ÖkoFEN

my ENERGY 365

All year self-produced electricity
and heat from wood pellets and solar

The desire for 100% independence becomes reality

„In the sense
of a liveable world
for the coming generations.“

ÖkoFEN's **myEnergy365** is the answer to the question of independent and ecological power and heat generation in your own home.

The holistic approach, which intelligently combines the latest technologies, opens up the unique opportunity to use 100% ecological heat and self-generated electricity from pellets and sun in a single-family home.

The concept is modular. The innovation is offered as a complete system, but can also be realized step by step. Even existing power generators (such as PV systems) can be easily integrated.

According to demand and budget, consumers are becoming step by step even more independent.

The solution for 100 % self-generated heat and electricity

The complete myEnergy365 system

The heart of power generation

Pellematic Condens_e

The Pellematic Condens_e is the center of the myEnergy365-system. With its condensing technology it is one of the most efficient pellet boilers with condensing technology. It provides 100% cosy warmth and 100% of the needed hot water.

For a later retrofit of the Stirling engine we offer an „eReady“ version of the boiler. This preparation ensures a simple re-fitting of the power generation unit. Renewable fuels can thus be converted into low-emission and climate-neutral electricity.

Highly efficient technology

Efficiency at the highest level. The latest generation of condensing technology gets even more power out of each kilogram of wood pellets.

Up to 15% more efficiency - standard on all Condens models.

eReady Package

The eReady package prepares the Pellematic Condens for the later retrofitting of a Stirling engine.

In the future, your heating system will also generate electricity.

Own electricity in winter

With the economical Pellematic Condens_e, you reduce not only your heating costs. You also produce your own electricity - even in winter, when the PV system does not produce any yield.

Fits into any boiler room

Measuring only 72 x 73 cm, the Pellematic Condens_e is one of the most compact pellet boilers on the market and fits into any boiler room. Even with the Stirling engine the systems stays very compact.

Full comfort

The Pellematic Condens_e offers highest comfort. Minimal cleaning and ash emptying are just as convincing as the particularly low-noise operation.

All data at a glance

Networking the boiler with the Internet increases the intelligence of the system.

The processing and visualization of all boiler data allows even more efficiency.

The technology for your energy freedom

100 % independency - even in winter!

VIDEO myEnergy365

Photovoltaic technology is the best solution for summer power generation.

The required space for a pv installation is about 35 m². The power of the PV system should be between 5 and 8 kW_{peak}. Existing photovoltaic systems can be used in the myEnergy365 concept. Without a power storage unused electricity is fed into the public grid.

A power storage is the ideal supplement to a PV system. With this about 70% independence can be achieved.

By storing the electricity, the generated electricity can also be used when the sun is no longer shining. With the battery, the time between power generation and use is bridged.

* Permanent island operation on request

Step by step to independence

Decide flexibly how independent you want to be

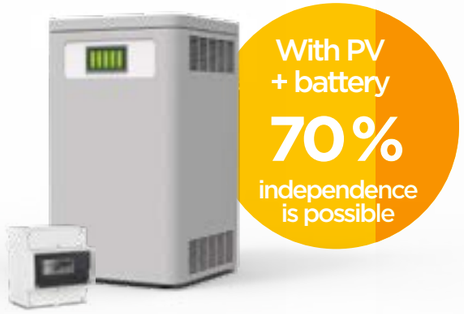
Pellematic Condens

with 10 - 16 kW thermal power and eReady package

Photovoltaic system

The PV system covers around 30% of the electricity demand of a single-family home.

More than two-thirds of the pv yield is fed into the grid and is usually poorly paid. Better than feeding electricity into the public grid is increasing your own consumption, with a power storage unit.



Power storage

An ideal complement to the PV system is the power storage, which provides around 70 % independence.

By storing the solar power, this power can also be used when the sun is not shining.

Pellet boiler with Stirling engine

The Stirling engine is powered by the pellet boiler and delivers electricity on days when the PV system can not produce any yield. This is especially the case during the winter months from November to March.

