Thermal waste treatment plants
In chronological order

Clean Energy Solutions - Worldwide
<table>
<thead>
<tr>
<th>Location</th>
<th>Features</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Energy recovery</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland, Lucerne Perlen</td>
<td>Aquaroll ®</td>
<td>2 x 374Mg/d / 47MW</td>
<td>domestic waste</td>
<td></td>
<td>2015</td>
</tr>
<tr>
<td>Finland, Vantaa</td>
<td></td>
<td>2 x 576Mg/d / 64MW</td>
<td>domestic waste</td>
<td>electricity, hot water</td>
<td>2014</td>
</tr>
<tr>
<td>United Kingdom, Ferrybridge</td>
<td>Flue gas recirculation, Tang. nozzle 2</td>
<td>2 x 1014Mg/d / 117MW</td>
<td>biomaasse, domestic waste, refuse derived fuel, Wood</td>
<td>electricity, steam</td>
<td>2014</td>
</tr>
<tr>
<td>United Kingdom, Cleveland (Line 4&amp;5)</td>
<td>Flue gas recirculation, Tang. nozzle 2</td>
<td>2 x 456Mg/d / 46MW</td>
<td>domestic waste, industrial waste</td>
<td></td>
<td>2013</td>
</tr>
<tr>
<td>Finland, Vaasa</td>
<td>Aquaroll ®, Flue gas recirculation, Tang. nozzle 2</td>
<td>1 x 480Mg/d / 61MW</td>
<td>domestic waste, industrial waste</td>
<td>electricity, hot water</td>
<td>2012</td>
</tr>
<tr>
<td>Spain, Sant Adria de Besos Line 1-3</td>
<td>Aquaroll ®, Tang. nozzle 2</td>
<td>3 x 360Mg/d / 44MW</td>
<td>domestic waste, industrial waste</td>
<td></td>
<td>2012</td>
</tr>
</tbody>
</table>
**China, Xiamen West**
- Capacity: 2 x 300Mg/d / 12MW
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Flue gas recirculation
- Start-up: 2011

**France, Noyelles s/Lens Remplacement**
- Capacity: 2 x 132Mg/d
- Fuel: domestic waste
- Energy recovery: electricity
- Start-up: 2011

**Netherlands, Roosendaal**
- Capacity: 2 x 456Mg/d / 62MW
- Fuel: domestic waste
- Energy recovery: electricity, hot water
- Features: Aquaroll®, Flue gas recirculation, Tang. nozzle 2
- Start-up: 2011

**Norway, Oslo**
- Capacity: 1 x 576Mg/d / 67MW
- Fuel: domestic waste, industrial waste
- Energy recovery: electricity, hot water
- Features: Aquaroll®, Flue gas recirculation
- Start-up: 2011

**United Kingdom, Newhaven**
- Capacity: 2 x 336Mg/d / 36MW
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Flue gas recirculation, Tang. nozzle 2
- Start-up: 2011

**United Kingdom, Riverside, London**
- Capacity: 3 x 763Mg/d / 80MW
- Fuel: domestic waste, industrial waste
- Energy recovery: electricity
- Features: Flue gas recirculation
- Start-up: 2011
<table>
<thead>
<tr>
<th>Location</th>
<th>Energy recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Luxembourg, Leudelange</td>
<td>Electricity</td>
<td>1 x 480Mg/d / 67MW</td>
<td>Domestic waste</td>
<td>2010</td>
<td>Aquaroll®, Tang. nozzle 2</td>
</tr>
<tr>
<td>Norway, Bergen (Line 2)</td>
<td>Electricity, Hot water</td>
<td>1 x 384Mg/d / 45MW</td>
<td>Domestic waste</td>
<td>2010</td>
<td>Aquaroll®, Flue gas recirculation, Tang. nozzle 2</td>
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<tr>
<td>Austria, Zistersdorf</td>
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<td>1 x 475Mg/d / 58MW</td>
<td>Domestic waste</td>
<td>2009</td>
<td>Aquaroll®, Flue gas recirculation, Tang. nozzle 2</td>
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<tr>
<td>Spain, Mallorca</td>
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<td>2 x 648Mg/d / 70MW</td>
<td>Domestic waste, Sewage sludge</td>
<td>2009</td>
<td>Aquaroll®, Tang. nozzle 2</td>
</tr>
<tr>
<td>Switzerland, Buchs SG Line 2</td>
<td></td>
<td>1 x 199Mg/d / 26MW</td>
<td>Domestic waste, Industrial waste</td>
<td>2009</td>
<td>Aquaroll®, Flue gas recirculation, Tang. nozzle 2</td>
</tr>
<tr>
<td>United Kingdom, Cleveland (Line 3)</td>
<td></td>
<td>1 x 456Mg/d / 46MW</td>
<td>Domestic waste</td>
<td>2009</td>
<td>Tang. nozzle 2</td>
</tr>
</tbody>
</table>
United States, Olmsted
Capacity: 1 x 192Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Flue gas recirculation, Tang. nozzle 2

Belgium, Liège (Intradel)
Capacity: 2 x 504Mg/d / 67MW
Fuel: domestic waste
Energy recovery: electricity
Features: Aquaroll®, Flue gas recirculation, Tang. nozzle 2

