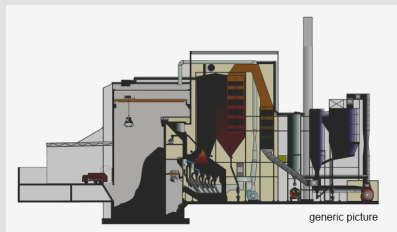


Reference Projects

EfW Combustion and Flue Gas Treatment Plants by HZI
since 2000

in chronological order



CH, Enova Emmenspitz

Start of operation	2025	In construction
Combustion	Concept	Water-cooled Grate
	Fuel	
	Number of Lines	2
	Throughput per line	16.53 t/h
	Thermal power per line	53.72 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	66 t/h at 47 bar(a) and 420 °C



GB, Slough Multifuel

Start of operation	2023	In construction
Combustion	Concept	Water-cooled Grate
	Fuel	
	Number of Lines	2
	Throughput per line	36.30 t/h
	Thermal power per line	100.8 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	111 t/h at 57 bar(a) and 417 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor
	Throughput per line	164'741 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	50.00 MW (gross)
	Output	Electrical Power



RU, Moscow 4

Start of operation	2023	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	
	Number of Lines	3
	Throughput per line	32.89 t/h
	Thermal power per line	75.83 MW
Boiler	Concept	5-pass boiler
	Steam	95 t/h at 70 bar(a) and 430 °C
Flue gas treatment	Concept	Activated Carbon Entrainment, Fabric Filter, SNCR, Dry Sorption Reactor, Heat Exchanger
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	147'030 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	70.00 MW (gross)
	Output	Steam, Electrical Power



RU, Moscow 3

Start of operation	2023	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	
	Number of Lines	3
	Throughput per line	32.89 t/h
	Thermal power per line	75.83 MW
Boiler	Concept	5-pass boiler
	Steam	95 t/h at 70 bar(a) and 430 °C
Flue gas treatment	Concept	Activated Carbon Entrainment, Fabric Filter, SNCR, Dry Sorption Reactor, Heat Exchanger
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	147'030 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	70.00 MW (gross)
	Output	Steam, Electrical Power



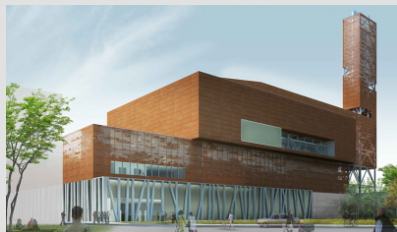
RU, Moscow 2

Start of operation	2023	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	
	Number of Lines	3
	Throughput per line	32.89 t/h
	Thermal power per line	75.83 MW
Boiler	Concept	5-pass boiler
	Steam	95 t/h at 70 bar(a) and 430 °C
Flue gas treatment	Concept	Activated Carbon Entrainment, Fabric Filter, SNCR, Dry Sorption Reactor, Heat Exchanger
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	147'030 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	70.00 MW (gross)
	Output	Steam, Electrical Power



AE, Dubai WMC

Start of operation	2023	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	5
	Throughput per line	53.57 t/h
	Thermal power per line	124.6 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	170 t/h at 77 bar(a) and 432 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter
	Reactant	Activated Carbon, Calcium Hydroxide
	Throughput per line	234'064 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	214.6 MW (gross)
	Output	Electrical Power



FR, Ivry-sur-Seine

Start of operation	2022	In construction
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Refuse Derived Fuel
	Number of Lines	2
	Throughput per line	24.64 t/h
	Thermal power per line	75.55 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	92 t/h at 60 bar(a) and 420 °C



AU, Rockingham

Start of operation	2022	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	41.18 t/h
	Thermal power per line	101.8 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	129 t/h at 66 bar(a) and 431 °C
Flue gas treatment	Concept	Dry Sorption Reactor, SNCR, Activated Carbon Entrainment, Fabric Filter
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	236'327 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	32.00 MW (gross)
	Output	Electrical Power



GB, Newhurst

Start of operation	2022	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	50.93 t/h
	Thermal power per line	126.4 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	157 t/h at 80 bar(a) and 450 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter, SNCR
	Reactant	Activated Carbon, Calcium Hydroxide
	Throughput per line	239'250 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	43.30 MW (gross)
	Output	Electrical Power



RU, Moscow 1

Start of operation	2022	In construction
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	3
	Throughput per line	32.89 t/h
	Thermal power per line	75.83 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	95 t/h at 70 bar(a) and 430 °C
Flue gas treatment	Concept	Activated Carbon Entrainment, Fabric Filter, SNCR, Dry Sorption Reactor, Heat Exchanger
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	147'030 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	70.00 MW (gross)
	Output	Steam, Electrical Power