The Stirling engine achieves up to 100% independence.

* Requirements for a fully self-sufficient operation can be found on the last page.

Perfect interaction of the components

A complete system for heat and electricity

All the data of the power generators and electricity and heat storage are combined in the **Pelletronic** energy management.
The combination of these data with weather forecasts and user habits allows the comfortable enjoyment of an innovative energy system without manual intervention.

The Internet connection allows remote access via app and access to monitoring information.

Intelligent through live weather data

Networking the boiler with the Internet increases the intelligence of the system.

The system recognizes the weather trend and reacts with system adjustments that lead to more efficiency and thus lower heating costs.

Coordinated power generation

The Pelletronic energy manager always knows the electricity production of the individual generators and adjusts them to the current electricity demand.
The Stirling engine will not start if the PV system is supplying enough electricity.

Smart Home Interfaces

Smart Home ready

„The MOD-BUS interface ensures that the Pelletronic controller can be connected to almost any house management system.

Thus, heating becomes an integral part of home automation.“

my ENERGY 365

Use surplus electricity sensibly in your own house

power2heat

If enough power is available from the PV system, this function enables the heating of the hot water by solar power.

This saves heating costs, as the sun sends no bill.

power2charge

If the energy storage devices are fully charged in the building, existing PV power can also be used to supply electric vehicles.

The electrical car in the garage will be refueled for free.

All data at a glance

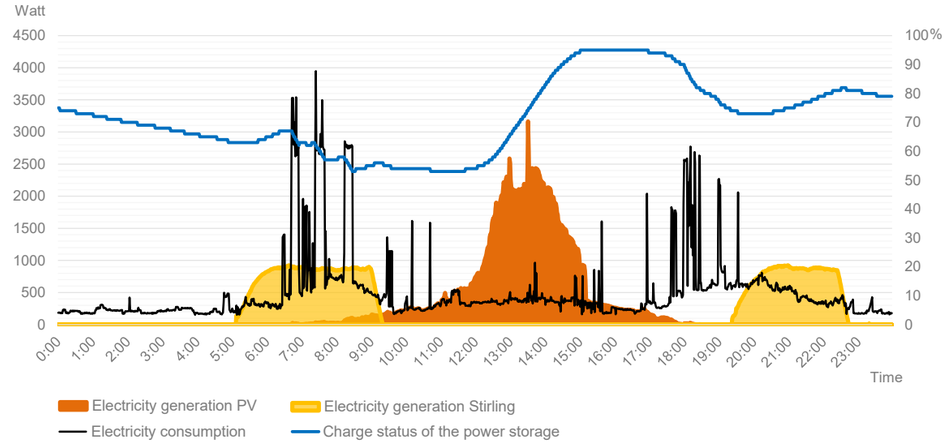
The processing and visualization of all boiler date allows even more comfort.

All energy data can optionally be sent by email to the user. This data is also available on the platform my.oekofen.info.

Energy monitoring

Example of a daily course

Measuring day: March 4th



Electricity demand

Elecitiy demand of household: 11,6 kWh
Electricity from public grid: 0 kWh

Electricity generation

Stirling: 5,6 kWh
PV system: 6,6 kWh

The course of the day at the myEnergy365 model house shows one day in March.

The power generation of Stirling engine and PV system complement each other ideally. In the morning and evening, the Stirling engine produces electricity, when the sun is shining during the day, the PV system is generating electricity.

The power storage (blue line) is discharged during the night hours. The power consumption (black line) is provided in the morning for the most part by the Stirling engine. The PV system supplies enough power at noon to fully recharge the power storage.

These data (power consumption, battery charge level, power generation, grid feed-in, grid connection, electricity surplus usage) are always up-to-date available to the user and will be sent by email as daily, weekly and monthly reports on request.

