



SMA ENERGY SYSTEM HOME

My Home. My Energy. Our Climate.

Save on your energy costs and shape the energy transition with solar power.



Generate solar power for optimal consumption



Store solar power and use it flexibly



Manage and distribute solar power



Refuel with solar power



Heat with solar power



Gain independence from the grid with solar power



Get your electricity from 100% renewable sources





Your SMA Energy System Home

The sun delivers valuable energy to your home every single day – completely free of charge. A PV rooftop system allows you to generate electricity for your home, save up to 80% on your energy costs and contribute to the energy transition.



**One system.
Everything from a single source.**

SMA Energy System Home is the perfect combination of high-quality equipment, smart software and exceptional service. Its modular design means that getting started is easy and your system can be upgraded to suit your budget and requirements anytime, with no hassle.



Generate solar power
for optimal consumption

— 04



Store solar power
and use it flexibly

— 06



Manage and distribute
solar power

— 08



Refuel with
solar power

— 10



Heat with
solar power

— 12



Gain independence from
the grid with solar power

— 14



Get your electricity from
100% renewable sources

— 16



Sun from the rooftop for your home.

Generate your own solar power and consume it efficiently.

SMA Energy System Home helps you cut your energy costs permanently, starting now. Harness the unlimited power of the sun to generate cost-effective and sustainable solar power. No more dependency on energy providers and no more worries about rising electricity prices.

How to produce your own electricity.

SMA Energy System Home allows you to generate your own green electricity with your very own rooftop PV system. The electricity you do not use yourself is automatically fed into the utility grid and you will receive a feed-in tariff for it. Alternatively, you can store the electricity in a battery for later use. On the following pages you will learn how a storage system can make you even more independent of utility companies.

Good to know: The SMA Energy System Home already meets all technical requirements of the energy market of the future. SMA makes selling your solar power easy.

SMA Energy Systems benefits

- Quick and easy installation, can be flexibly expanded.
- Compact design means minimum space requirements.
- Maximum yields even with shading.
- Free monitoring with the SMA Energy app.

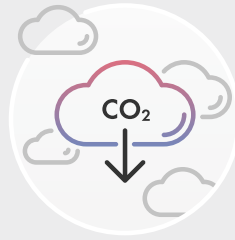
Benefits



Up to 30% lower energy costs.



Protection against rising energy prices.



Your contribution to climate protection.



Additional income from grid feed-in.

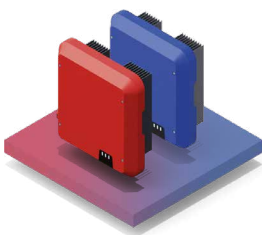
SMA inverter

The heart of your personal PV power plant.

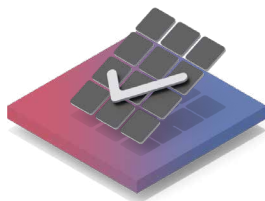
An SMA inverter from the Sunny Boy or Sunny Tripower families is the core of your SMA Energy System Home. It converts the direct current generated by the PV modules on the roof into standard alternating current for domestic use. Thanks to ShadeFix, your SMA inverter delivers maximum yields even if some of your solar panels are shaded.



System components



Sunny Boy or Sunny Tripower:
An SMA inverter that converts solar power (direct current) into usable alternating current.



SMA ShadeFix:
A software-based shade management system integrated into the inverter that is used in systems with light to medium shading.



SMA Monitoring:
The SMA Sunny Portal and SMA Energy app monitoring tools allow you to easily manage and clearly visualize your energy system.



SMA Smart Connected:
A feature that automatically monitors your inverter and, if necessary, initiates immediate troubleshooting.



Keep the solar power flowing. Even when there's no sun.

Store solar power and use it flexibly.

Sometimes your PV system generates more power than you need. A battery-storage system allows you to store solar energy for later use.

Solar energy at your disposal 24/7.

Solar power is not always available when you need a lot of electricity, for example, in the evening or when you want to charge your electric vehicle. In these situations you need to buy expensive grid power.

The smart alternative: store your valuable resource in a battery-storage system until you need it. This way, you will use even more of your own solar power with your SMA Energy System Home. It's doubly efficient, as feed-in tariffs typically do not offset grid power purchases.

