ICS
ENERGIETECHNIK

POWER AND HEAT
from waste timber and biomass

Products and services

Contents

ICS ENERGIETECHNIK

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PERFORMANCE OVERVIEW

Planning | delivery | construction | commissioning

of heating & power plants fuelled by waste timber and biomass

Services

General concepts and operation solutions
Technical plant layout
Building layout
Construction supervision and installation
Commissioning and measurements
Operational organization

Products

Incineration plants for waste timber and biomass
Warm water boilers
Hot water boilers
Steam boilers
Thermo-oil boilers
Steam superheaters
Condensation and water preheaters
Incineration air preheaters
Multi-cyclones
Ash-removal systems
Fuel conveyor systems
Air-admission, re-circulation and waste-gas extraction systems
Fire-safety facilities
Control systems
Other heating and power plant equipment

COMPANY HISTORY AND PROFILE

1989 Private company established as an office for planning and optimizing long-distance heating networks and heating plants fuelled by biomass. Special software developed for the industry.

1993 Company transformed into a limited liability company. Activities continued to focus on the planning of biomass long-distance heating plants for municipalities and agricultural cooperatives.

1994 Company participated in the "Fernwärme Murau" project. Management assumed by Christoph Schüssler with the aim of actively operating and getting acquainted with a plant. The valuable experiences thus gained were then transferred to the planning department. The "Fernwärme Murau" project continued to develop successfully and has been expanded into a combined heat and power plant, which in 2005 delivered an output of 680 kW_{el}.

1997 Construction and delivery of complete turn-key heating plants now also included in the company's services. First plants were built under most difficult conditions in Poland – the company's first project in a foreign country. The company's customers operated on the furniture industry and demanded 100 % plant availability. At this time, work in the planning of plant components, particularly boiler plants, for industrial applications commenced, which were then produced on contract at steel engineering firms. These were the company's first steps on the plant-construction sector.

2001 Subsidiary established in Poland. The new company was originally responsible for installation but soon developed into a successful steel and boiler construction company. This has meant that the company's plants possess even greater quality and delivery capacities have become even more flexible.

2002 Construction of a combined heat and power plant fuelled by waste timber. Power generated with steam boilers fuelled by chipboards and crushed waste timber. Two steam boiler plants responsible for generating 2,600 kW_{el} of electricity.

2005 Installation of the first two combined heat and power plants in Austria: in Murau with a capacity of 680 kW_{el} and in Aschbach at the company of Fuchsluger with a capacity of 2000 kW_{el}. Both plants went "on stream" and already produced electricity at this time. The plant in Aschbach was designed to handle difficult fuels. Immediately after, the company was commissioned with the installation of a CHP plant in Stainach in Styria.

