	-
MSW	20	315	16
Oil	0	0	-
Organic (general/unspecified)	6	19	3
Paper	0	0	-
Plant Biomass (non-waste)	1	5	5
Plant Biomass (waste)	8	171	21
Plastics	0	0	-
Radioactive	0	0	-
Rubber	0	0	-
Sewage/wastewater	2	8	4
Wood	7	153	22
Other	0	0	-
Total	**57**	**711**	**12**

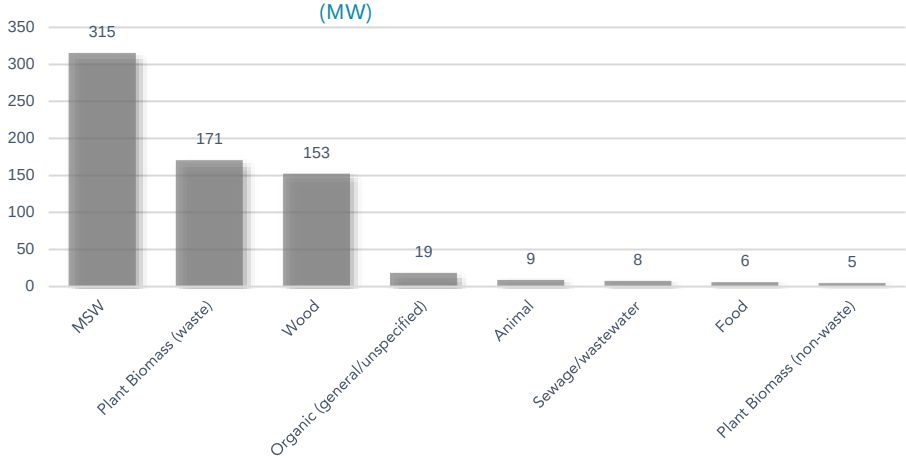
Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: MW Generation By Leading Feedstock Type (%)



Source: AcuComm database, December 2021

December 2021: Total Power Generation by Leading Feedstock Type (MW)



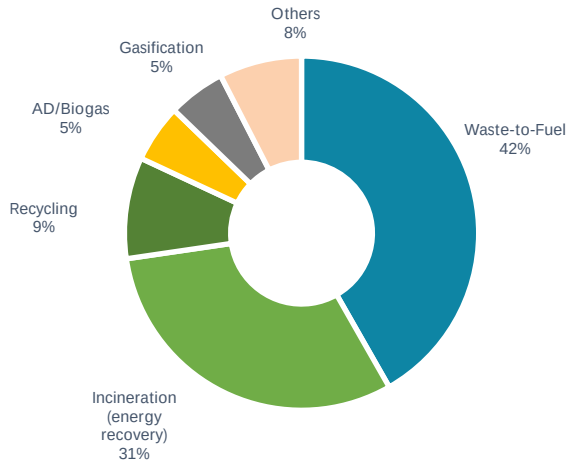
Source: AcuComm database, December 2021

Newly-reported projects in December 2021: technology types: investment values

Waste to fuel is the leading broad technology type in the latest month. There were 11 such projects, with a total value of US$2.3 billion. This is equal to 42% of the total and an average of US$209 million per project. This was followed by WtE incineration with 26 projects worth just over US$1.7 billion.

Project values can vary widely. Larger, more complex projects such as integrated mixed sites, gasification plants or Waste-to-Fuel facilities naturally have the highest values, while recycling, AD/Biogas or landfill gas sites tend to be smaller in scope, if equally high-tech.

December 2021: Investment Values By Leading Technology Type (%)



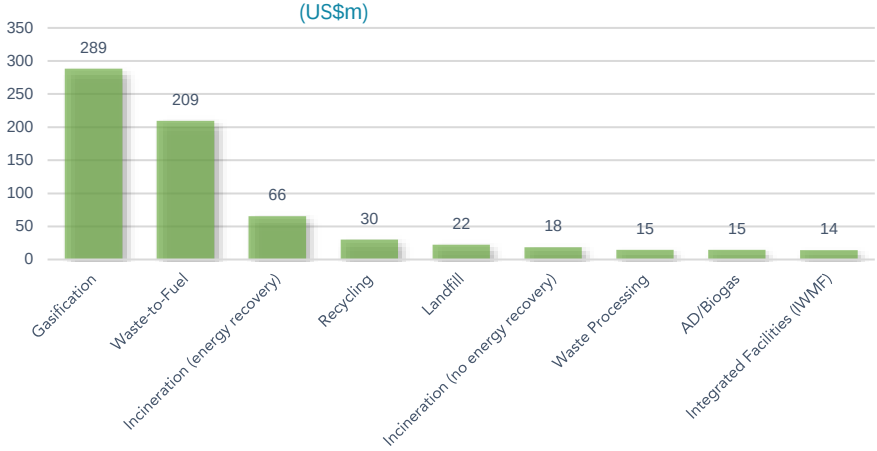
Source: AcuComm database, December 2021

December 2021, Project Values by Technology Type

	Projects	Total Estimated Value (US$m)	Average value (US$m)
AD/Biogas	20	291	15
Waste-to-Fuel	11	2,304	209
Gasification	1	289	289
Incineration (energy recovery)	26	1,707	66
Incineration (no energy recovery)	1	18	18
Integrated Facilities (IWMF)	2	28	14
Landfill	7	156	22
MBT	0	0	-
Recycling	17	511	30
Waste Processing	9	131	15
Others	1	82	82
Total	**95**	**5,519**	**58**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: Average Investment Values by Leading Tech Type (US$m)



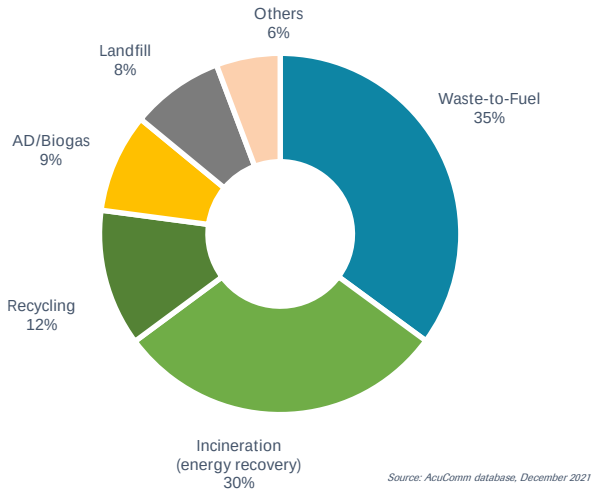
Source: AcuComm database, December 2021

Newly-reported projects in December 2021: technology types: project capacity

Waste to fuel was the leading technology type in terms of capacity in December 2021, accounting for an estimated annualised 7.2 million tonnes, or 35% of the total. This is equal to average annual capacity per project of 650,523 tonnes or 2,033 tonnes per day*. WtE incineration was second with 6.1 million tonnes and recycling was third with 2.5 million tonnes.

Average capacity varies widely, depending on the project. While WtE incineration, waste processing, landfill and waste-to-fuel are at the higher end of the scale this month, most other technologies such as gasification, recycling or AD/biogas tend – on average – to have far lower daily throughput.

