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Krieg & Fischer Ingenieure GmbH

Biogas Plant	Location	Year	Input	Digester	Co-generator	Features	Responsibility
Biogas Plant MANNHEIM	Germany	2012	Biowaste	Concrete tanks 3 x 7,500 m³ (existing on site)	Existing on site	Pre-treatment and pasteurisation of biowaste for digestion in existing digesters of a WWTP.	Basic evaluation, pre-planning
Biogas Plant WALLRAPP (Expansion)	Germany	2011	Pig manure, expired foodstuff (food, bread)	Lipp-Digester 1,100 m³	Dual fuel co-generator 100 kWel Gas engine 185 kWel	Expansion of a biogas plant for digesting food waste by 1 secondary digester	Basic evaluation, pre-, draft-, approval and execution planning, additional consulting services
Biogas Plant EARTH RENU	Canada	2010	Kitchen waste, fats, glycerine	Glas coated steel tanks 2 x 5,000 m³	Biogas upgrading system	Industrial biogas plant: 2 digester, 1 secondary digester, pasteurisation	Basic evaluation, pre-planning
Biogas Plant PETERBOROUGH	Great Britain	2009	Kitchen waste, canteen waste, expired food products	Glas coated steel tank 2,800 m³	Gas engine 800 kWel	Biogas plant digesting organic waste: biowaste treatment, 1 hydrolysis tank, 1 digester, pasteurisation, biofilter, mesophilic operation	Basic evaluation, pre-planning
Biogas Plant MCDONNELL	Ireland	2009	Cattle manure, poultry dung, animal by-products (ABP)	Steel tank 1,250 m³	Gas engine 250 kWel	Biogas plant digesting organic waste: 1 digester, 1 secondary digester, mesophilic operation, separation, pasteurisation	Basic evaluation, pre-, draft- and execution planning, tendering, participating in contract awarding process, site management/project controlling, start-up, schooling of operators
Biogas Plant BRETAGNE	France	2008	Pig manure, sewage sludge, fats, food residuals	Concrete tanks 2 x 1,060 m³	Gas engine 400 kWel	Industrial biogas plant: 2 digester, 1 secondary digester with gas holder, digestate treatment with separation, mesophilic operation, heat utilisation, partial stream pasteurisation	Basic evaluation, pre-, draft- and approval planning

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Biogas Plant	Location	Year	Input	Digester	Co-generator	Features	Responsibility
Biogas Plant DUBLIN	Ireland	2007	Kitchen- and garden waste, food waste, sewage water	Glas coated steel tank 4,600 m³	Gas engine 2 x 500 kWel	Biogas plant digesting organic waste: biowaste treatment system, 1 hydrolysis tank, 1 digester, 1 secondary digester, pasteurisation	Basic evaluation, pre-planning
Biogas Plant DONEGAL	Ireland	2007	Cattle manure, kitchen waste, bakery waste, potatoe waste	Concrete tank 1,400 m³	Gas engine 250 kWel	Biogas plant digesting organic waste: 1 digester, 1 secondary digester, storae tank, partial stream pasteurisation	Basic evaluation, pre- and draft planning
Biogas Plant NOYON	France	2007	Sewage sludge, fats, food residuals, process water	Glas coated steel tank 3,500 m³	Gas engine 716 kWel	Industrial biogas plant: 1 digester, 1 secondary digester with gas holder, digestate treatment with separation and drying of solid phase, mesophilic operation, heat utilisation, partial stream pasteurisation	Basic evaluation, pre- and draft planning
Biogas Plant IM BRAHM	Germany	2004/5	Pig manure, kitchen waste, horse manure	Concrete tank 1,210 m³	Dual fuel co-generator 2 x 190 kWel	Biogas plant digesting organic waste: 1 digester, 1 secondary digester, mesophilic operation, heat utilisation (pasteurisation kitchen waste, heating of buildings)	Basic evaluation, pre-, draft-, approval and execution planning, tendering, participating in contract awarding process, site management/project controlling, start-up
Biogas Plant KOGEL	Germany	2004	Kitchen waste, canteen waste, packaged food	Concrete tank 2 x 2,800 m³	Gas engine 1 MWel	Biogas plant digesting organic waste: 2 digester, 1 secondary digester, 2 storage tanks	Basic evaluation, pre-planning