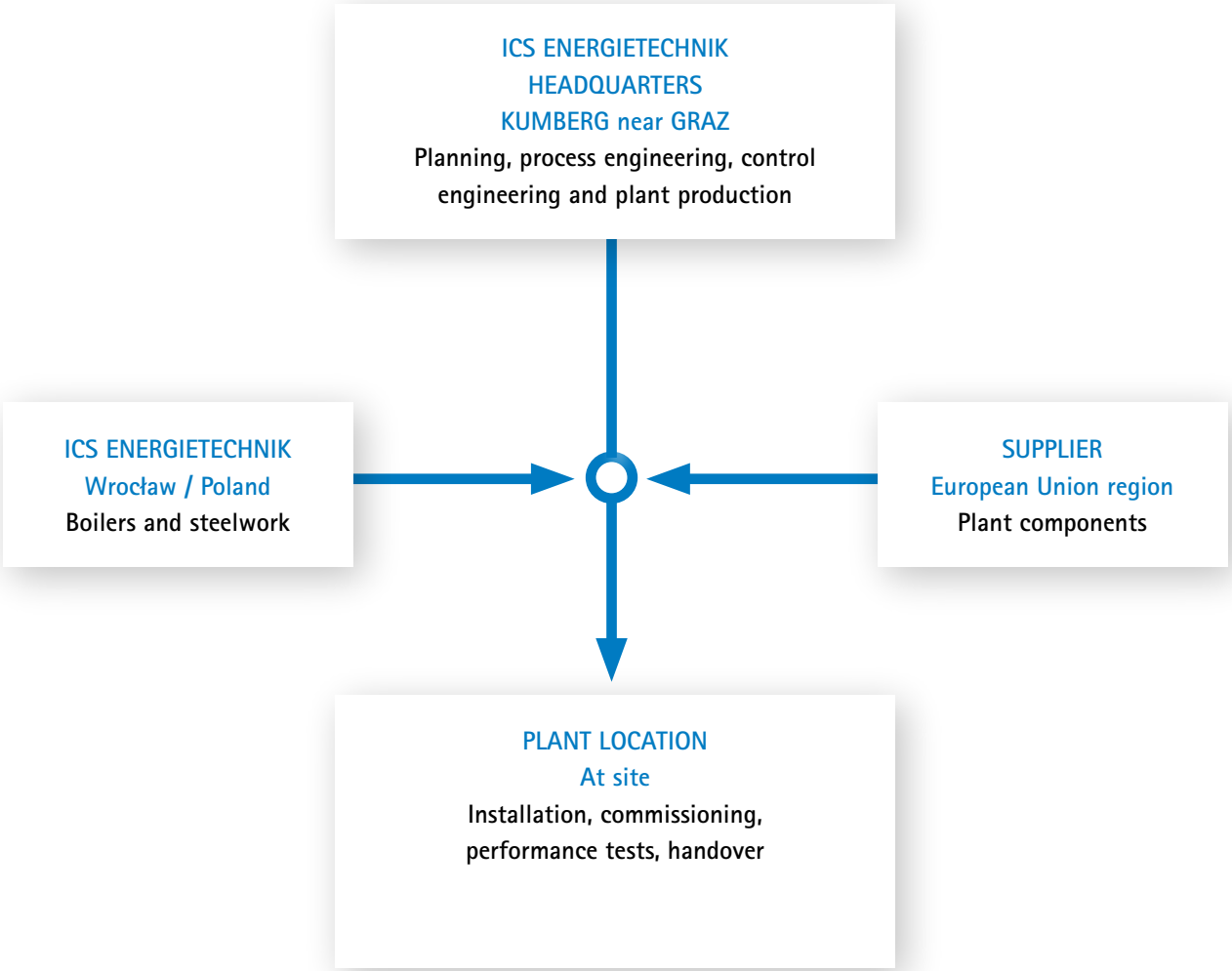
2006 Development of a new incineration technology: a furnace with variable incineration chamber that is also able to burn wood at very high partial load ranges. This method of incineration reduces fuel consumption and cuts emissions to a minimum.

Today Today, the professional and highly skilled team at ICS ENERGIETECHNIK in Kumberg near Graz in Austria offers a broad range of services on the heating and power plant construction sector.

COMPANY STRUCTURE

ICS ENERGIETECHNIK, which is based in Kumberg near Graz (Austria), employs staff in planning, process engineering, control engineering and plant construction. The installation of plants is planned, prepared and realized here.

Boiler and steelwork production is handled by our subsidiary ICS ENERGIETECHNIK in Wrocław (Poland).



SERVICES

General concepts and process solutions

The company prepares overall concepts and carries out preliminary planning for heating, steam- and power-generation plants fuelled by waste timber and biomass. The focus here is on both efficiency and functionality.

