

WE POWER THE FUTURE

ENERGY

OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ENERGY ■ CHP UNITS



SOLUTIONS

TABLE OF CONTENTS

- 04 The company**
Energy supplier
- 06 The Friedhelm Loh Group**
Group strength
- 08 Climate protection**
- 10 Profitability**
- 12 Off-grid solutions**
Independence
- 14 Photovoltaic systems**
Solar power
- 16 Solar thermal energy**
Solar heating
- 18 Cogeneration**
Generating Power
- 20 Service**
- 22 References**
- 26 Contact**

OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

■ **Complete energy solutions
from Würz Energy for electricity,
heating and cooling**

SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

3



ENERGY SUPPLIER



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

4

Würz Energy designs, supplies and installs complete systems for:

- **Off-grid solutions:** by integrating a variety of regenerative energy generators for electricity, heating and cooling.
- **Photovoltaics:** from small units to major projects, incl. roof renovation if required.
- **Solar thermal energy:** for heating, hot water, cooling and process heat.
- **CHP units:** available for use with diesel/heating oil, biodiesel, plant oil, biogas or natural gas.

- **Complete solutions**
- **All from a single source**
- **Fully customised**

SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

5

With Würz Energy, you're working with a partner who knows all there is to know about regenerative energies and with a supplier of fully customised, cost-effective and high-performance solutions all from a single source.

To best suit your needs, we work with selected top quality partners, local to your area, who carry out the scheduling, installation and maintenance work.



GROUP STRENGTH

F.L.G. Headquarter in Haiger



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

6

Würz Energy is part of the global operations of the Friedhelm Loh Group, a leading supplier of enclosure and cabinet systems and software solutions for the plant and mechanical engineering sector (Rittal Int.). The Group also draws on its end-to-end production expertise in steel, aluminium and plastic (Lometal Int.). This family business employs more than 12,200 staff at 11

- **Security**
- **Reliability**
- **Strength**



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

7

domestic and over 60 international subsidiaries.

In the financial year 2008 a turnover of more than € 2,25 billion was achieved. This means strength, reliability and financial security, also for our customers.



CLIMATE PROTECTION



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

8

With Würz Energy it is easier than ever to meet your energy needs while at the same time making an active contribution to climate protection. By choosing our top quality complete renewable energy solutions, you will be able to:

- Reduce consumption of fossil energy such as oil, coal and natural gas through efficient use of energy.
- Generate electricity, heat or cold emission neutral - depending on the type of fuel.

- Increased energy efficiency
- Reduced CO₂ emissions
- Active climate protection



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

9

- Eliminate energy transportation losses, as energy is generated where it is needed.

With Würz Energy you can make a contribution to climate protection in a profitable manner.



PROFITABILITY



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

10

As a result of subsidies and other economic incentives, one can expect to profit economically from climate-friendly energy production.

For example, there is a direct financial benefit when green electricity is fed into the power grid, as solar produced energy is remunerated at a higher value than the cost of consumed electricity. In most cases therefore – depending on local subsidy schemes – the amortisation period of a photovoltaic system will be 11 to 13 years.

- **Financial Benefit**
- **Fast Amortisation**
- **Subsidies and finance**



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

Würz Energy helps you save money, by advising you how to obtain the maximum subsidy benefits. Our legislation and regulation knowledge enables us to combine the technological and ecological benefits of our systems with the state economic incentives.



INDEPENDENCE



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

12

An off-grid solution enables you to be independent of centralised energy supplies and increasing energy prices. We'll supply you with a mix of various energy generators:

- **Heating/Chilling:** A combination of solar thermal energy plus CHP units and buffer storage systems assures you of an optimum supply for your heating and/or chilling requirements.
- **Electricity:** We integrate photovoltaics, CHP units and

- Self-sufficient energy supply
- Electricity, heating and chilling
- A secure future



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

13

other technologies into one network using intelligent inverters, that provide flexibility in managing your energy generators and consumers.

Fuel cells, wind power, hydro power, biomass and other regenerative energy generators, can also easily be integrated into Würz Energy's off-grid networks.



SOLAR POWER



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

14

In just half-an-hour the sun radiates as much energy to the earth's surface as all of us consume in one year. Technology progress has enabled us to utilise this unlimited source of energy by converting it into electricity using photovoltaics.

We develop our certified photovoltaic solutions specifically to your individual needs and provide all the necessary components you'll need.