FR, Bellegarde-sur-Valserine Flue gas Treatment

Start of operation	2021	In construction
Flue gas treatment	Concept	Dry Sorption Reactor, Dry Sorption Reactor 2, Heat Exchanger, Heat exchanger 2, SCR
	Number of Lines	2
	Fuel	Municipal Solid Waste
	Reactant	Sodium Bicarbonate
	Throughput per line	50'000 m³/h (STP)



GB, Rookery

Start of operation	2021	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	3
	Throughput per line	25.00 t/h
	Thermal power per line	64.58 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	82 t/h at 75 bar(a) and 440 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter, SNCR
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	117'000 m³/h (STP)



TR, Istanbul

Start of operation	2019	
Combustion	Concept	
	Fuel	Air-cooled Grate Hospital Waste, Municipal Solid Waste
	Number of Lines	3
	Throughput per line	46.00 t/h
	Thermal power per line	86.81 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	112 t/h at 72 bar(a) and 426 °C
Flue gas treatment	Concept	SNCR, Dry Sorption Reactor, Fabric Filter
	Reactant	Calcium Hydroxide, Activated Carbon
	Throughput per line	173'720 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	77.21 MW (gross)
	Output	Electrical Power



GB, Ferrybridge Multifuel 2 (FM2)

Start of operation	2019	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste, Refuse Derived Fuel
	Number of Lines	2
	Throughput per line	42.26 t/h
	Thermal power per line	117.7 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	145 t/h at 73 bar(a) and 430 °C
Flue gas treatment	Concept	Fabric Filter, SNCR, Semi-dry Reactor
	Reactant	Activated Carbon, Calcium Hydroxide
	Throughput per line	238'866 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	79.17 MW (gross)
	Output	Electrical Power



GB, Edinburgh

Start of operation	2018	
Combustion	Concept	
	Fuel	Air-cooled Grate Municipal Solid Waste, Refuse Derived Fuel
	Number of Lines	1
	Throughput per line	24.00 t/h
	Thermal power per line	50.00 MW
Boiler	Concept	6-pass boiler
	Superheated Steam	64 t/h at 60 bar(a) and 400 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter
	Reactant	Calcium Hydroxide, Activated Carbon
	Throughput per line	103'178 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	12.49 MW (gross)
	Output	Electrical Power



IE, Dublin

Start of operation	2017	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	41.00 t/h
	Thermal power per line	102.5 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	125 t/h at 62 bar(a) and 443 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Scrubber, Semi-dry Reactor
	Scrubber Reactant	Caustic Soda
	Reactant	Lignite Coke, Calcium Hydroxide
	Throughput per line	189'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	68.80 MW (gross)
	Output	Electrical Power, Hot Water



GB, Herefordshire and Worcestershire

Start of operation	2017	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	30.55 t/h
	Thermal power per line	67.89 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	86 t/h at 60 bar(a) and 415 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Calcium Hydroxide, Activated Carbon
	Throughput per line	126'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	20.00 MW (gross)
	Output	Electrical Power



PL, Poznan

Start of operation	2016	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	15.00 t/h
	Thermal power per line	31.50 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	38 t/h at 62 bar(a) and 422 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Reactant	Calcium Hydroxide
	Throughput per line	66'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	17.30 MW (gross)
	Output	Electrical Power, Hot Water



GB, Severnside L1, L2

Start of operation	2016	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	24.24 t/h
	Thermal power per line	62.61 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	78 t/h at 62 bar(a) and 422 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Reactant	Calcium Hydroxide
	Throughput per line	127'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	37.40 MW (gross)
	Output	Electrical Power



IN, Essel Jabalpur

Start of operation	2016	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	25.00 t/h
	Thermal power per line	47.97 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	57 t/h at 46 bar(a) and 410 °C
Flue gas treatment	Concept	Evaporation cooler, Fabric Filter
	Reactant	Calcium Hydroxide, Activated Carbon
	Throughput per line	112'178 m³/h (STP)



GB, Buckinghamshire

Start of operation	2015	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste
	Number of Lines	1
	Throughput per line	39.40 t/h
	Thermal power per line	101.7 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	127 t/h at 52 bar(a) and 402 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Activated Carbon, Calcium Hydroxide
	Throughput per line	180'714 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	26.50 MW (gross)
	Output	Electrical Power



