

Waste Business Monitor

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

AcuComm

Waste > Renewables > Energy > Profit

ALL DATA CURRENT AT

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In this month's report...

The latest waste plant developments in September 2015

- 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

 **ISWA**
International Solid Waste Association

Essential for waste equipment manufacturers, operators and service companies

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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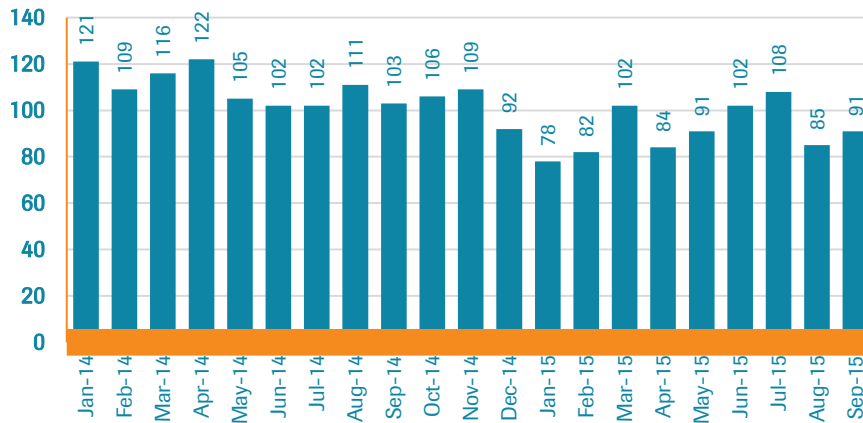


Projects This Month: September 2015

Overview

AcuComm reported on 91 new waste projects in September 2015. This takes the annual number (since October 2014) to 1,130, and the total overall since January 2014 to 2,121.

Number of Projects by Month

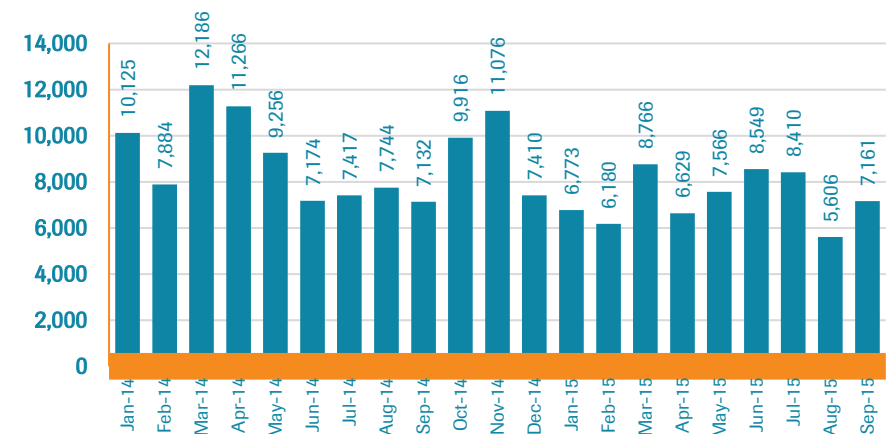


The total estimated value of these projects is US\$7,161 million. This takes the total estimated value of projects reported since October 2014 to US\$94,041 million. The average estimated value of a waste project over this period is US\$83 million.



Each new waste project represents on-going investment of an average of around US\$83 million.

Estimated Total Value of Projects (US\$m)



Incineration with energy recovery projects form the largest number in September 2015, accounting for 32, or 35.2% of the total each. This was followed by anaerobic digestion (AD) projects (11 projects, or 12.1%) and landfill/recycling (10 projects, or 11.0% each).



Incineration with energy recovery is also the leading facility type by estimated value, at US\$2,489 million, or 34.7% of the total. This was followed by waste processing with US\$1,061 million, or 14.8% of the total, and AD with US\$604 million, or 8.4%.

