

Waste Business Monitor

The only source of "real time" trend data analysing global waste plant developments



ALL DATA CURRENT AT

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In this month's report...

The latest waste plant developments in June 2016

- Latest Monthly Projects by Facility Type and Feedstock
- Latest Monthly Capacity by Facility Type and Feedstock
- Latest Power Generation Projects Listed by Facility Type and Feedstock
- Latest Country Focus Top Ten Countries with number and value of projects listed
- Completion Date Focus



Essential for waste equipment manufacturers, operators and service companies

Explanatory Notes

Welcome to Waste Business Monitor.

Welcome to your complimentary issue of AcuComm's Waste Business Monitor (WBM).

WBM 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. The data in is taken from AcuComm's 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 Business Monitor – is not readily available from any other source.

WBM is organised in the following sections:

The first section examines new projects reported in the latest month. It looks at the overall number and value of these, and then divides them in two ways. 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, plant biomass or food for example. Then, the waste capacity and power generation capacity of each project is examined. After this, we look at which countries are most active, and when projects are reported as being likely to complete.

I hope Waste Business Monitor is useful to you. If you have any questions or queries, or if you have a project which you would like to see included in our Business Database – free of charge – then please do get in touch

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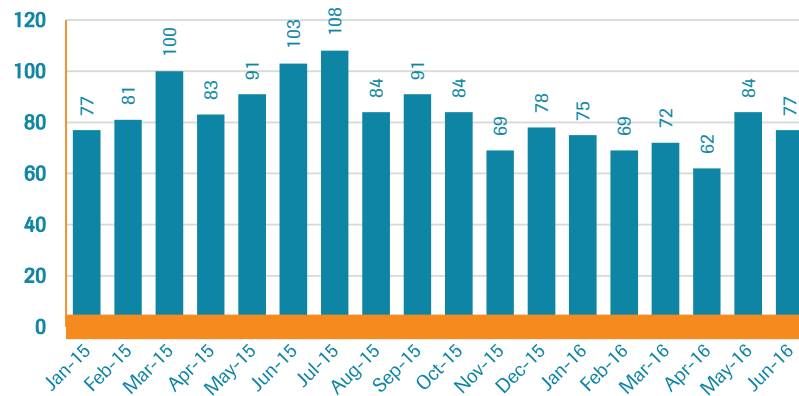
Projects This Month: June 2016

Overview

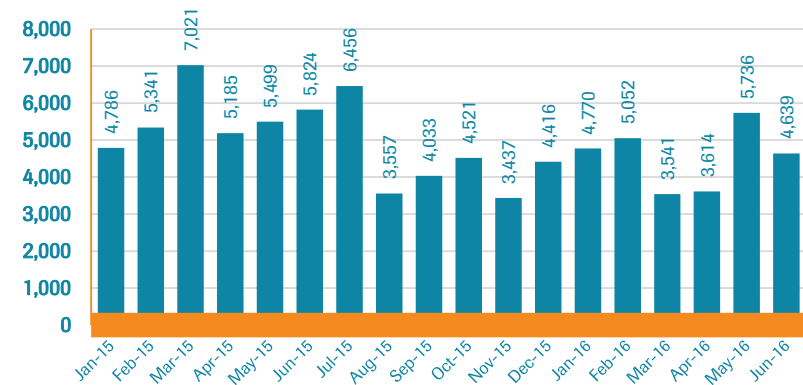
AcuComm reported on 77 new/updated waste projects in June 2016. This takes the annual number (since July 2015) to 953, and the total overall since January 2015 to 1,488. The database as a whole contains 4,179 active project investments.

Each new waste project represents on-going investment of an average of around US\$63 million.

Number of New Projects by Month



Estimated Total Value of New Projects (US\$m)



The total estimated value of these new projects is US\$4,639 million. This takes the total estimated value of projects reported since July 2015 to US\$53,771 million. The average estimated value of a waste project over this period is US\$57 million.



Incineration (with energy recovery) projects form the largest number in June 2016, accounting for 20 or 26.0% of the total. This was followed by recycling with 17 projects, or 22.1% of the total.