SMA Energy Systems benefits

- Capacity to flexibly expand and connect up to three high-voltage batteries.
- Easy commissioning via integrated web interface.
- Suitable for outdoor installation.
- Ten-year warranty.

Benefits



Up to 45% lower energy costs.*



Benefit from solar power while you're sleeping.



Optimize your solar power consumption by storing what you don't need right now.



Protection against rising energy prices.

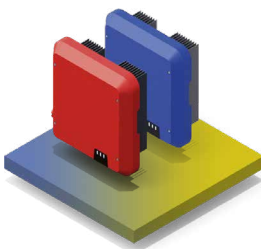
SMA Sunny Boy Storage battery inverter

Delivers solar power even when the sun is not shining.

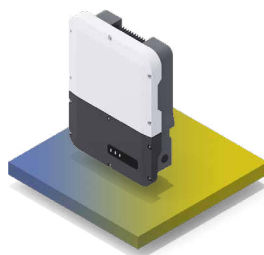
The SMA Sunny Boy Storage battery inverter allows you to store your solar power in one or even multiple batteries. The stored power is available when the sun does not shine – you can even use it when the power grid fails. Your Sunny Boy Storage will supply the connected appliances with electricity from the battery. And the optional backup function even enables it to take over the electricity supply for the entire household.



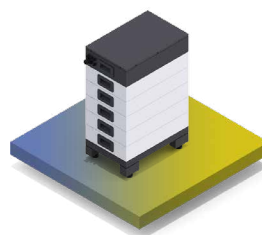
System components



Sunny Boy or Sunny Tripower:
An SMA inverter that converts solar power (direct current) into usable alternating current.



Battery inverter:
Sunny Boy Storage ensures that your solar power is stored in the battery and is available again as and when needed.



Battery:
Efficiently stores the solar power and makes it available again as and when needed (batteries from external partners, for example, BYD or LG Chem).



SMA Monitoring:
The SMA Sunny Portal and SMA Energy app monitoring tools allow you to easily manage and clearly visualize your energy system.

* When you implement the first two applications.



Manage your power intelligently.

Let your appliances go solar.

Supply your home appliances with solar power, charge your electric vehicle with climate-friendly power, and manage your heating cost-efficiently. Your SMA Energy System Home does all of it fully automated. Intelligent energy management allows you to use your valuable solar energy with maximum efficiency.

The smarter way to manage your household power supply.

Sunny Home Manager 2.0 combines all energy flows in your home to create an intelligent system. If needed, it can even control them automatically to help you get the most out of your solar power. The energy manager produces daily yield forecasts using satellite weather forecasts and your own consumption analysis. Based on this information, the Sunny Home Manager 2.0 can predict when a lot of solar power will be available and when it is the perfect time to start the washing machine.

Home appliances communicate directly with the Sunny Home Manager via compatible interfaces or can be integrated into the energy system with compatible radio-controlled sockets.

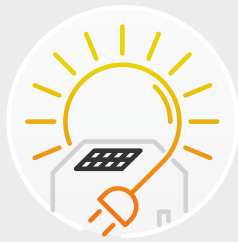
SMA Energy Systems benefits

- Optimum usage of self-generated solar power in the household.
- Home appliances can be easily integrated using radio-controlled sockets and controlled by the Sunny Home Manager 2.0.
- Home appliances can be integrated directly into the system and controlled via the EEBUS interface.

Benefits



Up to 60% lower energy costs.*



Optimize your solar power consumption.



Energy management saves money without sacrificing comfort or convenience.



Power generators and appliances can be combined in an integrated energy system.

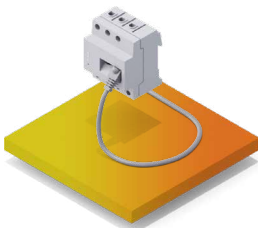
Sunny Home Manager 2.0

The SMA Energy System Home control center.

Connected to all key household appliances, a battery-storage system, an electric vehicle and the PV system, the Sunny Home Manager always knows how much energy is available and where it is needed. With the help of satellite weather data and PV performance prediction (from Sunny Portal), the energy manager is able to adapt its forecast to local conditions (for example, shading). Whenever possible, your appliances will run during the day, when they can use your solar power, instead of at night, when they would need expensive grid power.



System components



Energy manager:
The Sunny Home Manager 2.0 is the intelligent control center of your SMA Energy System Home. It automatically monitors and controls all energy flows in the household so that you can make the most of your solar power.



