

# Because Power Comes from the Sun

Highly efficient solar power and storage systems





From the first passive-house office building in Europe to energy self-sufficient production, we have shown for more than 40 years how innovative energy concepts can be successfully implemented for ecological building management.

## Power. Heat. Future

As first hour solar pioneers, we have collaborated successfully with the sun since 1979. We develop and distribute economical and resource friendly solar power, solar heat, and mounting systems.

### Our solar passion

In the same way that we operate as an enterprise, carefully chosen components optimize interaction in our system solutions.

More than 45 years of progressive development and production in Germany are the foundation of the high performance and efficiency of our systems. Leading the field in multiple comparative consumer tests over and over again has proven the continuously high quality of our products.

### Progressing together

We supply solar power systems for private users, public facilities, commercial enterprises and investors. We deliver installations of outstanding quality at the best value-for-money ratio, aiming to contribute substantially to the energy transition.

#### WAGNER SOLAR GMBH

1979	Wagner & Co Solartechnik GmbH established
2014	Wagner Solar GmbH
130	Employees
Partner	for solar power, solar heat, mounting systems
Sales	through a network of professional installers international distribution network



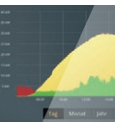
Entrepreneur of the year 2011



Outstanding responsibility

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# Shape your energy future- produce your own power

Rising energy prices, climate change, ecological persuasion or prestige - there are many drivers to switch to renewable energy. Tap into an unlimited source of energy and declare your independence from rising electricity costs.

## The changing energy market

Global electricity consumption has risen constantly since 1960.

Fossil fuels are becoming scarcer and more expensive, and their use is causing massive damage to the environment.

The energy transition can only succeed by steadily expanding renewable energies.

## Solar power advantages

Solar power has proven successful for decades.

Thanks to consistent research and development the systems are more affordable than ever and today their improved efficiency makes them profitable without any government subsidies.

Even without additional equipment you can use up to 30 percent of your generated solar power yourself. Unused electricity is fed into the grid.

## Cut your electricity bill by half

Using our Battery packages allows you to consume even up to 70 percent of your own solar power, independent of the time of day, in the long run cutting your electricity bill by half.

## Solar power cheaper than electricity from utilities

By now solar power has become cheaper than conventional household electricity obtained from the grid. The cost-effectiveness of a solar power system is constantly increasing in the face of rising electricity prices.





Energy self-sufficient collector factory - the entire Energy required for heating and collector production is generated on location, CO<sub>2</sub> neutrally, by renewable energy.

### Our strengths

We are an experienced partner for cost-efficient photovoltaic installations. As a one stop systems supplier we do not compromise on quality, performance and durability. We work with selected specialist companies. Thanks to their many years of experience, our support and individual planning tools, you receive solutions optimally tailored to your needs.

### System applications

We combine top brand components with our own products into perfectly meshing systems. We deliver grid-connected installations for single- and multi-family homes as well as farm applications, public facilities and large commercial projects. Among our other offers are a wide range of special architectural solutions and off-grid stand-alones.

**Read more about the many advantages of our solar power systems on the following pages.**

#### SYSTEM ADVANTAGES

- CO<sub>2</sub>-neutral power production
- Unaffected by power price development
- Safe investment, solid profit
- Favorable funding
- Assured grid intake in many countries
- Active contribution to energy transformation
- Limitless solar energy

#### WAGNER SOLAR STRENGTHS

- Optimally fine tuned systems
- Maximum efficiency, highest profitability
- High quality components
- Customer-friendly warranty services
- Leading technologies
- Our own TRIC racking systems for long-term stability
- Distribution by specialized installers

# Think ahead - take the first step to independence

Investments in solar power installations have to produce ecological and financial yields. Precise analysis and planning, meticulous choice of top-quality components and an experienced solar installer are the keys to your solar success.

## How the sun gets into the power socket

Photovoltaic panels convert solar radiation to electric energy. An inverter transforms it into grid-compatible alternating current which can either be used by the owner of the installation or fed into the public power grid.

Intelligent solar power storage solutions increase the consumption of self-generated solar power, reduce the electricity purchase from the public grid and achieve independency from rising electricity prices. In regions with feed in tariffs the owners' power company will reimburse them for the solar electricity supplied to the grid.

