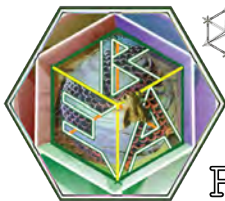


ENTRADE
ENERGIESYSTEME AG



The future of decentralized energy



BEEHIVE ENERGY
LTD.
Funded Renewable Solutions



Welcome to the world of the E3

A vision has become reality -The world's smallest power plant is here. With the global population rising and energy consumption growing, the use of solid biomass and organic waste products is the perfect solution for a sustainable energy supply.

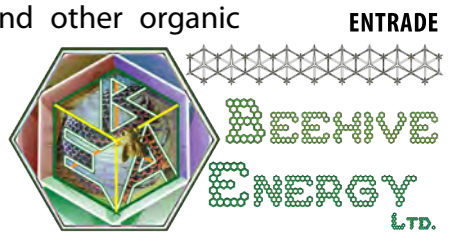
We generate decentralized electricity, heating and cooling in any part of the world by converting biomass and waste. Replacing the common diesel generator with widely available renewable fuels is a huge step forward for the global energy sector. And, with over

1.6 billion people without access to electricity we truly do make a difference.

ENTRADE is proud to have engineered an innovative biomass energy plant that can disrupt the global power supply industry at its core.

We provide energy without using the grid or finite fossil fuels. Our energy comes from waste, by-products and other organic compounds. Local, sustainable and economical.

"Dreams really do come true"



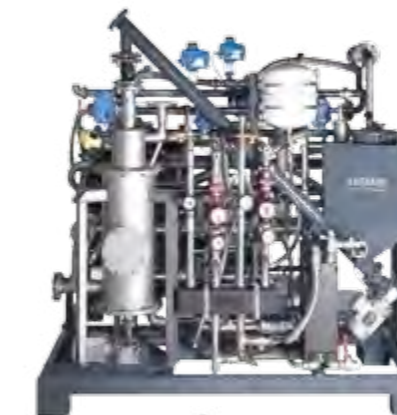
Make your personal 'declaration of independence'

The E3 will change your life. We offer base-load power from biomass and waste products right where it is needed, and that 24/7. It costs less than electricity from grid or heating from natural gas, being the sole cost competitive solution in the 25kW to 2MW electricity generation range.

Unlike generators that use fossil fuels the E3 can power your life and business in a completely sustainable and carbon neutral manner. Our patented design has been developed with few movable parts to ensure safe and secure power supply and to keep operational handling and maintenance to a minimum.

The time has come to take control of your energy supply.

"Design perfection - made in Germany"



Combined heat and power + cooling – E3

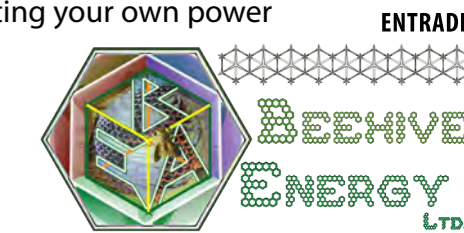
The E3 defines a revolution in small scale power generation, protected by over 60 patents and patent applications. This results in a high-tech machine that is safe to operate in all corners of the world with an uptime above 90 %.

Our high-temperature reformer turns biomass and waste into a clean high-quality syngas, which is used to generate up to 25 kW of electric energy and 60 kW of heat and optionally 30 kW of cooling.

The world's smallest biomass power generator has 85 % overall efficiency and requires low service and maintenance. The E3 is fully automated and remote controlled, thus no work input is needed on your part. The E3 is smaller than any professional energy system on the current energy market, with improved safety and reliability standards that match any large-scale power plants.

There are waste products all over the world that can be transformed into clean energy instantly onsite with little infrastructural requirements.

With an installation and commissioning time of less than one day, you can be generating your own power tomorrow.



Changing an industry with research

Clean conversion of bio-waste to syngas has been a long term challenge in the energy sector. The E3 offers optimal clean conversion with less than 0.1 g/Nm³ of tar residue without additional filtering.

ENTRADE has succeeded in making this process technologically reliable and economically viable through research.