China, Xiamen Garbage Treatment
Capacity: 2 x 216Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Spraydryer

France, Pithiviers II
Capacity: 2 x 96Mg/d / 11MW
Fuel: domestic waste
Energy recovery: electricity, steam

Germany, Witzenhausen
Capacity: 1 x 838Mg/d / 125MW
Fuel: Pulp sludge, refuse derived fuel
Energy recovery: electricity, steam
Features: Flue gas recirculation

Netherlands, Moerdijk Line 4
Capacity: 1 x 920Mg/d / 96MW
Fuel: domestic waste
Energy recovery: electricity, steam
Features: Aquaroll®, Flue gas recirculation
<table>
<thead>
<tr>
<th>Location</th>
<th>Energy Recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up/Commissioning</th>
</tr>
</thead>
<tbody>
<tr>
<td>France, Dunkerque</td>
<td>Electricity</td>
<td>1 x 288Mg/d / 29MW</td>
<td>Domestic waste</td>
<td>2007</td>
</tr>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>France, Issy-les-Moulineaux</td>
<td>Electricity</td>
<td>2 x 732Mg/d / 85MW</td>
<td>Domestic waste</td>
<td>2007</td>
</tr>
<tr>
<td>Germany, Bamberg</td>
<td>Hot water</td>
<td>3 x 144Mg/d / 18MW</td>
<td>Domestic waste, Industrial waste</td>
<td>2007, 2008, 2009</td>
</tr>
<tr>
<td>Germany, Stassfurt</td>
<td>Electricity, Steam</td>
<td>2 x 480Mg/d / 56MW</td>
<td>Domestic waste, Industrial waste</td>
<td>2007</td>
</tr>
<tr>
<td>Norway, Trondheim (Line 3)</td>
<td>Hot water</td>
<td>1 x 415Mg/d</td>
<td>Domestic waste</td>
<td>2007</td>
</tr>
<tr>
<td>Germany, Erfurt</td>
<td>Electricity, Hot water, Steam</td>
<td>1 x 234Mg/d / 26MW</td>
<td>Domestic waste, Refuse Derived Fuel</td>
<td>2006</td>
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<tr>
<td>Country</td>
<td>City</td>
<td>Energy recovery</td>
<td>Capacity</td>
<td>Fuel</td>
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<tr>
<td>Switzerland</td>
<td>Lausanne (Tridel)</td>
<td>Electricity, Hot water</td>
<td>2 x 240Mg/d / 40MW</td>
<td>Domestic waste</td>
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<tr>
<td>France</td>
<td>Rennes (Line 1+2)</td>
<td>Electricity, Steam</td>
<td>2 x 120Mg/d / 13MW</td>
<td>Domestic waste</td>
</tr>
<tr>
<td>France</td>
<td>Rennes (Line 3)</td>
<td>Electricity, Steam</td>
<td>1 x 192Mg/d / 18MW</td>
<td>Domestic waste</td>
</tr>
<tr>
<td>Germany</td>
<td>Ludwigslust</td>
<td>Electricity</td>
<td>1 x 144Mg/d / 16MW</td>
<td>Domestic waste</td>
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<tr>
<td>Germany</td>
<td>Zorbau</td>
<td>Electricity</td>
<td>2 x 504Mg/d / 54MW</td>
<td>Domestic waste</td>
</tr>
<tr>
<td>Sweden</td>
<td>Uppsala</td>
<td>Hot Water, Steam</td>
<td>1 x 633Mg/d / 73MW</td>
<td>Domestic waste</td>
</tr>
</tbody>
</table>
Germany, Freiburg im Breisgau

- Capacity: 1 x 480Mg/d / 61MW
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Aquaroll ®, Tang. nozzle 2

Start-up: 2004

Netherlands, Alkmaar Line 4

- Capacity: 1 x 660Mg/d
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Aquaroll ®, Flue gas recirculation, Spraydryer, Tang. nozzle 2

Start-up: 2004

France, Dijon Retrofit combustion/boiler

- Capacity: 2 x 218Mg/d
- Fuel: domestic waste

Start-up: 2003

France, Evreux

- Capacity: 2 x 135Mg/d / 14MW
- Fuel: domestic waste, sewage sludge
- Energy recovery: electricity
- Features: Tang. nozzle 2

Start-up: 2003

France, Perpignan

- Capacity: 2 x 264Mg/d / 29MW
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Tang. nozzle 2

Start-up: 2003

Switzerland, Thun

- Capacity: 1 x 442Mg/d / 46MW
- Fuel: domestic waste
- Energy recovery: electricity, hot water
- Features: Aquaroll ®, Flue gas recirculation, Tang. nozzle 2

Start-up: 2003
### Thermal waste treatment plants

**France, Le Mans III (Line 2bis)**
- Capacity: 1 x 288Mg/d / 32MW
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Tang. nozzle 2

**Switzerland, Emmenspitz Line 4**
- Capacity: 1 x 240Mg/d / 29MW
- Fuel: domestic waste, industrial waste, sewage sludge
- Energy recovery: electricity, hot water, steam
- Features: Aquaroll ®, Tang. nozzle 2

**France, Maubeuge**
- Capacity: 2 x 134Mg/d / 14MW
- Fuel: domestic waste
- Energy recovery: electricity, hot water, steam
- Features: Tang. nozzle 2