December 2021: Capacity By Leading Technology Type (%)



Source: AcuComm database, December 2021

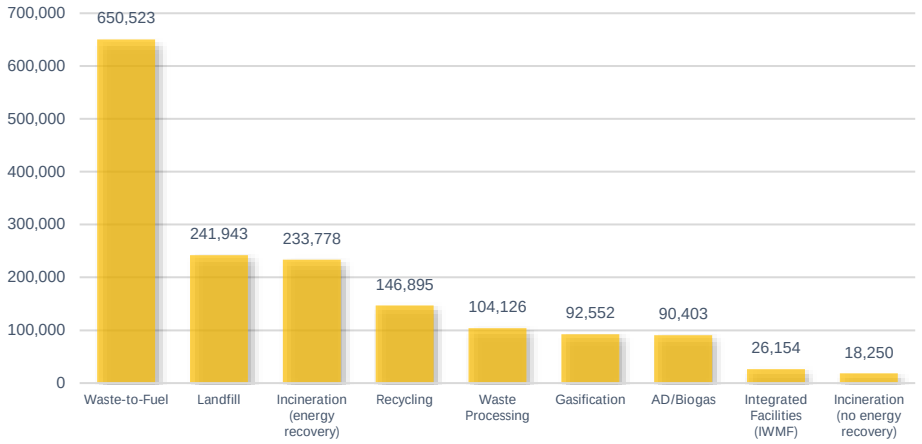
December 2021, Project Capacities by Technology Type

	Projects	Total Estimated Capacity (tonnes)	Average Capacity (tonnes)	Average Tonnes Per Day*
AD/Biogas	20	1,808,055	90,403	283
Waste-to-Fuel	11	7,155,758	650,523	2,033
Gasification	1	92,552	92,552	289
Incineration (energy recovery)	26	6,078,230	233,778	731
Incineration (no energy recovery)	1	18,250	18,250	57
Integrated Facilities (IWMF)	2	52,308	26,154	82
Landfill	7	1,693,603	241,943	756
MBT	0	0	-	-
Recycling	17	2,497,222	146,895	459
Waste Processing	9	937,131	104,126	325
Others	1	69,794	69,794	218
Total	**95**	**20,402,901**	**214,767**	**671**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

** TPD calculated using a standard 320 day year*

December 2021: Average Capacity by Leading Technology Type



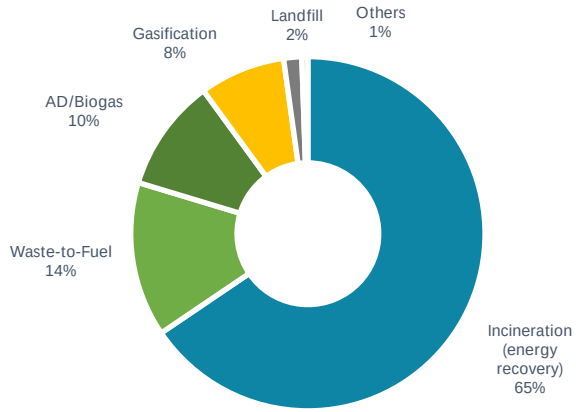
Source: AcuComm database, December 2021

Newly-reported projects in December 2021: technology types: power generation

Incineration is unsurprisingly the leading source of power/heat generation, accounting for 466 MW or 65% of the total in December 2021. Waste-to-fuel and AD/Biogas were also significant sources of generation for the month, amounting to 100 MW and 73 MW respectively.

Average power/heat generation for incineration was 18 MW in December 2021, while for AD/biogas it was 4 MW.

December 2021: Power Generation By Leading Technology Type (%)



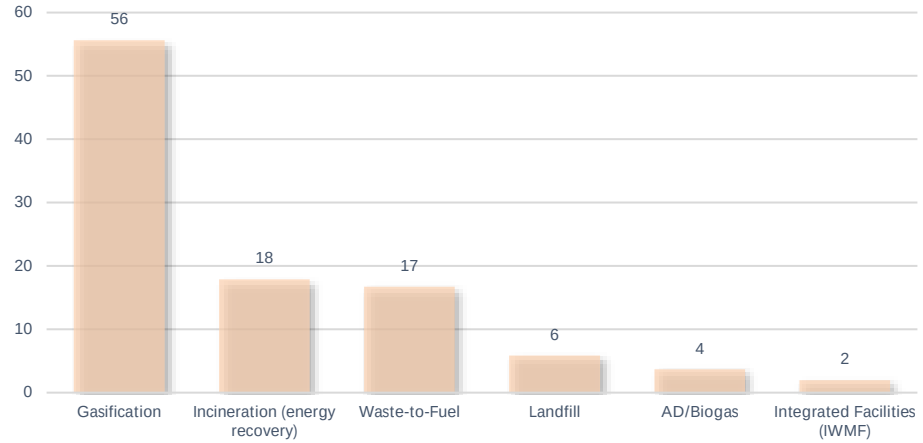
Source: AcuComm database, December 2021

December 2021, Estimated Power Generation by Technology Type

	Projects	Total Estimated Power (MW)	Average Estimated Power (MW)
AD/Biogas	20	73	4
Waste-to-Fuel	6	100	17
Gasification	1	56	56
Incineration (energy recovery)	26	466	18
Incineration (no energy recovery)	0	0	-
Integrated Facilities (IWMF)	2	4	2
Landfill	2	12	6
MBT	0	0	-
Recycling	0	0	-
Waste Processing	0	0	-
Others	0	0	-
Total	**57**	**711**	**12**

Source: AcuComm database, 31st December 2021. Click here to search the latest data.

December 2021: Average Power Generation by Leading Technology Type



Source: AcuComm database, December 2021

Listing of all new investments reported in December 2021

The following table lists all the newly-reported projects from the last month. They are listed by country, along with their current operational status. Click the FULL PROJECT INFO link in the column on the right to go to the full information and contact details for each project.

New Investments Reported, December 2021

Country	Summary	Feedstock	Status	Link
Australia	Development of a A$55 million biogas plant.	Organic (general/unspecified)	Planning	FULL PROJECT INFO
Australia	Development of a US$600 million biorefinery.	Oil	Planning	FULL PROJECT INFO
Australia	Development of a tyre recycling facility.	Rubber	Project Operational	FULL PROJECT INFO
Australia	Development of a tyre landfill.	Rubber	Planning Approval	FULL PROJECT INFO
Australia	Development of a A$400 million green hydrogen and ammonia hub.	Plant biomass (waste)	Planning	FULL PROJECT INFO
Australia	Development of a biomass-to-hydrogen production facility.	Wood	Planning	FULL PROJECT INFO
Austria	Construction of a waste-to-fuel test facility.	Plastics	Project Commencement	FULL PROJECT INFO
Bangladesh	Development of a 42.5 MW WtE plant.	MSW	Planning	FULL PROJECT INFO
Bangladesh	Development of a 42.5 MW WtE facility.	MSW	Planning Approval	FULL PROJECT INFO
Bermuda	Redevelopment of a WtE facility.	MSW	Planning	FULL PROJECT INFO
Brazil	Development of a biogas cogeneration project.	Food	Project Commencement	FULL PROJECT INFO
Brazil	Construction of a HVO plant.	Plant biomass (waste)	Planning	FULL PROJECT INFO
Brazil	Development of a waste treatment facility for creating biomethane.	Plant biomass (waste)	Planning	FULL PROJECT INFO
Cambodia	Construction of a biomass plant.	Plant biomass (waste)	Project Commencement	FULL PROJECT INFO
Canada	Development of a C&D waste recycling plant.	Construction/Demolition	Planning	FULL PROJECT INFO
Canada	Supply of a membrane biogas upgrader.	Animal	Contract Award	FULL PROJECT INFO
Canada	Expansion of an organics processing facility.	Food	Project Operational	FULL PROJECT INFO
Canada	Development of a new landfill and solid waste facility.	MSW	Tender	FULL PROJECT INFO
China	Development of a 1,000 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 1,000 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Second phase of a WtE plant development.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 700 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of an 800 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 1,200 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 600 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 600 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 500 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 750 tpd WtE facility.	MSW	Contract Award	FULL PROJECT INFO
China	Development of a 655 tpd integrated waste treatment facility.	MSW	Contract Award	FULL PROJECT INFO
China	Establishment of a livestock waste processing and resource recovery demonstration plant.	Animal	Planning	FULL PROJECT INFO
Denmark	Development of a waste-to-methanol Power-to-X facility.	Gas	Planning	FULL PROJECT INFO
Denmark	Development of a waste sorting plant.	MSW	Tender	FULL PROJECT INFO
Denmark	Development of a waste sorting plant.	MSW	Project Commencement	FULL PROJECT INFO