SMA Monitoring:
The Sunny Portal monitoring portal or the new Energy app allow you to monitor SMA energy flows as well as visualize and control the performance of your SMA Energy System Home.



Intelligent home appliances:
can be integrated directly into the system and controlled via an EEBUS interface (for example, BSH home appliances).



Compatible radio-controlled sockets:
allow you to integrate additional appliances into the system and switch them on and off intelligently as required (for example, appliances from Edimax and AVW FRITZ!Box).

Basic component Partner component

* When you implement the first three applications.



Compatibility list for appliances



Driven by the sun.

Refuel with solar power.

With the SMA Energy System Home, e-mobility makes sense both environmentally and economically. It ensures that your electric vehicle will prioritize charging whenever your PV system is producing enough power.

A perfect match: PV system and e-mobility.

Your SMA Energy System Home knows exactly when you have enough solar power available to charge your car. It even knows when you can charge it for free. This way, you automatically use more of your own power and need to buy less from the grid. Every kilowatt of solar power in your electric vehicle's battery is turned into range for your car – it couldn't be easier, cleaner or more cost-efficient.

SMA Energy Systems benefits

- Integrated SMA Smart Connected service automatically detects faults and initiates rapid troubleshooting.
- Integrated blackout protection prevents the home connection from being overloaded.
- The charging process can be controlled conveniently via smartphone.
- Extra-fast charging thanks to the boost function.

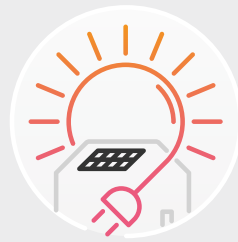
Benefits



Up to 70% lower energy costs.*



Climate- and resource-friendly mobility – without fossil fuels.



Use more of your own solar power with smart energy management.



All home appliances are combined in a single system.

SMA EV Charger

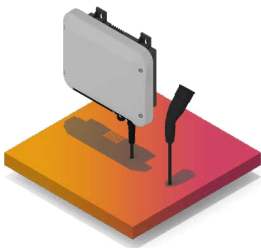
Fast, green and cost-efficient charging.

Combined with the SMA Sunny Home Manager 2.0, the SMA EV Charger automatically prioritizes solar power for charging your electric vehicles. And when time is of the essence, it charges your car extra-fast. Integrated protection against overloading the home connection means that you can always charge your car at the maximum charging speed. Not only is this reliable, but it also saves you time and money.

With the brand new Energy app you can easily control the charging process of your electric vehicle.

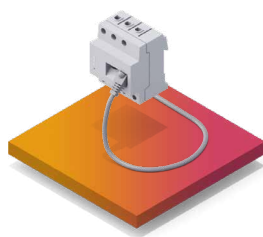


System components



Charging station:

The SMA EV Charger intelligently and sustainably prioritizes charging your electric vehicle with self-generated solar power – and especially quickly if you're in a hurry.



Energy manager:

A 360° energy manager, the Sunny Home Manager 2.0 also manages your e-mobility.



Charging via the app:

With the SMA Energy app, you can keep an overview of all the relevant information about your system and control the charging process with the SMA EV Charger via your smartphone.



SMA Smart Connected:

A feature that automatically monitors your EV Charger and, if necessary, initiates immediate troubleshooting, ensuring that you stay mobile.

* When you implement the first four applications.



Zero-cost heat.

Heat with solar power.

With SMA Energy System Home, you can use your self-generated solar power for heating and hot water. You'll save on your utility bill and help protect our planet.

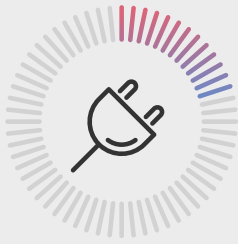
Heat with solar power – day and night.

When you integrate your heating into the SMA Energy System Home, you convert solar power into hot water for heating, taking a shower or bath, or doing the dishes. You'll use more of your own, self-generated power, reduce your heating bill, and protect the environment.

SMA Energy Systems benefits

- Sustainable heating and immediate cost reduction.
- Numerous compatible devices from renowned manufacturers can be integrated into the heating system.

Benefits



Up to 80% lower energy costs.*



Climate-friendly heating - without fossil fuels.



Greater self-consumption of solar power through smart energy management.