**France, Rouen**
- Capacity: 3 x 348Mg/d / 38MW
- Fuel: domestic waste
- Energy recovery: electricity

**France, Salaise III**
- Capacity: 1 x 456Mg/d / 70MW
- Fuel: domestic waste, industrial waste
- Energy recovery: electricity, steam
- Features: Aquaroll ®, Tang. nozzle 2

**Germany, Nürnberg TAN**
- Capacity: 3 x 252Mg/d / 35MW
- Fuel: domestic waste
- Energy recovery: steam
- Features: Aquaroll ®, Flue gas recirculation, Tang. nozzle 4
**Italy, Trezzo**

- Capacity: 2 x 250 Mg/d / 41 MW
- Start-up: 2001
- Fuel: domestic waste
- Energy recovery: electricity
- Features: Aquaroll®, Tang. nozzle 2

**Czech Republic, Liberec**

- Capacity: 1 x 288 Mg/d / 31 MW
- Start-up: 1999
- Fuel: domestic waste
- Energy recovery: electricity, steam
- Features: Flue gas recirculation

**Norway, Bergen**

- Capacity: 1 x 370 Mg/d / 45 MW
- Start-up: 1999
- Fuel: domestic waste
- Energy recovery: electricity, steam
- Features: Flue gas recirculation, Tang. nozzle 4

**Sweden, Umea II**

- Capacity: 1 x 576 Mg/d
- Start-up: 1999
- Fuel: domestic waste
- Energy recovery: electricity, hot water
- Features: Aquaroll®, Flue gas recirculation, Tang. nozzle 4

**United States, 3M, Cottage Grove, MN**

- Capacity: 1 x 175 Mg/d / 38 MW
- Start-up: 1999
- Fuel: industrial waste
- Features: round secondary combustion chamber

**France, Bezons II (Argenteuil)**

- Capacity: 1 x 216 Mg/d
- Start-up: 1998
- Fuel: domestic waste
- Energy recovery: electricity, steam
- Features: Flue gas recirculation
<table>
<thead>
<tr>
<th>Location</th>
<th>Energy Recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>France, Vert-le-Grand</td>
<td>Electricity</td>
<td>2 x 336 Mg/d</td>
<td>Domestic waste</td>
<td>1998</td>
<td>Flue gas recirculation</td>
</tr>
<tr>
<td>Germany, Darmstadt V (Line 3)</td>
<td>Steam</td>
<td>1 x 264 Mg/d</td>
<td>Domestic waste</td>
<td>1998</td>
<td>Aquaroll ®</td>
</tr>
<tr>
<td>Germany, Pirmasens</td>
<td>Electricity, Steam</td>
<td>2 x 288 Mg/d</td>
<td>Domestic waste, sewage sludge</td>
<td>1998</td>
<td>Flue gas recirculation</td>
</tr>
<tr>
<td>Germany, Hamburg</td>
<td>Steam</td>
<td>2 x 149 Mg/d / 35 MW</td>
<td>Industrial waste</td>
<td>1997</td>
<td>Round secondary combustion chamber</td>
</tr>
<tr>
<td>Germany, Ulm</td>
<td>Electricity, Steam</td>
<td>2 x 206 Mg/d</td>
<td>Domestic waste</td>
<td>1997</td>
<td>Flue gas recirculation</td>
</tr>
<tr>
<td>Germany, Velsen</td>
<td>Electricity</td>
<td>2 x 360 Mg/d / 42 MW</td>
<td>Domestic waste</td>
<td>1997</td>
<td>Flue gas recirculation</td>
</tr>
</tbody>
</table>
Germany, Bremerhaven Duotherm
Capacity: 1 x 144Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Aquaroll ®
Start-up: 1996

Netherlands, Moerdijk
Capacity: 3 x 636Mg/d / 81MW
Fuel: domestic waste
Energy recovery: electricity, steam
Features: Flue gas recirculation, Tang. nozzle 2
Start-up: 1996

Spain, Melilla
Capacity: 1 x 108Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1996

Bermuda, Tynes Bay
Capacity: 2 x 144Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1995

Netherlands, Alkmaar
Capacity: 3 x 445Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Flue gas recirculation
Start-up: 1995

United States, Lisbon, CT
Capacity: 2 x 225Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1995
Thermal waste treatment plants
In chronological order

Sweden, Gothenburg II (Line 4,5)
Capacity: 2 x 528Mg/d
Fuel: domestic waste
Energy recovery: electricity, hot water
Features: Flue gas recirculation, Tang. nozzle 2
Start-up: 1994

Switzerland, Buchs SG Line 3
Capacity: 1 x 240Mg/d / 32MW
Fuel: domestic waste
Energy recovery: electricity, hot water, steam
Features: Aquaroll ®, Flue gas recirculation, Tang. nozzle 4
Start-up: 1994

Switzerland, Dottikon II (EMS Dottikon)
Capacity: 1 x 24Mg/d / 5MW
Fuel: industrial waste, sewage sludge
Features: round secondary combustion chamber
Start-up: 1994

United States, Falls Township, PA
Capacity: 2 x 680Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1994