CH, Horgen

Start of operation
Combustion

2015
Concept
Fuel
Number of Lines
Throughput per line
Thermal power per line
Concept

Boiler

Flue gas treatment

Steam
Concept

Reactant
Throughput per line

Water-cooled Grate
Municipal Solid Waste
1
5.14 t/h
15.00 MW
3-pass boiler with external
economizer
18 t/h at 30 bar(a)
Dry Sorption Reactor, Electrostatic
Precipitator (1 Field), Fabric Filter,
Heat exchanger again, SCR
Adsorbent, Sodium Bicarbonate
25'300 m³/h (STP)



GB, Ferrybridge

Start of operation
Combustion

2015
Concept
Fuel

Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam
Concept

Boiler

Flue gas treatment

Reactant

Energy recovery

Throughput per line
Concept
Electric power output
Output

Water-cooled Grate
Municipal Solid Waste, Biomass,
Refuse Derived Fuel, Wood
2
42.25 t/h
117.4 MW
5-pass boiler
104 t/h at 72 bar(a) and 427 °C
SNCR, Fabric Filter, Heat
Exchanger, Semi-dry Reactor
Activated Carbon, Calcium
Hydroxide
208'000 m³/h (STP)
Condensation Turbine
75.00 MW (gross)
Steam, Electrical Power



CH, Lucerne Perlen

Start of operation	2015	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	15.60 t/h
	Thermal power per line	47.00 MW
Boiler	Concept	4-pass boiler with external economizer
Flue gas treatment	Superheated Steam	57 t/h at 41 bar(a) and 410 °C
	Concept	Dry Sorption Reactor, Dry Sorption Reactor 2, Electrostatic Precipitator (1 Field), Ext. Eco, Fabric Filter, Fabric Filter 2, Heat Exchanger, Heat exchanger 2, SCR
	Reactant	Sodium Bicarbonate, Lignite Coke, Calcium Hydroxide
Energy recovery	Throughput per line	78'000 m³/h (STP)
	Concept	Condensation Turbine
	Electric power output	28.10 MW (gross)
	Output	Steam, Electrical Power, Hot Water



FI, Vantaa

Start of operation	2014	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	24.00 t/h
	Thermal power per line	64.20 MW
Boiler	Concept	4-pass boiler with external economizer
Flue gas treatment	Superheated Steam	83 t/h at 91 bar(a) and 400 °C
	Concept	SNCR
	Throughput per line	111'100 m³/h (STP)



GB, Cleveland L4, L5

Start of operation	2013	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste
	Number of Lines	2
	Throughput per line	19.00 t/h
	Thermal power per line	45.85 MW
Boiler	Concept	4-pass boiler
Flue gas treatment	Superheated Steam	56 t/h at 50 bar(a) and 410 °C
	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Activated Carbon, Calcium Hydroxide
Energy recovery	Throughput per line	95'400 m³/h (STP)
	Concept	Condensation Turbine
	Electric power output	26.00 MW (gross)
	Output	Electrical Power



FI, Vaasa

Start of operation
Combustion

2012
Concept
Fuel

Water-cooled Grate
Municipal Solid Waste, Industrial
Waste

Boiler

Number of Lines
Throughput per line
Thermal power per line
Concept

1
24.00 t/h
61.00 MW
4-pass boiler
74 t/h at 42 bar(a) and 402 °C

Flue gas treatment

Superheated Steam
Concept
Throughput per line
Output

SNCR
104'140 m³/h (STP)
Hot Water, Electrical Power

Energy recovery



CH, Hinwil

Start of operation
Flue gas treatment

2012
Concept

Dry Sorption Reactor, Fabric
Filter, Heat Exchanger, SCR

Number of Lines
Fuel
Reactant

2
Municipal Solid Waste
Sodium Bicarbonate, Activated
Carbon
87'500 m³/h (STP)

Throughput per line



ES, Sant Adrià de Besòs L1-L3

Start of operation
Combustion

2012
Concept
Fuel

Air-cooled Grate
Industrial Waste, Municipal Solid
Waste

Boiler

Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam

3
15.00 t/h
48.80 MW
3-pass boiler
50 t/h at 40 bar(a) and 400 °C



GB, Newhaven

Start of operation	2011	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	14.50 t/h
	Thermal power per line	35.85 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	44 t/h at 50 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Throughput per line	75'600 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	19.25 MW (gross)
	Output	Electrical Power



NO, Oslo

Start of operation	2011	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste
	Number of Lines	1
	Throughput per line	24.00 t/h
	Thermal power per line	66.70 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	78 t/h at 42 bar(a) and 402 °C
Flue gas treatment	Concept	Electrostatic Precipitator (3 Fields), Heat Exchanger, Scrubber, Heat exchanger again, Heat exchanger 2, Heat exchanger 3, SCR, Heat exchanger 2 again
	Scrubber Reactant	Lye
Energy recovery	Throughput per line	130'000 m³/h (STP)
	Concept	Back-pressure Turbine
	Electric power output	12.80 MW (gross)
	Output	Hot Water, Electrical Power