WtE incineration is the leading facility type by estimated value, at US\$2,233 million, or 48.1% of the total. This was followed by biofuel with US\$634 million, or 13.7% of the total.

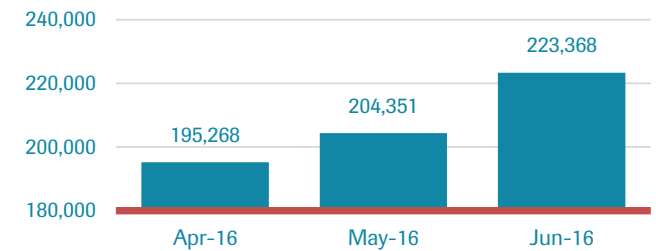
Quarterly Project Data Comparison

Key Indicators for April 2016 to June 2016

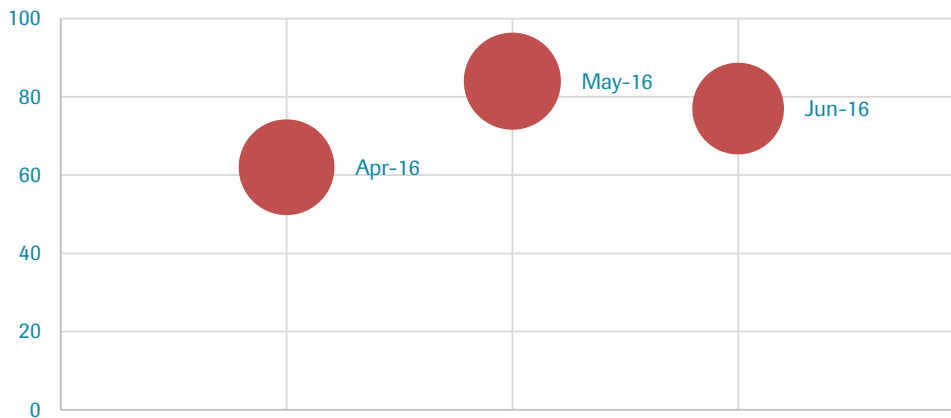
	Apr-16	May-16	Jun-16	Quarterly Total
Number of new projects	62	84	77	223
Total estimated value (US\$ millions)	3,614	5,736	4,639	13,989
Average value (US\$ millions)	58	68	60	63
Estimated waste capacity (tonnes)	12,106,587	17,165,450	17,199,367	46,471,403
Average annual capacity per project (tonnes)	195,268	204,351	223,368	208,392
Estimated power generation (MW)	817	1,138	931	2,886
Average MW per project	13	14	12	13

This page compares data on projects reported in the current month, compared with the previous two months. This provides a comparison of the most recent data, and also a quarterly total. The size of the circles in the bottom left graph represents the total estimated project values, as reported in the table on this page.

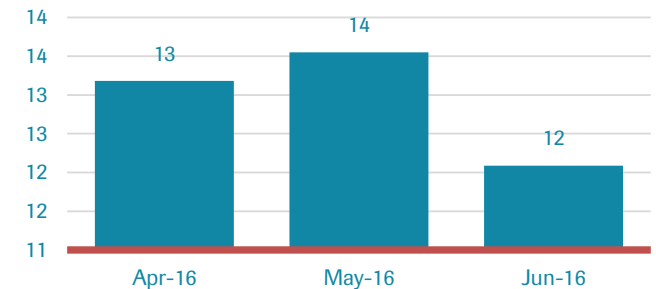
Average annual capacity per project (tonnes)



Projects by Number and Estimated US\$ Value



Average MW per project



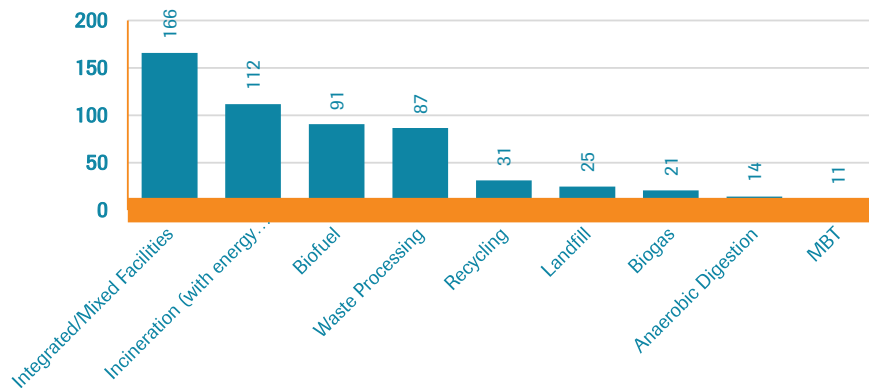
Latest Monthly Projects by Facility Type (June 2016)