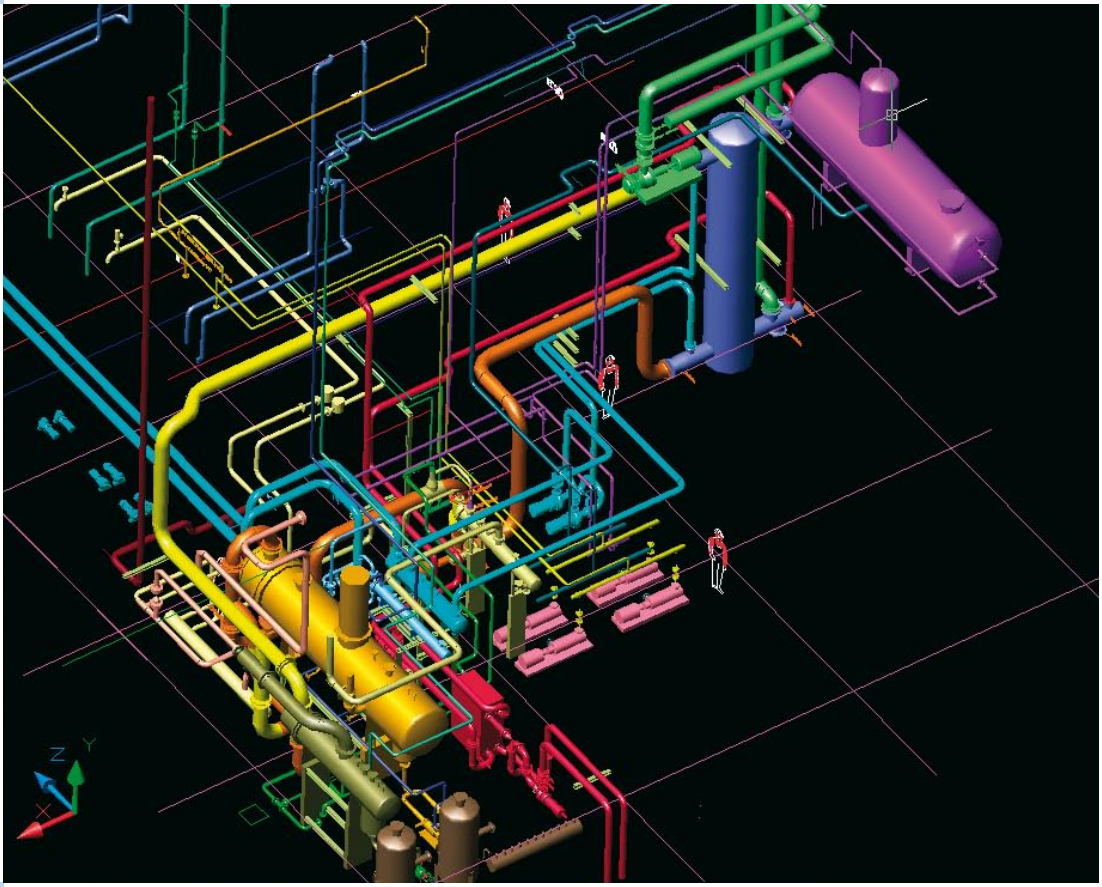
The plant concepts, which are drawn up in conjunction with customers, are based on economical process solutions. The results are presented in clear reports and process charts, which constitute an essential basis for reaching decisions for plant realization.

Technical plant planning

Each plant is only as good as its planning. The company is able to plan power-generation plants, fuel conveyor systems, piping systems, waste-gas systems, generators, cooling systems, control systems as well as the technical components required for heating and power plants. Planning always conforms to standards, it is always documented and constitutes the sound basis for plant realization.

Plant layout

Good technology must be functional and well packaged. That's why technical planning at ICS ENERGIETECHNIK is complemented with building concepts. Its engineers are able to design heating and power plant structures to suit the chosen technology and ensure that all production



ICS' modern project engineering techniques

processes run absolutely smoothly. CAD drawings produced by ICS ENERGIETECHNIK may be also forwarded to architects and builders for further work thus resulting in valuable reductions in the required installation time.

Construction supervision and installation

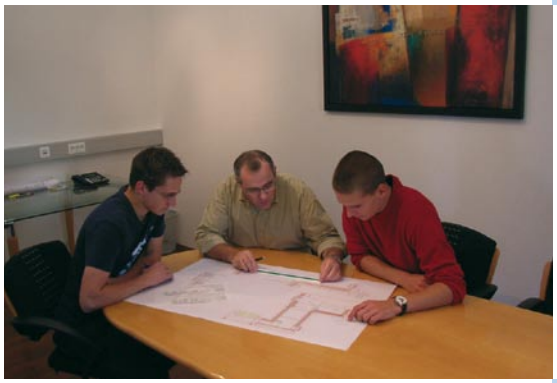
ICS ENERGIETECHNIK's staff is responsible for appropriate building site coordination, it ensures that quality requirements are fulfilled and it co-ordinates assembly work with the other trades operating at site. Its plants are always properly installed with an awareness for quality.

Commissioning and measurements

Careful commissioning and the "running in" of the plant may significantly affect service life and are very important to continued smooth operation. Commissioning is carried out according to a dedicated and sophisticated plan and concluded with a series of measurements to determine efficiency and performances.

Operational organization

At customers' request, ICS ENERGIETECHNIK is also able to provide support in the organization of all processes required at heating and power plants. Here, all aspects from fuel delivery to power output may be organized and optimized for best possible operating results.



Our competent engineers

PRODUCT RANGE

1 MW furnace for incinerating waste timber

Incineration plants from 1 to 10 MW

Our feeder grate firing plants are manufactured for industrial applications and are consequently robust and achieve very good efficiencies.
Generously sized grate areas and properly dimensioned furnaces characterize these long-lived plants. The areas at risk from the incineration process, such as the grating frames, door frames and fuel delivery areas are cooled with water. The grate carriages and ash-removal systems are hydraulically powered. The furnaces are lined with fireproof clay and corresponding insulation materials. The preheated air under the heavy-duty steel plating panelling is admitted to the incineration process via the primary and secondary air fans.

