

INSTALLATION LIST

Installations on Wastewater Treatment Plants (WWTP)

Location	Target	Result
Germany		
Ahrensburg WWTP (50,000 PE or 5.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2009 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 15% • Increase in biogas production of 15%
Bad Bramstedt WWTP 85,000 PE or 8.5 MGD) <ul style="list-style-type: none"> • Full-scale test in cooperation with the Technical University of Hamburg-Harburg in 1997 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25% ☞ Reduction in digestion time of 80%
Bad Kreuznach WWTP 110,000 PE or 11.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2017 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20% • Increase in sludge dewatering of 5% relatively
Bad Lippspringe WWTP 30,000 PE or 3.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2017 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 30% • Increase in biogas production of 30%
Bamberg WWTP (230,000 PE or 23.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2004 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 30% • Increase in biogas production of 30% ☞ Construction of a new anaerobic digester was avoided, therefore noticeably reduction of the digestion time ☞ First energy self-sufficient WWTP in Europe
Bargteheide WWTP (34,500 PE or 3.45 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2012 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 15% • Increase in biogas production of 15% • Increase in sludge dewatering of 5% relatively
Brunsbüttel WWTP (13,000 PE or 1.3 MGD) <ul style="list-style-type: none"> • Full-scale test in cooperation with the Technical University of Hamburg-Harburg in 2002 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> • Reduction in sludge volume index (SVI) from 140 to 55 mL/g • Elimination of filamentous organisms and foam in the sludge digester

Bünde WWTP (54,000 PE or 5.4 MGD) <u>Nitrogen removal:</u> <ul style="list-style-type: none"> Full-scale installation since 2006 <u>Anaerobic:</u> <ul style="list-style-type: none"> Full-scale installation since 2007 	Nitrogen removal and Anaerobic sludge stabilization	<u>Nitrogen removal:</u> <ul style="list-style-type: none"> Significant improvement in denitrification by providing an internal carbon source Reduction of waste activated sludge production of 25% <u>Anaerobic:</u> <ul style="list-style-type: none"> Increase in VS-destruction of 15% Increase in biogas production of 15%
Delbrück WWTP 54,000 PE or 5.4 MGD) <ul style="list-style-type: none"> Full-scale test in 2018 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Start-up in 2018, results will be added within a short time
Dinslaken WWTP (65,000 PE or 6.5 MGD) <ul style="list-style-type: none"> Full-scale test in 2015 	Nitrogen removal	<ul style="list-style-type: none"> Significant improvement in denitrification by providing an internal carbon source
Eslohe WWTP (6,000 PE or 0.6 MGD) <ul style="list-style-type: none"> Full-scale test in 2018 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> Elimination of the O&M problems associated with bulking and foaming
Flensburg WWTP (225,000 PE or 22.5 MGD) <ul style="list-style-type: none"> Full-scale test in 2015 	Nitrogen removal	<ul style="list-style-type: none"> Significant improvement in denitrification by providing an internal carbon source
Freising WWTP (130,000 PE or 13.0 MGD) <ul style="list-style-type: none"> Full-scale test in cooperation with the University of Armed Forces Munich in 2003 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 15% Increase in biogas production of 15% Increase in sludge dewatering of 10% relatively
Häldenmühle WWTP (80,000 PE or 8.0 MGD) <ul style="list-style-type: none"> Full-scale test in 2014 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 15% Increase in biogas production of 15%
Hanau WWTP (180,000 PE or 18.0 MGD) <ul style="list-style-type: none"> Full-scale test in 2018 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Start-up in 2018, results will be added within a short time
Heide WWTP (40,000 PE or 4.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2016 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
Jockgrim WWTP (21,000 PE or 2.1 MGD) <ul style="list-style-type: none"> Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20% Increase in sludge dewatering of 7% relatively
Kevelaer WWTP (49,000 PE or 4.9 MGD) <ul style="list-style-type: none"> Full-scale test in 2013 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 12% Increase in biogas production of 12%