	Projects	With Value (US\$m)	Reported Value (US\$m)	Total Estimated Value (US\$m)	Average value (US\$m)
Anaerobic Digestion	8	2	11	115	14
Biofuel	7	1	55	634	91
Biogas	5	2	31	104	21
Gasification	0	0	0	0	-
Incineration (energy recovery)	20	12	1,294	2,233	112
Incineration (no energy recovery)	0	0	0	0	-
Integrated Facilities (IWMF)	1	1	166	166	166
Landfill	9	3	6	224	25
MBT	2	2	22	22	11
Recycling	17	8	362	534	31
Waste Processing	6	2	382	519	87
Others	2	0	0	88	44
Total	77	33	2,329	4,639	60

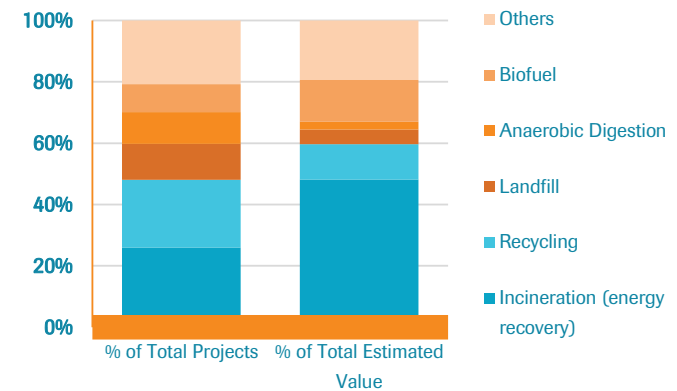
Latest Monthly Projects by Facility Type % of Total (June 2016)

	% of Total Projects	% of Total Estimated Value
Anaerobic Digestion	10.4	2.5
Biofuel	9.1	13.7
Biogas	6.5	2.2
Gasification	0.0	0.0
Incineration (energy recovery)	26.0	48.1
Incineration (no energy recovery)	0.0	0.0
Integrated Facilities (IWMF)	1.3	3.6
Landfill	11.7	4.8
MBT	2.6	0.5
Recycling	22.1	11.5
Waste Processing	7.8	11.2
Others	2.6	1.9
Total	100.0	100.0

Average Value of Projects, Jun 2016 (US\$m)



Projects By Facility Type, Jun 2016



In terms of waste feedstock type, MSW was the leading category in June 2016. MSW accounted for 19 projects (24.7% of the total) with an estimated value of US\$1,418 million (30.6% of the total), equal to US\$75 million on average.



Wood was the other principal feedstock in June 2016. This accounted for 12 projects in total, worth an estimated US\$1,261 million or US\$105 million on average.



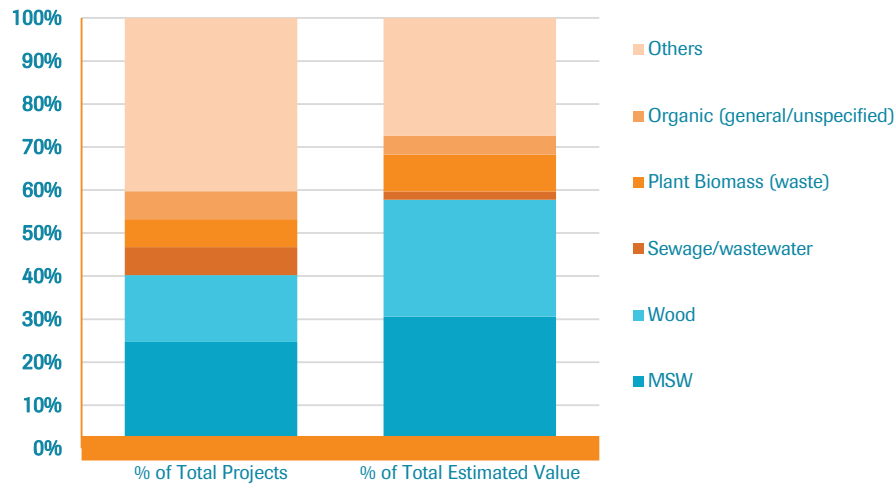
Latest Monthly Projects by Feedstock Type (June 2016)

