

AD/Biogas New Investment Update

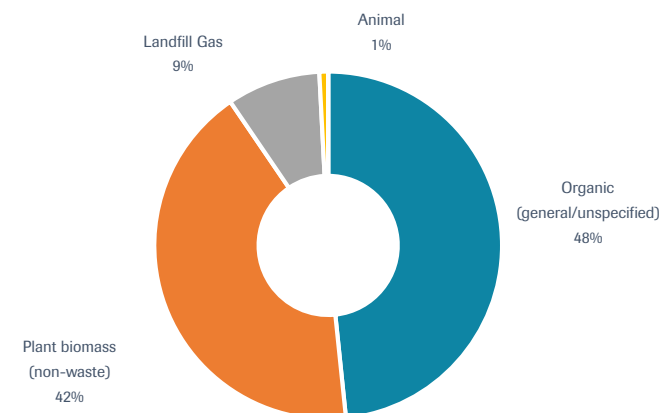
AcuComm reported on four new anaerobic digestion/biogas or landfill gas projects in June 2018.

These have a combined value of US\$39 million. Estimated annual feedstock tonnage is 255,000 tonnes, and power output is 23 MW, equal to an average of 199 tonnes per day and 6 MW per project.

Organic (general/unspecified) was the leading feedstock type for projects reported this month, accounting for US\$19 million, equal to 48% of the total.

China was the leading country in June 2018, accounting for one project with a total value of US\$19 million.

Project Values by Feedstock Type (June 2018)



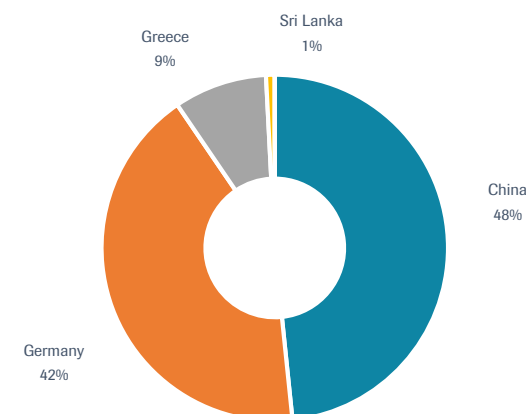
Source: AcuComm database, 30th June 2018

New AD/Biogas Projects Reported in June 2018

| Project Description | Principal Waste Type | Location |
|--|-------------------------------|-----------------------------------|
| Development of a landfill gas facility. | Gas | Kozani, Western Macedonia, Greece |
| Construction of a €14 million biogas plant. | Plant biomass (non-waste) | Börde, Germany |
| Construction of an AD plant. | Organic (general/unspecified) | Nanjing, Jiangsu Province, China |
| Development of a biogas and biofertiliser plant. | Animal | Katunayake, Sri Lanka |

Source: AcuComm database, 30th June 2018. Click the project description for more information on each project.

Leading Countries by Value (June 2018)



Source: AcuComm database, 30th June 2018



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This brings the total for the twelve month period (ended June 2018) to 158 projects, worth US\$4,584 million or US\$29 million each on average.

Total feedstock capacity for these projects is 10,069 million tonnes, equal to 63,729 tonnes on average and 199 tonnes per day per project.

Total power generation is 547 MW, equal to 3 MW per project.

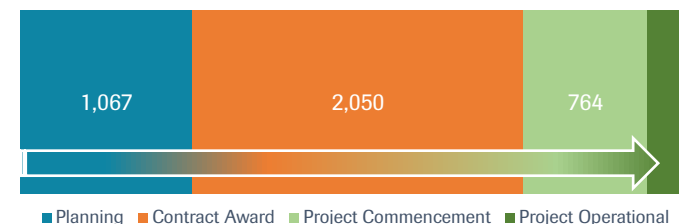


All AD/Biogas/Landfill Gas Projects Reported by Feedstock Type (May 2017 to June 2018)

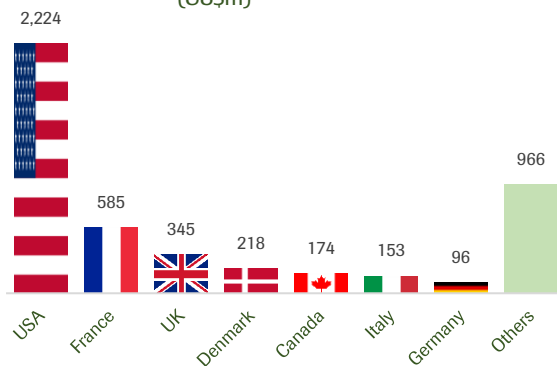
| | Projects | Value (US\$m) | Average Value (US\$m) | Capacity (tonnes) | Average Capacity (tonnes) | TPD | Power (MW) | Average Power (MW) |
|-------------------------------|------------|---------------|-----------------------|-------------------|---------------------------|------------|------------|--------------------|
| Animal | 35 | 575 | 16 | 4,474,331 | 127,838 | 399 | 115 | 3 |
| Food | 20 | 233 | 12 | 787,727 | 39,386 | 123 | 34 | 2 |
| MSW | 4 | 147 | 37 | 370,360 | 92,590 | 289 | 9 | 2 |
| Organic (general/unspecified) | 32 | 529 | 17 | 1,869,907 | 58,435 | 183 | 98 | 3 |
| Plant biomass (waste) | 17 | 186 | 11 | 696,601 | 40,977 | 128 | 56 | 3 |
| Plant biomass (non-waste) | 5 | 52 | 10 | 247,251 | 49,450 | 155 | 14 | 3 |
| Sewage/wastewater | 33 | 2,631 | 80 | 1,622,969 | 49,181 | 154 | 121 | 4 |
| Wood | - | - | - | - | - | - | - | - |
| Landfill Gas | 12 | 232 | 19 | n/a | n/a | n/a | 100 | 8 |
| Total | 158 | 4,584 | 29 | 10,069,145 | 63,729 | 199 | 547 | 3 |

Source: AcuComm database, 30th June 2018. See www.acucomm.net for more details

Recent Project Values by Operational Stage (US\$m)



Leading Countries for AD/Biogas Investment (US\$m)



Source: AcuComm database, 30th June 2018. Opportunities exist across the world. In the last twelve months, the USA has accounted for US\$2,224 million or 47% of the total. The European market accounts for US\$1,839 million or 39%. Leading European markets are Denmark, France, Germany, France, the Netherlands and the UK.

Investments worth US\$748 million (16%) are operational, while US\$764 million (17%) are under construction. The largest proportion are in various stages of planning/contract award, at US\$3,117 million or 67% of the total.

The heatmap to the right displays the locations of all the AD/Biogas projects currently held in the AcuComm database since 2012, where a location is known. The darker the colour the greater the overall level of investment.