<p>Kleinsteinbach WWTP (40,000 PE or 4.0 MGD)</p> <ul style="list-style-type: none"> • Full-scale installation since 2010 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25%
<p>Leinetal WWTP (55,000 PE or 5.5 MGD)</p> <p><u>Aerobic:</u></p> <ul style="list-style-type: none"> • Full-scale installation since 2003 <p><u>Anaerobic:</u></p> <ul style="list-style-type: none"> • Full-scale installation since 2015 	<p>Aerobic</p> <p>and</p> <p>Anaerobic sludge stabilization</p> <p>as well as</p> <p>Combating of bulking and foaming sludge</p>	<p><u>Aerobic:</u></p> <ul style="list-style-type: none"> • Reduction of waste activated sludge production up to 20% • Elimination of foam and floating sludge in the aeration tank <p><u>Anaerobic:</u></p> <ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25% • Increase in sludge dewatering of 5% relatively
<p>Magdeburg-Gerwisch WWTP (430,000 PE or 43.0 MGD)</p> <ul style="list-style-type: none"> • Full-scale test in 2017 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 23% • Increase in biogas production of 23%
<p>Marne WWTP (48,000 PE or 4.8 MGD)</p> <ul style="list-style-type: none"> • Full-scale test in 2014 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 30% • Increase in biogas production of 30%
<p>Meldorf WWTP (72,000 PE or 7.2 MGD)</p> <ul style="list-style-type: none"> • Full-scale installation since 2005 	<p>Anaerobic sludge stabilization</p> <p>and</p> <p>Combating of bulking and foaming sludge</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 26% • Increase in biogas production of 26% • Elimination of filamentous organisms and foam in the sludge digester
<p>Neumünster WWTP (90,000 PE or 9.0 MGD)</p> <ul style="list-style-type: none"> • Full-scale test in 2015 	<p>Nitrogen removal</p>	<ul style="list-style-type: none"> • Improvement in denitrification by providing an internal carbon source
<p>Nordhausen WWTP (100,000 PE or 10.0 MGD)</p> <ul style="list-style-type: none"> • Full-scale test in 2018 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Start-up in 2018, results will be added within a short time
<p>Offenburg WWTP (100,000 PE or 10.0 MGD)</p> <ul style="list-style-type: none"> • Full-scale test in 2017 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 10% • Increase in biogas production of 10%
<p>Ratheim WWTP (45,000 PE or 4.5 MGD)</p> <ul style="list-style-type: none"> • Full-scale installation since 2014 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25%
<p>Ratzeburg WWTP (34,000 PE or 3.4 MGD)</p> <ul style="list-style-type: none"> • Full-scale installation since 2014 	<p>Anaerobic sludge stabilization</p>	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%

Reinfeld WWTP (13,000 PE or 1.3 MGD) <ul style="list-style-type: none"> • Full-scale test in cooperation with the Technical University of Hamburg-Harburg in 2002 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> • Reduction in sludge volume index (SVI) from 110 to 60 mL/g • Elimination of filamentous organisms and foam in the sludge digester
Rendsburg WWTP (50,000 PE or 5.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2010 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> • Reduction in sludge volume index (SVI) from 120 to 70 mL/g • Elimination of filamentous organisms and foam in the sludge digester
Rheda-Wiedenbrück WWTP (100,000 PE or 10.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2017 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Rostock WWTP (300,000 PE or 30.0 MGD) <ul style="list-style-type: none"> • Full-scale test in cooperation with the University of Rostock in 2003 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> • Significant reduction in sludge volume index (SVI) • Significant reduction in foaming potential of digested sludge
Rudolstadt WWTP (80,000 PE or 8.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2018 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> • Elimination of filamentous organisms and foam in the sludge digester
Schleswig WWTP (60,000 PE or 6.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2011 	Anaerobic sludge stabilization and Combating of bulking and foaming sludge	<p><u>Anaerobic:</u></p> <ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25% <p><u>Combating of bulking and foaming sludge:</u></p> <ul style="list-style-type: none"> • Significant reduction in sludge volume index (SVI) • Elimination of floating sludge in the aeration tank
Trier WWTP (170,000 PE or 17.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25%
Zeven WWTP (100,000 PE or 10.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2016 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 12% • Increase in biogas production of 12% • Increase in methane content of 1% and therefore enhanced power production
Australia		
Maroochydore WWTP (100,000 PE or 10.0 MGD) <ul style="list-style-type: none"> • Full-scale test in 2013 	Nitrogen removal	<ul style="list-style-type: none"> • Significant improvement in denitrification by providing an internal carbon source

Brazil		
Arrudas WWTP, Belo Horizonte (2,000,000 PE or 200.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2010 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
China		
Datansha WWTP, Guangzhou (550,000 PE or 55.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2006 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 15%
Wuijiang I WWTP (50,000 PE or 5.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2007 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 25%
Wuijiang II WWTP (125,000 PE or 12.5 MGD) <ul style="list-style-type: none"> Full-scale installation since 2008 	Aerobic sludge stabilization and Nitrogen removal	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 20% Significant improvement in denitrification by providing an internal carbon source
Wuxi WWTP (500,000 PE or 50.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2007 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 15%
Denmark		
Frederikshavn WWTP (130,000 PE or 13.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2006 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS destruction of 20% Increase in biogas production of 20%
Horsholm WWTP (35,000 PE or 3.5 MGD) <ul style="list-style-type: none"> Full-scale installation since 2007 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 15%
Marselisborg-Arhus WWTP (220,000 PE or 22.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2006 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 35% Increase in biogas production of 35% Decrease in polymer consumption for dewatering of 20%

