# References

## 1. Plants currently under construction

| | | |
|---|---|---|
| **Granollers Extension (Spain)** | **Start-up** | Summer 2025 |
| | **Type of Waste** | Biowaste (FORM) |
| | **Capacity** | Extension from 45.000 tons/year to 80.000 ton/year (Phase 1) |
| | **Delivery** | Extension of wet mechanical pre-treatment, anaerobic digestion, sanitation, dewatering and internal process water management<br>Process and detail engineering, equipment modification and installation works, planning and support of the commissioning and start-up<br>Supply of electromechanical equipment, steel and piping works<br>Control Unit for above mentioned process steps commissioning and start-up |
| **Gennevilliers (France)** | **Start-up** | End of 2025 |
| | **Type of Waste** | Biowaste, commercial waste, food waste |
| | **Capacity** | 50.000 tons/year |
| | **Delivery** | Process engineering BTA® Process, construction supervision, planning and support of the commissioning and start-up<br>Supply of key components of BTA®<br>Hydromechanical Pre-treatment, Sanitation and anaerobic digestion step, dewatering and process water management<br>Control Unit for overall Methanisation unit |

| | | |
|---|---|---|
| **Essonne (France)** | **Start-up** | Beginning of 2024 |
| | **Type of Waste** | Biowaste, commercial waste, food waste |
| | **Capacity** | 35.000 tons/year |
| | **Delivery** | Process engineering BTA® Process, construction supervision, planning and support of the commissioning and start-up<br>Supply of key components of BTA® Hydromechanical Pre-treatment, Sanitation and anaerobic digestion step as well as piping<br>SCADA Programming and visualisation.<br>Operation and maintenance support |
| **Gello di Pontedera (Italy)** | **Start-up** | First half of 2024 |
| | **Type of Waste** | Biowaste (FORSU) |
| | **Capacity** | 44.000 tons/year |
| | **Delivery** | Process engineering BTA® Process, construction supervision, planning and support of the commissioning and start-up |

## 2. Plants designed according to the BTA® Process

The following plants have been designed according to the overall BTA® Process incl. digestion. BTA provided general engineering services, key components and construction / start-up assistance:

| | | |
|---|---|---|
| **Valorlis Extension (Portugal)** | **Start-up** | 2023 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | Additional treatment line for 25.000 tons/year |
| **Lohja (Finland)** | **Start-up** | 2021 |
| | **Type of Waste** | Sewage sludge, biowaste, packaged organic commercial waste, food waste, forest industry sludge, grease sludge |
| | **Capacity** | 60.000 tons/year |

# References

| | | |
|---|---|---|
| **Topinoja (Finland)** | **Start-up** | 2020 |
| | **Type of Waste** | Sewage sludge, biowaste, commercial waste |
| | **Capacity** | 35.000 tons/year |
| **Varennes (Canada)** | **Start-up** | 2018 |
| | **Type of Waste** | Source Separated Organics, commercial waste, grass cipplings, septage |
| | **Capacity** | 51.000 tons/year |
| **Northern Malta (Malta)** | **Start-up** | 2016 |
| | **Type of Waste** | Municipal Solid Waste, bulky waste, manure and poultry dung |
| | **Capacity** | up to 162.000 tons/year |
| **Zell am See (Austria)** | **Start-up** | 2013 |
| | **Type of Waste** | Biowaste, food waste, commercial waste, sewage sludge |
| | **Capacity** | 18.000 tons/year |
| **Gijón (Spain)** | **Start-up** | 2013 |
| | **Type of Waste** | Biowaste (FORM) and/or sewage sludge |
| | **Capacity** | 25.000 tons/year |
| **Toronto Disco Road (Canada)** | **Start-up** | 2013 |
| | **Type of Waste** | Biowaste, food waste, commercial waste, sewage sludge |
| | **Capacity** | 75.000 tons/year |
| **Maresme (Spain)** | **Start-up** | 2013 |
| | **Type of Waste** | Pre-treated Municipal Solid Waste |
| | **Capacity** | 190.000 tons/year total input;<br>35.000 tons/year in wet pre-treatment |