Country	Summary	Feedstock	Status	Link
Denmark	Development of a plastic waste sorting plant.	Plastics	Project Commencement	FULL PROJECT INFO
France	Development of a landfill gas plant.	Gas	Project Commencement	FULL PROJECT INFO
Germany	Development of a bio-LNG liquefaction plant.	Gas	Planning	FULL PROJECT INFO
Hungary	Construction of a new biogas upgrading system.	Animal	Contract Award	FULL PROJECT INFO
India	Development of an ethanol plant.	Plant biomass (waste)	Project Commencement	FULL PROJECT INFO
India	Development of a 300 tpd composting and biogas facility.	Organic (general/unspecified)	Planning	FULL PROJECT INFO
India	Development of an AD plant supplied with airport waste.	Food	Planning	FULL PROJECT INFO
India	Development of a bioethanol plant.	Organic (general/unspecified)	Feasibility	FULL PROJECT INFO
Indonesia	Development of a 50 tpd hazardous waste incineration plant.	Hazardous	Project Operational	FULL PROJECT INFO
Indonesia	Development of a waste treatment site.	Hazardous	Project Commencement	FULL PROJECT INFO
Italy	Development of a anaerobic biodigestion/biomethane plant.	Plant biomass (waste)	Planning	FULL PROJECT INFO
Italy	Development of a waste sorting plant.	Plastics	Project Operational	FULL PROJECT INFO
Italy	Development of a waste sorting plant.	Plastics	Project Commencement	FULL PROJECT INFO
Japan	Renewal of a WtE facility.	MSW	Project Commencement	FULL PROJECT INFO
Japan	Construction of a 112 MW biomass plant.	Wood	Contract Award	FULL PROJECT INFO
Japan	Construction of a 1.99 MW biomass plant.	Wood	Contract Award	FULL PROJECT INFO
Malta	Construction of a biodiesel production facility.	Organic (general/unspecified)	Planning Approval	FULL PROJECT INFO
Netherlands	Development of a waste-to-bio-LNG plant.	Organic (general/unspecified)	Funding Approval	FULL PROJECT INFO
New Zealand	Construction of a PET recycling plant.	Plastics	Project Operational	FULL PROJECT INFO
Philippines	Development of an integrated waste collection and WtE facility.	MSW	Tender	FULL PROJECT INFO
Poland	Expansion and modernisation of a municipal waste plant.	MSW	Contract Award	FULL PROJECT INFO
Poland	Development of a 19,000 tpa WtE facility.	MSW	Project Proposal	FULL PROJECT INFO
Poland	Construction of a medical WtE facility.	Clinical	Planning Application	FULL PROJECT INFO
Romania	Installation of a biogas-fuelled CHP system.	Sewage/wastewater	Contract Award	FULL PROJECT INFO
Russia	Development of a landfill.	MSW	Project Commencement	FULL PROJECT INFO
Serbia	Development of a regional waste management centre.	MSW	Funding Approval	FULL PROJECT INFO
Serbia	Development of biogas at wastewater treatment facility.	Sewage/wastewater	Project Operational	FULL PROJECT INFO
Serbia	Development of a regional waste management centre.	MSW	Funding Approval	FULL PROJECT INFO
Spain	Development of an organic waste treatment facility.	Organic (general/unspecified)	Planning	FULL PROJECT INFO
Spain	Construction of a plastics delamination and recycling plant.	Plastics	Funding Approval	FULL PROJECT INFO
Spain	Development of a plant to produce renewable gas from rice straw.	Plant biomass (waste)	Planning	FULL PROJECT INFO
Sweden	Expansion of an aluminium recycling facility.	Metals	Project Commencement	FULL PROJECT INFO
Sweden	Supply of a wood pellet-fuelled plant.	Wood	Contract Award	FULL PROJECT INFO
Sweden	Supply of a wood pellet-fuelled plant.	Wood	Project Commencement	FULL PROJECT INFO
Switzerland	Development of a biomass plant for district heating.	Wood	Planning Application	FULL PROJECT INFO
Taiwan	Development of a 300 tpd AD plant.	Animal	Project Operational	FULL PROJECT INFO
Taiwan	Development of an AD plant supplied with food waste.	Food	Project Commencement	FULL PROJECT INFO
UK	Development of an integrated waste facility.	MSW	Project Proposal	FULL PROJECT INFO
UK	Construction of a waste wood-fuelled biomass plant.	Wood	Project Commencement	FULL PROJECT INFO

Country	Summary	Feedstock	Status	Link
UK	Development of a 120,000 tpa recycling facility.	MSW	Project Commencement	FULL PROJECT INFO
UK	Construction of a 125 GWh/pa AD plant.	Plant biomass (non-waste)	Planning	FULL PROJECT INFO
UK	Development of waste management facilities.	MSW	Planning Approval	FULL PROJECT INFO
UK	Trial recycling plant to inform development of large-scale advanced recycling facility.	Plastics	Planning	FULL PROJECT INFO
UK	Development of a biofuels storage hub.	Organic (general/unspecified)	Planning	FULL PROJECT INFO
United Arab Emirates	Development of plastic-to-liquid production plants.	Plastics	Project Proposal	FULL PROJECT INFO
USA	Construction of a farm-based anaerobic digester facility.	Animal	Project Commencement	FULL PROJECT INFO
USA	Development of a renewable fuels project.	Plant biomass (waste)	Planning	FULL PROJECT INFO
USA	Installation of fuel cells at dairy farm.	Animal	Project Operational	FULL PROJECT INFO
USA	Development of an aluminium recycling plant.	Metals	Project Operational	FULL PROJECT INFO
USA	Upgrading of a biodiesel facility.	Oil	Project Commencement	FULL PROJECT INFO
USA	Development of a water recycling facility.	Sewage/wastewater	Project Commencement	FULL PROJECT INFO
USA	Opening of a plastics recycling plant.	Plastics	Project Operational	FULL PROJECT INFO
USA	Upgrading of a materials recovery facility.	MSW	Project Operational	FULL PROJECT INFO
USA	Upgrading of a scrap metal facility.	Metals	Planning	FULL PROJECT INFO
USA	Expansion of a landfill.	MSW	Planning	FULL PROJECT INFO
USA	Opening of an appliance recycling centre.	e-Waste	Project Operational	FULL PROJECT INFO
USA	Opening of an appliance recycling centre.	e-Waste	Project Operational	FULL PROJECT INFO
USA	Expansion of an e-waste recycling facility.	e-Waste	Project Operational	FULL PROJECT INFO
USA	Development of a landfill biogas processing facility.	Gas	Planning	FULL PROJECT INFO
USA	Construction of a tyre recycling facility.	Rubber	Planning	FULL PROJECT INFO
USA	Installation of equipment at material recovery facility.	Metals	Funding Approval	FULL PROJECT INFO
Vietnam	Construction of a waste-to-energy plant.	MSW	Contract Award	FULL PROJECT INFO

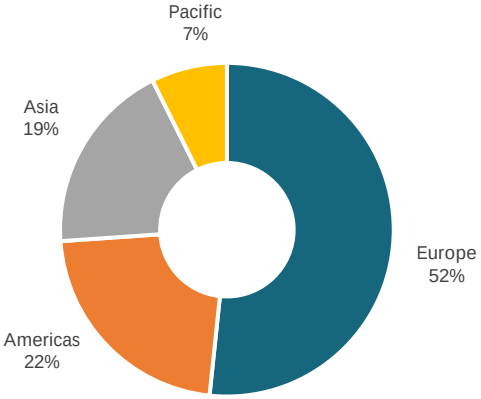
Companies mentioned in December 2021

This section looks at the companies involved in projects reported in the past month. On this page we summarise the totals, company roles and locations of each. The pie charts refer to the share of estimated tonnage capacity for each project/company.