GB, Riverside, London

Start of operation	2011	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste
	Number of Lines	3
	Throughput per line	32.44 t/h
	Thermal power per line	81.10 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	99 t/h at 72 bar(a) and 427 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Throughput per line	169'800 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	73.00 MW (gross)
	Output	Electrical Power



NL, Roosendaal

Start of operation	2011	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	21.00 t/h
	Thermal power per line	62.00 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	76 t/h at 62 bar(a) and 422 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter, SCR, Electrostatic Precipitator
	Reactant	Sodium Bicarbonate
	Throughput per line	127'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	28.70 MW (gross)
	Output	Hot Water, Electrical Power



DE, Neunkirchen EEW

Start of operation	2011	
Flue gas treatment	Concept	Spray Dryer, Fabric Filter, Scrubber
	Number of Lines	2
	Fuel	Municipal Solid Waste
	Throughput per line	50'000 m³/h (STP)



LU, Leudelange TABA

Start of operation	2010	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	22.00 t/h
	Thermal power per line	67.00 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	79 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter, SCR
	Reactant	Lignite Coke, Sodium Bicarbonate
	Throughput per line	136'642 m³/h (STP)
Energy recovery	Output	Electrical Power



US, Olmsted L5, MN

Start of operation	2010	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste, Waste Oil
	Number of Lines	1
	Throughput per line	7.93 t/h
	Thermal power per line	23.30 MW
Boiler	Concept	2-pass boiler
	Superheated Steam	29 t/h at 44 bar(a) and 346 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Spray Dryer
	Throughput per line	46'300 m³/h (STP)
Energy recovery	Output	Electrical Power, Steam



NO, Bergen L2

Start of operation	2010	
Combustion	Concept	
	Fuel	Water-cooled Grate
	Number of Lines	Municipal Solid Waste
	Throughput per line	1
	Thermal power per line	16.00 t/h
Boiler	Concept	44.80 MW
	Superheated Steam	4-pass boiler
Flue gas treatment	Concept	57 t/h at 43 bar(a) and 402 °C
	Scrubber Reactant	SNCR, Fabric Filter, Scrubber,
	Reactant	Semi-dry Reactor
	Throughput per line	Caustic Soda
	Output	Lignite Coke, Calcium Hydroxide
Energy recovery		92'000 m³/h (STP)
		Hot Water, Electrical Power



BE, Intradel

Start of operation	2009	
Combustion	Concept	
	Fuel	Water-cooled Grate
	Number of Lines	Municipal Solid Waste, Sewage
	Throughput per line	Sludge
	Thermal power per line	2
Boiler	Concept	23.63 t/h
	Superheated Steam	67.10 MW
Flue gas treatment	Concept	3-pass boiler with external economizer
	Throughput per line	80 t/h at 40 bar(a) and 400 °C
		Electrostatic Precipitator (1 Field),
		Ext. Eco, SCR, Spray Absorber,
		Dry Sorption Reactor
		141'000 m³/h (STP)



AT, Zistersdorf

Start of operation	2009	
Combustion	Concept	
	Fuel	Water-cooled Grate
	Number of Lines	Municipal Solid Waste
	Throughput per line	1
	Thermal power per line	19.79 t/h
Boiler	Concept	57.80 MW
	Superheated Steam	4-pass boiler
Flue gas treatment	Concept	68 t/h at 42 bar(a) and 405 °C
	Reactant	Fabric Filter, SCR, Dry Sorption
	Throughput per line	Reactor
	Concept	Sodium Bicarbonate
	Electric power output	97'000 m³/h (STP)
Energy recovery	Output	Condensation Turbine
		14.90 MW (gross)
		Electrical Power



ES, Mallorca

Start of operation	2009	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste, Sewage Sludge
	Number of Lines	2
	Throughput per line	27.00 t/h
	Thermal power per line	70.00 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	82 t/h at 52 bar(a) and 400 °C
Flue gas treatment	Concept	Semi-dry Reactor, Fabric Filter, Heat Exchanger, Heat exchanger 2, SCR, Heat exchanger again
	Throughput per line	142'000 m³/h (STP)
Energy recovery	Output	Electrical Power



GB, Cleveland L3

Start of operation	2009	
Combustion	Concept	
	Fuel	Air-cooled Grate Municipal Solid Waste
	Number of Lines	1
	Throughput per line	19.00 t/h
	Thermal power per line	45.80 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	55 t/h at 43 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Calcium Hydroxide, Activated Carbon
	Throughput per line	94'600 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	10.00 MW (gross)
	Output	Electrical Power