Skagen WWTP (110,000 PE or 11.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2007 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 20%
Sonderborg WWTP (80,000 PE or 8.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2012 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
France		
Cherbourg WWTP (230,000 PE or 23.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 24% Increase in biogas production of 24%
St. Nazaire WWTP (200,000 PE or 20.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 19% Increase in biogas production of 19%
Great Britain		
Kirkby in Ashfield WWTP (27,000 PE or 2.7 MGD) <ul style="list-style-type: none"> Full-scale installation since 2014 	Combating of bulking and foaming sludge	<ul style="list-style-type: none"> Decrease in the SVI of 30% Complete elimination of the O&M problems associated with bulking and foaming Decrease in the final effluent turbidity of 25%
Southport WWTP (90,000 PE or 9.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2016 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
Greece		
Psytalia WWTP, Athens (5,000,000 PE or 500.0 MGD) <ul style="list-style-type: none"> Full-scale test, 2007 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
Hungary		
Pécs WWTP (200,000 PE or 20.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2006 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 25%
Szombathely WWTP (80,000 PE or 8.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2010 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 30% Increase in biogas production of 30%

Zalaegerszeg WWTP (60 000 PE or 6.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2008 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> increase in VS-destruction of 20% increase in biogas production of 20%
<i>Ireland</i>		
Shanganagh WWTP (186,000 PE or 18.6 MGD) <ul style="list-style-type: none"> Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 24% Increase in biogas production of 24%
<i>Israel</i>		
Netanya WWTP (260,000 PE or 26.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2018 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Start-up in 2018, results will be added within a short time
<i>Italy</i>		
Genova-Recco WWTP (50,000 PE or 5.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2016 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
<i>Japan</i>		
Hashimoto/Yoshiwara WWTP (30,000 PE or 3.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2003 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 61%
Matsue City WWTP (45,000 PE or 4.5 MGD) <ul style="list-style-type: none"> Full-scale installation since 2004 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 61%
Tanba City/Nogami WWTP (25,000 PE or 2.5 MGD) <ul style="list-style-type: none"> Full-scale installation since 2004 	Aerobic sludge stabilization	<ul style="list-style-type: none"> Reduction of waste activated sludge production of 74%
<i>Korea</i>		
Gang-Byeun WWTP, Busan (1,500,000 PE or 150.0 MGD) <ul style="list-style-type: none"> Full-scale test in 2006 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 35% Increase in biogas production of 35%
<i>Netherlands</i>		
Nieuwgraaf WWTP (440,000 PE or 44.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2006 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 10% Increase in biogas production of 10%

Willem-Annapolder WWTP (55,000 PE or 5.5 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2006 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 15% • Increase in biogas production of 15%
Zeist WWTP (75,000 PE or 7.5 MGD) <ul style="list-style-type: none"> • Full-scale installation since 200 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Poland		
Bytom WWTP (175,000 PE or 20.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Dąbrowa-Górnica WWTP (200,000 PE or 20.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2008 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 25% • Increase in biogas production of 25%
Glogow WWTP (150,000 PE or 35.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2010 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Kielce WWTP (350,000 PE or 35.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 22% • Increase in biogas production of 22%
Skarżysko WWTP (65,000 PE or 6.5 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2014 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Słupsk WWTP (250,000 PE or 25.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2008 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20%
Romania		
Danutoni WWTP (130,000 PE or 13.0 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 15% • Increase in biogas production of 15%
Targu Secuiesc WWTP (25,000 PE or 2.5 MGD) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> • Increase in VS-destruction of 20% • Increase in biogas production of 20% • Increase in sludge dewatering of 10% absolutely