VarioBrenn® may be used in extreme partial load ranges where very good efficiencies may be achieved.

EcoBrenn® is employed mainly in industrial applications with damp fuels. This type of incineration is excellently suited for use in conjunction with hot-water or steam boilers.

Warm water boilers up to 110 °C, 10 MW and 10 bar overpressure

These boilers are built as standard to operate at pressure levels of six and ten bars. They are available in horizontal or vertical designs. The vertical design provides protection against dirt, particularly when used in partial load ranges, and thus ensures that the steam boilers continuously operate at optimum efficiencies.

Hot water boilers up to 200 °C, 10 MW and 35 bar overpressure

Horizontal boilers are used for industrial applications and are very robust and resistant to high temperatures. On request, these boiler types are available with pneumatic cleaning systems which again improve efficiencies.

Steam superheaters up to 8 t/h, 500 °C and 35 bar overpressure

Steam superheaters are mainly manufactured for power plant applications. They enable steam to be superheated to 500 °C. ICS ENERGIETECHNIK's superheaters are installed as free-standing systems. Temperatures are controlled through heavy-duty water-cooled control valves that also protect the superheaters from damage in the event of power failures.

Condensation preheaters up to 8 t/h and 35 bar overpressure

For use with steam boilers and on the power plant sector. Condensation preheaters are almost entirely maintenance-free. Temperatures are controlled through heavy-duty waste-gas control valves, which helps achieve good efficiencies and long service lives.

Steam boiler with pneumatic cleaning 32 bar overpressure

Steam boilers up to 8 t/h and 35 bar overpressure

High-performance steam boilers are mainly intended for use on the power plant sector. Superheaters may be fitted to this type of boiler. These are very robust industrial boilers which may also be fitted with pneumatic waste-gas cleaning systems.

The inside of a condensation preheater

PRODUCT RANGE

Incineration air preheater

Incineration air preheaters up to 400 kW

Incineration air preheaters extract the residual energy from waste gases which is then used to preheat the incineration air. This considerably improves efficiencies and extends plant life spans.

Multi-cyclones

Multi-cyclones

Multi-cyclones are a cheap and efficient way of removing dust particles from waste gas. Filtering is achieved up to dust concentrations of 150 mg dust per mn^3 of waste gas. In addition, other filter systems, e.g. electric filters, fibrous filters and waste-gas washers, must also be used.

Ash-removal systems

We are able to offer many different ash-removal products adapted to customer requirements ranging from simple ash-removal containers that are emptied from the bottom to complex automatic ash-removal systems.

Fuel conveyor systems

Our incineration plants are supplied through solid hydraulically powered fuel conveyor systems. These are built with steel driving rod systems possessing modular designs that transport the fuel to the incineration plants. Where heavy demands must be satisfied, driving rods and linings may be reinforced with durable steels (e.g. Hardox) to protect them against wear. The standard driving rod size is 4.3 x 11.0 m and 6.5 x 11.0 m.

Steel-plated fuel delivery system

Air-admission, re-circulation and waste-gas systems

Specially adapted duct systems are manufactured for ICS ENERGIETECHNIK's incineration plants. Furnace cooling systems with waste-gas re-circulation features consisting of a facility to return the waste gas to the furnace and a control valve system are recommended when dry fuels are used. Re-circulation fans are used on smaller plants to control furnace temperatures.

Fire-safety features

Special fire-safety features have been developed in order to prevent fires occurring between the furnace and fuel conveyors on ICS ENERGIETECHNIK's systems. These systems have been inspected and approved by the fire-prevention authorities. On request, we are also able to supply solid hydraulically powered fire-prevention locks.

Control systems

In order to be able to control and regulate the products we offer, we develop and build sophisticated control systems suited to industrial needs on the basis of the Siemens product range. We are also able to supply switch cabinets with robust visualization panels and/or systems with complex visualization and logging systems. The fans on our furnaces are fitted with frequency converters as standard. Many process measurements – including the measurement of residual oxygen levels – permit the incineration processes to be optimized and plants to be run economically.

Power plant control system

Control room

PRODUCT RANGE

Other available products

ICS ENERGIETECHNIK also produces and supplies other components, including hydraulic switches, feed water tanks, stainless steel containers, thermal degasifying systems, heat exchangers and free-standing chimneys as well as structural steel components for equipping heating and power plants.