	Projects	With Value (US\$m)	Reported Value (US\$m)	Total Estimated Value (US\$m)	Average value (US\$m)
Animal	5	0	-	116	23
Clinical	0	0	-	-	-
Construction/Demolition	2	0	-	12	6
e-Waste	1	0	-	22	22
Food	3	1	9	40	13
Gas	3	2	4	18	6
Glass	0	0	-	-	-
Hazardous	1	0	-	144	144
Heat	2	0	-	80	40
Industrial	4	3	527	603	151
Metals	2	2	25	25	13
MSW	19	9	683	1,418	75
Oil	2	1	56	99	49
Organic (general/unspecified)	5	2	24	205	41
Paper	0	0	-	-	-
Plant Biomass (non-waste)	0	0	-	-	-
Plant Biomass (waste)	5	3	252	396	79
Plastics	2	1	6	23	12
Radioactive	0	0	-	-	-
Rubber	2	0	-	59	29
Sewage/wastewater	5	4	55	89	18
Wood	12	5	688	1,261	105
Other	2	0	-	29	14
Total	77	33	2,329	4,639	60

Latest Monthly Projects by Feedstock Type (% of Total)

	% of Total Projects	% of Total Estimated Value
Animal	6.5	2.5
Clinical	-	-
Construction/Demolition	2.6	0.3
e-Waste	1.3	0.5
Food	3.9	0.9
Gas	3.9	0.4
Glass	-	-
Hazardous	1.3	3.1
Heat	2.6	1.7
Industrial	5.2	13.0
Metals	2.6	0.5
MSW	24.7	30.6
Oil	2.6	2.1
Organic (general/unspecified)	6.5	4.4
Paper	-	-
Plant Biomass (non-waste)	-	-
Plant Biomass (waste)	6.5	8.5
Plastics	2.6	0.5
Radioactive	-	-
Rubber	2.6	1.3
Sewage/wastewater	6.5	1.9
Wood	15.6	27.2
Other	2.6	0.6
Total	100.0	100.0

Projects By Feedstock Type, June 2016



General municipal waste accounts for a significant part of waste throughput, although it is by no means the only feedstock.



Latest Monthly Capacity

For the 77 projects listed in June 2016, AcuComm estimates total waste capacity to be 17.2 million tonnes. This is equal to an average of 232,424 tonnes per project, and an average of 726 tonnes per day per project.

WtE incineration was the largest facility type in terms of capacity, amounting to just under 7.4 million tonnes, or 42.7% of the total. This was followed by landfill with 3.7 million tonnes (21.4%).



Incineration with energy recovery represented 42.7% of estimated new capacity in June 2016.

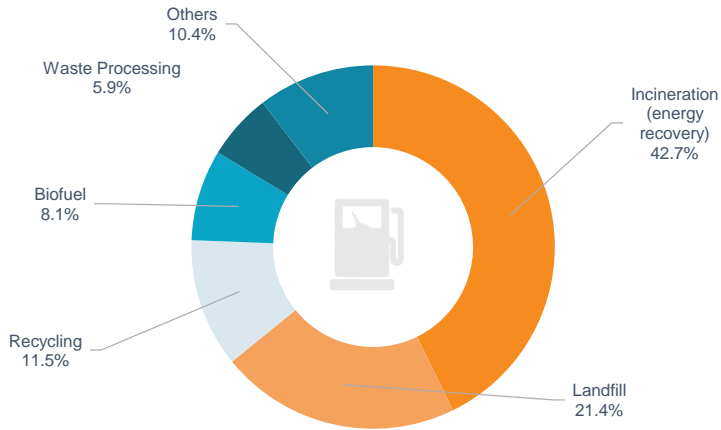
Estimated Waste Capacity of Projects Listed by Facility Type (June 2016)