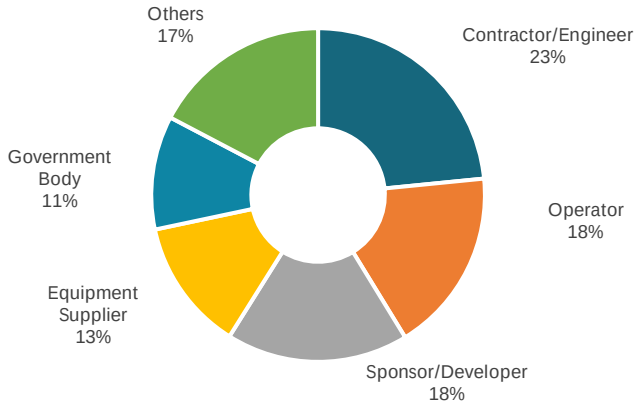
Then, the following table references all the companies noted as working in relation to the newly-reported projects in December 2021. They are divided by company role, technology type, feedstock type, and then each alphabetically. Click the RELATED PROJECTS link to go to the online AcuComm database of all project data for each company.

Number of Projects and Companies This Month

Companies by Region (HQ)



Companies by Role



Companies this month, listed by company role

Role	Company	Headquarters	More Info
Architects	Building Design Northern	Sunderland, United Kingdom	RELATED PROJECTS
Consultants	Arete	Bologna, Italy	RELATED PROJECTS
	COWI	Lyngby, Denmark	RELATED PROJECTS
	Pinter & Associates	Saskatoon, Canada	RELATED PROJECTS
Contractor/Engineer	Amut SpA	Novara, Italy	RELATED PROJECTS
	Berkeley Energy Commercial Industrial Solutions (BECIS)	Singapore City, Singapore	RELATED PROJECTS
	BerQ RNG	Oakville, Canada	RELATED PROJECTS
	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	China Everbright Environment Group	Hong Kong	RELATED PROJECTS
	EREMA Engineering Recycling Maschinen und Anlagen	Ansfelden, Austria	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	INDO Enviro Integrated Solutions (IEISL)	New Delhi, India	RELATED PROJECTS
	JFE Engineering	Tokyo, Japan	RELATED PROJECTS
	Morrow Energy	Midland, United States	RELATED PROJECTS
	Omnis Epíto	Budaors, Hungary	RELATED PROJECTS
	R&R Beth Gewerbegebiet	Bad Lobenstein, Germany	RELATED PROJECTS
	Saipem	Milan, Italy	RELATED PROJECTS
	Sebigas-Cotica	Porto Alegre, Brazil	RELATED PROJECTS
	Sinotech Environmental Technology	Kaohsiung, Taiwan	RELATED PROJECTS
	SJI (South Jersey Industries)	Folsom, United Kingdom	RELATED PROJECTS
	Sotreq	Rio de Janeiro, Brazil	RELATED PROJECTS
	Stadler Italia	Piacenza, Italy	RELATED PROJECTS
	Sutco Polska	Katowice, Poland	RELATED PROJECTS
	Takuma	Amagasaki, Japan	RELATED PROJECTS
Equipment Supplier	BKtech	Blomstermala, Sweden	RELATED PROJECTS
	Bloom Energy - Corporate Headquarters	San Jose, United States	RELATED PROJECTS
	Bright Biomethane	Enschede, Netherlands	RELATED PROJECTS
	Capstone Green Energy	Van Nuys, United States	RELATED PROJECTS
	Chongqing Sanfeng Covanta Environmental Industry	Chongqing, China	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	Komar Industries	Groveport, United States	RELATED PROJECTS
	Landia A/S	Lem st, Denmark	RELATED PROJECTS

Role	Company	Headquarters	More Info
	Landia UK	Whitchurch, United Kingdom	RELATED PROJECTS
	Martin GmbH fur Umwelt und Energietechnik	Munich, Germany	RELATED PROJECTS
	ReTec Miljo	Karlskrona, Sweden	RELATED PROJECTS
	Servelect	Cluj-Napoca, Romania	RELATED PROJECTS
	Valmet	Tokyo, Japan	RELATED PROJECTS
	ZenRobotics	Helsinki, Finland	RELATED PROJECTS
Funding/Financial Services/Agency	Agence Francaise de Developpement (French Development Agency) Headquarters	Paris, France	RELATED PROJECTS
	Dubai Holding Corporate Office	Dubai, United Arab Emirates	RELATED PROJECTS
	European Bank for Reconstruction and Development (EBRD)	New Belgrade, Serbia	RELATED PROJECTS
	European Investment Bank (EIB)	Luxembourg City, Luxembourg	RELATED PROJECTS
	Evolve Transition Infrastructure – Headquarters	Houston, United States	RELATED PROJECTS
	International Finance Corporation (IFC)	Hanoi, Vietnam	RELATED PROJECTS
	Japan International Cooperation Agency (JICA)	Tokyo, Japan	RELATED PROJECTS
Government Body	Bangladesh Power Development Board	Dhaka, Bangladesh	RELATED PROJECTS
	City of Milwaukee Department of Public Works	Milwaukee, United States	RELATED PROJECTS
	City of Moose Jaw	Moose Jaw, Canada	RELATED PROJECTS
	City of Uzice	Uzice, Serbia	RELATED PROJECTS
	Dhaka North City Corporation	Dhaka, Bangladesh	RELATED PROJECTS
	Environmental Protection Administration (EPA)	Taipei, Taiwan	RELATED PROJECTS
	Government of Cebu Province	Cebu City, Philippines	RELATED PROJECTS
	Government of Uttar Pradesh	Lucknow, India	RELATED PROJECTS
	Ministry of Agriculture, Rural Development, Climate Emergency and Ecological Transition	Valencia, Spain	RELATED PROJECTS
	Ministry of Environmental Protection	Belgrade, Serbia	RELATED PROJECTS
	Ministry of Public Works	Hamilton, Bermuda	RELATED PROJECTS
	Municipality of Nova Varos	Nova Varos, Serbia	RELATED PROJECTS
	Orkney Islands Council	Kirkwall, United Kingdom	RELATED PROJECTS
	PGK	Radomsko, Poland	RELATED PROJECTS
	Regional Center for Waste Management (PUC Duboko)	Duboko bb, Serbia	RELATED PROJECTS
	South Delhi Municipal Corporation	New Delhi, India	RELATED PROJECTS
	Town of Bourne Integrated Solid Waste Management Department (ISWM)	Buzzards Bay, United States	RELATED PROJECTS
	Waukesha County Parks and Land Use Division	Waukesha, United States	RELATED PROJECTS
Operator	AB Brasil	Sao Paulo, Brazil	RELATED PROJECTS
	Abonos Organicos Montagut	Llutxent, Spain	RELATED PROJECTS
	Alto Packaging	Albany, New Zealand	RELATED PROJECTS
	ARCA Recycling – Headquarters	Edina, United States	RELATED PROJECTS
	Atria Sweden	Skollersta, Sweden	RELATED PROJECTS