FR, Argenteuil L4

Start of operation	2008	
Combustion	Concept	
	Fuel	Air-cooled Grate Municipal Solid Waste
	Number of Lines	1
	Throughput per line	16.50 t/h
	Thermal power per line	44.14 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	54 t/h at 47 bar(a) and 380 °C



DE, Witzenhausen

Start of operation	2008	
Combustion	Concept	Circulating Fluidised Bed
	Fuel	Refuse Derived Fuel, Pulp Sludge
	Number of Lines	1
	Throughput per line	34.92 t/h
	Thermal power per line	125.3 MW
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Throughput per line	207'100 m³/h (STP)
Energy recovery	Output	Steam, Electrical Power



CN, Xiamen Garbage Treatment

Start of operation	2008	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	9.00 t/h
	Thermal power per line	14.65 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	18 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	Semi-dry Reactor, Fabric Filter
	Throughput per line	42'000 m³/h (STP)
Energy recovery	Output	Electrical Power



NL, Moerdijk L4

Start of operation	2008	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	38.33 t/h
	Thermal power per line	95.80 MW
Boiler	Concept	2-pass boiler
	Superheated Steam	121 t/h at 107 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Ext. Eco, Scrubber, Dry Sorption Reactor
	Scrubber Reactant	Lye
	Throughput per line	199'200 m³/h (STP)
Energy recovery	Concept	Back-pressure Turbine
	Electric power output	13.47 MW (gross)
	Output	Steam, Electrical Power



CH, Giubiasco

Start of operation 2008
Flue gas treatment Concept

Number of Lines
Fuel
Scrubber Reactant
Reactant
Throughput per line

Electrostatic Precipitator (3
Fields), Ext. Eco, Fabric Filter, Fly
Ash Treatment, Heat Exchanger,
Heat exchanger 2, Heat
exchanger 2 again, Heat
exchanger 3, Heat exchanger
again, SCR, Scrubber, Activated
Carbon Entrainment
2
Municipal Solid Waste
Caustic Soda
Lignite Coke
67'430 m³/h (STP)



FR, Pithiviers

Start of operation 2008
Combustion Concept

Fuel
Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam
Flue gas treatment Concept

Reactant
Throughput per line
Output
Energy recovery

Air-cooled Grate
Municipal Solid Waste
2
4.00 t/h
10.93 MW
4-pass boiler
13 t/h at 40 bar(a) and 380 °C
SNCR, Dry Sorption Reactor,
Fabric Filter
Sodium Bicarbonate
24'000 m³/h (STP)
Steam, Electrical Power



FR, Dunkerque

Start of operation 2007
Combustion Concept

Fuel
Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam
Flue gas treatment Concept

Scrubber Reactant
Reactant
Throughput per line
Concept
Electric power output
Output
Energy recovery

Air-cooled Grate
Municipal Solid Waste
1
12.00 t/h
29.30 MW
4-pass boiler
35 t/h at 40 bar(a) and 380 °C
SCR, Scrubber, Electrostatic
Precipitator
Caustic Soda
Lignite Coke
50'000 m³/h (STP)
Condensation Turbine
6.00 MW (gross)
Electrical Power



NO, Trondheim L3

Start of operation	2007	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	17.29 t/h
	Thermal power per line	45.80 MW
Boiler	Concept	2-pass boiler
	Hot Water	911 t/h at 16 bar(a) and 180 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter, Scrubber
	Scrubber Reactant	Lye
	Throughput per line	84'000 m³/h (STP)
Energy recovery	Output	Hot Water



DE, Bamberg L1 - L3

Start of operation	2007	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste, Sewage Sludge
	Number of Lines	3
	Throughput per line	6.00 t/h
	Thermal power per line	17.50 MW
Boiler	Concept	5-pass boiler
	Superheated Steam	20 t/h at 40 bar(a) and 400 °C
Energy recovery	Output	Hot Water



DE, Stassfurt EVZA

Start of operation	2007	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Industrial Waste
	Number of Lines	2
	Throughput per line	22.50 t/h
	Thermal power per line	55.60 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	64 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Throughput per line	116'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	28.14 MW (gross)
	Output	Steam, Electrical Power



FR, Issy-les-Moulineaux

Start of operation	2007	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	34.90 t/h
	Thermal power per line	85.23 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	104 t/h at 50 bar(a) and 400 °C
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter, SCR
	Reactant	Lignite Coke, Sodium Bicarbonate
	Throughput per line	151'000 m³/h (STP)
Energy recovery	Output	Electrical Power, Hot Water