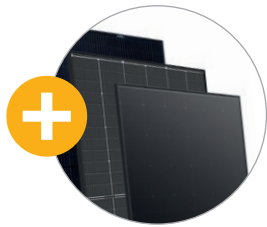
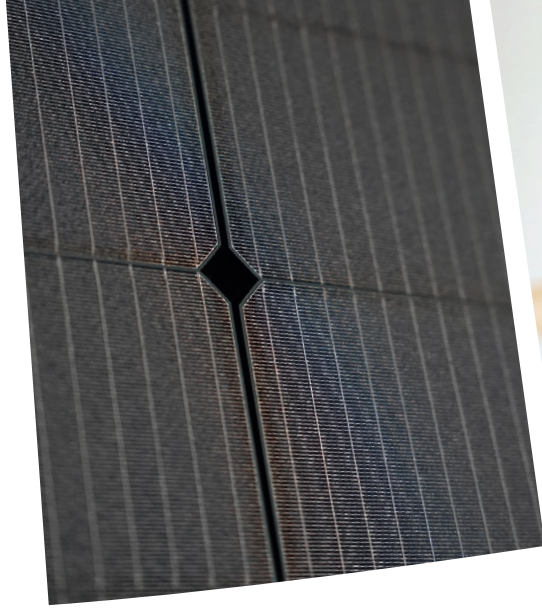
## Quality makes the difference

To achieve maximum yields, PV panels ideally should be aligned towards the equator and tilted according to their respective latitude, e.g. face southwards at an angle of 30° for North-Western Europe. However, our state-of-the-art solar power systems also deliver outstanding results under much less favourable conditions.

## A perfect combination

Whether modules, inverters, power storage banks or mounting systems: it is our declared goal to provide economically and technologically optimized solutions. We therefore only use products that based upon our decades of experience consequently convince us of their performance, durability and also in terms of their warranty and guaranty conditions. The components for all installations are individually selected according to your respective requirements.





Highly efficient solar modules for maximum solar power yields



Flexible mounting systems - durable and safe



Powerful inverters and intelligent energy management



Forward looking power storage solutions increase the fraction of self-consumed solar energy while decreasing dependence on utility companies

## Our solar modules – highly efficiency meets durability

The solar panels are of pivotal importance for the lasting success of your installation. We therefore make no compromises when it comes to quality, using only the very best products from world-leading manufacturers. Favourable prices and long-term peak performance don't have to be a contradiction.

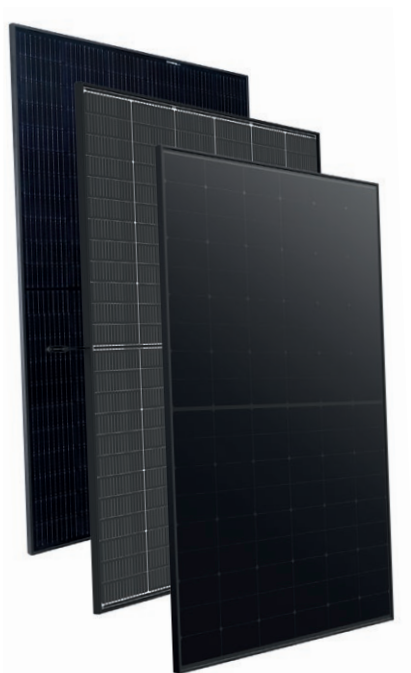
### Strong and versatile performers

To enable us offering truly optimal solutions for any customer requirement, we cooperate with world leading tier one PV mod-ule manufacturers.

Our partners use state of the art manufacturing methods while employing the most innovative and resource saving technologies in existence. They meet the highest quality and safety standards, ensuring a sustainable and ecologically sound production.

### Benefit from these advantages:

- Highest panel efficiency (up to 20 %)
- Low performance fluctuations
- Solid Guarantees - up to 30 years on product and on performance
- Test seals and quality certificates
- Outstanding value-for-money ratio
- Short energy amortization period
- Environment-friendly production



MEYER BURGER





# LOW CO<sub>2</sub> Climate-friendly Mounting Systems

## TRIC Mounting Systems

Sustainable and climate-friendly energy systems are our passion. We are continuously reducing the CO<sub>2</sub> footprint of our mounting systems.

Our TRIC mounting systems are produced exclusively from certified aluminum products with low CO<sub>2</sub> emissions, manufactured in European aluminum plants.

With currently only 3,3 kg of CO<sub>2</sub> emissions per kg of aluminum, the production of our TRIC products generates less than a quarter of the global average.

## Regional added value

We also attach great importance to our long-standing partnerships with suppliers from the region. This guarantees not only short transportation routes but also the best product quality.

## Energy self-sufficient production

TRIC mounting systems are manufactured at our site in Kirchhain in our solar factory, which is 90 percent energy self-sufficient.