	Projects	Estimated Annual Capacity (tonnes)	Average Annual Capacity (tonnes)	Average Tonnes Per Day
Anaerobic Digestion	8	864,370	108,046	338
Biofuel	7	1,395,239	199,320	623
Biogas	5	220,140	44,028	138
Gasification	0	0	-	-
Incineration (energy recovery)	20	7,351,412	367,571	1,149
Incineration (no energy recovery)	0	0	-	-
Integrated Facilities (IWMF)	1	23,908	23,908	75
Landfill	9	3,681,240	613,540	1,917
MBT	2	282,664	141,332	442
Recycling	17	1,971,470	115,969	362
Waste Processing	6	1,012,712	168,785	527
Others	2	396,211	198,105	619
Total	77	17,199,367	232,424	726

Estimated Capacity by Facility Type, % of Total (June 2016)

	% of Total Reported Capacity
Anaerobic Digestion	5.0
Biofuel	8.1
Biogas	1.3
Gasification	-
Incineration (energy recovery)	42.7
Incineration (no energy recovery)	-
Integrated Facilities (IWMF)	0.1
Landfill	21.4
MBT	1.6
Recycling	11.5
Waste Processing	5.9
Others	2.3
Total	100.0

% Capacity by Facility Type, June 2016



In June, a major new landfill ash metal recovery facility opened at the Roosevelt Landfill site in Washington state, USA.

[Click map for full details](#)



MSW accounted for just under 5.4 million tonnes of capacity in June 2016, equal to 31.1% of the total, and an average of 881 tonnes per day. The other major feedstock categories were organic materials, plant biomass, sewage/wastewater and wood.



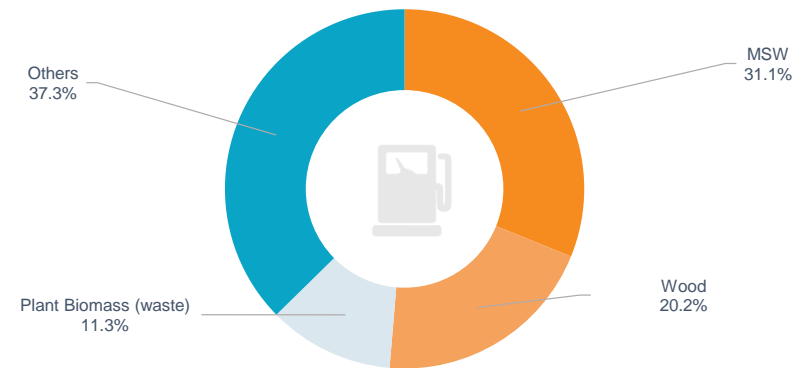
Latest Monthly Projects by Feedstock Type (June 2016)

	Projects	Annual Capacity (tonnes)	Average Annual Capacity (tonnes)	Average Tonnes Per Day
Animal	5	919,631	183,926	575
Clinical	0	0	-	-
Construction/Demolition	2	999,152	499,576	1,561
e-Waste	1	55,015	55,015	172
Food	3	103,594	34,531	108
Gas	3	0	-	-
Glass	0	0	-	-
Hazardous	1	73,333	73,333	229
Heat	2	367,066	183,533	574
Industrial	4	468,011	117,003	366
Metals	2	176,800	88,400	276
MSW	19	5,356,235	281,907	881
Oil	2	109,000	54,500	170
Organic (general/unspecified)	5	1,409,811	281,962	881
Paper	0	0	-	-
Plant Biomass (non-waste)	0	0	-	-
Plant Biomass (waste)	5	1,946,146	389,229	1,216
Plastics	2	198,064	99,032	309
Radioactive	0	0	-	-
Rubber	2	42,785	21,393	67
Sewage/wastewater	5	578,022	115,604	361
Wood	12	3,473,223	289,435	904
Other	2	923,479	461,740	1,443
Total	77	17,199,367	232,424	726