Role	Company	Headquarters	More Info
	Balrampur Chini Mills	Kolkata, India	RELATED PROJECTS
	Bar 20 Dairy Farms	Fresno, United States	RELATED PROJECTS
	Ben Weitsman of Allegany	Allegany, United States	RELATED PROJECTS
	Biodiesel Las Americas - Corporate Headquarters	Miami, United States	RELATED PROJECTS
	Breakwater Energy Partners - Corporate Headquarters	Houston, United States	RELATED PROJECTS
	Calgary Recycling Aggregate	Calgary, Canada	RELATED PROJECTS
	CGL Oil Blenders Ltd	Marsa, Malta	RELATED PROJECTS
	Circulus Holdings	Houston, United States	RELATED PROJECTS
	Compania Aquaserv	Tirgu-Mures, Romania	RELATED PROJECTS
	Cornwall Energy Recovery Ltd	Maidenhead, United Kingdom	RELATED PROJECTS
	Crispo Paper	Tibro, Sweden	RELATED PROJECTS
	Crown Recycling	Sun Valley, United States	RELATED PROJECTS
	Ecolomondo	St.Laurent, Canada	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS
	Fiberight	Swansea, United Kingdom	RELATED PROJECTS
	Gaia SpA	Asti, Italy	RELATED PROJECTS
	Gradska Toplana Krusevac	Krusevac, Serbia	RELATED PROJECTS
	Green Hydrogen Technology	Augsburg, Germany	RELATED PROJECTS
	Heineken Cambodia Head Office	Sangkat Prek Eng, Chbar Ampov, Cambodia	RELATED PROJECTS
	Hydro Extrusion Sweden	Vetlanda, Sweden	RELATED PROJECTS
	Iren Ambiente	Piacenza, Italy	RELATED PROJECTS
	James Jones & Sons	Larbert, United Kingdom	RELATED PROJECTS
	Kumamoto Clean Energy	Uto City, Japan	RELATED PROJECTS
	Oakridge Dairy	Ellington, United States	RELATED PROJECTS
	PPLi	Bogor, Indonesia	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	Repetco Innovations	Madrid, Spain	RELATED PROJECTS
	Sakhalin Industrial and Ecological Complex	Sakhalinskaya, Russian Federation	RELATED PROJECTS
	Solum A/S	Hedehusene, Denmark	RELATED PROJECTS
	StWZ Energie	Zofingen, Switzerland	RELATED PROJECTS
	T&J Green Energy Company Limited	Thuan Thanh District, Vietnam	RELATED PROJECTS
	Technology Recyclers	Indianapolis, United States	RELATED PROJECTS
	Tyrecycle	Somerton, Australia	RELATED PROJECTS
	Waga Energy	Meylan, France	RELATED PROJECTS
	Whitehaven Coal	Boggabri, Australia	RELATED PROJECTS
	ZZO Marszow	Zary, Poland	RELATED PROJECTS
Project Partner/Associate	AstraZeneca	Macclesfield, United Kingdom	RELATED PROJECTS
	Fluid Power Co Ltd	Tainan, Taiwan	RELATED PROJECTS

Role	Company	Headquarters	More Info
	Meridiam	Paris, France	RELATED PROJECTS
	Nedgia	Madrid, Spain	RELATED PROJECTS
	Petroineos	Grangemouth, United Kingdom	RELATED PROJECTS
	Shenyang Agricultural University	Shenyang, China	RELATED PROJECTS
	SUEZ	Paris, France	RELATED PROJECTS
	Vibra Energia	Rio de Janeiro, Brazil	RELATED PROJECTS
Sponsor/Developer	Aalborg Forsyning	Norresundby, Denmark	RELATED PROJECTS
	Alter Trading Corporation	St. Louis, United States	RELATED PROJECTS
	Area Impianti	Albignasego, Italy	RELATED PROJECTS
	Athens Services	Sun Valley, United States	RELATED PROJECTS
	Attero	Haelen, Netherlands	RELATED PROJECTS
	BALANCE Erneuerbare Energien	Leipzig, Germany	RELATED PROJECTS
	BOC Australia	North Ryde, Australia	RELATED PROJECTS
	Brasil Biofuels – Administrative Headquarters	Sao Paulo, Brazil	RELATED PROJECTS
	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	China Machinery Engineering Corporation	Beijing, China	RELATED PROJECTS
	Clean Holdings	Terrigal, Australia	RELATED PROJECTS
	Copenhagen Infrastructure Partners	Copenhagen O, Denmark	RELATED PROJECTS
	Dowa Eco-System	Chiyoda-ku, Japan	RELATED PROJECTS
	Emirates National Oil Company (ENOC)	Dubai, United Arab Emirates	RELATED PROJECTS
	EMKA SA	Zyrardow, Poland	RELATED PROJECTS
	Enagas	Madrid, Spain	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS
	EnviTec Biogas	Saerbeck, Germany	RELATED PROJECTS
	Future Biogas	Guildford, United Kingdom	RELATED PROJECTS
	Gas Authority of India Limited (GAIL)	New Delhi, India	RELATED PROJECTS
	GeelongPort	Geelong, Australia	RELATED PROJECTS
	Guangdong Canves Environmental Investment Company	Dongguan City, China	RELATED PROJECTS
	Gujarat Alkalies and Chemicals Limited (GACL)	Ranoli, India	RELATED PROJECTS
	Hitachi Zosen	Osaka, Japan	RELATED PROJECTS
	HOBO Renewable Diesel	Houston, United States	RELATED PROJECTS
	INEOS Olefins & Polymers (UK) Europe	Grangemouth, United Kingdom	RELATED PROJECTS
	Naturgy	Barcelona, Spain	RELATED PROJECTS
	Nordsol	Bunnik, Netherlands	RELATED PROJECTS
	Optimal Group	Mulgrave, Australia	RELATED PROJECTS
	Plastic Energy	London, United Kingdom	RELATED PROJECTS
	PPLi	Bogor, Indonesia	RELATED PROJECTS
	PreZero	Neckarsulm, Germany	RELATED PROJECTS

Role	Company	Headquarters	More Info
	Quantafuel	Oslo, Norway	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	REV LNG	Victor, United States	RELATED PROJECTS
	Rio Grande do Sul State Gas Company (Sulgas)	Porto Alegre, Brazil	RELATED PROJECTS
	Solum A/S	Hedehusene, Denmark	RELATED PROJECTS
	Stanlow Terminals Limited	Ellesmere Port, United Kingdom	RELATED PROJECTS
	Titan LNG	Amsterdam, Netherlands	RELATED PROJECTS
	Toyota Tsusho America Inc - Headquarters	Georgetown, United States	RELATED PROJECTS
	Transasia Minerals	Jakarta, Indonesia	RELATED PROJECTS
	Upstate Shredding	Owego, United States	RELATED PROJECTS
	VNG AG & BALANCE VNG Bioenergy	Leipzig, Germany	RELATED PROJECTS

Companies this month, listed by principal technology type

Technology Type	Company	Headquarters	More Info
Anaerobic Digestion	Abonos Organicos Montagut	Llutxent, Spain	RELATED PROJECTS
	Area Impianti	Albignasego, Italy	RELATED PROJECTS
	Arete	Bologna, Italy	RELATED PROJECTS
	AstraZeneca	Macclesfield, United Kingdom	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS
	Environmental Protection Administration (EPA)	Taipei, Taiwan	RELATED PROJECTS
	Fluid Power Co Ltd	Tainan, Taiwan	RELATED PROJECTS
	Future Biogas	Guildford, United Kingdom	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	Landia A/S	Lem st, Denmark	RELATED PROJECTS
	Landia UK	Whitchurch, United Kingdom	RELATED PROJECTS
	Oakridge Dairy	Ellington, United States	RELATED PROJECTS
	REV LNG	Victor, United States	RELATED PROJECTS
	Sinotech Environmental Technology	Kaohsiung, Taiwan	RELATED PROJECTS
	SJI (South Jersey Industries)	Folsom, United Kingdom	RELATED PROJECTS
Biogas	AB Brasil	Sao Paulo, Brazil	RELATED PROJECTS
	Attero	Haelen, Netherlands	RELATED PROJECTS
	BALANCE Erneuerbare Energien	Leipzig, Germany	RELATED PROJECTS
	Bar 20 Dairy Farms	Fresno, United States	RELATED PROJECTS
	BerQ RNG	Oakville, Canada	RELATED PROJECTS
	Bloom Energy - Corporate Headquarters	San Jose, United States	RELATED PROJECTS
	BOC Australia	North Ryde, Australia	RELATED PROJECTS
	Bright Biomethane	Enschede, Netherlands	RELATED PROJECTS
	Capstone Green Energy	Van Nuys, United States	RELATED PROJECTS
	Compania Aquaserv	Tirgu-Mures, Romania	RELATED PROJECTS
	Enagas	Madrid, Spain	RELATED PROJECTS
	EnviTec Biogas	Saerbeck, Germany	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	Gradska Toplana Krusevac	Krusevac, Serbia	RELATED PROJECTS
	INDO Enviro Integrated Solutions (IEISL)	New Delhi, India	RELATED PROJECTS
	Ministry of Agriculture, Rural Development, Climate Emergency and Ecological Transition	Valencia, Spain	RELATED PROJECTS
	Naturgy	Barcelona, Spain	RELATED PROJECTS
	Nedgia	Madrid, Spain	RELATED PROJECTS
	Nordsol	Bunnik, Netherlands	RELATED PROJECTS