## Quality and security

We only process permanently quality inspected material that meets the highest engineering standards. Our innovative, patented TRIC clip system received a general type approval under the Construction Products List of the German Institute for Building Technology (DIBt). All components are structurally optimized and TÜV certified.

Deutsches  
Institut  
für  
Bautechnik

DIBt



Patent No. 2246577

## TRIC - LOW CO<sub>2</sub>

- Minimal CO<sub>2</sub> footprint
- European aluminum plants
- Regional added value
- Short transportation routes
- Long-term partnerships
- Made in Germany



## Efficient inverters for your solar success

As interface to public power grids, inverters play a role of delicate importance. To assure reliability and the highest possible yields, they need to be carefully fine tuned to the respective installation.

### High performance and efficiency

As with all product segments we only utilize components and products from top of the range manufacturers. Equipped with the latest available technologies they guarantee maximized yields, trouble free integration with household grids, secure and reliable grid-feed connections as well, of course, a very long operational lifetime.

We grant a five year warranty on every product.

### A perfect match for every situation

Our inverters convince with modern design, installation safety and flexible modes of communication. Individually matching the units to each system's size, setup and module types meet every imaginable challenge – from single family home to utility scale solar power plant.

### Always in touch

Numerous data communication interfaces or factory integrated datalogging allow for permanent monitoring and/or control of all inverter system parameters.





## Intelligent energy management

### Clever use of solar power

Energy management systems constantly optimize solar power utilization based upon momentary household energy balances.

The intelligent inverters recognize energy saving potentials and for example increase the fraction of in-house consumption by employing weather forecast guided automatic switching of applicable loads. Time variable electricity tariffs can also be accounted for as part of a truly holistic energy management.

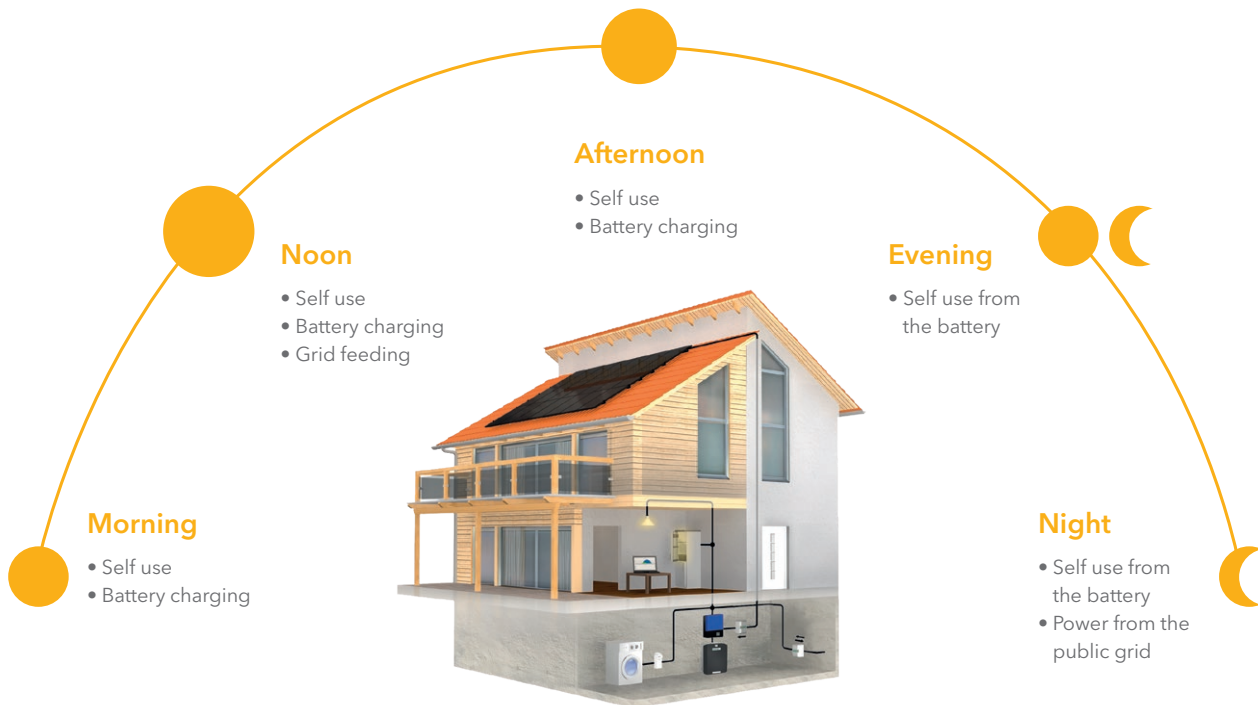


### Innovative monitoring

All our communication solutions are particularly user friendly yet meet the highest expectations - technologically, functionally and in terms of design.