"Black Red White" power plant

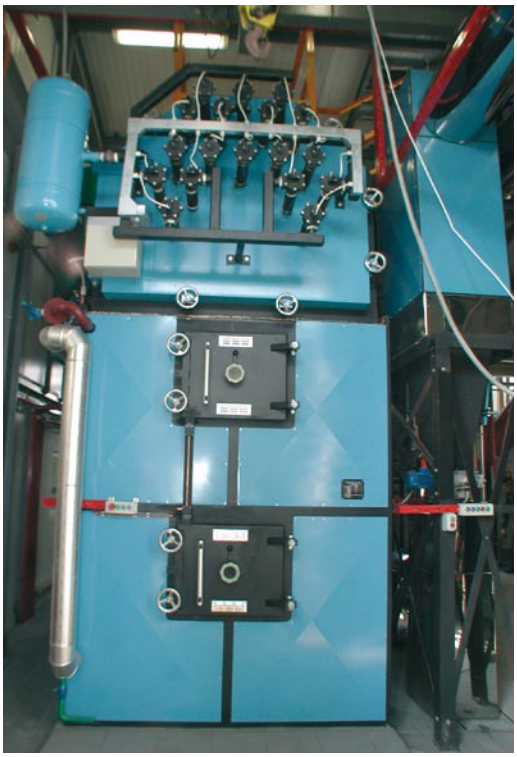
Example

Power plant operated by the Black Red White company possessing a performance of 2650 kW (electric) and 10 MW (thermal). The plant is cooled through an artificially created pond. ICS ENERGIETECHNIK's scope of deliveries: general planning, delivery of technical plant equipment, silos and fuel conveyor systems, installation and commissioning.

1 MW heating plant, built in 2001

This heating plant was built at a furniture factory in 2001. The heating capacity is 1.0 MW at a maximum flow temperature of 110 °C. The plant is operated throughout the year to heat the company property.

1.0 MW boiler house with silo fuel storage



Boiler

Pump station

PROJECT EXAMPLES

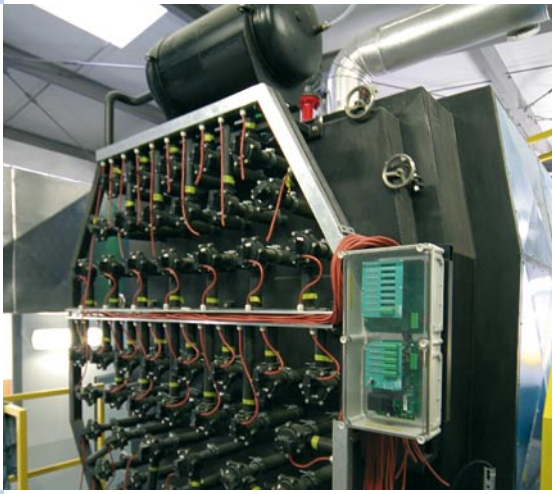
5 MW heating system, built in 2003

Hot-water boiler with a maximum flow temperature of up to 140 °C. This plant was built to incinerate chipboards. It supplies a furniture factory with heat for its internal processes and heating throughout the year.

Boiler

Boiler house

Furnace



Boiler cleaning system

Power plant for incinerating chipboards, 2.65 MW_{el} and 10 MW_{th}, built in 2002

This heating plant was built and taken into operation at a furniture factory in 2002. Its main purpose is the generation of power through a condensing turbine. Cooling is effected with an artificially created 1.5 hectare pond. The system is operated throughout the year.

2.65 MW steam turbine

Power plant building (from above)

2 x 6.2 MW furnaces

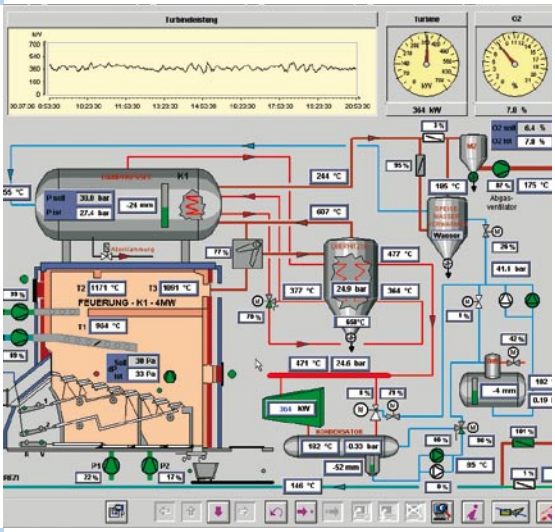
PROJECT EXAMPLES

CHP plant at Murau, 0.68 MW_{el} and 6.0 MW_{th}

This plant was built in 1993 to heat the municipality of Murau. It was extended by a steam turbine and turbo generator in 2006. The heat produced during the generation of power is fed into the municipality's long-distance heating system and supplied to customer premises.