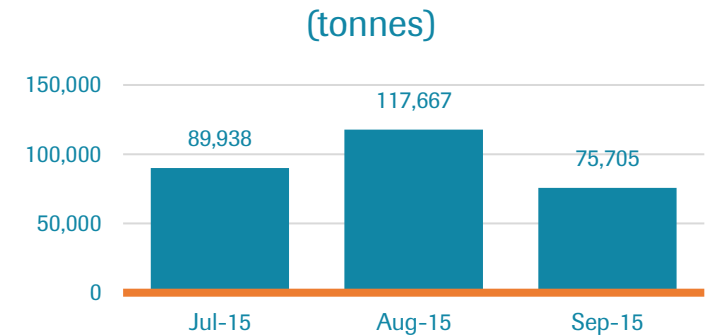
Quarterly Project Data Comparison

Key Indicators for July 2015 to September 2015

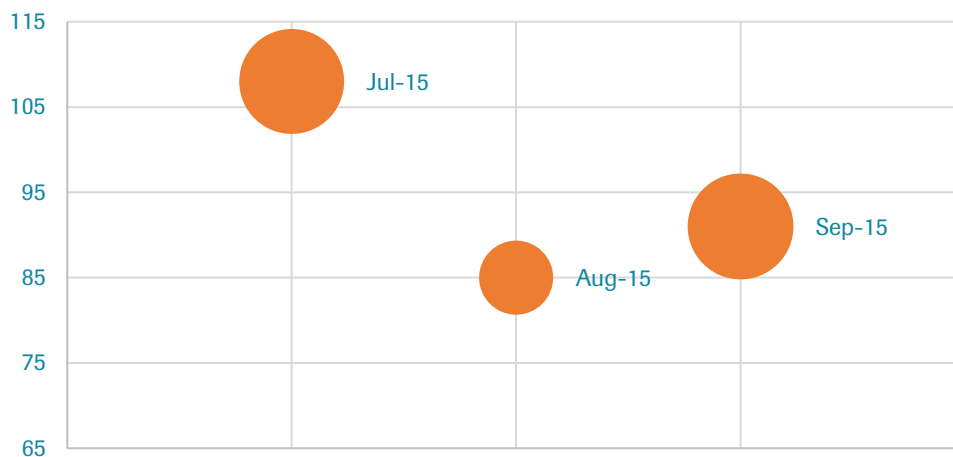
	Jul-15	Aug-15	Sep-15	Quarterly Total
Number of projects	108	85	91	284
Total estimated value (US\$ millions)	8,410	5,606	7,161	21,177
Average value (US\$ millions)	78	66	79	75
Reported waste capacity (tonnes)	5,036,536	4,706,673	2,725,395	12,468,604
Average annual capacity per project (tonnes)	89,938	117,667	75,705	94,459
Reported power generation (MW)	526	208	803	1,536
Average MW per project	22	11	22	19

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.

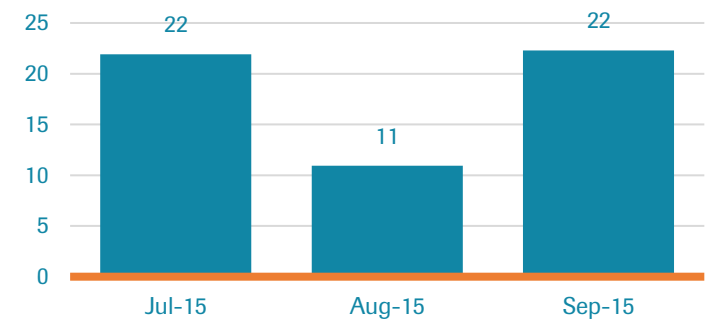
Average annual capacity per project (tonnes)



Projects by Number and Estimated US\$ Value



Average MW per project



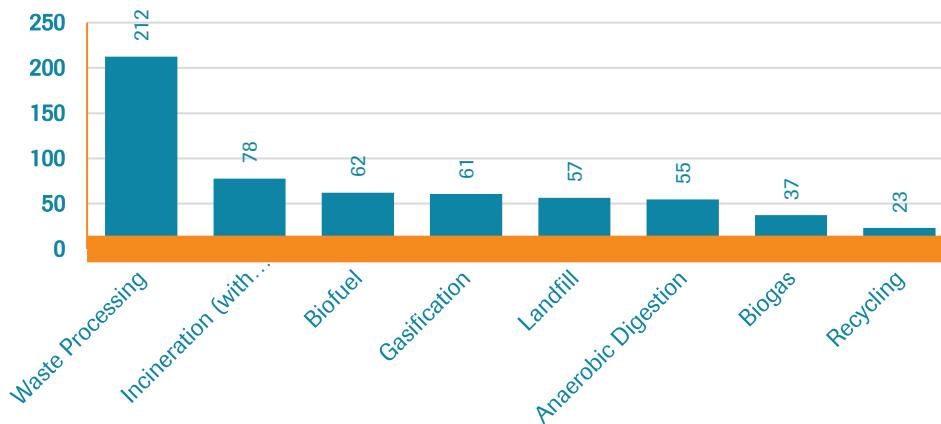
Latest Monthly Projects by Facility Type (September 2015)