Our research and development division works in close cooperation with leading research institutions in Germany including the Fraunhofer Institute UMSICHT, the German Aerospace Center (DLR) and the University of Erlangen-Nuernberg (FAU).

Our laboratory in Graz, Austria, tests customized fuels around the clock. We certify new waste types as feedstock every day. ENTRADE constantly pushes the limits through development and ongoing research in high-tech solutions to meet the vast global energy demand.



Electric Mobility powered by waste or renewable biomass

E-Mobility is only as clean as the electricity powering the vehicle. Why not charge your car with bio-waste? Though it sounds like a pitch from a science fiction movie it is realistic. This independence means that you can drastically reduce your CO₂ footprint and costs in industrialized countries. In emerging markets, it is a revolutionary step towards freedom with affordable mobility by solving a waste problem.



Think about the possibilities

The E3 generates power on demand everywhere, everytime for everyone. Everything is possible when you are not dependent on diesel or a power grid. From off-grid developments to sustainable power concepts anything goes.

How can we help you power up?

Many sectors would benefit from acquiring an E3, from forestry and agriculture to hotels and industry. Its compact size and high availability makes installation possible wherever you can imagine it. Be energy independent, create your vision. We are here to power it.



Our Exhibitions and media presence

Trade press and TV reports about the smallest power plant in the world. The future of decentralized energy.

Awards

ENTRADE has received numerous awards and accolades. We have been named one of fastest-growing private companies in Europe.

Among the 10 fastest growing companies in Germany 2015



Winner 2014



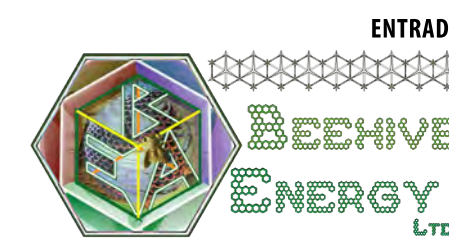
Ideas competition 2013



Bavarian Energy Award 2012



30 most innovative clean-tech start-ups 2012



E3 - mobile power units

Choose the package you need, from residential to industrial scale power plants. The E3 gives you the flexibility you need. In addition, biomass dryers and pelletizers can be fully integrated into the system.

E3 25 kW

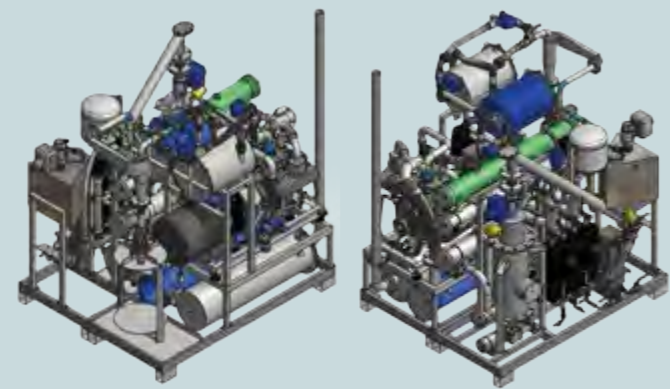
Operating mode: Downdraft fixed-bed gasifier
Type: E3 v 2.0

Equipment performance

Nominal power output: 25 kWel
Nominal heat output: 60 kWth
Total efficiency: 85%
Electrical efficiency: 24%
Thermal efficiency: 61%
Temperature of heat output: 194 °F / 140 °F (90°C / 60°C)
Electrical Output: 208 V / 60 Hz (400 V / 50 Hz)
Operating hours: 8000 h/a

Dimensions

Dimensions per E3-unit: 6.10 ft x 5.11 ft x 6.56 ft
incl. switch cabinet



E3 mobile power plant (25 kW)