CHP plant in Murau

Furnace



Visualization system for Murau (ICS software)

Driving rods

CHP plant in Aschbach, 2.0 MW_{el} and 10.0 MW_{th}

This power plant was built in 2005/2006. The electric power is supplied to the public grid whereby the remaining heat is utilized for technological purposes. The plant is fuelled by very difficult residual wood wastes.

Installation

Ash-removal section

Outside view

CHP plant in Aschbach, outside view

PROJECT EXAMPLES

CHP plant in Stainach, 1.5 MW_{el} or 15 tonnes of steam/h

This power plant was built in 2006. The electric power is supplied to the public grid. The steam is utilized for technological purposes.

Furnace

Cooler

CHP plant in Stainach

LIST OF REFERENCES

001. Fernheizwerk WILDON Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	3800 kW
Year of installation:	1987
District heating grid:	Length 9000 m
Operator:	Hereschwerke Wildon

002. Nahwärme MÖDERBRUGG Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	1800 kW
Year of installation:	1987
District heating grid:	Length 3500 m
Operator:	Nahwärme Möderbrugg GenmbH

003. Fernwärme ST. STEFAN i. R. Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	800 kW
Year of installation:	1987
District heating grid:	Length 800 m
Operator:	Nahwärme St. Stefan GenmbH

004. Nahwärme SCHLOSSBERG Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	800 kW
Year of installation:	1988
District heating grid:	Length 2500 m
Operator:	Nahwärme Schloßberg GenmbH

005. FROJACH – KATSCH I Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	250 kW
Year of installation:	1988
District heating grid:	Length 300 m
Operator:	Municipality of Frojach Katsch

006. Fernwärme SINABELKIRCHEN Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	600 kW
Year of installation:	1988
District heating grid:	Length 380 m
Operator:	Municipality of Sinabelkirchen

007. Fernwärme GRÖBMING Austria

Planning:	Christoph Schüssler / TB Otter
Heating output:	600 kW
Year of installation:	1988
District heating grid:	Length 280 m
Operator:	Fernwärme Gröbming GenmbH

008. St. MAREIN i.M. Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	2000 kW
Year of installation:	1989
District heating grid:	Length 3500 m
Operator:	BioWärme GmbH

009. LIEBOCH Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	6000 kW
Year of installation:	1989
District heating grid:	Length 6200 m
Operator:	BioWärme GmbH

010. ARNFELS Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	1750 kW
Year of installation:	1989
District heating grid:	Length 3000 m
Operator:	BioWärme GmbH

011. KALWANG Austria (Österr. Bundesforste)

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	3500 kW
Year of installation:	1989
District heating grid:	Length 7500 m
Operator:	BioWärme GmbH

012. OBDACH Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	3500 kW
Year of installation:	1989
District heating grid:	Length 6700 m
Operator:	Hereschwerke Wildon and BioWärme GmbH

013. ÜBELBACH Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	2000 kW
Year of installation:	1989
District heating grid:	Length 4500 m
Operator:	BioWärme GmbH

014. St. VEIT Austria

Planning:	Christoph Schüssler / BioWärme Graz
Heating output:	1000 kW
Year of installation:	1989
District heating grid:	Length 2000 m
Operator:	BioWärme GmbH

LIST OF REFERENCES

015. NEUMARKT Austria

Planning:	Christoph Schüssler
Heating output:	600 kW
Year of installation:	1989
District heating grid:	Length 500 m
Operator:	Fernwärme Neumarkt GenmbH

016. STAINZ Austria

Planning:	Christoph Schüssler
Heating output:	1000 kW
Year of installation:	1989
District heating grid:	Length 850 m
Operator:	Fernwärme Stainz GenmbH

017. STEIR. LASSNITZ Austria

Planning:	Christoph Schüssler
Heating output:	750 kW
Year of installation:	1989
District heating grid:	Length 1200 m
Operator:	Fernwärme Steir. Laßnitz GenmbH