	Projects	With Value (US\$m)	Reported Value	Total Estimated Value	Average value
Anaerobic Digestion	11	3	66	604	55
Biofuel	6	3	20	373	62
Biogas	7	1	10	262	37
Gasification	3	2	15	182	61
Incineration (energy recovery)	32	17	863	2,489	78
Incineration (no energy recovery)	0	0	0	0	-
Integrated Facilities (IWMF)	0	0	0	0	-
Landfill	10	4	58	565	57
MBT	0	0	0	0	-
Recycling	10	5	19	232	23
Waste Processing	5	1	2	1,061	212
Others	7	0	0	1,393	199
Total	91	36	1,053	7,161	79

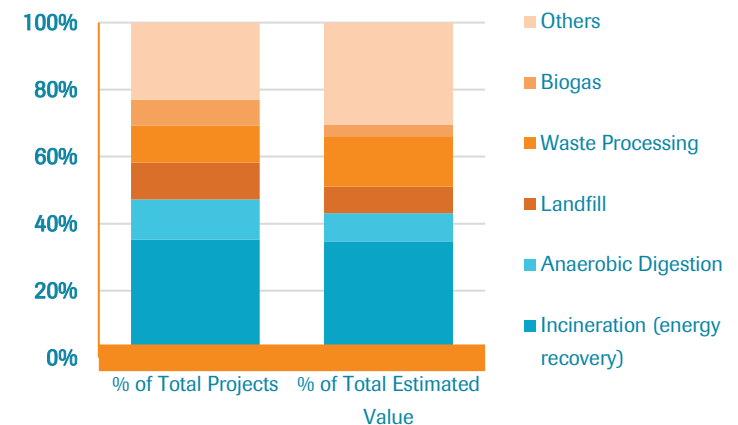
Latest Monthly Projects by Facility Type % of Total (September 2015)

	% of Total Projects	% of Total Estimated Value
Anaerobic Digestion	12.1	8.4
Biofuel	6.6	5.2
Biogas	7.7	3.7
Gasification	3.3	2.5
Incineration (energy recovery)	35.2	34.7
Incineration (no energy recovery)	0.0	0.0
Integrated Facilities (IWMF)	0.0	0.0
Landfill	11.0	7.9
MBT	0.0	0.0
Recycling	11.0	3.2
Waste Processing	5.5	14.8
Others	7.7	19.4
Total	100.0	100.0

Average Value of Projects, Sep 2015 (US\$m)



Projects By Facility Type, Sep 2015



In terms of waste feedstock type, wood was the leading category in September 2015. Wood accounted for 15 projects (16.5% of the total) with an estimated value of US\$1,409 million (19.7% of the total).



Municipal solid waste (MSW) and waste plant biomass were the other principal feedstocks in September 2015. Biomass accounted for 14 projects, equal to US\$1,164 million, and MSW accounted for 13 projects, with an estimated value of US\$664 million.



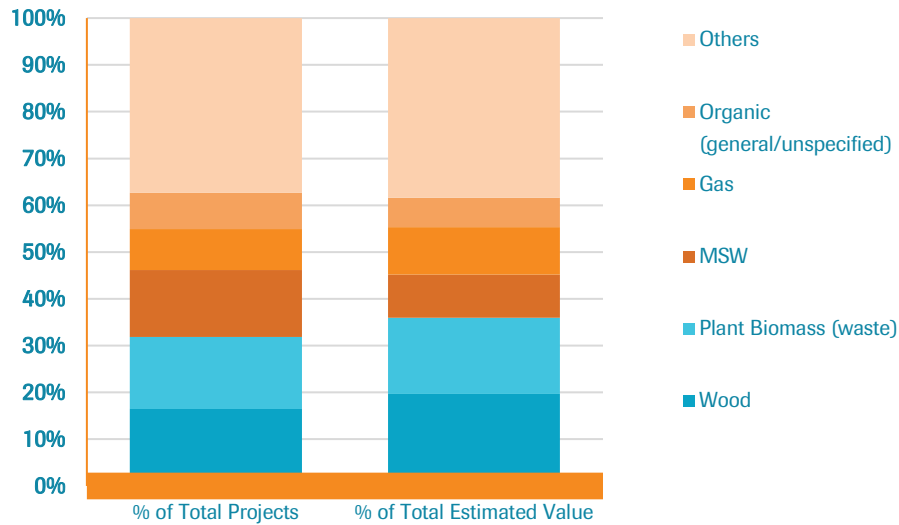
Latest Monthly Projects by Feedstock Type (September 2015)