Technology Type	Company	Headquarters	More Info
	Omnis Epíto	Budaors, Hungary	RELATED PROJECTS
	Optimal Group	Mulgrave, Australia	RELATED PROJECTS
	Rio Grande do Sul State Gas Company (Sulgas)	Porto Alegre, Brazil	RELATED PROJECTS
	Sebigas-Cotica	Porto Alegre, Brazil	RELATED PROJECTS
	Servelect	Cluj-Napoca, Romania	RELATED PROJECTS
	Sotreq	Rio de Janeiro, Brazil	RELATED PROJECTS
	South Delhi Municipal Corporation	New Delhi, India	RELATED PROJECTS
	Titan LNG	Amsterdam, Netherlands	RELATED PROJECTS
	VNG AG & BALANCE VNG Bioenergy	Leipzig, Germany	RELATED PROJECTS
Gasification	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	Clean Holdings	Terrigal, Australia	RELATED PROJECTS
Incineration (with energy recovery)	Atria Sweden	Skollersta, Sweden	RELATED PROJECTS
	Bangladesh Power Development Board	Dhaka, Bangladesh	RELATED PROJECTS
	Berkeley Energy Commercial Industrial Solutions (BECIS)	Singapore City, Singapore	RELATED PROJECTS
	BKtech	Blomstermala, Sweden	RELATED PROJECTS
	Building Design Northern	Sunderland, United Kingdom	RELATED PROJECTS
	China Everbright Environment Group	Hong Kong	RELATED PROJECTS
	China Machinery Engineering Corporation	Beijing, China	RELATED PROJECTS
	Chongqing Sanfeng Covanta Environmental Industry	Chongqing, China	RELATED PROJECTS
	Crispo Paper	Tibro, Sweden	RELATED PROJECTS
	Dhaka North City Corporation	Dhaka, Bangladesh	RELATED PROJECTS
	EMKA SA	Zyrardow, Poland	RELATED PROJECTS
	Government of Cebu Province	Cebu City, Philippines	RELATED PROJECTS
	Guangdong Canves Environmental Investment Company	Dongguan City, China	RELATED PROJECTS
	Heineken Cambodia Head Office	Sangkat Prek Eng, Chbar Ampov, Cambodia	RELATED PROJECTS
	International Finance Corporation (IFC)	Hanoi, Vietnam	RELATED PROJECTS
	James Jones & Sons	Larbert, United Kingdom	RELATED PROJECTS
	JFE Engineering	Tokyo, Japan	RELATED PROJECTS
	Kumamoto Clean Energy	Uto City, Japan	RELATED PROJECTS
	Martin GmbH fur Umwelt und Energietechnik	Munich, Germany	RELATED PROJECTS
	Ministry of Public Works	Hamilton, Bermuda	RELATED PROJECTS
	StWZ Energie	Zofingen, Switzerland	RELATED PROJECTS
	T&J Green Energy Company Limited	Thuan Thanh District, Vietnam	RELATED PROJECTS
	Takuma	Amagasaki, Japan	RELATED PROJECTS
	Valmet	Tokyo, Japan	RELATED PROJECTS
	ZZO Marszow	Zary, Poland	RELATED PROJECTS

Technology Type	Company	Headquarters	More Info
Incineration (without energy recovery)	Dowa Eco-System	Chiyoda-ku, Japan	RELATED PROJECTS
	PPLi	Bogor, Indonesia	RELATED PROJECTS
Integrated/mixed facilities	Agence Francaise de Developpement (French Development Agency) Headquarters	Paris, France	RELATED PROJECTS
	City of Uzice	Uzice, Serbia	RELATED PROJECTS
	European Bank for Reconstruction and Development (EBRD)	New Belgrade, Serbia	RELATED PROJECTS
	Ministry of Environmental Protection	Belgrade, Serbia	RELATED PROJECTS
	Municipality of Nova Varos	Nova Varos, Serbia	RELATED PROJECTS
	Regional Center for Waste Management (PUC Duboko)	Duboko bb, Serbia	RELATED PROJECTS
Landfill	City of Moose Jaw	Moose Jaw, Canada	RELATED PROJECTS
	Dowa Eco-System	Chiyoda-ku, Japan	RELATED PROJECTS
	Meridiam	Paris, France	RELATED PROJECTS
	Morrow Energy	Midland, United States	RELATED PROJECTS
	Pinter & Associates	Saskatoon, Canada	RELATED PROJECTS
	PPLi	Bogor, Indonesia	RELATED PROJECTS
	Sakhalin Industrial and Ecological Complex	Sakhalinskaya, Russian Federation	RELATED PROJECTS
	SUEZ	Paris, France	RELATED PROJECTS
	Town of Bourne Integrated Solid Waste Management Department (ISWM)	Buzzards Bay, United States	RELATED PROJECTS
	Waga Energy	Meylan, France	RELATED PROJECTS
	Whitehaven Coal	Boggabri, Australia	RELATED PROJECTS
Other	Stanlow Terminals Limited	Ellesmere Port, United Kingdom	RELATED PROJECTS
Recycling	Alter Trading Corporation	St. Louis, United States	RELATED PROJECTS
	Alto Packaging	Albany, New Zealand	RELATED PROJECTS
	Amut SpA	Novara, Italy	RELATED PROJECTS
	ARCA Recycling – Headquarters	Edina, United States	RELATED PROJECTS
	Athens Services	Sun Valley, United States	RELATED PROJECTS
	Ben Weitsman of Allegany	Allegany, United States	RELATED PROJECTS
	Breakwater Energy Partners - Corporate Headquarters	Houston, United States	RELATED PROJECTS
	Calgary Recycling Aggregate	Calgary, Canada	RELATED PROJECTS
	Circulus Holdings	Houston, United States	RELATED PROJECTS
	City of Milwaukee Department of Public Works	Milwaukee, United States	RELATED PROJECTS
	Crown Recycling	Sun Valley, United States	RELATED PROJECTS
	Ecolomondo	St.Laurent, Canada	RELATED PROJECTS
	EREMA Engineering Recycling Maschinen und Anlagen	Ansfelden, Austria	RELATED PROJECTS
	European Investment Bank (EIB)	Luxembourg City, Luxembourg	RELATED PROJECTS
	Fiberight	Swansea, United Kingdom	RELATED PROJECTS