018. HOLLENEGG Austria

Planning:	Christoph Schüssler
Heating output:	500 kW
Year of installation:	1990
District heating grid:	Length 400 m
Operator:	Fernwärme Hollenegg GenmbH

019. DONNERSBACH Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	800 kW
Year of installation:	1991
District heating grid:	Length 1460 m
Operator:	Fernwärme Donnersbach GenmbH

020. TEUFENBACH Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	4300 kW
Year of installation:	1991
District heating grid:	Length 2200 m
Operator:	Sawmill Lercher GesmbH

021. FROJACH – KATSCH II Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	350 kW
Year of installation:	1992
District heating grid:	Length 250 m
Operator:	Municipality of Frojach Katsch

022. OBERDRAUBURG Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1992
District heating grid:	Length 2500 m
Operator:	Sawmill Manhart GesmbH

023. NEUBERG A. D. MÜRZ Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	2000 kW
Year of installation:	1992
District heating grid:	Length 6200 m
Operator:	Municipality of Neuberg

024. EIBISWALD Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	2000 kW
Year of installation:	1993
District heating grid:	Length 4500 m
Operator:	Nahwärme Eibiswald GenmbH

025. WITTMANN – RAMSAU Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	750 kW
Year of installation:	1993
District heating grid:	Length 350 m
Operator:	Sawmill Wittmann

026. ST. LAMBRECHT Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1993
District heating grid:	Length 1300 m
Operator:	Fernwärme St. Lambrecht GenmbH

027. FELD AM SEE Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1300 kW (+ CHP)
Year of installation:	1993
District heating grid:	Length 2500 m
Operator:	Fernwärme Feld am See GesmbH

028. EISENKAPPEL Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	7700 kW
Year of installation:	1993/94
District heating grid:	Length 11000 m
Operator:	Fernwärme Eisenkappel GesmbH

LIST OF REFERENCES

029. MURAU Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	3000 kW
Year of installation:	1994
District heating grid:	Length 5200 m
Operator:	Fernwärme Murau GesmbH

030. GMÜND Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	3000 kW + 3000 kW
Year of installation:	1994
District heating grid:	Length 5200 m
Operator:	Fernwärme Gmünd GenmbH

031. GLÖDNITZ Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	750 kW + CHP
Year of installation:	1994
District heating grid:	Length 2800 m
Operator:	Bio-Wärme-Glödnitz GenmbH

032. FROJACH – KATSCH III Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	500 kW (+ CHP)
Year of installation:	1995
District heating grid:	Length 600 m
Operator:	Sawmill Weirer

033. WULTENDORF Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1995
District heating grid:	Length 3500 m
Operator:	Fernwärme Wultendorf GenmbH

034. LENDORF Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1995
District heating grid:	Length 800 m
Operator:	BioWärme Versorgungs GesmbH

035. KAPPEL AM KRAPPFELD Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	400 kW
Year of installation:	1995
District heating grid:	Length 700 m
Operator:	Solaris GesmbH

036. PÖCHLARN Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	3000 kW
Year of installation:	1995/96
District heating grid:	Length 3000 m
Operator:	FWG-Fernwärmeversorgung Pöchlarn

037. KLEIN ST. PAUL Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1300 kW
Year of installation:	1996
District heating grid:	Length 1890 m (1996)
Operator:	Fernwärme Klein St. Paul

038. BEHAMBERG Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	600 kW
Year of installation:	1996
District heating grid:	Length 820 m
Operator:	Fernwärme Behamberg reg. GenmbH

039. MÜHLDORF Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1996
District heating grid:	Length 1650 m (1996)
Operator:	Fernwärme Mühldorf GesmbH

040. GURK Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1500 kW
Year of installation:	1996
District heating grid:	Length 2700 m
Operator:	Gurker Bio-Fernwärme GesmbH

041. KRAKAUHINTERMÜHLEN Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	150 kW
Year of installation:	1996
District heating grid:	Length 180 m
Operator:	Biomasse-Nahwärme Oswald Würger

042. WAIERN Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	2500 kW + 2500 kW
Year of installation:	1997/98
District heating grid:	Length 2300 m
Operator:	Nahwärme Waiern reg. GenmbH

LIST OF REFERENCES

043. TRAX Przeworsk/Poland
Delivery and installation of a wood-incineration plant and a waste-timber disposal facility

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	2000 kW
Year of installation:	1997

044. BLACK RED WHITE Łukowa/Poland
Delivery and installation of a wood-incineration plant and a waste-timber disposal facility

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	6500 kW
Year of installation:	1997/98