	Projects	With Value (US\$m)	Reported Value (US\$m)	Total Estimated Value	Average value (US\$m)
Animal	4	0	0	210	52
Clinical	0	0	0	0	-
Construction/Demolition	2	0	0	59	30
e-Waste	2	1	7	37	18
Food	6	3	66	347	58
Gas	8	2	21	723	90
Glass	0	0	0	0	-
Hazardous	3	2	28	112	37
Heat	1	0	0	199	199
Industrial	1	1	1	1	1
Metals	1	0	0	39	39
MSW	13	9	244	664	51
Oil	3	1	11	328	109
Organic (general/unspecified)	7	4	161	454	65
Paper	0	0	0	0	-
Plant Biomass (non-waste)	0	0	0	0	-
Plant Biomass (waste)	14	7	436	1,164	83
Plastics	2	2	20	20	10
Radioactive	1	0	0	864	864
Rubber	0	0	0	0	-
Sewage/wastewater	6	0	0	394	66
Wood	15	4	57	1,409	94
Other	2	0	0	138	69
Total	91	36	1,053	7,161	79

Latest Monthly Projects by Feedstock Type (% of Total)

	% of Total Projects	% of Total Estimated Value
Animal	4.4	2.9
Clinical	0.0	0.0
Construction/Demolition	2.2	0.8
e-Waste	2.2	0.5
Food	6.6	4.8
Gas	8.8	10.1
Glass	0.0	0.0
Hazardous	3.3	1.6
Heat	1.1	2.8
Industrial	1.1	0.0
Metals	1.1	0.6
MSW	14.3	9.3
Oil	3.3	4.6
Organic (general/unspecified)	7.7	6.3
Paper	0.0	0.0
Plant Biomass (non-waste)	0.0	0.0
Plant Biomass (waste)	15.4	16.3
Plastics	2.2	0.3
Radioactive	1.1	12.1
Rubber	0.0	0.0
Sewage/wastewater	6.6	5.5
Wood	16.5	19.7
Other	2.2	1.9
Total	100.0	100.0

Projects By Feedstock Type, September 2015



Wood and other biomass-based feedstocks account for around one third of all new investment in waste technologies, reflecting a move away from traditional power generation in many countries.



Latest Monthly Capacity

Of the 91 projects listed in September 2015, 23 also reported an annual waste capacity. This amounted to 2.7 million tonnes, equal to an average of 118,495 tonnes per project, and an average of 370 tonnes per day per project.

WtE incineration was the largest facility type in terms of capacity, amounting to 1.6 million tonnes, or 58.8% of the total. This was followed by recycling with 0.7 million tonnes (24.3%) and AD with just under 0.4 million tonnes (13.7%).



WtE incineration represented just over 58% of reported capacity in September 2015. The largest is a proposed plant in New South Wales, Australia.

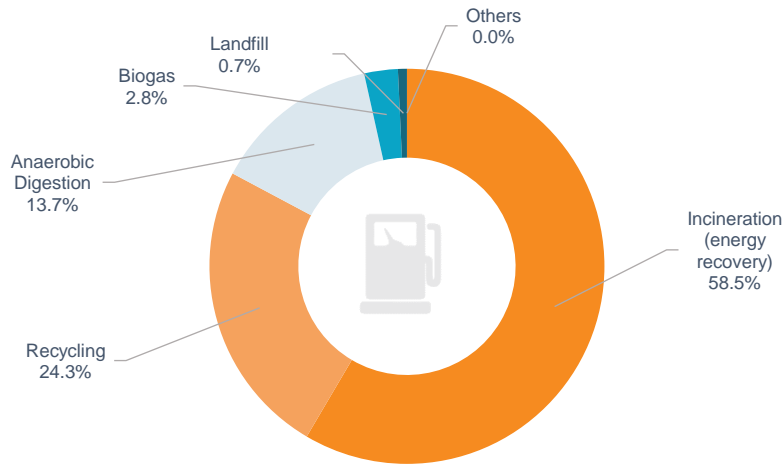
Reported Waste Capacity of Projects Listed by Facility Type (September 2015)