DE, Erfurt

Start of operation	2006	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Refuse Derived Fuel
	Number of Lines	1
	Throughput per line	9.75 t/h
	Thermal power per line	26.00 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	29 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	54'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	4.90 MW (gross)
	Output	Steam, Hot Water, Electrical Power



FR, Sète

Start of operation	2006	
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter
	Number of Lines	1
	Fuel	Municipal Solid Waste
	Reactant	Sodium Bicarbonate
	Throughput per line	30'000 m³/h (STP)



CH, Lausanne (Tridel)

Start of operation	2006	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste, Hospital Waste
	Number of Lines	2
	Throughput per line	12.50 t/h
	Thermal power per line	40.00 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	46 t/h at 52 bar(a) and 403 °C
Flue gas treatment	Concept	Electrostatic Precipitator (2 Fields), Ext. Eco, Fly Ash Treatment, Heat Exchanger, Heat exchanger 2, Heat exchanger 2 again, Heat exchanger 3, Heat exchanger again, SCR, Scrubber
	Scrubber Reactant	Caustic Soda
	Throughput per line	63'200 m³/h (STP)
Energy recovery	Output	Hot Water, Electrical Power



FR, Nantes Valorena

Start of operation	2005	
Flue gas treatment	Concept	
	Number of Lines	2
	Fuel	Dry Sorption Reactor, Fabric Filter, SCR
	Reactant	Municipal Solid Waste
	Throughput per line	Sodium Bicarbonate 56'500 m³/h (STP)



DE, Ludwigslust

Start of operation	2005	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste
	Number of Lines	1
	Throughput per line	6.00 t/h
	Thermal power per line	16.00 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	19 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Fabric Filter, Semi-dry Reactor
	Reactant	Calcium Hydroxide, Lignite Coke
	Throughput per line	34'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	3.00 MW (gross)
	Output	Electrical Power



DE, Zorbau

Start of operation	2005	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	21.00 t/h
	Thermal power per line	53.60 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	63 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	SNCR, Semi-dry Reactor, Fabric Filter
	Throughput per line	118'000 m³/h (STP)
Energy recovery	Concept	Condensation Turbine
	Electric power output	28.30 MW (gross)
	Output	Electrical Power



FR, Rennes L1+L2

Start of operation	2005	
Flue gas treatment	Concept	Fabric Filter, SCR, Dry Sorption Reactor
	Number of Lines	2
	Fuel	Municipal Solid Waste
	Reactant	Sodium Bicarbonate
	Throughput per line	40'400 m³/h (STP)
Energy recovery	Output	Steam, Electrical Power



FR, Rennes L3

Start of operation	2005	
Flue gas treatment	Concept	Fabric Filter, SCR, Dry Sorption Reactor
	Number of Lines	1
	Fuel	Municipal Solid Waste
	Reactant	Sodium Bicarbonate
	Throughput per line	61'900 m³/h (STP)
Energy recovery	Output	Steam, Electrical Power



SE, Uppsala (Block 5)

Start of operation	2005	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Hospital Waste
	Number of Lines	1
	Throughput per line	26.40 t/h
	Thermal power per line	73.33 MW
Boiler	Concept	4-pass boiler
	Saturated Steam	100 t/h at 20 bar(a) and 212 °C
Flue gas treatment	Concept	Electrostatic Precipitator (2 Fields), Scrubber, Fabric Filter, SCR
	Scrubber Reactant	Lye, Limestone
	Throughput per line	148'900 m³/h (STP)
Energy recovery	Output	Steam, Hot Water



US, Corn Plus, Winnebago, MN

Start of operation	2005	
Combustion	Concept	Fluidised Bed
	Fuel	Corn Syrup
	Number of Lines	1
	Throughput per line	22.70 t/h
	Thermal power per line	38.00 MW
Flue gas treatment	Concept	Dry Sorption Reactor, Fabric Filter
Energy recovery	Output	Steam



US, Hampton Roads, VA

Start of operation	2005	
Combustion	Concept	Fluidised Bed
	Fuel	Sewage Sludge
	Number of Lines	1
	Throughput per line	1.10 t/h
	Thermal power per line	2.60 MW
Flue gas treatment	Concept	Scrubber
	Throughput per line	23'000 m³/h (STP)



DE, TREA Breisgau

Start of operation	2004	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	22.00 t/h
	Thermal power per line	61.10 MW
Boiler	Concept	3-pass boiler with external economizer
	Superheated Steam	74 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	Electrostatic Precipitator (2 Fields), SCR, Semi-dry Reactor, Fabric Filter, Scrubber
	Scrubber Reactant	Lye
	Throughput per line	116'000 m³/h (STP)