# References

| | | |
|---|---|---|
| **Toronto Dufferin (Canada)** | **Start-up** | 2012 |
| | **Type of Waste** | Source Separated Organics (SSO) |
| | **Comment** | Delivery and installation of one complete additional digester (5.300 m³) incl. extension of the existing plant control unit (works executed in the frame of an upgrading of the existing Toronto Dufferin Organics Processing Facility. |
| **Bredbury Parkway (UK)** | **Start-up** | 2011 |
| | **Type of Waste** | Municipal Solid Waste |
| | **Capacity** | 110.000 tons/year total input;<br>86.000 tons/year in wet pre-treatment |
| **Suldouro (Portugal)** | **Start-up** | 2011 |
| | **Type of Waste** | Municipal Solid Waste |
| | **Capacity** | 43.000 tons/year total input;<br>27.000 tons/year in wet pre-treatment |
| **Reliance Street (UK)** | **Start-up** | 2010 |
| | **Type of Waste** | Municipal Solid Waste |
| | **Capacity** | 100.000 tons/year total input;<br>63.000 tons/year in wet pre-treatment |
| **Valorlis (Portugal)** | **Start-up** | 2010 |
| | **Type of Waste** | Municipal Solid Waste |
| | **Capacity** | 50.000 tons/year total input;<br>30.000 tons/year in wet pre-treatment |
| **Castelleone (Italy)** | **Start-up** | 2010 |
| | **Type of Waste** | Biowaste, commercial waste, maize silage, pig and cow manure |
| | **Capacity** | 100.000 tons/year total input;<br>26.000 tons/year in wet pre-treatment |

# References

| | | |
|---|---|---|
| **Granollers (Spain)** | **Start-up** | 2010 |
| | **Type of Waste** | Biowaste (FORM) |
| | **Capacity** | 45.000 tons/year |
| **Mülheim (Germany)** | **Start-up** | 2003 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 22.000 tons/year |
| **Ieper (Belgium)** | **Start-up** | 2003 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 50.000 tons/year |
| **Ko-Sung (Korea)** | **Start-up** | 2003 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 3.000 tons/year |
| **Toronto (Canada)** | **Start-up** | 2002 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 25.000 tons/year |
| **Villacidro (Italy)** | **Start-up** | 2002 |
| | **Type of Waste** | Municipal Solid Waste incl. sewage sludge |
| | **Capacity** | 45.000 tons/year |
| **Mertingen (Germany)** | **Start-up** | 2001 |
| | **Type of Waste** | Commercial waste |
| | **Capacity** | 12.000 tons/year |
| **Newmarket (Canada)** | **Start-up** | 2000 |
| | **Type of Waste** | Biowaste, commercial waste and organic sludge |
| | **Capacity** | 150.000 tons/year |

| | | |
|---|---|---|
| **Wadern-Lockweiler (Germany)** | **Start-up** | 1998 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 20.000 tons/year |
| **Kirchstockach (Germany)** | **Start-up** | 1997 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 20.000 tons/year |
| **Erkheim (Germany)** | **Start-up** | 1997 |
| | **Type of Waste** | Biowaste, commercial waste |
| | **Capacity** | 11.500 tons/year |
| **Karlsruhe (Germany)** | **Start-up** | 1996 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 8.000 tons/year |
| **Dietrichsdorf (Germany)** | **Start-up** | 1995 |
| | **Type of Waste** | Biowaste, commercial waste, food waste |
| | **Capacity** | 17.000 tons/year |
| **Helsingør (Denmark)** | **Start-up** | 1991 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 20.000 tons/year |

## 3. Plants provided with BTA® Hydromechanical Pre-treatment or parts thereof

For the following plants BTA provided general engineering services, key components and construction/start-up assistance, mainly for the BTA pre-treatment:

| | | |
|---|---|---|
| **Castelleone Extension (Italy)** | **Start-up** | 2023 |
| | **Type of Waste** | Biowaste (FORM) |
| | **Capacity** | Extension from 25.000 to 60.000 tons/year (pre-treatment and sanitation) |

# References

| | | |
|---|---|---|
| **Glasgow (Scotland)** | **Start-up** | 2017 |
| | **Type of Waste** | Pre-treated Municipal Solid Waste (< 80 mm) |
| | **Capacity** | 90.000 tons/year input wet pre-treatment |
| **Burgos (Spain)** | **Start-up** | 2011 |
| | **Type of Waste** | Pre-treated Municipal Solid Waste (< 90 mm) |
| | **Capacity** | 25.000 tons/year input wet pre-treatment |
| | **Comment** | Refurbishment of existing Methanization Plant from Ecoparque Burgos including replacement of existing wet pre-treatment and supply of BTA Control System for the complete methanization line |
| **Itzig (Luxembourg)** | **Start-up** | 2011 |
| | **Type of Waste** | Biowaste, food waste |
| | **Capacity** | 15.000 tons/year |
| **Leoben (Austria)** | **Start-up** | 2009 |
| | **Type of Waste** | Biowaste, kitchen waste, commercial waste |
| | **Capacity** | 18.000 tons/year |
| **Barcelona / Ecoparc I (Spain)** | **Start-up** | 2009 |
| | **Type of Waste** | Biowaste, Municipal Solid Waste |
| | **Capacity** | 245.000 tons/year total input;<br>50.000 tons/year in wet pre-treatment |
| | **Comment** | Refurbishment of existing plant including replacement of existing pre-treatment and gas mixing system in one of the digesters |
| **Komoro (Japan)** | **Start-up** | 2005 |
| | **Type of Waste** | Food waste |
| | **Capacity** | 8.000 tons/year |