Netherlands, Duiven
Capacity: 3 x 445Mg/d
Fuel: domestic waste
Start-up: 1993

Switzerland, Emmenspitz Replacement furnace/boiler L1
Capacity: 1 x 120Mg/d / 29MW
Fuel: domestic waste
Energy recovery: electricity, steam
Start-up: 1993
Switzerland, Geneva, Cheneviers III
Capacity: 2 x 500Mg/d
Fuel: domestic waste, sewage sludge
Energy recovery: electricity
Features: Flue gas recirculation
Start-up: 1993

Austria, EBS Vienna II
Capacity: 1 x 480Mg/d / 23MW
Fuel: sewage sludge
Start-up: 1992

France, Sète
Capacity: 1 x 135Mg/d
Fuel: domestic waste
Energy recovery: steam
Start-up: 1992 (out of operation)

France, Sète FGT
Capacity: 1 x 135Mg/d
Fuel: domestic waste
Energy recovery: steam
Start-up: 1992

Jersey, Jersey, 3rd unit
Capacity: 1 x 180Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1992

Lebanon, Beirut
Capacity: 2 x 120Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1992
Switzerland, Emmenspitz Replacement furnace/boiler L2

Capacity: 1 x 120Mg/d / 29MW
Fuel: domestic waste
Energy recovery: electricity, steam
Start-up: 1992

Switzerland, Tela, Niederbipp

Capacity: 1 x 170Mg/d
Fuel: sewage sludge
Energy recovery: steam
Start-up: 1992

United States, East Liverpool, OH

Capacity: 1 x 195Mg/d / 29MW
Fuel: industrial waste
Energy recovery: steam
Features: Spraydryer
Start-up: 1992

France, Le Mans II (Line 3)

Capacity: 1 x 288Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1991

Germany, Bonn North

Capacity: 3 x 288Mg/d
Fuel: domestic waste
Energy recovery: electricity, steam
Features: Aquaroll®, Spraydryer
Start-up: 1991

Germany, Darmstadt III (Line 1)

Capacity: 1 x 264Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Tang. nozzle 4
Start-up: 1991
Italy, Modena II
Capacity: 1 x 250Mg/d
Fuel: domestic waste
Start-up: 1991

United States, Broward North, FL
Capacity: 3 x 680Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1991

United States, Broward South, FL
Capacity: 3 x 680Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1991

United States, Spokane, WA
Capacity: 2 x 363Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1991

Germany, Darmstadt IV (Line 2)
Capacity: 1 x 200Mg/d
Fuel: domestic waste
Energy recovery: electricity, steam
Start-up: 1990

Switzerland, Emmenspitz Line 3
Capacity: 1 x 264Mg/d / 31MW
Fuel: domestic waste
Energy recovery: electricity, hot water, steam
Start-up: 1990
Thermal waste treatment plants
In chronological order

France, Sud Est Finistère
Capacity: 2 x 96Mg/d
Fuel: domestic waste
Energy recovery: steam
Start-up: 1989

United States, Concord, NH
Capacity: 2 x 277Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1989

United States, Gloucester, NJ
Capacity: 2 x 260Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1989

France, Brest
Capacity: 2 x 216Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1988

France, La Rochelle
Capacity: 2 x 96Mg/d
Fuel: domestic waste
Energy recovery: steam
Start-up: 1988

United States, Bridgeport, CT
Capacity: 3 x 680Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1988
Canada, Swan Hills, Alberta
Capacity: 2 x 19Mg/d / 6MW
Fuel: industrial waste
Start-up: 1987 (out of operation)

France, Massy et Antony II
Capacity: 1 x 132Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1987

France, Nantes
Capacity: 2 x 216Mg/d / 22MW
Fuel: domestic waste, hospital waste
Energy recovery: hot water
Features: Spraydryer
Start-up: 1987

United States, Claremont, NH
Capacity: 2 x 91Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1987

United States, Millbury, MA
Capacity: 2 x 680Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1987

United States, PPG, Circleville, OH
Capacity: 1 x 120Mg/d / 18MW
Fuel: industrial waste
Start-up: 1987
Thermal waste treatment plants
In chronological order

**France, Massy et Antony I**
Capacity: 1 x 132Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1986

**Germany, Frankfurt NW Stadt IV**
Capacity: 2 x 400Mg/d
Fuel: domestic waste
Energy recovery: electricity, steam
Start-up: 1986 (out of operation)

**Germany, Frankfurt NW Stadt III**
Capacity: 2 x 400Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1985

**Germany, Geiselbullach**
Capacity: 2 x 144Mg/d
Fuel: domestic waste
Energy recovery: electricity
Features: Aquaroll®, Tang. nozzle 4
Start-up: 1985

**Netherlands, Duiven heat recovery**
Capacity: 1 x 360Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1985

**Norway, Trondheim**
Capacity: 2 x 156Mg/d
Fuel: domestic waste
Energy recovery: hot water
Features: Aquaroll®, Flue gas recirculation
Start-up: 1985
<table>
<thead>
<tr>
<th>Country, City</th>
<th>Energy recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden, Linköping HKW</td>
<td>electricity, hot water</td>
<td>1 x 710Mg/d</td>
<td>Wood</td>
<td>1985</td>
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<tr>
<td>United States, Baltimore, MD</td>
<td>electricity</td>
<td>3 x 680Mg/d</td>
<td>domestic waste</td>
<td>1985</td>
</tr>
<tr>
<td>France, Chinon</td>
<td>steam</td>
<td>1 x 67Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
</tr>
<tr>
<td>France, Pithiviers</td>
<td>hot water</td>
<td>1 x 76Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
</tr>
<tr>
<td>France, Strasbourg II</td>
<td>electricity, steam</td>
<td>1 x 336Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
</tr>
<tr>
<td>Germany, Neustadt</td>
<td>electricity, hot water, steam</td>
<td>1 x 192Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
</tr>
</tbody>
</table>