	Projects	With Reported Capacity	Reported Annual Capacity (tonnes)	Average Annual Capacity (tonnes)	Average Tonnes Per Day
Anaerobic Digestion	11	6	374,150	62,358	195
Biofuel	6	0	0	-	-
Biogas	7	2	75,000	37,500	117
Gasification	3	0	0	-	-
Incineration (energy recovery)	32	10	1,593,551	159,355	498
Incineration (no energy recovery)	0	0	0	-	-
Integrated Facilities (IWMF)	0	0	0	-	-
Landfill	10	1	20,000	20,000	63
MBT	0	0	0	-	-
Recycling	10	4	662,694	165,674	518
Waste Processing	5	0	0	-	-
Others	7	0	0	-	-
Total	91	23	2,725,395	118,495	370

Reported Capacity by Facility Type, % of Total (September 2015)

	% of Total Reported Capacity
Anaerobic Digestion	13.7
Biofuel	0.0
Biogas	2.8
Gasification	0.0
Incineration (energy recovery)	58.5
Incineration (no energy recovery)	0.0
Integrated Facilities (IWMF)	0.0
Landfill	0.7
MBT	0.0
Recycling	24.3
Waste Processing	0.0
Others	0.0
Total	100.0

% Capacity by Facility Type, September 2015



A A\$700 million WtE plant is proposed at Eastern Creek, Sydney, Australia, by TNG. A public consultation period for the project ended in September 2015.



MSW accounted for just under 1.0 million tonnes of capacity in September 2015, equal to 35.7% of the total, and an average of 506 tonnes per day. The other major feedstock categories were wood and food waste.



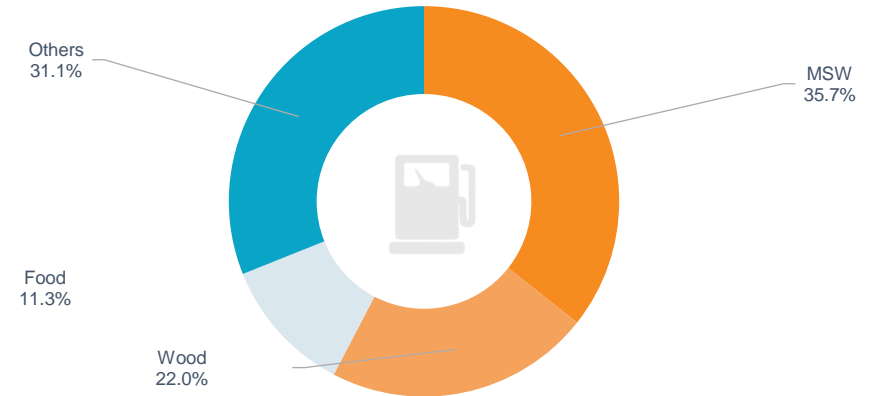
Latest Monthly Projects by Feedstock Type (September 2015)

	Projects	With Reported Capacity	Annual Capacity (tonnes)	Average Annual Capacity (tonnes)	Average Tonnes Per Day
Animal	4	2	38,500	19,250	60
Clinical	0	0	0	-	-
Construction/Demolition	2	1	182,500	182,500	570
e-Waste	2	0	0	-	-
Food	6	3	307,650	102,550	320
Gas	8	0	0	-	-
Glass	0	0	0	-	-
Hazardous	3	1	20,000	20,000	63
Heat	1	0	0	-	-
Industrial	1	1	231,786	231,786	724
Metals	1	0	0	-	-
MSW	13	6	971,908	161,985	506
Oil	3	0	0	-	-
Organic (general/unspecified)	7	2	256,500	128,250	401
Paper	0	0	0	-	-
Plant Biomass (non-waste)	0	0	0	-	-
Plant Biomass (waste)	14	3	100,000	33,333	104
Plastics	2	2	17,300	8,650	27
Radioactive	1	0	0	-	-
Rubber	0	0	0	-	-
Sewage/wastewater	6	0	0	-	-
Wood	15	2	599,251	299,626	936
Other	2	0	0	-	-
Total	91	23	2,725,395	118,495	370

Reported Capacity by Feedstock, % of Total (September 2015)

	Capacity as % of Total
Animal	1.4
Clinical	-
Construction/Demolition	6.7
e-Waste	-
Food	11.3
Gas	-
Glass	-
Hazardous	0.7
Heat	-
Industrial	8.5
Metals	-
MSW	35.7
Oil	-
Organic (general/unspecified)	9.4
Paper	-
Plant Biomass (non-waste)	-
Plant Biomass (waste)	3.7
Plastics	0.6
Radioactive	-
Rubber	-
Sewage/wastewater	-
Wood	22.0
Other	-
Total	100.0

% Capacity by Feedstock, September 2015



Municipal Solid Waste accounted for 35.7% of waste capacity in projects covered in the Business Finder database in September 2015.