Reported Capacity by Feedstock, % of Total (June 2016)

	Capacity as % of Total
Animal	5.3
Clinical	-
Construction/Demolition	5.8
e-Waste	0.3
Food	0.6
Gas	-
Glass	-
Hazardous	0.4
Heat	2.1
Industrial	2.7
Metals	1.0
MSW	31.1
Oil	0.6
Organic (general/unspecified)	8.2
Paper	-
Plant Biomass (non-waste)	-
Plant Biomass (waste)	11.3
Plastics	1.2
Radioactive	-
Rubber	0.2
Sewage/wastewater	3.4
Wood	20.2
Other	5.4
Total	100.0

% Capacity by Feedstock, June 2016



Municipal Solid Waste accounted for 31.1% of waste capacity in projects covered in the Business Finder database in June 2016.



Latest Power Generation

In June 2016, estimated annual power generation amounted to 931 MW in total. 80.9% of this was from WtE incineration with most of the remainder coming from biofuels, worth 11.8% of the total.

Incineration amounted to 20 projects with total estimated generation of 753 MW, equal to 40 MW per plant.



WtE incineration and biofuels dominated the reported power generation of projects in June 2016.

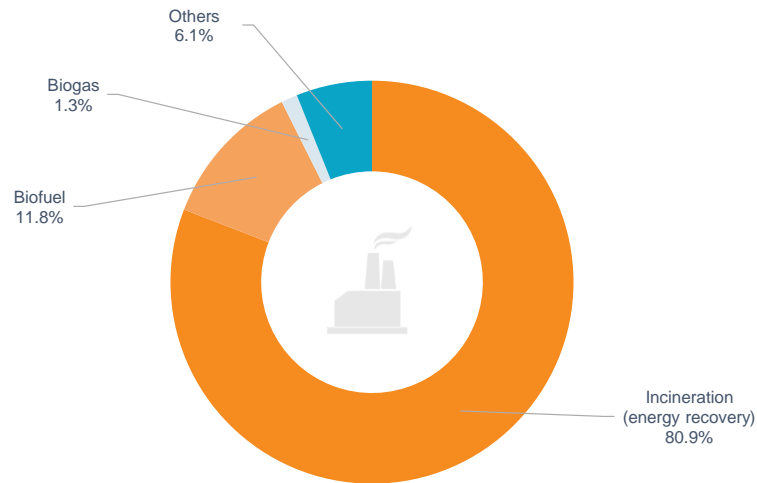
Estimated Power Generation of Projects Listed by Facility Type (June 2016)

	Projects	With Reported MW Generation	Estimated Annual MW Generation	Average MW Generation
Anaerobic Digestion	8	8	28	3
Biofuel	7	7	109	16
Biogas	5	5	12	2
Gasification	0	0	0	-
Incineration (energy recovery)	20	19	753	40
Incineration (no energy recovery)	0	0	0	-
Integrated Facilities (IWMF)	1	1	0	0
Landfill	9	3	14	5
MBT	2	1	5	5
Recycling	17	1	10	10
Waste Processing	6	0	0	-
Others	2	0	0	-
Total	77	45	931	21

Latest Estimated Power Generation by Facility Type, % of Total (June 2016)

	% of Total Projects
Anaerobic Digestion	3.0
Biofuel	11.8
Biogas	1.3
Gasification	-
Incineration (energy recovery)	80.9
Incineration (no energy recovery)	-
Integrated Facilities (IWMF)	0.0
Landfill	1.5
MBT	0.5
Recycling	1.1
Waste Processing	-
Others	-
Total	100.0

% MW Generation by Facility Type, Jun 2016



In June 2016, 80.9% of proposed power generation was through incineration, principally using wood, plant biomass, other organic materials and MSW as feedstocks.