Operating mode: Downdraft fixed-bed gasifier
Type: 1 x E3 v 2.0

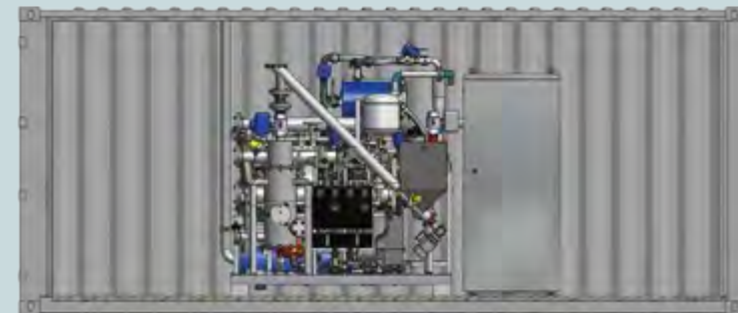
Equipment performance

Nominal power output: 25 kWel
Nominal heat output: 60 kWth
Total efficiency: 85%
Electrical efficiency: 24%
Thermal efficiency: 61%
Temperature of heat output: 194 °F / 140 °F (90°C / 60°C)
Electrical Output: 208 V / 60 Hz (400 V / 50 Hz)
Operating hours: 8000 h/a

Dimensions

Dimensions per E3-unit: 6.10 ft x 5.11 ft x 6.56 ft
incl. switch cabinet

Dimensions of entire plant: 20 ft HC Container
20 ft x 8 ft x 9.5 ft



plug and play

E3 mobile power plant (50 kW)

Operating mode: Downdraft fixed-bed gasifier
Type: 2 x E3 v 2.0

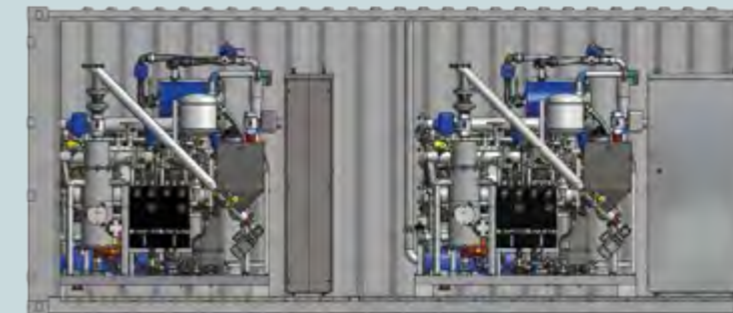
Equipment performance

Nominal power output: 50 kWel
Nominal heat output: 120 kWth
Total efficiency: 85%
Electrical efficiency: 24%
Thermal efficiency: 61%
Temperature of heat output: 194 °F / 140 °F (90°C / 60°C)
Electrical Output: 208 V / 60 Hz (400 V / 50 Hz)
Operating hours: 8000 h/a

Dimensions

Dimensions per E3-unit: 1.86 m x 1.56 m x 2.00 m
incl. switch cabinet

Dimensions of entire plant: 20 ft HC Container
20 ft x 8 ft x 9.5 ft



plug and play

E3 mobile power plant (100 kW)

Operating mode: Downdraft fixed-bed gasifier
Type: 4 x E3 v 2.0

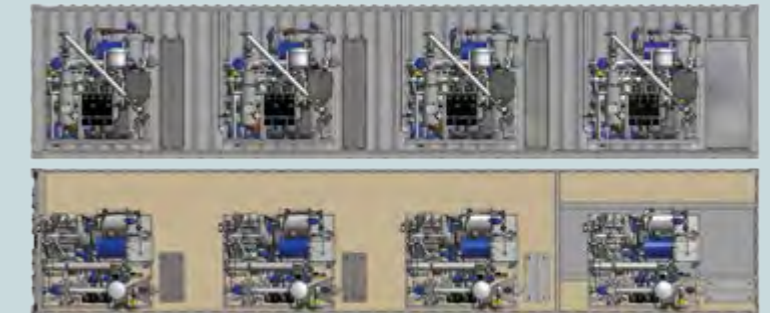
Equipment performance

Nominal power output: 100 kWel
Nominal heat output: 240 kWth
Total efficiency: 85%
Electrical efficiency: 24%
Thermal efficiency: 61%
Temperature of heat output: 194 °F / 140 °F (90°C / 60°C)
Electrical Output: 208 V / 60 Hz (400 V / 50 Hz)
Operating hours: 8000 h/a

Dimensions

Dimensions per E3-unit: 1.86 m x 1.56 m x 2.00 m
incl. switch cabinet

Dimensions of entire plant: 40 ft HC Container
40 ft x 8 ft x 9.5 ft



plug and play



RHI - Renewable Heat Incentive (UK)

To increase and accelerate the use of renewable energy in the UK, the British government has introduced The Renewable Heat Incentive, the world's first long-term financial support programme for renewable heat. The RHI programme pays incentives for heat generated from renewable sources of energy. With the E3, a biomass CHP plant, you can benefit from the highest incentive scheme fixed at 7.14 p/kWh and guaranteed for over 20 years. Instead of paying for your energy supply, you can generate an extra secure income with your E3.