Features: Spraydryer
## Thermal waste treatment plants

In chronological order

<table>
<thead>
<tr>
<th>Country</th>
<th>Plant</th>
<th>Energy recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sweden, Linköping III</td>
<td></td>
<td>hot water</td>
<td>1 x 288Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
<td>Aquaroll®, Flue gas recirculation</td>
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<tr>
<td>United States, Westchester Country, NY</td>
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<td>electricity</td>
<td>3 x 680Mg/d</td>
<td>domestic waste</td>
<td>1984</td>
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<tr>
<td>Germany, Kempten III</td>
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<td>electricity, steam</td>
<td>1 x 192Mg/d</td>
<td>domestic waste</td>
<td>1983 (out of operation)</td>
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<tr>
<td>Sweden, Norrtorp</td>
<td></td>
<td>electricity, hot water</td>
<td>1 x 110Mg/d / 23MW</td>
<td>industrial waste</td>
<td>1983</td>
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<tr>
<td>Switzerland, Klus (test plant)</td>
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<td></td>
<td>1 x 9Mg/d</td>
<td>industrial waste</td>
<td>1983</td>
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<tr>
<td>Switzerland, Lucerne II</td>
<td></td>
<td>electricity, hot water</td>
<td>1 x 144Mg/d</td>
<td>domestic waste</td>
<td>1983 (out of operation)</td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Capacity</td>
<td>Energy Recovery</td>
<td>Fuel</td>
<td>Start-up</td>
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<tr>
<td>France, Brive II</td>
<td>1 x 84Mg/d</td>
<td>Hot water, steam</td>
<td>Domestic waste, sewage sludge</td>
<td>1982</td>
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<tr>
<td>Sweden, Linköping I</td>
<td>1 x 165Mg/d</td>
<td>Hot water</td>
<td>Domestic waste</td>
<td>1982</td>
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<td>Features: Flue gas recirculation</td>
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<tr>
<td>Sweden, Linköping II</td>
<td>1 x 288Mg/d</td>
<td>Hot water</td>
<td>Domestic waste</td>
<td>1982</td>
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<td>Features: Flue gas recirculation</td>
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<tr>
<td>Germany, Biebesheim I</td>
<td>2 x 75Mg/d / 18MW</td>
<td>Electricity</td>
<td>Industrial waste</td>
<td>1981</td>
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<td>Features: Spraydryer</td>
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<tr>
<td>Germany, Landshut III</td>
<td>1 x 144Mg/d</td>
<td>Electricity</td>
<td>Domestic waste</td>
<td>1981</td>
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<td>Features: Spraydryer</td>
<td></td>
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<tr>
<td>United States, G.E. Waterford, NY</td>
<td>1 x 100Mg/d / 14MW</td>
<td></td>
<td>Industrial waste</td>
<td>1981</td>
<td></td>
<td></td>
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<tr>
<td>Location</td>
<td>Plant Name</td>
<td>Capacity</td>
<td>Fuel</td>
<td>Energy Recovery</td>
<td>Start-up</td>
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<tr>
<td>Austria, EBS Vienna</td>
<td>Austria, EBS Vienna I</td>
<td>2 x 326Mg/d / 30MW</td>
<td>industrial sludge, industrial waste, sewage sludge</td>
<td>hot water</td>
<td>1980</td>
<td></td>
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<tr>
<td>Italy, Modena</td>
<td>Italy, Modena I</td>
<td>2 x 150Mg/d</td>
<td>domestic waste</td>
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<td>1980</td>
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<tr>
<td>France, Bruay</td>
<td>France, Bruay</td>
<td>2 x 120Mg/d</td>
<td>domestic waste</td>
<td>steam</td>
<td>1978</td>
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<tr>
<td>Germany, Bremerhaven</td>
<td>Germany, Bremerhaven</td>
<td>3 x 360Mg/d</td>
<td>domestic waste</td>
<td>electricity</td>
<td>1977</td>
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<tr>
<td>Germany, Darmstadt II (Line 3)</td>
<td>Germany, Darmstadt II (Line 3)</td>
<td>1 x 260Mg/d</td>
<td>domestic waste</td>
<td>steam</td>
<td>1977 (out of operation)</td>
<td></td>
</tr>
<tr>
<td>Italy, Forli</td>
<td>Italy, Forli</td>
<td>2 x 100Mg/d</td>
<td>domestic waste</td>
<td></td>
<td>1977</td>
<td></td>
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</tbody>
</table>
France, Arras
Capacity: 1 x 120Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1976

France, Châteaudun
Capacity: 1 x 85Mg/d
Fuel: domestic waste
Start-up: 1976

Germany, Kempten II
Capacity: 1 x 120Mg/d
Fuel: domestic waste
Start-up: 1976 (out of operation)