# References

| | | |
|---|---|---|
| **Herrieden (Germany)** | Start-up | 2003 |
| | Type of Waste | Biowaste, commercial waste |
| | Capacity | 13.000 tons/year in wet pre-treatment |
| **Parramatta (Australia)** | Start-up | 2003 |
| | Type of Waste | Commercial waste, organic sludges |
| | Capacity | 35.000 tons/year |
| **Nara City (Japan)** | Start-up | 2003 |
| | Type of Waste | Food waste |
| | Capacity | 1.500 tons/year |
| **Verona (Italy)** | Start-up | 2002 |
| | Type of Waste | Municipal Solid Waste |
| | Capacity | 150.000 tons/year total input;<br>70.000 tons/year in wet pre-treatment |
| **Pulawy (Poland)** | Start-up | 2001 |
| | Type of Waste | Municipal Solid Waste |
| | Capacity | 22.000 tons/year in wet pre-treatment |
| **Kushima City (Japan)** | Start-up | 2001 |
| | Type of Waste | Commercial waste |
| | Capacity | about 1.000 tons/year |
| **Münster (Germany)** | Start-up | 1997 |
| | Type of Waste | Biowaste |
| | Capacity | 20.000 tons/year |
| **Wels (Austria)** | Start-up | 1997 |
| | Type of Waste | Commercial waste, biowaste |
| | Capacity | 15.000 tons/year |

| | | |
|---|---|---|
| **Schwabach (Germany)** | **Start-up** | 1996 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 12.000 tons/year |
| **Baden-Baden (Germany)** | **Start-up** | 1993 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 5.000 tons/year |
| **Kaufbeuren (Germany)** | **Start-up** | 1992 |
| | **Type of Waste** | Biowaste |
| | **Capacity** | 2.500 tons/year |

## 4. Agricultural Biogas Plants

The following agricultural plants have been designed according to BTA technology. BTA provided general engineering services and key components. The plants marked with *) were built by BTA on a turn-key basis:

| | | |
|---|---|---|
| **Montanera (Italy)** | **Start-up** | 2009 |
| | **Type of Waste** | Slurry, maize silage, cow dung |
| | **Capacity** | 29.000 tons/year |
| **Chiusa Pesio (Italy)** | **Start-up** | 2008 |
| | **Type of Waste** | Cow manure and energy crops |
| | **Capacity** | 625 kW |
| **Stockerau* (Austria)** | **Start-up** | 2007 |
| | **Type of Waste** | Maize silage |
| | **Capacity** | 500 kW |
| **Raab* (Austria)** | **Start-up** | 2007 |
| | **Type of Waste** | Maize silage |
| | **Capacity** | 500 kW |

# References

| | | |
|---|---|---|
| **Seckach* (Germany)** | **Start-up** | 2006 |
| | **Type of Waste** | Maize silage |
| | **Capacity** | 500 kW |
| **Parndorf* (Austria)** | **Start-up** | 2006 |
| | **Type of Waste** | Maize silage |
| | **Capacity** | 500 kW |
| **Echsenbach * (Austria)** | **Start-up** | 2005 |
| | **Type of Waste** | Maize silage |
| | **Capacity** | 500 kW |
| **Karlshof / Stadt München* (Germany)** | **Start-up** | 2000 |
| | **Type of Waste** | Manure and maize silage |
| | **Capacity** | 130 kW |

## 5. Pilot Plants

| | | |
|---|---|---|
| **Tochigi (Japan)** | **Start-up** | 1997 - 1998 |
| | **Delivery** | Pilot plant |
| **Garching (Germany)** | **Start-up** | 1986 - 1995 |
| | **Delivery** | Construction and operation of pilot plant Garching. Continuous tests and research project to optimize the BTA ® Process and prove its suitability for the organic fraction of different waste types from municipal, commercial and agricultural sources. |