Latest Estimated Power Generation of Projects Listed by Feedstock Type (June 2016)

	Projects	With Reported MW Generation	Estimated MW Generation	Average MW Generation
Animal	5	4	9	2
Clinical	0	0	0	-
Construction/Demolition	2	0	0	-
e-Waste	1	0	0	-
Food	3	2	5	2
Gas	3	3	14	5
Glass	0	0	0	-
Hazardous	1	0	0	-
Heat	2	2	52	26
Industrial	4	1	25	25
Metals	2	0	0	-
MSW	19	9	185	21
Oil	2	1	16	16
Organic (general/unspecified)	5	5	35	7
Paper	0	0	0	-
Plant Biomass (non-waste)	0	0	0	-
Plant Biomass (waste)	5	5	234	47
Plastics	2	0	0	-
Radioactive	0	0	0	-
Rubber	2	0	0	-
Sewage/wastewater	5	3	11	4
Wood	12	10	345	35
Other	2	0	0	-
Total	77	45	931	21

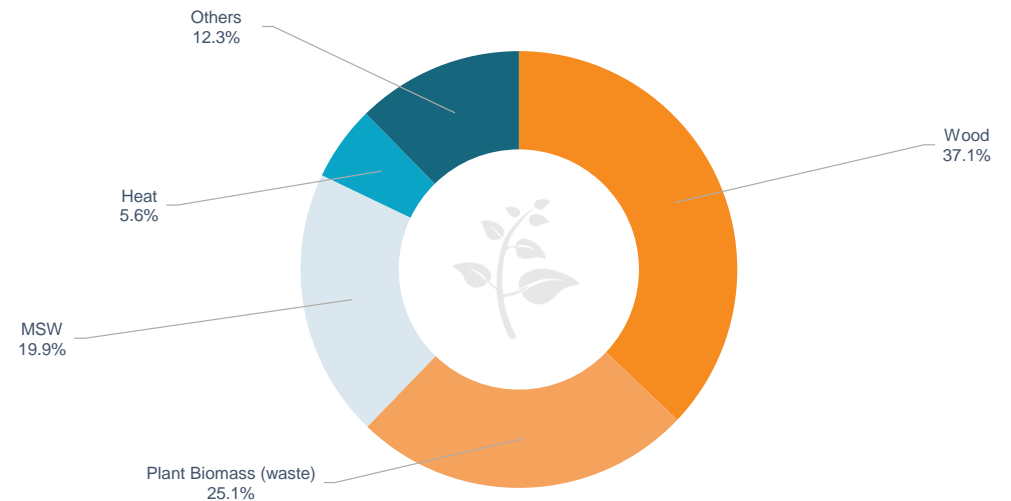
Latest Estimated Power Generation by Feedstock Type, % of Total (June 2016)

	MW Generation as % of Total
Animal	1.0
Clinical	-
Construction/Demolition	-
e-Waste	-
Food	0.5
Gas	1.5
Glass	-
Hazardous	-
Heat	5.6
Industrial	2.7
Metals	-
MSW	19.9
Oil	1.7
Organic (general/unspecified)	3.8
Paper	-
Plant Biomass (non-waste)	-
Plant Biomass (waste)	25.1
Plastics	-
Radioactive	-
Rubber	-
Sewage/wastewater	1.2
Wood	37.1
Other	-
Total	100.0

Biomass and wood-based materials - whether waste products or grown specially - are increasingly being used as a fuel for providing domestic power for heat and light.



% MW Generation by Feedstock Type, June 2016



Latest Country Focus

The USA was the leading country in June 2016 in terms of new projects reported, with 14 in total. This was followed by the UK with eight and Australia with six.

In terms of estimated value, Japan was the leader, with US\$545 million or 11.7% of the total. This was followed by the USA and Bosnia with US\$510 million and US\$324 million respectively.



Significant waste investments occur not only in developed markets, but across the developing world.