Economic efficiency

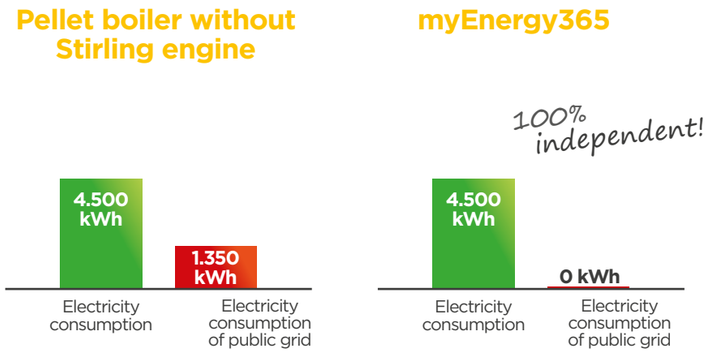
Does this investment also make financial sense?

The myEnergy365 system is an investment for the future, so money can be saved in addition to energy costs. To illustrate this, we have prepared a sample calculation for Germany and Austria. We explain the investment costs you have to expect and how high the savings are on www.oekofen-e.com/de/wirtschaftlichkeit/

Independence

of different systems

A family house with a 5 kWp PV system and an already installed power storage with 10kWh capacity is the basis for comparing the independence of different heating systems. The comparison of pellet boiler and pellet CHP shows clearly that the goal of 100% independence can only be achieved with the pellet CHP system. Just the total myEnergy system can achieve a current balance of zero.



The comparison of the different systems was based on the following data and assumptions:
Family house with a heating load of 9 kW and a heating requirement for heating and hot water of 19,000 kWh per year.
Electricity consumption of the house is 4,500 kWh. A PV system with 5 kWp is installed.

Satisfied customers examples

„For us it is a really good feeling to live without fossil energies.“

Family Sperl from Scharnstein (Austria) has fulfilled their dream of energy freedom within their own four walls. Mr. Sperl had already been using an electricity-generating pellet heating system since 2014. In June 2021, he now switched to the latest model, the Pellematic Condens_e, and is happy about 100% renewable energy. For the „persuader“ an obvious consequence, because Mr. Sperl also focuses on progress and forward-looking concepts in mobility: He has been driving an electric car for years, which he now always fills up with sustainably produced electricity.

„By conviction we use 100% green energy.“

Since October 2014, the cellar of the Seebacher family has been fitted with a pellet chp system with integrated Stirling engine.
Together with the solar thermal system, the innovative energy system not only covers the entire heat requirement, but also 100% of the electricity needs of the 180m2 home - to the delight of the family, completely without nuclear energy. „Because even my grandchildren should find a livable world,“ Mr. Seebacher describes his conviction.

„We‘re proud of our independent energy supply.“

The Brommer family from Stuttgart (Germany) is using a electricity-producing pellet heating system since 2017. In combination with the photovoltaic system and a power storage, the pellet boiler with Stirling engine covers the entire electricity and heat requirements of the home. In addition, even the Tesla is charged with self-produced electricity.
„We are proud to have found an independent and at the same time environmentally friendly energy supply for our home“, the Brommer family is happy about the advantages of their new heating system.

„We are already independent!“

„We have fulfilled our dream of energy freedom.“

In „Leitl Vital Sonnenhaus Pro“ in Upper Austria‘s Schwertberg, completed in October 2016, energy-free living in a detached house becomes reality.

In the living space of 170 m² traditional elements are combined with state-of-the-art technology. The new building is also one step further in terms of energy supply: The electricity-producing pellet heating system, in combination with the Fronius power storage system and a photovoltaic system, ensures a 100% self-sufficient energy supply.

Space-saving pellet storage

For the storage of the annually needed amount of wood pellets for a single-family home only about 4 m² are needed. Thanks to flexible storage solutions, this space can be located in the basement, in the utility room or even up to 20 meters outside the house.

With a Flexilo Compact fabric tank, the pellets are stored space-saving and protected from humidity. From 3.3 to 8.5 tons of pellets - for every space and pellets requirement, a matching version is available.