Latest Power Generation

In September 2015, an estimate of annual power generation was available for 36 projects. This amounted to 803 MW in total. 91.7% of this was from WtE incineration with the remainder coming from landfill gas, AD/biogas and gasification.

Incineration amounted to 21 projects with total reported generation of 736 MW, equal to 35 MW per plant. The most significant projects were new biomass plants in Finland and Brazil.



WtE incineration, whether standalone or as part of an integrated facility, continued to dominate the reported power generation of projects in September 2015.

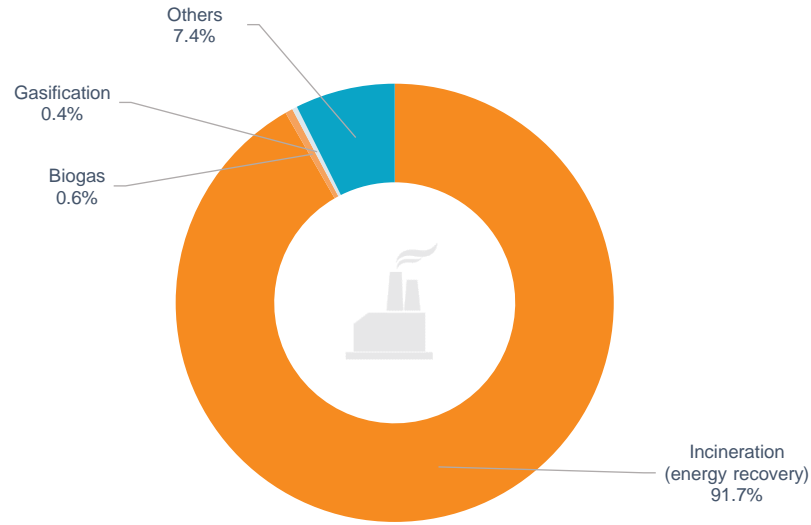
Reported Power Generation of Projects Listed by Facility Type (September 2015)

	Projects	With Reported MW Generation	Reported Annual MW Generation	Average MW Generation
Anaerobic Digestion	11	6	17	3
Biofuel	6	0	0	-
Biogas	7	3	5	2
Gasification	3	2	3	2
Incineration (energy recovery)	32	21	736	35
Incineration (no energy recovery)	0	0	0	-
Integrated Facilities (IWMF)	0	0	0	-
Landfill	10	4	42	11
MBT	0	0	0	-
Recycling	10	0	0	-
Waste Processing	5	0	0	-
Others	7	0	0	-
Total	91	36	803	22

Latest Reported Power Generation by Facility Type, % of Total (September 2015)

	% of Total Projects
Anaerobic Digestion	2.1
Biofuel	-
Biogas	0.6
Gasification	0.4
Incineration (energy recovery)	91.7
Incineration (no energy recovery)	-
Integrated Facilities (IWMF)	-
Landfill	5.2
MBT	-
Recycling	-
Waste Processing	-
Others	-
Total	100.0

% MW Generation by Facility Type, Sep 2015



In September 2015, 91.7% of proposed power generation was through WtE incineration.



Latest Reported Power Generation of Projects Listed by Feedstock Type (September 2015)

	Projects	With Reported MW Generation	Reported Annual MW Generation	Average MW Generation
Animal	4	4	3	1
Clinical	0	0	0	-
Construction/Demolition	2	0	0	-
e-Waste	2	0	0	-
Food	6	1	10	10
Gas	8	4	42	11
Glass	0	0	0	-
Hazardous	3	0	0	-
Heat	1	0	0	-
Industrial	1	0	0	-
Metals	1	0	0	-
MSW	13	2	5	2
Oil	3	0	0	-
Organic (general/unspecified)	7	2	150	75
Paper	0	0	0	-
Plant Biomass (non-waste)	0	0	0	-
Plant Biomass (waste)	14	9	327	36
Plastics	2	0	0	-
Radioactive	1	0	0	-
Rubber	0	0	0	-
Sewage/wastewater	6	1	2	2
Wood	15	13	264	20
Other	2	0	0	-
Total	91	36	803	22