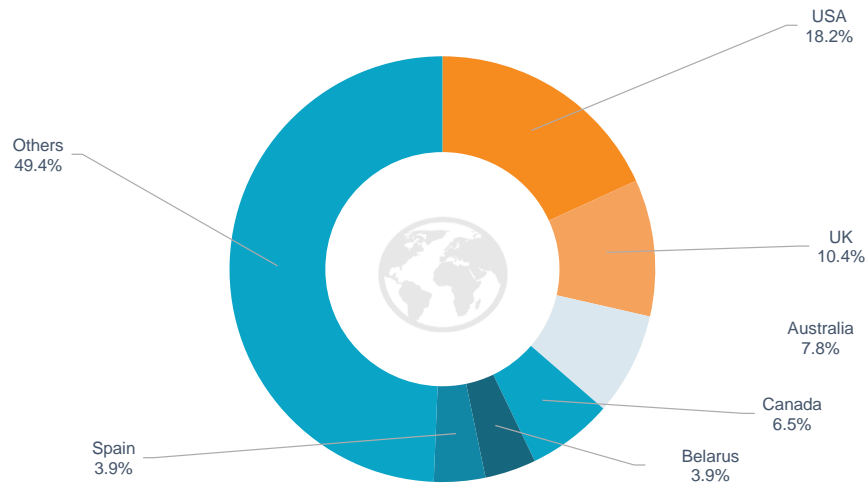
Top Ten Countries (number of projects listed), June 2016

	Projects	% of Total
USA	14	18.2
UK	8	10.4
Australia	6	7.8
Canada	5	6.5
Belarus	3	3.9
Spain	3	3.9
Japan	3	3.9
Sweden	2	2.6
Netherlands	2	2.6
Bosnia and Herzegovina	2	2.6
Subtotal	48	62.3
Others	29	37.7
Total	77	100.0

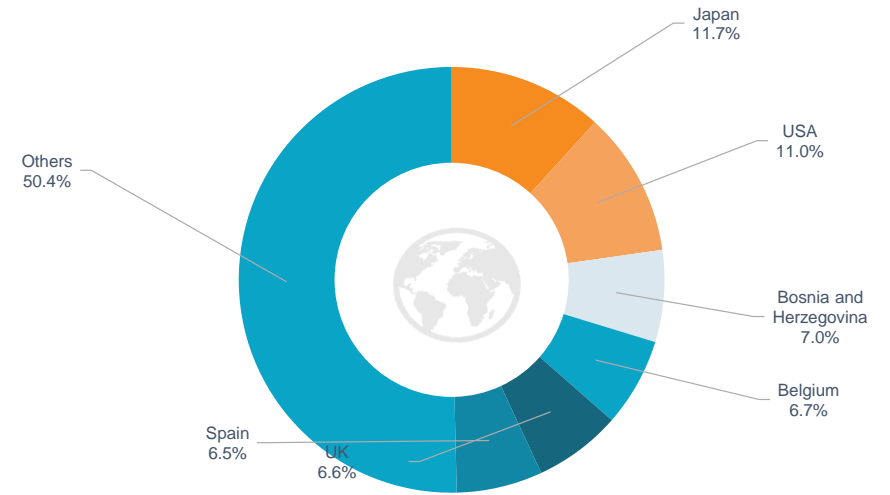
Top Ten Countries (estimated value of projects listed), June 2016

	US\$ millions	% of Total
Japan	545	11.7
USA	510	11.0
Bosnia and Herzegovina	324	7.0
Belgium	312	6.7
UK	308	6.6
Spain	303	6.5
Indonesia	297	6.4
United Arab Emirates	293	6.3
Canada	247	5.3
Australia	187	4.0
Subtotal	3,325	71.7
Others	1,314	28.3
Total	4,639	100.0

Leading Countries, Number of Projects, June 2016



Leading Countries, Value of Projects, June 2016



Operational Date Focus

Of the 77 projects reported on in June 2016, 18 are already in operation, valued at US\$525 million. A further four are estimated to become operational in 2016, worth a total of US\$211 million. For 2017, 11 projects are expected to become operational, worth US\$435 million.



Once work starts, the average project takes around 18 months to become operational. Most, however have on-going operational requirements for much longer.

Projects by Estimated Operational Date (June 2016)

	Number of Projects	Value (US\$ millions)
Already operational	18	525
Q4-2015	0	n/a
Q1-2016	0	n/a
Q2-2016	0	n/a
Q3-2016	1	76
Q4-2016	3	135
Q1-2017	2	41
Q2-2017	0	n/a
Q3-2017	4	295
Q4-2017	5	99
Q1-2018	2	237
Q2-2018	8	482
Q3-2018	14	375
Q4-2018	8	813
2019+	12	1,371

Estimated Value of Investments by Operational Date, 2016-2019 (US\$ millions)