- Electricity from solar energy
- TÜV-certified
- Optimum efficiency



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

15

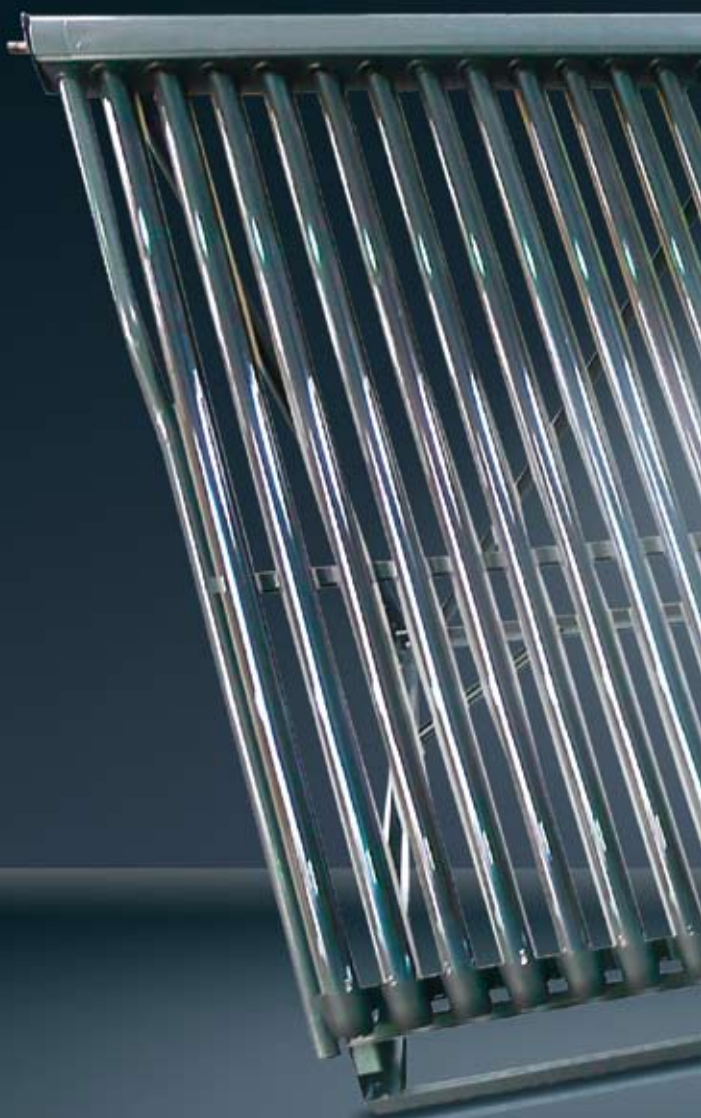
We'll supply you from a single source with:

- Complete systems/decentralised solutions
- Solar power plants
- Industrial-size planning for major projects
- Roof renovation concepts (via our partners)

Our PV systems can be designed to function as off-grid solutions or grid-connected installations.



SOLAR HEATING



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

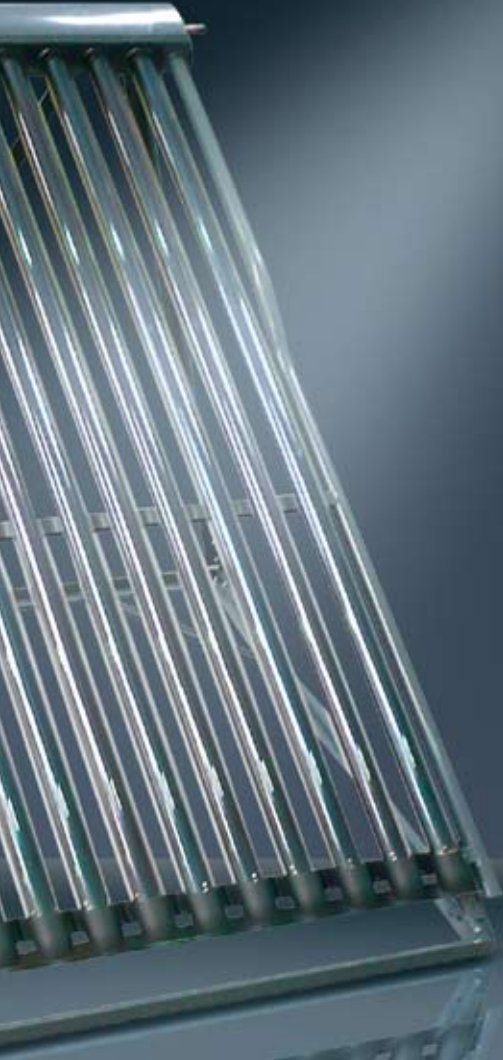
16

At Würz Energy we supply vacuum tube collectors and systems to support your hot water and heating requirements – all from a single source.

Solar heat is caught by the collector and held in buffer storage, from where it is supplied to the consumers as required.

With our in-depth knowledge of solar thermal equipment, we can design a made-to-measure solution, ideally suited to your needs.