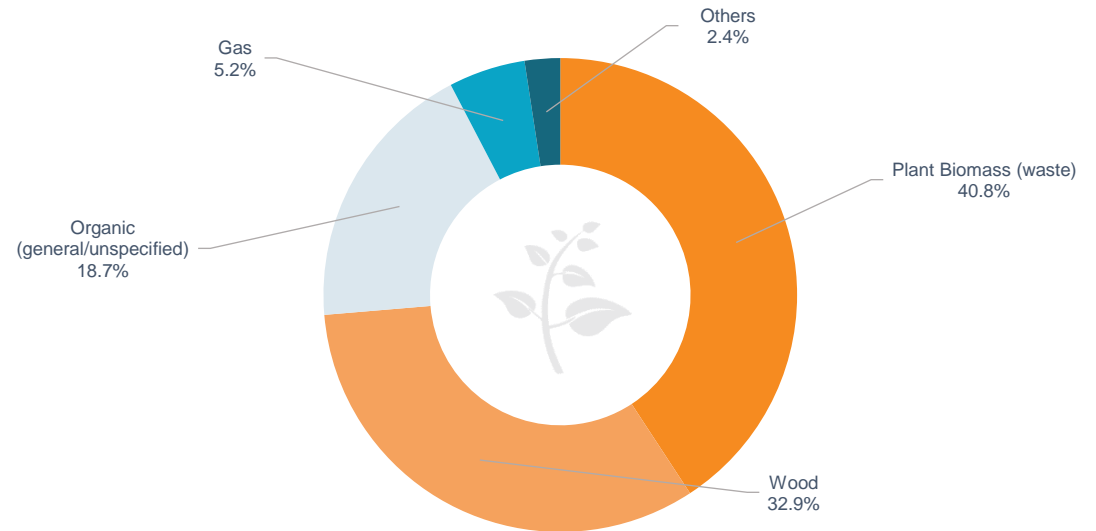
Latest Reported Power Generation by Feedstock Type, % of Total (September 2015)

	MW Generation as % of Total
Animal	0.4
Clinical	-
Construction/Demolition	-
e-Waste	-
Food	1.2
Gas	5.2
Glass	-
Hazardous	-
Heat	-
Industrial	-
Metals	-
MSW	0.6
Oil	-
Organic (general/unspecified)	18.7
Paper	-
Plant Biomass (non-waste)	-
Plant Biomass (waste)	40.8
Plastics	-
Radioactive	-
Rubber	-
Sewage/wastewater	0.2
Wood	32.9
Other	-
Total	100.0

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, September 2015



Latest Country Focus

The USA was the leading country in September 2015 in terms of projects reported, with 22 in total. This was followed by the UK with eight, Indonesia with seven, and Japan, Sweden and China with five apiece.

In terms of reported value, Indonesia was the leader, with US\$378 million or 35.9% of the total. This was followed by Ukraine with US\$154 million or 14.6%, and China with US\$139 million or 13.2%. Few US projects reported a figure, hence the low overall US total.



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

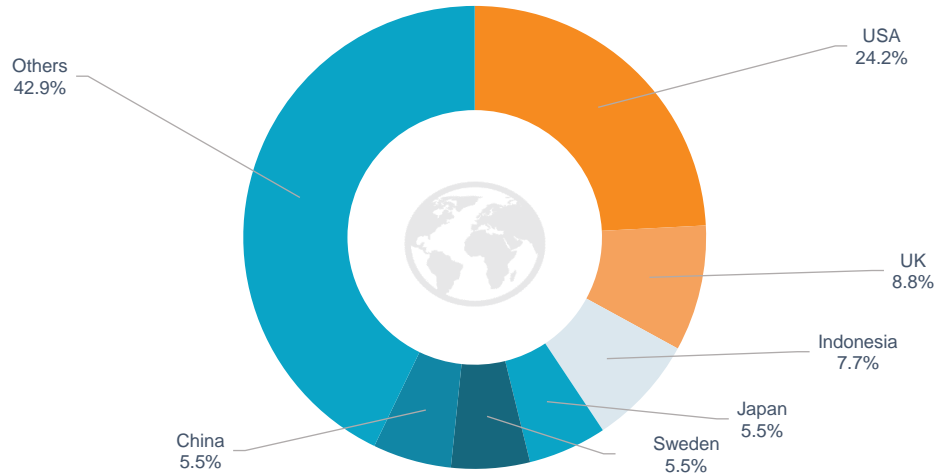
Top Ten Countries (number of projects listed), September 2015