There are two parts to the RHI:

- Domestic RHI – is open to homeowners, private land lords, social landlords and self-builders
- Non-domestic RHI – provides payments to industry, businesses and public sector organisations

ROCs – In addition, the E3 also certifies for Renewable Obligation Certificates. The factor applying is 1.9x ROCs, which results in 8.42 p/kWh generated from the E3.

The combination of both incentive programmes provides a very strong business case reaching payback periods of 2-4 years with the E3. The E3 pays for itself and gives you extra income and free energy.

This sounds too good to be true?
Visit the Office of Gas and Electricity Markets (Ofgem) and apply today for the incentive programme;
<https://www.ofgem.gov.uk>

Long-term flexibility

Power demands can change over time or the location may possibly have to be altered. The E3 has been developed for long-term continuous use. Many things can change over time. Enjoy total flexibility with this easily moveable machine. Plus, the E3 is commissioned within hours and extra modules can be added further down the line when/if your energy needs rise. Our products range from small turnkey solutions to complex industrial facilities. With so many possibilities, you will know that your money is well spent in a safe and secure power supply from day one.



Monitoring

The E3 comes with state of the art remote hard- and software monitoring. We provide you with energy as easily as from the grid. Therefore, your E3 will be remotely managed by our operation center in Graz. Experienced engineers are available 24/7 to ensure that your E3 continues to run smoothly and safely.

The E3 is setting new industrial standards by offering complete system management. You, as the owner, will never have to bother with any technical issues or operations

Quality

The E3 is a high quality product designed, manufactured and developed in Germany. All welding is done by certified suppliers in order to ensure reliable operations of the system. Because we are so sure of our product we offer an entire new level of service with replacement parts and 24/7 customer service. With our long lasting experience in the business of building complex power systems we know that quality prevails.



E-Fuel

Waste is one of the major challenges of the 21st Century. We have always believed that we need to find a way to turn waste products into sustainable fuel. Those resources are far too valuable to be just thrown into rivers or oceans, be landfilled or just simply incinerated.

Every single day our research team at the technical university of Graz is working on finding new ways to turn waste products, agricultural waste and also municipal waste fractions into a sustainable feedstock mix that can be converted into electricity, heating and cooling in a safe way directly on site. We call it Entrade E-Fuel and it is just the beginning. It provides the energy you need for your business, your car and even your home from our sustainable feedstock that is based on more than 50% agricultural waste products.

In our laboratory we are continuously testing all different kinds of feedstock. No matter whether they are pelletized or come as raw products. We are checking tar levels, gas compositions, and the exhaust gas.

Our E3 power generator was specially developed and designed to work with numerous different feedstock mixtures. We started with wood, but that is just the beginning.

Hotels

have very high energy demand for all three forms: electricity, heating and cooling. Power is mainly required for washing machines, lighting and ventilation. Heating is needed all year around for hot water and high demands during cold days for spatial heating. While heating is only needed for hot water supply during summer days, the rest of the heat coming from the E3 is turned into cooling with adsorption technology. The Renewable Heating Incentives are still collected by utilizing heating and transforming it into cooling, therefore extending the operational hours.

Site Data - Hotel in the UK

	Before (Grid & Oil)	Now 1 x E3 system
Electricity from grid	780,000 kWh	285,000 kWh
Electricity from E3	0 kWh	495,000 kWh
Thermal (Boiler)	1,515,053 kWh	442,553 kWh
Thermal (E3 CHP)	0 kWh	1,072,500 kWh
Total Energy Bill	£128,982 per year	£0 per year

Business Case

ROC Income	£41,692
RHI Income	£83,249
Electricity Sold	£0
Savings/ Off-Setting	£85,423
Revenue Total	£210,363
Costs	-£110,793
Total Benefits	£99,571

Payback Period	4 years
IRR	40%





Whiskey distillery

Scotch Malt Whisky distilling is an energy intensive process utilising large volumes of steam in a two stage batch distillation process. The raw materials are limited to process water, yeast and barley. The co-products produced consist of the spent grain or 'Draff', the liquid residue from the wash still or 'Pot Ale' which contains spent yeast and dissolved solids, and the liquid residue from the spirit still or 'Spent Lees'.