US, MCES, St. Paul, MN

Start of operation	2004	
Combustion	Concept	Fluidised Bed
	Fuel	Sewage Sludge
	Number of Lines	3
	Throughput per line	4.00 t/h
	Thermal power per line	9.40 MW
Flue gas treatment	Concept	SNCR, Fabric Filter, Scrubber
	Scrubber Reactant	Lye
	Throughput per line	40'190 m³/h (STP)
Energy recovery	Output	Steam



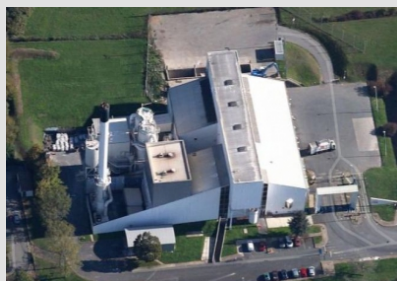
NL, Alkmaar L4

Start of operation	2004	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	1
	Throughput per line	27.50 t/h
	Thermal power per line	75.00 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	89 t/h at 42 bar(a) and 405 °C
Flue gas treatment	Concept	Electrostatic Precipitator (2 Fields), Electrostatic Precipitator (3 Fields), SCR, Scrubber
	Scrubber Reactant	Caustic Soda
	Reactant	Activated Carbon
	Throughput per line	155'900 m³/h (STP)
Energy recovery	Output	Electrical Power



CH, Thun

Start of operation	2003	
Combustion	Concept	Water-cooled Grate
	Fuel	Municipal Solid Waste, Sewage Sludge
	Number of Lines	1
	Throughput per line	18.40 t/h
	Thermal power per line	46.00 MW
Boiler	Concept	4-pass boiler with external economizer
	Superheated Steam	55 t/h at 40 bar(a) and 400 °C
Flue gas treatment	Concept	Electrostatic Precipitator (3 Fields), SCR, Ext. Eco, Heat Exchanger, Scrubber, Heat exchanger again, Fabric Filter, Fly Ash Treatment, Dry Sorption Reactor
	Scrubber Reactant	Lye
	Throughput per line	78'000 m³/h (STP)



FR, Poitiers

Start of operation	2003	
Combustion	Concept	Air-cooled Grate
	Fuel	Municipal Solid Waste
	Number of Lines	2
	Throughput per line	3.30 t/h



FR, Evreux

Start of operation
Combustion

2003
Concept
Fuel

Air-cooled Grate
Municipal Solid Waste, Sewage
Sludge

Boiler

Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam

2
5.63 t/h
14.40 MW
2-pass boiler
17 t/h at 40 bar(a) and 380 °C

Flue gas treatment

Concept

Fabric Filter, SCR, Semi-dry
Reactor, Dry Sorption Reactor
Lignite Coke, Calcium Hydroxide,
Sodium Bicarbonate

Energy recovery

Throughput per line
Concept
Electric power output
Output

31'000 m³/h (STP)
Back-pressure Turbine
6.00 MW (gross)
Electrical Power



FR, Perpignan

Start of operation
Combustion

2003
Concept
Fuel

Air-cooled Grate
Municipal Solid Waste

Boiler

Number of Lines
Throughput per line
Thermal power per line
Concept
Superheated Steam

2
12.10 t/h
32.40 MW
4-pass boiler
35 t/h at 40 bar(a) and 380 °C

Flue gas treatment

Concept

SNCR, Semi-dry Reactor, Fabric
Filter

Energy recovery

Throughput per line
Concept
Electric power output
Output

61'000 m³/h (STP)
Condensation Turbine
21.00 MW (gross)
Electrical Power



US, WWTP Lynn, MA

Start of operation
Combustion

2003
Concept
Fuel

Fluidised Bed
Sewage Sludge

Flue gas treatment

Number of Lines
Throughput per line
Thermal power per line
Concept

1
1.07 t/h
2.10 MW
Scrubber, Electrostatic Precipitator
(1 Field)

Throughput per line

40'100 m³/h (STP)



CH, Buchs SG L1

Start of operation	2003	
Combustion	Concept	
	Fuel	Water-cooled Grate
		Municipal Solid Waste, Industrial Waste
	Number of Lines	1
	Throughput per line	6.88 t/h
	Thermal power per line	21.80 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	30 t/h at 40 bar(a)
Energy recovery	Output	Steam, Hot Water, Electrical Power



IT, Bologna

Start of operation	2003	
Combustion	Concept	
	Fuel	Water-cooled Grate
		Municipal Solid Waste
	Number of Lines	2
	Throughput per line	13.75 t/h
	Thermal power per line	44.80 MW
Boiler	Concept	4-pass boiler
	Steam	53 t/h at 50 bar(a)