- Complete systems
- Heating, chilling, process heat from solar energy
- Maximum energy utilisation



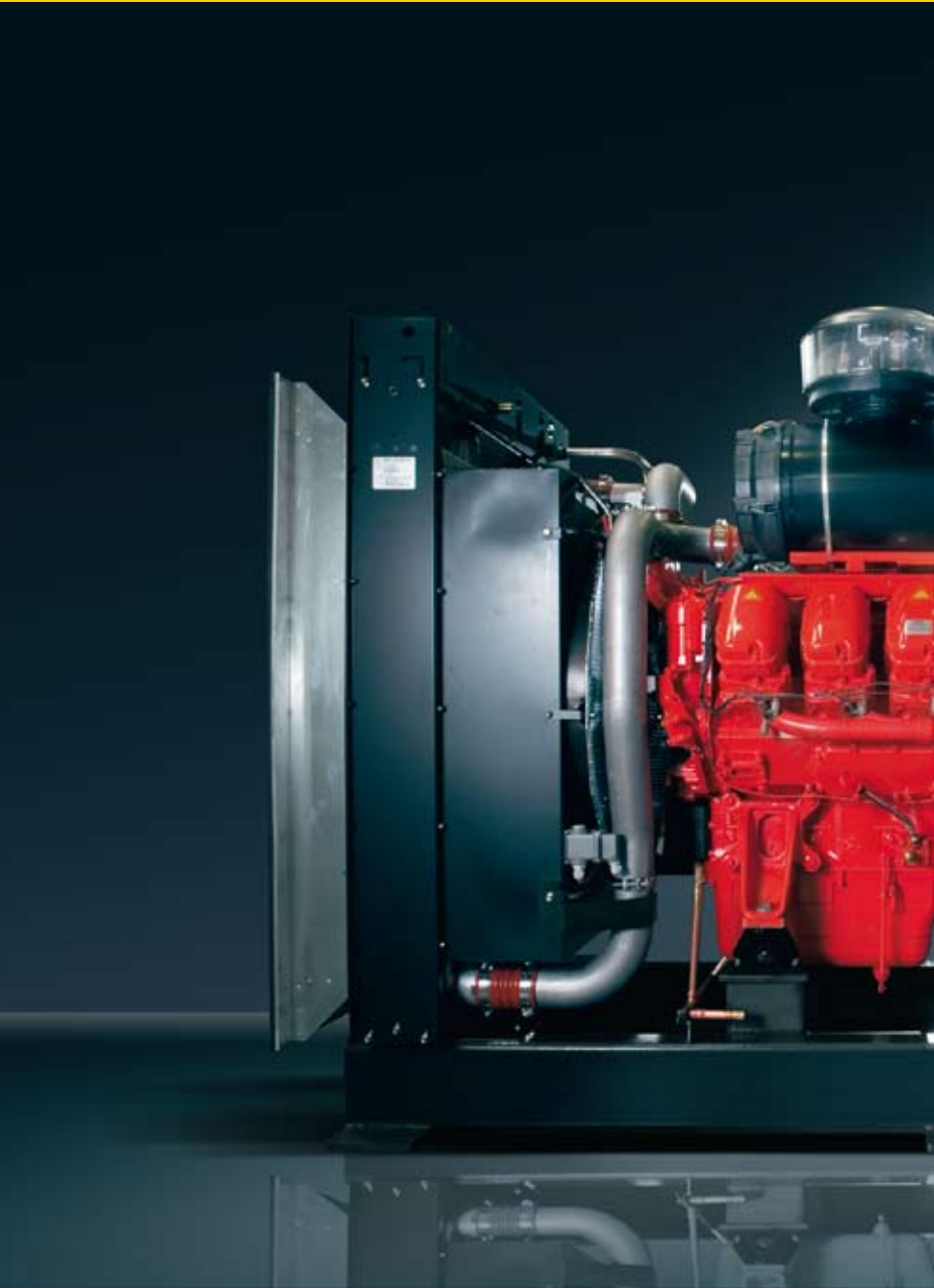
SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

17

To ensure energy supply throughout the year, solar heating/chilling can be combined with other energy generators such as e.g. CHP units.



GENERATING POWER



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

18

Cogeneration plants are combined heat and power units (CHP). The thermal energy, produced by electricity generation, is exploited to heat up and/or cool down buildings or plants.

Würz Energy specialises in the manufacture of highly efficient combined heat and power (CHP) units that use different fuels and are available in a range of power ratings:

- **Wide choice of fuels**
- **Trigeneration: Combination of electricity, heat and cold**
- **Up to 86% efficiency with plant oil**



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

19

Fuel power ratings (electrical/thermal)

Plant oil	90 kW – 680 kW
Heating oil	100 kW – 700 kW
Natural gas	20 kW – 1000 kW
Biogas	20 kW – 1000 kW

Würz Energy's CHP units achieve an efficiency rating of up to 86%, when powered by plant oil.