Site Data - Whisky Distillery UK 2015

	Before (Grid & Oil)	Now 5 x E3-88 system
Electricity from grid	479,091 kWh	0 kWh
Electricity from E3	0 kWh	3,520,000 kWh
Thermal (Boiler)	19,294,870 kWh	10,494,870 kWh
Thermal (E3 CHP)	0 kWh	8,800,000 kWh
Total Energy Bill	£983,645 per year	£23,863 per year

Business Case

ROC Income	£296,479
RHI Income	£670,560
Electricity Sold	£167,250
Savings/ Off-Setting	£479,891
Revenue Total	£1,614,179
Costs	-£777,996
Total Benefits	£836,184

Payback Period	3 years
IRR	66%

Pig farms

use energy both intensive and extensive rearing systems in order to achieve their production goals. The main uses of energy are for building services, animal feeding systems and waste removal. Energy also plays an important part in animal welfare and environmental protection, most notably in waste management and emissions control.

This farm in particular rears 2000 pigs a year and uses one E3-22 with a 30 ton pellet storage.

Site Data - Pig Farm with 2000 pigs

	Before (Grid & Oil)	Now 1 x E3 system
Electricity from grid	112,000 kWh	0 kWh
Electricity from E3	0 kWh	165,000 kWh
Thermal (Boiler)	472,000 kWh	59,500 kWh
Thermal (E3 CHP)	0 kWh	412,500 kWh
Total Energy Bill	£35,624 per year	£0 per year

Business Case

ROC Income	£13,897
RHI Income	£31,433
Electricity Sold	£2,915
Savings/ Off-Setting	£32,828
Revenue Total	£81,072
Costs	-£36,931
Total Benefits	£44,141

Payback Period	4 years
IRR	43%



Pelletizing

Solve your waste problem and turn your waste into valuable fuel for the E3 on site. Feed in your biomass waste as raw material and out comes electricity and heat, fully automated. The pelletizing process is fully integrated into the power plant. The entire process from waste to power is fully automated and remote controlled. We are working with Kahl, the leading manufacturer of pellet presses. The raw material is pressed to pellets and stored in a central silo from where pellets are distributed towards the E3 machines on demand. Already with three E3 units it is worth having a pellet press integrated. ENTRADE is your one-stop partner for your energy and waste problem.

Turn your waste problem into a solution, which powers your operations.



Cooling

Especially in warm countries cooling is the preferred form of energy from the E3. The advanced chiller technology (eZea) from SorTech AG is based on zeolite adsorption technology. It utilizes the heat from the plant to turn it into cooling without any extra electricity need. The aggregate contains no moveable parts. Zeolite as a working substance eliminates the need for fluid circulation. Multiple Adsorption Chiller Aggregate of eZea's can be interconnected to generate an even greater cooling performance.

E3: Power, Heating and Cooling with biomass.



Investing

We invest in sustainable power generation from biomass. Since our beginning we have been striving for transparency and close communication with our shareholders. There are considerable risks involved in developing groundbreaking power systems. Our goal is to continuously change the energy industry and manufacture a truly remarkable technological innovative product. Currently over 450 investors have supported ENTRADE from the early beginnings; from family and friends to institutional investors - ENTRADE is a true joint effort.

ENTRADE manages its own project construction, operation, and maintenance of equipment. Founded in 2006 the company has been named one of the fastest growing renewable energy companies in Germany.

2015 has truly been a strong year already, in which ENTRADE has been lifted on NASDAQ Stock Exchange Market. Please come and visit us at one of our numerous events over the next months in United States, UK, Germany, Italy, Austria, Serbia, Uganda, Nigeria and Sweden.





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