DE, Bremerhaven Duotherm

Start of operation	2002	
Combustion	Concept	
	Fuel	Water-cooled Grate
		Municipal Solid Waste
	Number of Lines	1
	Throughput per line	8.00 t/h
	Thermal power per line	23.30 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	27 t/h at 40 bar(a)
Energy recovery	Output	Electrical Power



FR, Le Mans L2bis

Start of operation	2002	
Combustion	Concept	
	Fuel	Air-cooled Grate
		Municipal Solid Waste, Hospital Waste
	Number of Lines	1
	Throughput per line	9.00 t/h
	Thermal power per line	24.10 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	29 t/h at 30 bar(a) and 350 °C
Flue gas treatment	Concept	Fabric Filter, SCR, Semi-dry Reactor
	Throughput per line	50'000 m³/h (STP)
Energy recovery	Output	Electrical Power



CH, Emmenspitz L4

Start of operation	2002	
Combustion	Concept	
	Fuel	Water-cooled Grate
		Municipal Solid Waste, Industrial Waste, Sewage Sludge
	Number of Lines	1
	Throughput per line	10.00 t/h
	Thermal power per line	28.50 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	32 t/h at 38 bar(a) and 385 °C
Flue gas treatment	Concept	SNCR, Fly Ash Treatment, Scrubber, NH ₄ OH-Stripper, Electrostatic Precipitator
	Scrubber Reactant	Lye
	Throughput per line	58'040 m ³ /h (STP)
Energy recovery	Concept	Back-pressure Turbine
	Electric power output	7.70 MW (gross)
	Output	Steam, Hot Water, Electrical Power



FR, Maubeuge

Start of operation	2001	
Combustion	Concept	
	Fuel	Air-cooled Grate
	Number of Lines	Municipal Solid Waste
	Throughput per line	2
	Thermal power per line	5.50 t/h
Boiler	Concept	14.10 MW
	Superheated Steam	4-pass boiler
Flue gas treatment	Concept	17 t/h at 36 bar(a) and 360 °C
	Throughput per line	Semi-dry Reactor, Fabric Filter
Energy recovery	Output	30'500 m ³ /h (STP)
		Steam, Hot Water, Electrical Power



FR, Rouen

Start of operation	2001	
Combustion	Concept	
	Fuel	Air-cooled Grate
	Number of Lines	Municipal Solid Waste
	Throughput per line	3
	Thermal power per line	14.50 t/h
Boiler	Concept	38.80 MW
	Superheated Steam	4-pass boiler
Energy recovery	Output	46 t/h at 36 bar(a)
		Electrical Power



FR, Salaise L3

Start of operation	2001	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste, Industrial Waste
	Number of Lines	1
	Throughput per line	19.00 t/h
	Thermal power per line	48.60 MW
Boiler	Concept	3-pass boiler
	Superheated Steam	77 t/h at 42 bar(a) and 350 °C
Flue gas treatment	Concept	
	Throughput per line	140'000 m³/h (STP)
Energy recovery	Output	Steam, Electrical Power



IT, Trezzo

Start of operation	2001	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste
	Number of Lines	2
	Throughput per line	16.16 t/h
	Thermal power per line	41.20 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	49 t/h at 40 bar(a) and 400 °C
Energy recovery	Output	Electrical Power



US, McKay Bay, Tampa, FL

Start of operation	2001	
Combustion	Concept	
	Fuel	Air-cooled Grate Municipal Solid Waste
	Number of Lines	4
	Throughput per line	9.46 t/h
	Thermal power per line	26.30 MW
Boiler	Concept	2-pass boiler
	Steam	24 t/h at 45 bar(a)



DE, Nuremberg L1-L3

Start of operation	2001	
Combustion	Concept	
	Fuel	Water-cooled Grate Municipal Solid Waste
	Number of Lines	3
	Throughput per line	10.50 t/h
	Thermal power per line	35.00 MW
Boiler	Concept	4-pass boiler
	Superheated Steam	41 t/h at 45 bar(a) and 400 °C
Flue gas treatment	Concept	Electrostatic Precipitator (3 Fields), SCR, Scrubber
	Scrubber Reactant	Lye
	Throughput per line	64'250 m³/h (STP)
Energy recovery	Output	Steam



US, Palo Alto, CA

Start of operation	2000	
Combustion	Concept	
	Fuel	Multiple Hearth
	Number of Lines	Sewage Sludge
	Throughput per line	1
Flue gas treatment	Concept	1.20 t/h
	Throughput per line	Scrubber
		18'500 m³/h (STP)

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