COMPLETE SERVICE



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

20

From small unit to major project, from planning to maintenance, Würz Energy is your full-service partner. We provide you with the highest planning reliability, supplying everything from one source:

- Needs analysis and in-depth advice
- Practical and versatile system adaptation to your specific needs

- Advice and planning
- Scheduling and installation
- Monitoring and round-the-clock maintenance



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

21

- Installation, monitoring and maintenance by our partners.

We can also implement an online connection between your system and our service department. We provide round-the-clock system monitoring and intervene remotely when needed.



REFERENCES

Solar park at Albacete, Spain:
2.9 megawatts of photovoltaic power from Würz Energy.



Marburger Media Foundation at Marburg, Germany:
Since 2007, the thin-layer plant has produced more than 7,000 kWh
of electricity and feeds its production into the grid completely.



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

■ Success story

Würz Energy's renewable energy generators are in demand: In the year 2008 Würz Energy supplied solar parks in Spain with photovoltaic modules that deliver a total capacity in double digit megawatts. And customers are putting their trust in Würz Energy's expertise not only in Spain but also in Germany and elsewhere in Europe.

- Photovoltaic
- CHP units

Solar park at Iniesta, Spain:
Würz Energy supplied photovoltaic modules with a total capacity of 2.3 megawatts.



Equestrian centre at Hünstetten, Germany:
82.8 kWp of solar power from photovoltaic modules from Würz Energy.



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

EXPERTISE

Ferrero at Stadtallendorf, Germany:
Photovoltaic modules with 370.8 kWp total capacity from Würz Energy.



Industrial company at Sinn, Germany:
Electricity generation and heating of production halls using a CHP unit from Würz Energy.



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

24

■ Fully customised

Würz Energy's products are just as likely to be found in large industrial factories as they are at equestrian centres and in homes – always tailored precisely to the specific site and the customer's requirements.

Our CHP units are generally designed to deliver the heat that our customers require. It also means that a CHP unit that generates

- **Photovoltaics**
- **Solar thermal energy**
- **CHP units**

Rittal at Herborn, Germany:
Complete CHP system from Würz Energy.



Industrial company at Weitefeld, Germany:
Production halls heated using an Würz Energy RPS-120 CHP unit.



SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

25

heat round the clock also supplies electricity round the clock. We welcome the opportunity to implement non-standard special solutions based on our customers' requirements.



CONTACT



OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ■ CHP UNITS ■

26

■ Headquarters

WÜRZ Energy GmbH
Bochumer Straße 3
D-57234 Wilnsdorf

Tel.: +49 (0) 27 39 40 37-0
Fax: +49 (0) 27 39 40 37-149
E-Mail: info@wuerz.com
www.wuerz.com

- **Information**
- **Advice**
- **Appointments**

■ **Spain**

Würz Energy, S.A.
Parque Empresarial Euronova
c/. Rda. de Poniente, 12
E-28760 Tres Cantos (Madrid)
Tel.: +34 (0) 918 06 04 18
Fax: +34 (0) 918 03 78 27
E-mail: info@wuerz.com
www.wuerz.com

■ **Netherlands**

Würz Energy
Rittal bv
Postbus 246
6900 AE Zevenaar, Nederland
Tel.: +31 (0) 316 59 16 50
Fax: +31 (0) 316 59 16 46
E-mail: info@wuerz.nl
www.wuerz.nl

■ **Belgium**

Würz Energy NV/SA
Klaverbladstraat 7a/2
B-3560 Lummen, België
Tel.: +32 (0) 13 53 96 94
Fax: +32 (0) 13 53 96 99
E-mail: info@wuerz.be
www.wuerz.be

SERVICE ■ INDEPENDENCE ■ PROFITABILITY ■ CLIMATE PROTECTION

27

We look forward to hearing from you.
On request, it will be our pleasure to
meet you on-site.



ENERGY SUPPLIER

Würz Energy designs, supplies and installs complete systems for:



Off-grid solutions:

Decentralised energy supply for electricity, heating and cooling.



Photovoltaics:

With intelligent inverters for versatile energy management.



Solar thermal systems:

For heating, cooling and process heat.



CHP units:

Available for use with diesel/heating oil, plant oil, biodiesel, biogas or natural gas.

All product data and performance values are nominal values. No responsibility is taken for the accuracy of product descriptions. Procurement agreements and guarantees are subject to a separate agreement for the application in question. We do not accept liability for technical or business advice provided free of charge.

OFF-GRID SOLUTIONS ■ PV ■ SOLAR THERMAL ENERGY ■ CHP UNITS

WÜRZ Energy GmbH
Bochumer Straße 3
D-57234 Wilnsdorf
Tel.: +49 (0) 27 39 40 37-0
Fax: +49 (0) 27 39 40 37-149
E-Mail: info@wuerz.com
www.wuerz.com

01/09



FRIEDHELM LOH GROUP