	Projects	% of Total
USA	22	24.2
UK	8	8.8
Indonesia	7	7.7
Japan	5	5.5
Sweden	5	5.5
China	5	5.5
Canada	4	4.4
Mexico	3	3.3
Russia	3	3.3
Ukraine	2	2.2
Subtotal	64	70.3
Others	27	29.7
Total	91	100.0

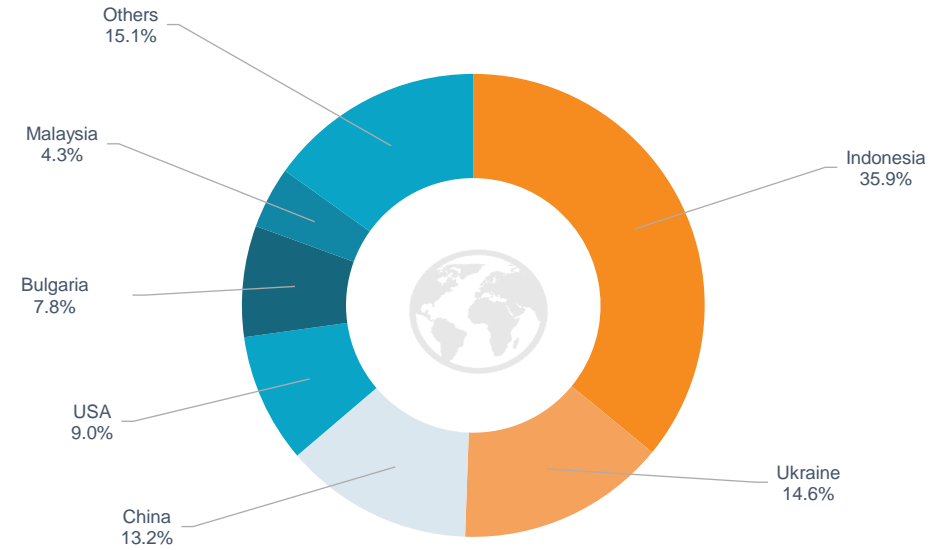
Top Ten Countries (value of projects listed), September 2015

	US\$ millions	% of Total
Indonesia	378	35.9
Ukraine	154	14.6
China	139	13.2
USA	95	9.0
Bulgaria	82	7.8
Malaysia	45	4.3
Japan	39	3.7
Spain	34	3.2
Italy	23	2.2
Nicaragua	17	1.6
Subtotal	1,007	95.6
Others	46	4.4
Total	1,053	100.0

Leading Countries, Number of Projects, September 2015



Leading Countries, Value of Projects, September 2015



Operational Date Focus

Of the 91 projects reported on in September 2015, 47 give an indication of their likely completion date. There are 21 projects due to become operational by the end of 2015, with a combined reported value of US\$25.5 million. A further 19 projects are due to complete during 2016, and a further seven in 2017 or beyond.

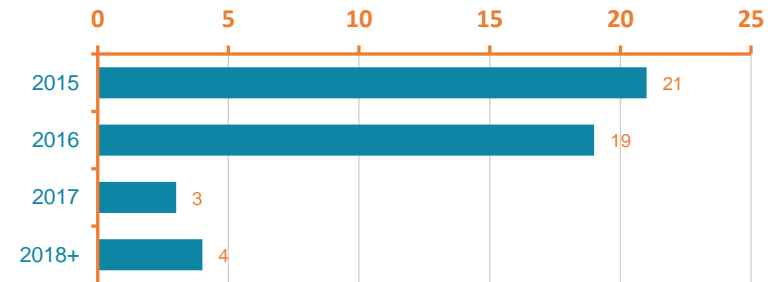


Once work starts, the average project takes around 18 months to become operational. Most, however have on-going operational requirements for much longer.

Projects by Reported Operational Date (September 2015)

	Number of Projects	Value (US\$ millions)
Q1 2014	0	-
Q2 2014	0	-
Q3 2014	0	-
Q4 2014	0	-
Q1 2015	0	-
Q2 2015	1	-
Q3 2015	13	9.0
Q4 2015	7	16.5
Q1 2016	3	10.0
Q2 2016	9	38.9
Q3 2016	6	59.1
Q4 2016	1	-
Q1 2017	1	12.0
Q2 2017	1	-
Q3 2017	1	45.4
Q4 2017	0	-
2018+	4	23.1

Projects By Reported Year of Completion



Values By Reported Year of Completion (US\$m)