Unbeatable space-saving:
60 %
more capacity

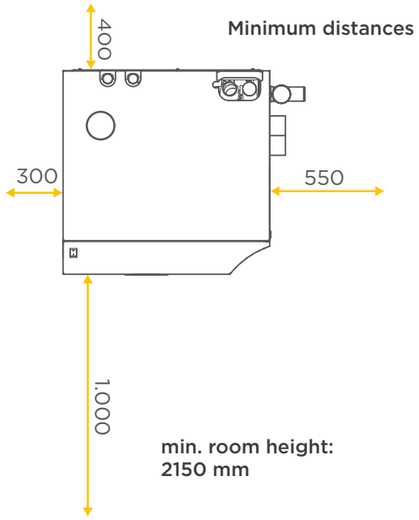
Technical data Flexilo Compact

Designation	Filling quantity	Length	Width
	Height: 240 cm	mm	mm
Flexilo Compact KGT1814	3,0 to	1.840	1.440
Flexilo Compact KGT1818	3,7 to	1.840	1.840
Flexilo Compact KGT2314	4,0 to	2.300	1.440
Flexilo Compact KGT2318	5,1 to	2.300	1.840
Flexilo Compact KGT2320	5,7 to	2.300	2.040
Flexilo Compact KGT2614	4,4 to	2.580	1.440
Flexilo Compact KGT2618	5,6 to	2.580	1.840
Flexilo Compact KGT2620	6,3 to	2.580	2.040
Flexilo Compact KGT2626	7,9 to	2.580	2.580

Technical Data & General Requirements

Pellematic Condens_e

Minimum room height	215 cm
Dimensions (W x D x H)	73 x 72 x 182 cm
Thermal power	9 - 16 kW
Average electrical output	600 W
Peak electrical power	1.000 W
Energy efficiency class	A++



Compatible battery storage for myEnergy365

	BYD Hochvolt HV	BYD Battery Box Premium HVM
Compatible battery sizes	H 6.4 – H 11.5	HVM 8.3 - HVM 22.1
Maximum usable storage capacity	11,52 kWh	22,1 kWh
Inverter	Fronius Symo GEN24	
Required additional components	Fronius Smart Meter	
Required additional components from the specialist trade	-	-
Emergency power	Yes. The function must be clarified in advance with regard to integration with the network operator.	

Stand-alone operation with the Condens_e is possible with an alternative battery system. More information on request.

Fronius Symo GEN24 6.0 PLUS

Dimensions (W x D x H)	594 x 527 x 180 mm
Number of MPP trackers	2
Max. PV input power	8,0 kW
DC input voltage range ($U_{dc\ min}$ - $U_{dc\ max}$)	150 - 1000V
Ambient temperature range	-25 - + 60°C

The requirements for a fully self-sufficient operation are:

- The heat load of the building is approx. 10-16 kW.
- The minimum installed capacity of the PV system should be 5 kWpeak.
- The minimum volume of the thermal buffer tank is 1.000 litres.
- The rated capacity of the battery storage is at least 12 kWh (usable capacity 9.6 kWh).
- From two consecutive days with little sunshine, electricity consumption may not exceed 10 kWh per day.
- A heat sink (pool, heatable cellar rooms, etc.) is required to extend the running time in periods of bad weather.
- The PV system must not be snow-covered permanently in winter.
- Existing inverters are not compatible with the myEnergy365 system and need to be replaced.

The visionaries of the pellet boiler industry: ÖkoFEN managing directors Herbert and Stefan Ortner

ÖkoFEN_e

Electricity and heat from wood pellets

ÖkoFEN, Europe‘s specialist for pellet heating systems, has been setting new milestones in the pellet industry since its founding in 1989.

With innovations such as the world‘s first pellet boiler with condensing technology or electricity-producing pellet heating system, the pellet specialist caused a sensation.

ÖkoFEN is internationally recognized as a pioneer and innovator of Stirling technology in combination with wood pellets.

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