Italy, Taranto
Capacity: 2 x 100Mg/d
Fuel: domestic waste
Start-up: 1976 (out of operation)

Netherlands, Leiden II
Capacity: 1 x 100Mg/d
Fuel: domestic waste
Start-up: 1976 (out of operation)

Switzerland, Emmenspitz Line 1+2
Capacity: 2 x 240Mg/d
Fuel: domestic waste
Energy recovery: electricity, steam
Start-up: 1976 (out of operation)
Denmark, Nyborg
Capacity: 1 x 180Mg/d / 23MW
Fuel: industrial waste
Energy recovery: hot water
Start-up: 1975

Finland, Turku
Capacity: 2 x 120Mg/d
Fuel: domestic waste
Energy recovery: hot water
Start-up: 1975

France, Bezons I (Argenteuil)
Capacity: 2 x 180Mg/d
Fuel: domestic waste
Start-up: 1975

France, Le Mans I (Line 1+2)
Capacity: 2 x 240Mg/d / 23MW
Fuel: domestic waste
Start-up: 1975

Germany, Kempten I
Capacity: 1 x 100Mg/d
Fuel: domestic waste
Start-up: 1975 (out of operation)

Italy, Cattolica-Riccione
Capacity: 2 x 120Mg/d
Fuel: domestic waste
Start-up: 1975
<table>
<thead>
<tr>
<th>Country, Location</th>
<th>Details</th>
</tr>
</thead>
</table>
| **Italy, Terni**                        | Capacity: 2 x 60Mg/d  
    Fuel: domestic waste  
    Start-up: 1975 (out of operation) |
| **Spain, Barcelona Line 1-3 (Besos)**  | Capacity: 3 x 360Mg/d  
    Fuel: domestic waste  
    Energy recovery: electricity  
    Start-up: 1975 (out of operation) |
| **Spain, Moncada**                      | Capacity: 1 x 60Mg/d  
    Fuel: domestic waste  
    Start-up: 1975 |
| **Switzerland, Bern II**                | Capacity: 2 x 240Mg/d  
    Fuel: domestic waste  
    Energy recovery: electricity, hot water, steam  
    Start-up: 1975 |
| **United States, Saugus Boston, MA**    | Capacity: 2 x 680Mg/d  
    Fuel: domestic waste  
    Energy recovery: electricity  
    Start-up: 1975 |
| **Australia, Toowoomba**               | Capacity: 1 x 72Mg/d  
    Fuel: domestic waste  
    Start-up: 1974 (out of operation) |
## Thermal waste treatment plants

In chronological order

### Canada, Quebec
- **Energy recovery:** steam
- **Capacity:** 4 x 250Mg/d
- **Fuel:** domestic waste
- **Energy recovery:** steam
- **Start-up:** 1974

### France, Angers
- **Energy recovery:** steam
- **Capacity:** 3 x 130Mg/d
- **Fuel:** domestic waste
- **Energy recovery:** steam
- **Start-up:** 1974

### France, Deauville
- **Capacity:** 2 x 60Mg/d
- **Fuel:** domestic waste, sewage sludge
- **Start-up:** 1974

### France, Dijon
- **Capacity:** 2 x 300Mg/d
- **Fuel:** domestic waste
- **Start-up:** 1974 (out of operation)

### France, Strasbourg I
- **Capacity:** 3 x 336Mg/d
- **Fuel:** domestic waste
- **Energy recovery:** electricity, steam
- **Start-up:** 1974

### Germany, Landshut II
- **Capacity:** 1 x 72Mg/d
- **Fuel:** domestic waste
- **Energy recovery:** electricity
- **Features:** Spraydryer
- **Start-up:** 1974
<table>
<thead>
<tr>
<th>Location</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Energy Recovery</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands, The Hague II</td>
<td>1 x 360Mg/d</td>
<td>domestic waste</td>
<td>electricity</td>
<td>1974 (out of operation)</td>
</tr>
<tr>
<td>Switzerland, Glarus</td>
<td>1 x 120Mg/d</td>
<td>domestic waste</td>
<td></td>
<td>1974</td>
</tr>
<tr>
<td>Australia, Melbourne Harbour</td>
<td>1 x 42Mg/d / 5MW</td>
<td>domestic waste</td>
<td></td>
<td>1973 (out of operation)</td>
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<tr>
<td>Australia, Sydney Waverley-Woollahra</td>
<td>2 x 269Mg/d</td>
<td>domestic waste</td>
<td></td>
<td>1973 (out of operation)</td>
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<tr>
<td>Austria, Wels</td>
<td>1 x 86Mg/d</td>
<td>domestic waste</td>
<td></td>
<td>1973 (out of operation)</td>
</tr>
<tr>
<td>France, Brive I</td>
<td>2 x 84Mg/d</td>
<td>domestic waste, sewage sludge</td>
<td>hot water, steam</td>
<td>1973</td>
</tr>
</tbody>
</table>
**France, Lisieux**
- Capacity: 1 x 84Mg/d
- Fuel: domestic waste, sewage sludge
- Start-up: 1973

**Italy, Alfa Sud Pomigliano**
- Capacity: 1 x 36Mg/d
- Fuel: industrial waste
- Start-up: 1973 (out of operation)

**Italy, Bologna**
- Capacity: 3 x 210Mg/d
- Fuel: domestic waste
- Energy recovery: hot water
- Features: Aquaroll ®, Tang. nozzle 2
- Start-up: 1973