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Biogas Plant	Location	Year	Input	Digester	Co-generator	Features	Responsibility
Biogas Plant GROSS MUEHLINGEN (Expansion)	Germany	2003	Manure, organic waste	Steel tanks, 2 x 750 m³	Gas engine, 730 kWel	Expansion of an existing biogas plant by pasteurisation, storage tanks, hydrolysis tank, process control system for the whole plant	Basic evaluation, pre-, draft- and approval planning, additional consulting services
Biogas Plant SCHORNBUSCHER BIOGAS GmbH	Germany	2003	Corn, organic industrial waste	Concrete tank with stainless steel roof, 1,500 m³	Gas engine, 520 kWel	Biogas plant digesting organic waste: 1 digester, 1 secondary digester, pasteurisation, thermophilic operation, process water recycling	Basic evaluation, pre-, draft-, approval and execution planning, tendering, participating in contract awarding process, site management/project controlling, start-up, operation
Biogas Plant WERLTE	Germany	2002	Pig and cattle manure, fats	Steel tanks, 2 x 3,200 m³	Gas engines, 2 x 1,3 MWel	Biogas plant for digesting organic waste: reception hall, pasteurisation, 2 digester, 2 secondary digester, 50.000 m³ storage capacity	Basic evaluation, pre-, draft- and approval planning completely; execution planning, tendering, participating in contract awarding process for gas system, piping and electrical/process control system, site management/project controlling, start-up (for Hese Umwelt GmbH)
Biogas Plant JOHANESBURG (Expansion)	Germany	2002	Pig and cattle manure, fats	Steel tank, 1,500 m³ (Expansion)	Gas engine, 630 kWel (Expansion)	Expansion of an existing 10 years old biogas plant by a new pasteurisation, digester, CHP and process controll system for the whole plant	Basic evaluation, pre-, draft- and approval planning completely; execution planning, tendering, participating in contract awarding process for gas system, piping and electrical/process control system, site management/project controlling, start-up (for Hese Umwelt GmbH)

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Biogas Plant	Location	Year	Input	Digester	Co-generator	Features	Responsibility
Biogas Plant SCHMITZ	Germany	2002	Manure, agricultural organic waste	Concrete tank, 630 m³	Gas engine, 100 kWel + 70 kWel	Biogas plant for digesting organic waste: 1 digester, 1 secondary digester, partial stream pasteurisation	Basic evaluation, pre-, draft-, approval and execution planning, tendering, participating in contract awarding process, site management/project controlling, start-up
Biogas Plant DICKHOVEN	Germany	2001	Cattle manure, other organic waste	Concrete tank, 900 m³	Dual fuel co-generators, 2 x 65 kWel	Biogas plant digesting organic waste: 1 digester, gas holder above 1,500 m³ manure storage tank, pasteurisation	Basic evaluation, pre-, draft-, approval and execution planning, tendering, participating in contract awarding process, conception for measurement system
Biogas Plant BARZ	Germany	1996-1998	Manure, kitchen waste	Concrete tanks, 20 m³ and 230 m³	Dual fuel co-generator, 45 kWel	Biogas plant digesting organic waste: 2 digester, pasteurisation	Basic evaluation, pre-, draft-, approval and execution planning, site management/project controlling, start-up (for TBW GmbH)
Biogas Plant RoRo-ENERGIE	Germany	1996-1998	Biowaste, separately collected in households, residues from breweries	Concrete tank, 1,000 m³	Dual fuel co-generators, 2 x 95 kWel	Biogas plant digesting organic waste: pre-treatment for all input substrates, pasteurisation, 1 central located digester, 1 storage tank, other digester decentralized	Basic evaluation, pre-, draft-, approval and execution planning (for TBW GmbH)
Biogas Plant BEKKAI	Japan	2000-2001	Manure, other organic substrates	Steel tank, 1,500 m³	Gas engines, 3 x 67 kWel	Biogas plant digesting organic waste: 1 digester, gas holder above 450 m³ manure storage tank and 1 extra gasholder, partial stream pasteurisation	Basic evaluation, pre-, draft and execution planning for digester, gas holder/storage tank, gas system, piping system (for Hese Umwelt GmbH)

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Biogas Plant	Location	Year	Input	Digester	Co-generator	Features	Responsibility
Biogas Plant BLUEMEL (Kompostbetrieb)	Germany	1994/ 1995	Biowaste, separately collected in households	Concrete tanks, 2 x 800 m³	Dual fuel go-generators, 2 x 160 kWel	Biogas plant digesting organic waste: 2 digester, partial stream pasteurisation	Basic evaluation, pre-, draft-, approval and execution planning, site management/project controlling, start-up (for TBW GmbH)
Biogas Plant GROEDEN	Germany	1995/ 1996	Manure, other organic waste	Steel tanks, 2 x 3,500 m³		Industrial biogas plant: 2 digester, external gas storage tank, partial stream pasteurisation	Advisor for final plannings (for Haase Energietechnik GmbH)