045. ATZBACH Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	700 kW + 600 kW
Year of installation:	1997/98
District heating grid:	Length 3700 m
Operator:	Nahwärme Atzbach GesmbH

046. KIRCHBERG/RAAB Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	800 kW (1997)
Year of installation:	1997/98
District heating grid:	Length 500 m
Operator:	Nahwärmegen. Kirchberg/Raab

047. TREFFEN Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	2000 kW
Year of installation:	1998/99
District heating grid:	Length 3500 m
Operator:	BioWärme Treffen reg. GenmbH

048. RIEGERSBURG Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	1000 kW
Year of installation:	1999
District heating grid:	Length 800 m
Operator:	Biowärme Riegersburg reg. GenmbH

049. MORTANTSCH Austria

Planning:	ICS-ANLAGENTECHNIK
Heating output:	220 kW
Year of installation:	1999
District heating grid:	Length 60 m
Operator:	Biowärme Mortantsch reg. GenmbH

050. SCHLOSSBERGSTOLLEN event hall, Austria

Planning:	ICS-ANLAGENTECHNIK
Trades:	Heating, ventilation, air-conditioning, sanitation facilities, smoke and heat extraction systems
Year of installation:	1999
Operator:	Municipality of Graz

051. NOWY STYL Krosno/Poland
Delivery and installation of a high-temperature industrial boiler plant

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	4000 kW
Year of installation:	1999

052. BLACK RED WHITE Dachnów/Poland
Installation of a tower silo for fuel storage

Planning/execution:	ICS-ANLAGENTECHNIK
Year of installation:	2000

053. BLACK RED WHITE Chmielek/Poland
Delivery and installation of a wood-incineration plant, including a tower silo for fuel storage

Planning/execution	ICS-ANLAGENTECHNIK
Heating output:	1200 kW
Year of installation:	2000

054. MEBEX Jablonna Lubelska/Poland
Delivery and installation of a wood-incineration plant, including a tower silo for fuel storage

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	2000 kW
Year of installation:	2000

055. NOWY STYL II Jasło/Poland
Delivery and installation of a high-temperature industrial boiler plant, including heating plant

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	4000 kW
Year of installation:	2001

056. BLACK RED WHITE Biłgoraj/Poland
Delivery and installation of a combined heat and power plant, including fuel conveyor system

Planning/execution:	ICS-ANLAGENTECHNIK
Power output:	2 x 6000 kW_{th} + 2650 kW_{el}
Year of installation:	2002

LIST OF REFERENCES

057. MURAU Austria

Delivery and installation of a biomass boiler plant, including fuel conveyor system

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	3000 kW
Year of installation:	2002/03
Operator:	Fernwärme Murau und St. Egidi

058. BLACK RED WHITE Mielec/Poland

Delivery and installation of a high-temperature industrial boiler plant with complete heating plant

Planning/execution:	ICS-ANLAGENTECHNIK
Heating output:	5000 kW
Year of installation:	2003

059. CERSANIT II Starachowice/Poland

Delivery and installation of a boiler plant

Planning/execution:	ICS ENERGIETECHNIK
Heating output:	1000 kW
Year of installation:	2004/05

060. BOG-FRAN Ranizów/Poland

Delivery and installation of a boiler plant, including a piping system and accessories

Planning/execution:	ICS ENERGIETECHNIK
Heating output:	1500 kW
Year of installation:	2004/05

061. PRAWDA Olecko/Poland

Delivery and installation of a boiler plant

Planning/execution:	ICS ENERGIETECHNIK
Heating output:	5000 kW
Year of installation:	2004/05

062. ASCHBACH Austria

Delivery and installation of components for a combined heat and power plant

Planning/execution:	ICS ENERGIETECHNIK
Power output:	2 x 6200 kW_{th} + 2000 kW_{el}
Year of installation:	2005/06
Operator:	Company of Josef Fuchsluger

063. MURAU Austria

Delivery and installation of components for converting a heating plant into a combined heat and power plant

Planning/execution:	ICS ENERGIETECHNIK
Power output:	4000 kW_{th} + 680 kW_{el}
Year of installation:	2005/06
Operator:	Fernwärme Murau und St. Egidi

064. STAINACH Austria

Delivery and installation of components for a combined heat and power plant

Planning/execution:	ICS ENERGIETECHNIK
Power output:	2 x 6200 kW_{th} + 1500 kW_{el}
Year of installation:	2005/06
Operator:	BioEnergie Stainach GmbH & Co KG

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