**Italy, Chioggia**
- Capacity: 1 x 72Mg/d
- Fuel: domestic waste
- Start-up: 1973 (out of operation)

**Italy, Domodossola**
- Capacity: 1 x 36Mg/d
- Fuel: domestic waste
- Start-up: 1973 (out of operation)

**Italy, Foggia**
- Capacity: 1 x 72Mg/d
- Fuel: domestic waste
- Start-up: 1973 (out of operation)
Italy, La Spezia
Capacity: 2 x 120Mg/d
Fuel: domestic waste
Start-up: 1973 (out of operation)

Italy, Leghorn
Capacity: 2 x 85Mg/d
Fuel: domestic waste
Start-up: 1973

Switzerland, Schaffhouse
Capacity: 2 x 72Mg/d
Fuel: domestic waste
Start-up: 1973 (out of operation)

France, Mulhouse
Capacity: 2 x 130Mg/d
Fuel: domestic waste, sewage sludge
Energy recovery: steam
Start-up: 1972

Italy, Genoa
Capacity: 3 x 240Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1972 (out of operation)

Sweden, Gothenburg
Capacity: 3 x 360Mg/d
Fuel: domestic waste
Energy recovery: electricity, hot water
Start-up: 1972 (out of operation)
<table>
<thead>
<tr>
<th>Location</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Energy Recovery</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Switzerland, St.Gallen</td>
<td>2 x 120Mg/d</td>
<td>domestic waste</td>
<td>Spraydryer</td>
<td>1972 (out of operation)</td>
</tr>
<tr>
<td>Switzerland, Stoos</td>
<td>1 x 12Mg/d</td>
<td>domestic waste</td>
<td></td>
<td>1972 (out of operation)</td>
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<tr>
<td>France, Blois</td>
<td>2 x 89Mg/d</td>
<td>domestic waste</td>
<td>hot water</td>
<td>1971</td>
</tr>
<tr>
<td>France, Dieppe</td>
<td>2 x 60Mg/d / 6MW</td>
<td>domestic waste, sewage sludge</td>
<td></td>
<td>1971</td>
</tr>
<tr>
<td>France, Noyelles s/Lens</td>
<td>2 x 174Mg/d</td>
<td>domestic waste, hospital waste, industrial waste</td>
<td></td>
<td>1971</td>
</tr>
<tr>
<td>Germany, Fürth Landkreis</td>
<td>1 x 80Mg/d</td>
<td>domestic waste</td>
<td>hot water</td>
<td>1971 (out of operation)</td>
</tr>
</tbody>
</table>
Germany, Landshut | Capacity: 1 x 72Mg/d Start-up: 1971
Fuel: domestic waste
Energy recovery: electricity
Features: Spraydryer

Sweden, Tierp | Capacity: 1 x 12Mg/d Start-up: 1971 (out of operation)
Fuel: domestic waste

Switzerland, Lucerne | Capacity: 2 x 120Mg/d Start-up: 1971 (out of operation)
Fuel: domestic waste
Energy recovery: electricity, hot water

Canada, Montreal | Capacity: 4 x 360Mg/d Start-up: 1970 (out of operation)
Fuel: domestic waste

Germany, Leverkusen | Capacity: 2 x 240Mg/d Start-up: 1970
Fuel: domestic waste
Energy recovery: electricity, steam

Sweden, Umea | Capacity: 2 x 137Mg/d Start-up: 1970
Fuel: domestic waste
Energy recovery: hot water
Features: Flue gas recirculation
<table>
<thead>
<tr>
<th>Location</th>
<th>Energy Recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
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<tbody>
<tr>
<td>Germany, Solingen</td>
<td>Electricity, Hot Water</td>
<td>2 x 240 Mg/d</td>
<td>Domestic Waste</td>
<td>1969</td>
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<tr>
<td>Switzerland, Basel</td>
<td>Electricity, Hot Water, Steam</td>
<td>2 x 360 Mg/d</td>
<td>Domestic Waste</td>
<td>1969</td>
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<tr>
<td>Switzerland, Dottikon I</td>
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<td>1 x 12 Mg/d / 4 MW</td>
<td>Industrial Waste</td>
<td>1969 (out of operation)</td>
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<tr>
<td>Switzerland, Zurich, Hagenholz</td>
<td>Electricity, Hot Water, Steam</td>
<td>2 x 260 Mg/d</td>
<td>Domestic Waste</td>
<td>1969 (out of operation)</td>
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<tr>
<td>Germany, Nürnberg</td>
<td>Steam</td>
<td>3 x 360 Mg/d</td>
<td>Domestic Waste</td>
<td>1968 (out of operation)</td>
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<tr>
<td>Sweden, Stockholm Bollmora</td>
<td>Hot Water</td>
<td>1 x 120 Mg/d</td>
<td>Domestic Waste</td>
<td>1968 (out of operation)</td>
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### Thermal waste treatment plants