Technology Type	Company	Headquarters	More Info
	Hydro Extrusion Sweden	Vetlanda, Sweden	RELATED PROJECTS
	INEOS Olefins & Polymers (UK) Europe	Grangemouth, United Kingdom	RELATED PROJECTS
	Komar Industries	Groveport, United States	RELATED PROJECTS
	Petroineos	Grangemouth, United Kingdom	RELATED PROJECTS
	Plastic Energy	London, United Kingdom	RELATED PROJECTS
	Repetco Innovations	Madrid, Spain	RELATED PROJECTS
	Technology Recyclers	Indianapolis, United States	RELATED PROJECTS
	Toyota Tsusho America Inc - Headquarters	Georgetown, United States	RELATED PROJECTS
	Tyrecycle	Somerton, Australia	RELATED PROJECTS
	Upstate Shredding	Owego, United States	RELATED PROJECTS
	Waukesha County Parks and Land Use Division	Waukesha, United States	RELATED PROJECTS
Waste processing	Cornwall Energy Recovery Ltd	Maidenhead, United Kingdom	RELATED PROJECTS
	COWI	Lyngby, Denmark	RELATED PROJECTS
	Gaia SpA	Asti, Italy	RELATED PROJECTS
	Hitachi Zosen	Osaka, Japan	RELATED PROJECTS
	Iren Ambiente	Piacenza, Italy	RELATED PROJECTS
	Japan International Cooperation Agency (JICA)	Tokyo, Japan	RELATED PROJECTS
	Orkney Islands Council	Kirkwall, United Kingdom	RELATED PROJECTS
	PGK	Radomsko, Poland	RELATED PROJECTS
	PreZero	Neckarsulm, Germany	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	ReTec Miljo	Karlskrona, Sweden	RELATED PROJECTS
	Shenyang Agricultural University	Shenyang, China	RELATED PROJECTS
	Solum A/S	Hedehusene, Denmark	RELATED PROJECTS
	Stadler Italia	Piacenza, Italy	RELATED PROJECTS
	Sutco Polska	Katowice, Poland	RELATED PROJECTS
	ZenRobotics	Helsinki, Finland	RELATED PROJECTS
Waste-to-Fuel	Aalborg Forsyning	Norresundby, Denmark	RELATED PROJECTS
	Balrampur Chini Mills	Kolkata, India	RELATED PROJECTS
	Biodiesel Las Americas - Corporate Headquarters	Miami, United States	RELATED PROJECTS
	Brasil Biofuels – Administrative Headquarters	Sao Paulo, Brazil	RELATED PROJECTS
	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	CGL Oil Blenders Ltd	Marsa, Malta	RELATED PROJECTS
	Copenhagen Infrastructure Partners	Copenhagen O, Denmark	RELATED PROJECTS
	Dubai Holding Corporate Office	Dubai, United Arab Emirates	RELATED PROJECTS
	Emirates National Oil Company (ENOC)	Dubai, United Arab Emirates	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS

Technology Type	Company	Headquarters	More Info
	Evolve Transition Infrastructure – Headquarters	Houston, United States	RELATED PROJECTS
	Gas Authority of India Limited (GAIL)	New Delhi, India	RELATED PROJECTS
	GeelongPort	Geelong, Australia	RELATED PROJECTS
	Government of Uttar Pradesh	Lucknow, India	RELATED PROJECTS
	Green Hydrogen Technology	Augsburg, Germany	RELATED PROJECTS
	Gujarat Alkalies and Chemicals Limited (GACL)	Ranoli, India	RELATED PROJECTS
	HOBO Renewable Diesel	Houston, United States	RELATED PROJECTS
	Quantafuel	Oslo, Norway	RELATED PROJECTS
	R&R Beth Gewerbegebiet	Bad Lobenstein, Germany	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	Saipem	Milan, Italy	RELATED PROJECTS
	Transasia Minerals	Jakarta, Indonesia	RELATED PROJECTS
	Vibra Energia	Rio de Janeiro, Brazil	RELATED PROJECTS

Companies this month, listed by principal feedstock type

Feedstock Type	Company	Headquarters	More Info
Animal	Bar 20 Dairy Farms	Fresno, United States	RELATED PROJECTS
	BerQ RNG	Oakville, Canada	RELATED PROJECTS
	Bloom Energy - Corporate Headquarters	San Jose, United States	RELATED PROJECTS
	Bright Biomethane	Enschede, Netherlands	RELATED PROJECTS
	Environmental Protection Administration (EPA)	Taipei, Taiwan	RELATED PROJECTS
	Fluid Power Co Ltd	Tainan, Taiwan	RELATED PROJECTS
	Hitachi Zosen	Osaka, Japan	RELATED PROJECTS
	Japan International Cooperation Agency (JICA)	Tokyo, Japan	RELATED PROJECTS
	Landia A/S	Lem st, Denmark	RELATED PROJECTS
	Landia UK	Whitchurch, United Kingdom	RELATED PROJECTS
	Oakridge Dairy	Ellington, United States	RELATED PROJECTS
	Omnis Epíto	Budaors, Hungary	RELATED PROJECTS
	REV LNG	Victor, United States	RELATED PROJECTS
	Shenyang Agricultural University	Shenyang, China	RELATED PROJECTS
	Sinotech Environmental Technology	Kaohsiung, Taiwan	RELATED PROJECTS
	SJI (South Jersey Industries)	Folsom, United Kingdom	RELATED PROJECTS
Clinical	EMKA SA	Zyrardow, Poland	RELATED PROJECTS
Construction/Demolition	Calgary Recycling Aggregate	Calgary, Canada	RELATED PROJECTS
e-Waste	ARCA Recycling – Headquarters	Edina, United States	RELATED PROJECTS
	Technology Recyclers	Indianapolis, United States	RELATED PROJECTS
Food	AB Brasil	Sao Paulo, Brazil	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS
	Environmental Protection Administration (EPA)	Taipei, Taiwan	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	Sotreq	Rio de Janeiro, Brazil	RELATED PROJECTS
Gas	Aalborg Forsyning	Norresundby, Denmark	RELATED PROJECTS
	BALANCE Erneuerbare Energien	Leipzig, Germany	RELATED PROJECTS
	Copenhagen Infrastructure Partners	Copenhagen O, Denmark	RELATED PROJECTS
	EnviTec Biogas	Saerbeck, Germany	RELATED PROJECTS
	Meridiam	Paris, France	RELATED PROJECTS

Feedstock Type	Company	Headquarters	More Info
	Morrow Energy	Midland, United States	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	SUEZ	Paris, France	RELATED PROJECTS
	VNG AG & BALANCE VNG Bioenergy	Leipzig, Germany	RELATED PROJECTS
	Waga Energy	Meylan, France	RELATED PROJECTS
Hazardous	Dowa Eco-System	Chiyoda-ku, Japan	RELATED PROJECTS
	PPLi	Bogor, Indonesia	RELATED PROJECTS
Metals	Alter Trading Corporation	St. Louis, United States	RELATED PROJECTS
	Ben Weitsman of Allegany	Allegany, United States	RELATED PROJECTS
	City of Milwaukee Department of Public Works	Milwaukee, United States	RELATED PROJECTS
	Hydro Extrusion Sweden	Vetlanda, Sweden	RELATED PROJECTS
	Toyota Tsusho America Inc - Headquarters	Georgetown, United States	RELATED PROJECTS
	Upstate Shredding	Owego, United States	RELATED PROJECTS
	Waukesha County Parks and Land Use Division	Waukesha, United States	RELATED PROJECTS
MSW	Agence Francaise de Developpement (French Development Agency) Headquarters	Paris, France	RELATED PROJECTS
	Athens Services	Sun Valley, United States	RELATED PROJECTS
	Bangladesh Power Development Board	Dhaka, Bangladesh	RELATED PROJECTS
	China Everbright Environment Group	Hong Kong	RELATED PROJECTS
	China Machinery Engineering Corporation	Beijing, China	RELATED PROJECTS
	Chongqing Sanfeng Covanta Environmental Industry	Chongqing, China	RELATED PROJECTS
	City of Moose Jaw	Moose Jaw, Canada	RELATED PROJECTS
	City of Uzice	Uzice, Serbia	RELATED PROJECTS
	Cornwall Energy Recovery Ltd	Maidenhead, United Kingdom	RELATED PROJECTS
	COWI	Lyngby, Denmark	RELATED PROJECTS
	Crown Recycling	Sun Valley, United States	RELATED PROJECTS
	Dhaka North City Corporation	Dhaka, Bangladesh	RELATED PROJECTS
	European Bank for Reconstruction and Development (EBRD)	New Belgrade, Serbia	RELATED PROJECTS
	Fiberight	Swansea, United Kingdom	RELATED PROJECTS
	Government of Cebu Province	Cebu City, Philippines	RELATED PROJECTS
	Guangdong Canves Environmental Investment Company	Dongguan City, China	RELATED PROJECTS
	International Finance Corporation (IFC)	Hanoi, Vietnam	RELATED PROJECTS
	JFE Engineering	Tokyo, Japan	RELATED PROJECTS
	Komar Industries	Groveport, United States	RELATED PROJECTS
	Martin GmbH fur Umwelt und Energietechnik	Munich, Germany	RELATED PROJECTS
	Ministry of Environmental Protection	Belgrade, Serbia	RELATED PROJECTS
	Ministry of Public Works	Hamilton, Bermuda	RELATED PROJECTS