<i>Spain</i>		
La Gavia WWTP (268,000 PE or 26.8 MGD) <ul style="list-style-type: none"> Full-scale installation since 2008 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% increase in biogas production of 20% Increase in sludge dewatering of 17% relatively
Lorquí WWTP (50,000 PE or 5.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2007 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Demonstration plant for research and development (R&D)
Montornès WWTP (100,000 PE or 10.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2010 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in sludge reduction of 20% Increase in sludge dewatering of 12% relatively
San Jerónimo WWTP (275,000 PE or 27.5 MGD) <ul style="list-style-type: none"> Full-scale test in 2008 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
Tablada WWTP (200,000 PE or 20.0 MGD) <ul style="list-style-type: none"> Full-scale test in 2009 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 18% Increase in biogas production of 18%
Tomelloso WWTP (200,000 PE or 20.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2012 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 20% Increase in biogas production of 20%
Toro WWTP (25,000 PE or 2.5 MGD) <ul style="list-style-type: none"> Full-scale installation since 2015 	Nitrogen removal	<ul style="list-style-type: none"> Significant improvement in denitrification by providing an internal carbon source
<i>Taiwan</i>		
Dan-Shui WWTP (5,000,000 PE or 500.0 MGD) <ul style="list-style-type: none"> Full-scale test in 2011 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 35% Increase in biogas production of 35%
<i>UAE</i>		
Al Aweer Extension WWTP, Dubai (1,100,000 PE or 110.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2015 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 30% Increase in biogas production of 30%
<i>USA</i>		
Marengo (IL) WWTP (10,000 PE or 1.0 MGD) <ul style="list-style-type: none"> Full-scale installation since 2014 	Anaerobic sludge stabilization	<ul style="list-style-type: none"> Increase in VS-destruction of 25% Increase in biogas production of 25%

Installations on Food Waste Biogas Plants (FWBP) and Farmland Biogas Plants (FBP)

Location	Application	Result
Germany		
Beerlage FBP (1,500 kW) <ul style="list-style-type: none"> • Full-scale installation since 2016 	Biogas production	<ul style="list-style-type: none"> • Increase in available organics by 11% • Reduction of substrate by 6% in the year of start-up along with a higher and more stable power production • Replacement of expensive substrates • Reduction of the viscosity, improved pumpability
Bispingen FBP (1,100 kW) <ul style="list-style-type: none"> • Full-scale installation since 2008 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 14% • Reduction in substrate costs of 5%
Bordesholmerland FBP (1,600 kW) <ul style="list-style-type: none"> • Full-scale installation since 2011 	Biogas production	<ul style="list-style-type: none"> • Saving substrate costs of 9% at constant biogas generation • Increase in methane content of 4% and therefore increase power generation ➔ Installation of a second HPUS-system in July 2012
Ense FBP (2,500 kW) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 10% at constant feeding • Increase in methane content of 2%
Gönnebek FBP (1,600 kW) <ul style="list-style-type: none"> • Full-scale test in 2012 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 8% at constant feeding
Hellweg FBP (500 kW) <ul style="list-style-type: none"> • Full-scale installation since 2016 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 14% at constant feeding
Hermannshof FBP (1,300 kW) <ul style="list-style-type: none"> • Full-scale test in 2012 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 8% • Reduction in substrate costs of 5%
HKS Wittenburg FBP (716 kW) <ul style="list-style-type: none"> • Full-scale installation since 2012 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 14% at constant feeding

Koop FBP (590 kW) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Biogas production	<ul style="list-style-type: none"> • Reduction of substrate costs of 11% at constant biogas generation • Increase in methane content of 1% and therefore increased power generation
Lindow FBP (500 kW) <ul style="list-style-type: none"> • Full-scale installation since 2008 	Biogas production	<ul style="list-style-type: none"> • Saving substrate costs of 13% at constant biogas and power generation
Löhndorf FBP (1,000 kW) <ul style="list-style-type: none"> • Full-scale installation since 2012 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 10% at constant feeding
Mariks FWBP (1,100 kW) <ul style="list-style-type: none"> • Full-scale test in 2012 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 13% at constant feeding
Wesel FBP (500 kW) <ul style="list-style-type: none"> • Full-scale test in 2007 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 19% at constant feeding
Wulkow FBP (400 kW) <ul style="list-style-type: none"> • Full-scale installation since 2015 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 10% at constant feeding
Czech Republic		
Chotěvice FBP (500 kW) <ul style="list-style-type: none"> • Full-scale installation since 2018 	Biogas production	<ul style="list-style-type: none"> • Start-up in 2018, results will be added within a short time
India		
Karan Distillery FWBP <ul style="list-style-type: none"> • Full-scale installation since 2014 	Biogas production	<ul style="list-style-type: none"> • Increase in biogas and power generation of 35% at constant feeding

Installations on distilleries (DP)

Location	Application	Result
<i>India</i>		
Pearl Distillery, Ongole <ul style="list-style-type: none"> Full-scale test in 2012 	Alcohol fermentation	<ul style="list-style-type: none"> Increase in alcohol yield of 20% at constant feeding

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