**In chronological order**

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<tr>
<th>Country</th>
<th>City</th>
<th>Energy recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
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<tbody>
<tr>
<td>Switzerland</td>
<td>Biel</td>
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<td>1 x 60Mg/d</td>
<td>domestic waste</td>
<td>1968 (out of operation)</td>
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<tr>
<td>Germany</td>
<td>Frankfurt NW Stadt II</td>
<td>electricity, steam</td>
<td>2 x 360Mg/d</td>
<td>domestic waste</td>
<td>1967 (out of operation)</td>
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<tr>
<td>Germany</td>
<td>Ludwigshafen City</td>
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<td>2 x 240Mg/d</td>
<td>domestic waste</td>
<td>1967 (out of operation)</td>
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<tr>
<td>Netherlands</td>
<td>The Hague I</td>
<td>electricity, steam</td>
<td>3 x 360Mg/d</td>
<td>domestic waste</td>
<td>1967 (out of operation)</td>
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<tr>
<td>Switzerland</td>
<td>Fribourg</td>
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<td>2 x 60Mg/d</td>
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<tr>
<td>Switzerland</td>
<td>Lake of Zurich Region</td>
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<td>1 x 30Mg/d</td>
<td>domestic waste</td>
<td>1967 (out of operation)</td>
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</table>
Thermal waste treatment plants
In chronological order

**Germany, Chemical Works Hüls**
- Capacity: 1 x 55Mg/d / 14MW
- Fuel: industrial waste
- Start-up: 1966

**Germany, Darmstadt I (Line 1+2)**
- Capacity: 2 x 240Mg/d
- Fuel: domestic waste
- Energy recovery: steam
- Start-up: 1966 (out of operation)

**Germany, Frankfurt NW Stadt I**
- Capacity: 2 x 360Mg/d
- Fuel: domestic waste
- Energy recovery: electricity, steam
- Start-up: 1966 (out of operation)

**Germany, Opel Rüsselsheim**
- Capacity: 1 x 42Mg/d / 7MW
- Fuel: industrial waste
- Start-up: 1966

**Netherlands, Leiden I**
- Capacity: 2 x 120Mg/d
- Fuel: domestic waste
- Start-up: 1966 (out of operation)

**Sweden, Linköping**
- Capacity: 1 x 120Mg/d
- Fuel: domestic waste
- Energy recovery: hot water
- Start-up: 1966 (out of operation)
Switzerland, Geneva, Cheneviers I
Capacity: 2 x 240Mg/d
Fuel: domestic waste, sewage sludge
Energy recovery: electricity
Start-up: 1966 (out of operation)

Italy, Trento
Capacity: 1 x 15Mg/d
Fuel: domestic waste
Start-up: 1965 (out of operation)

Switzerland, Winterthur
Capacity: 2 x 120Mg/d
Fuel: domestic waste
Energy recovery: electricity, hot water, steam
Start-up: 1965 (out of operation)

Germany, BASF Ludwigshafen II
Capacity: 2 x 24Mg/d / 8MW
Fuel: industrial waste
Energy recovery: steam
Start-up: 1964

Germany, Continental Hannover
Capacity: 1 x 36Mg/d / 9MW
Fuel: industrial waste
Energy recovery: steam
Start-up: 1964 (out of operation)

Germany, Ford Cologne
Capacity: 1 x 100Mg/d / 16MW
Fuel: industrial waste
Energy recovery: hot water
Start-up: 1964 (out of operation)
Thermal waste treatment plants
In chronological order

**Austria, Vienna, Flötzersteig**
Capacity: 3 x 200Mg/d
Fuel: domestic waste
Energy recovery: electricity, hot water, steam
Start-up: 1963 (out of operation)

**Germany, Hamburg II**
Capacity: 3 x 200Mg/d
Fuel: domestic waste
Energy recovery: electricity
Start-up: 1963 (out of operation)

**Germany, Opel Bochum**
Capacity: 1 x 30Mg/d / 5MW
Fuel: industrial waste
Start-up: 1963

**Germany, Boehringer, Ingelheim**
Capacity: 1 x 25Mg/d
Fuel: industrial waste
Start-up: 1962 (out of operation)

**Finland, Helsinki**
Capacity: 2 x 200Mg/d
Fuel: domestic waste
Energy recovery: steam
Start-up: 1961 (out of operation)

**Germany, BASF Ludwigshafen I**
Capacity: 1 x 200Mg/d / 32MW
Fuel: industrial waste
Energy recovery: steam
Start-up: 1960 (out of operation)
## Thermal waste treatment plants
**In chronological order**

<table>
<thead>
<tr>
<th>Location</th>
<th>Energy recovery</th>
<th>Capacity</th>
<th>Fuel</th>
<th>Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany, Hamburg</td>
<td>electricity</td>
<td>2 x 200 Mg/d</td>
<td>domestic waste</td>
<td>1959 (out of operation)</td>
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<tr>
<td>Switzerland, Lausanne</td>
<td>steam</td>
<td>2 x 120 Mg/d</td>
<td>domestic waste</td>
<td>1958 (out of operation)</td>
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<tr>
<td>Belgium, Brussels</td>
<td>steam</td>
<td>2 x 200 Mg/d</td>
<td>domestic waste</td>
<td>1957 (out of operation)</td>
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<tr>
<td>Switzerland, Bern</td>
<td>hot water, steam</td>
<td>2 x 100 Mg/d</td>
<td>domestic waste</td>
<td>1954 (out of operation)</td>
</tr>
</tbody>
</table>
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