Feedstock Type	Company	Headquarters	More Info
	Municipality of Nova Varos	Nova Varos, Serbia	RELATED PROJECTS
	Orkney Islands Council	Kirkwall, United Kingdom	RELATED PROJECTS
	PGK	Radomsko, Poland	RELATED PROJECTS
	Pinter & Associates	Saskatoon, Canada	RELATED PROJECTS
	Regional Center for Waste Management (PUC Duboko)	Duboko bb, Serbia	RELATED PROJECTS
	Reno-Nord	Aalborg East, Denmark	RELATED PROJECTS
	ReTec Miljo	Karlskrona, Sweden	RELATED PROJECTS
	Sakhalin Industrial and Ecological Complex	Sakhalinskaya, Russian Federation	RELATED PROJECTS
	Solum A/S	Hedehusene, Denmark	RELATED PROJECTS
	Sutco Polska	Katowice, Poland	RELATED PROJECTS
	T&J Green Energy Company Limited	Thuan Thanh District, Vietnam	RELATED PROJECTS
	Town of Bourne Integrated Solid Waste Management Department (ISWM)	Buzzards Bay, United States	RELATED PROJECTS
	ZenRobotics	Helsinki, Finland	RELATED PROJECTS
	ZZO Marszow	Zary, Poland	RELATED PROJECTS
Oil	Biodiesel Las Americas - Corporate Headquarters	Miami, United States	RELATED PROJECTS
	Envest	Toronto, Canada	RELATED PROJECTS
	Transasia Minerals	Jakarta, Indonesia	RELATED PROJECTS
Organic (general/unspecified)	Abonos Organicos Montagut	Llutxent, Spain	RELATED PROJECTS
	Attero	Haelen, Netherlands	RELATED PROJECTS
	BOC Australia	North Ryde, Australia	RELATED PROJECTS
	CGL Oil Blenders Ltd	Marsa, Malta	RELATED PROJECTS
	Gas Authority of India Limited (GAIL)	New Delhi, India	RELATED PROJECTS
	Gujarat Alkalies and Chemicals Limited (GACL)	Ranoli, India	RELATED PROJECTS
	INDO Enviro Integrated Solutions (IEISL)	New Delhi, India	RELATED PROJECTS
	Nordsol	Bunnik, Netherlands	RELATED PROJECTS
	Optimal Group	Mulgrave, Australia	RELATED PROJECTS
	South Delhi Municipal Corporation	New Delhi, India	RELATED PROJECTS
	Stanlow Terminals Limited	Ellesmere Port, United Kingdom	RELATED PROJECTS
	Titan LNG	Amsterdam, Netherlands	RELATED PROJECTS
Plant biomass (non-waste)	AstraZeneca	Macclesfield, United Kingdom	RELATED PROJECTS
	Future Biogas	Guildford, United Kingdom	RELATED PROJECTS
Plant biomass (waste)	Area Impianti	Albignasego, Italy	RELATED PROJECTS
	Arete	Bologna, Italy	RELATED PROJECTS
	Balrampur Chini Mills	Kolkata, India	RELATED PROJECTS
	Berkeley Energy Commercial Industrial Solutions (BECIS)	Singapore City, Singapore	RELATED PROJECTS

Feedstock Type	Company	Headquarters	More Info
	Brasil Biofuels – Administrative Headquarters	Sao Paulo, Brazil	RELATED PROJECTS
	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	Clean Holdings	Terrigal, Australia	RELATED PROJECTS
	Enagas	Madrid, Spain	RELATED PROJECTS
	Evolve Transition Infrastructure – Headquarters	Houston, United States	RELATED PROJECTS
	Genia Bioenergy/Genia Global Energy	Valencia, Spain	RELATED PROJECTS
	Government of Uttar Pradesh	Lucknow, India	RELATED PROJECTS
	Heineken Cambodia Head Office	Sangkat Prek Eng, Chbar Ampov, Cambodia	RELATED PROJECTS
	HOBO Renewable Diesel	Houston, United States	RELATED PROJECTS
	Ministry of Agriculture, Rural Development, Climate Emergency and Ecological Transition	Valencia, Spain	RELATED PROJECTS
	Naturgy	Barcelona, Spain	RELATED PROJECTS
	Nedgia	Madrid, Spain	RELATED PROJECTS
	Rio Grande do Sul State Gas Company (Sulgas)	Porto Alegre, Brazil	RELATED PROJECTS
	Sebigas-Cotica	Porto Alegre, Brazil	RELATED PROJECTS
	Vibra Energia	Rio de Janeiro, Brazil	RELATED PROJECTS
Plastics	Alto Packaging	Albany, New Zealand	RELATED PROJECTS
	Amut SpA	Novara, Italy	RELATED PROJECTS
	Circulus Holdings	Houston, United States	RELATED PROJECTS
	Dubai Holding Corporate Office	Dubai, United Arab Emirates	RELATED PROJECTS
	Emirates National Oil Company (ENOC)	Dubai, United Arab Emirates	RELATED PROJECTS
	EREMA Engineering Recycling Maschinen und Anlagen	Ansfelden, Austria	RELATED PROJECTS
	European Investment Bank (EIB)	Luxembourg City, Luxembourg	RELATED PROJECTS
	Gaia SpA	Asti, Italy	RELATED PROJECTS
	Green Hydrogen Technology	Augsburg, Germany	RELATED PROJECTS
	INEOS Olefins & Polymers (UK) Europe	Grangemouth, United Kingdom	RELATED PROJECTS
	Iren Ambiente	Piacenza, Italy	RELATED PROJECTS
	Petroineos	Grangemouth, United Kingdom	RELATED PROJECTS
	Plastic Energy	London, United Kingdom	RELATED PROJECTS
	PreZero	Neckarsulm, Germany	RELATED PROJECTS
	Quantafuel	Oslo, Norway	RELATED PROJECTS
	R&R Beth Gewerbegebiet	Bad Lobenstein, Germany	RELATED PROJECTS
	Repetco Innovations	Madrid, Spain	RELATED PROJECTS
	Saipem	Milan, Italy	RELATED PROJECTS
	Solum A/S	Hedehusene, Denmark	RELATED PROJECTS
	Stadler Italia	Piacenza, Italy	RELATED PROJECTS
Rubber	Ecolomondo	St.Laurent, Canada	RELATED PROJECTS
	Tyrecycle	Somerton, Australia	RELATED PROJECTS

Feedstock Type	Company	Headquarters	More Info
	Whitehaven Coal	Boggabri, Australia	RELATED PROJECTS
Sewage/wastewater	Breakwater Energy Partners - Corporate Headquarters	Houston, United States	RELATED PROJECTS
	Capstone Green Energy	Van Nuys, United States	RELATED PROJECTS
	Compania Aquaserv	Tirgu-Mures, Romania	RELATED PROJECTS
	Gradska Toplana Krusevac	Krusevac, Serbia	RELATED PROJECTS
	Servelect	Cluj-Napoca, Romania	RELATED PROJECTS
Wood	Atria Sweden	Skollersta, Sweden	RELATED PROJECTS
	BKtech	Blomstermala, Sweden	RELATED PROJECTS
	Building Design Northern	Sunderland, United Kingdom	RELATED PROJECTS
	CAC-H2	Singapore, Singapore	RELATED PROJECTS
	Crispo Paper	Tibro, Sweden	RELATED PROJECTS
	GeelongPort	Geelong, Australia	RELATED PROJECTS
	James Jones & Sons	Larbert, United Kingdom	RELATED PROJECTS
	JFE Engineering	Tokyo, Japan	RELATED PROJECTS
	Kumamoto Clean Energy	Uto City, Japan	RELATED PROJECTS
	StWZ Energie	Zofingen, Switzerland	RELATED PROJECTS
	Takuma	Amagasaki, Japan	RELATED PROJECTS
	Valmet	Tokyo, Japan	RELATED PROJECTS

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