Electricity yields, power consumption and energy balances are displayed in a clear and accessible way via exclusive web portals available free of charge.

Access to system parameters and performance data is possible at any time, around the globe.



## Pure sunlight - around the clock

Our intelligent storage systems are designed to boost the in-house consumption fraction of self-generated solar power. Break free from the power companies - economically, efficiently and environment friendly!

### Profit and independence with self-utilized power

Each single kilowatt hour of your solar power that you cleverly utilize yourself reduces annual electricity costs and increases your independency from ever rising energy costs. In fact, the more electricity prices rise, the higher your return on investment in solar power and storage systems will be.

### Independent of time and weather

The batteries store the excess solar power your solar installation generates during the day and which you do not consume in real time. The stored power then is fed back on-demand into the household's own power system.

This approach allows you to make use of your solar power even during cloudy periods, in the evening or at night. Access to the public grid only becomes necessary if the storage batteries are emptied and the sun also does not shine.

#### YOUR STORAGE SYSTEM ADVANTAGES

- ✓ **Own consumption of solar power of up to 70%**
- ✓ **Notably reduced electricity bills**
- ✓ **More freedom from your utility company**
- ✓ **Straight forward visualization of the energy flows**



## Storage systems

The storage systems from Wagner Solar are the perfect combination of intelligent energy management and high-performance batteries. With our battery packages the sun will also shine for you at night.

### Forward Looking Power Storage

We trust in well-engineered and sustainable technology. All storage systems are equipped with highly efficient, durable and maintenance free lithium-ion or lead-gel batteries.

### Smart Home compatible

Intelligent energy management features automatic real-time analysis of all power flows to continuously assure the optimized utilization of all generated solar electricity.

The systems recognize energy saving potentials allow for cost effective operation of load intensive appliances such as washing machines, heaters, airconditioners, heat pumps and more. Automated E-vehicle charging is another possibility.

### The right storage solution for everyone

The modular design of our systems makes them suitable for a highly diverse range of applications, be it in private or commercial settings, for new installations or to retrofit existing plants. We always have the right solution.



**solar**edge

**fronius**  
SHIFTING THE LIMITS

**HUAWEI**

**BYD**  
Build Your Dreams

**SMA**

**fenecon**

**FOX**  
ESS

## The future drives electric



### Eco-friendly mobility

Electro-mobility is one potential pathway towards climate-friendly mobility, but only if electric vehicles are powered by regenerative electricity – e.g. from solar power systems. Use the surplus of your solar power system to charge the car batteries.

### Charging stations for electric vehicles

We offer the required charging technology. Our product range includes innovative charging stations with various control and monitoring functions as well as extensive accessories for private, commercial and municipal applications.

-  **Dynamic surplus charging**
-  **Communication with energy management systems**
-  **Own app allowing control and settings in the local network**
-  **Compatible with inverters from many manufacturers**
-  **Simple integration into the existing electrical installation**
-  **Customized solutions possible**





## Are you ready for solar power? Get started now!

### FIVE STEPS TO YOUR SOLAR POWER PLANT

#### STEP 1:

##### CHOOSE YOUR PARTNER AND PLAN

Choose a Wagner Soar partner in your region. We support them in location analysis and development of customized solutions. We use our professional tools to calculate the performance data of the installation and to draw up the detailed construction plans.

#### STEP 2:

##### FUNDING, PROMOTION, TAXATION

Inform yourself about favorable financing conditions and access available regional and state financial support. Talk to your tax consultant about possible write-off options.

#### STEP 3:

##### INSTALLATION AND START-UP

Insist on quality components and be aware that your solar success depends on every single one of them. Your installer will be happy to advise you on the merits of components and manufacturers.

#### STEP 4:

##### DON'T FORGET INSURANCE

Certified quality, highest efficiency and longevity are the hallmarks of our installations. Nonetheless you should insure yours as a protection against, for example, natural disasters or vandalism.

#### STEP 5:

##### SECURING YIELDS

From here on everything works by itself. The sun delivers the energy, your installation works for you, and the payment from your grid operator automatically comes your way.

**Congratulations on your own solar power station!**

# Power. Heat. Future

We are solar pioneers with foresight and have been successfully working with the sun for more than 45 years.

As a one-stop systems supplier we stand for integrated sustainable solar power, solar heat and mounting systems.



Wagner Solar has a constantly expanding international distribution network.