All home appliances are combined in a single system.

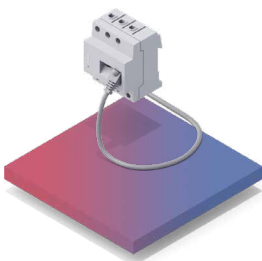
Sunny Home Manager 2.0

Cut your heating costs.

SMA Energy System Home allows you to operate a heat pump or heating element with your own solar power. Your Sunny Home Manager 2.0 controls the system so that solar power is prioritized for running the heat pump. Surplus energy is stored in a buffer storage system for use in the evening and at night, meaning that you will need less power from the grid in the evening.



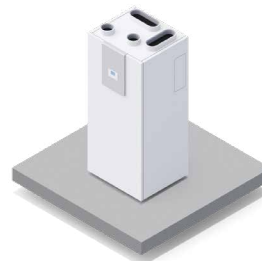
System components



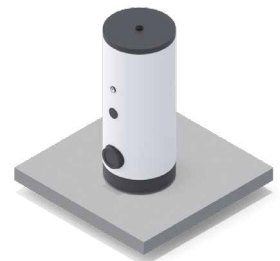
Energy manager:
Sunny Home Manager 2.0 intelligently supplies heat pumps and heating elements as well as appliances and e-vehicles.



SMA Energy app:
The SMA Energy app gives you all the relevant information about your system at a glance, whenever and wherever you are.



Compatible heat pumps:
The heat pump converts ambient heat into usable heat and uses electricity from the PV system in the most efficient way (suppliers include AEG Haustechnik, Stiebel Eltron, Vaillant and Wolf).



Thermal storage system:
Stores the heat produced by the heat pump for later use.

■ Basic component ■ Partner component

* When you implement all of the SMA Energy System Home's applications.



Compatibility list for appliances



100% independent.

Grid-quality solar power.

From the chalet in the Alps to an entire village – autonomous solar power supply systems work anywhere the sun shines.

Be self-sufficient with solar power.

Our SMA Energy System with battery-storage system provides reliable, grid-quality solar power for homes, lodges, commercial and industrial enterprises, and even remote islands. In regions with low electrification rates, it enables sustainable economic development without diesel fuel.

SMA Energy Systems benefits

- Flexible options: single-phase operation or single-cluster system for three-phase off-grid and backup systems.
- Reliable energy supply thanks to high overload capability.
- Two AC connections enable an uninterruptible stand-alone grid supply.
- Ten-year warranty if you register with Sunny Portal.
- Modular expansion at any time.

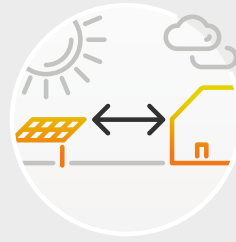
Benefits



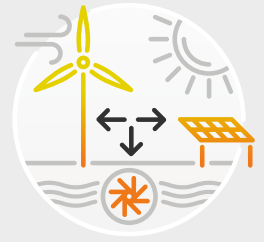
100% independence from the grid. Electricity and diesel cost savings.



Modular systems can be expanded if energy consumption rises.



AC coupling allows for long distances between energy sources and loads.



Several energy sources can be combined.

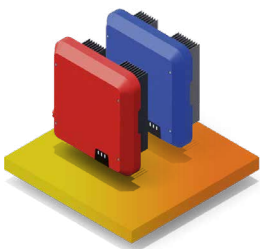
SMA Sunny Island battery inverter

Stand-alone grid without diesel generator.

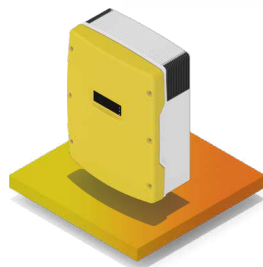
The SMA Sunny Island battery inverter is the heart and brain of any off-grid system. With its high overload capacity, the robust device reliably takes care of all load and generator management and can be expanded on a modular basis at any time.



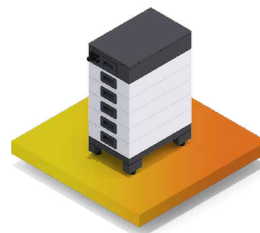
System components



Sunny Boy or Sunny Tripower:
An SMA inverter that converts solar power (direct current) into usable alternating current.



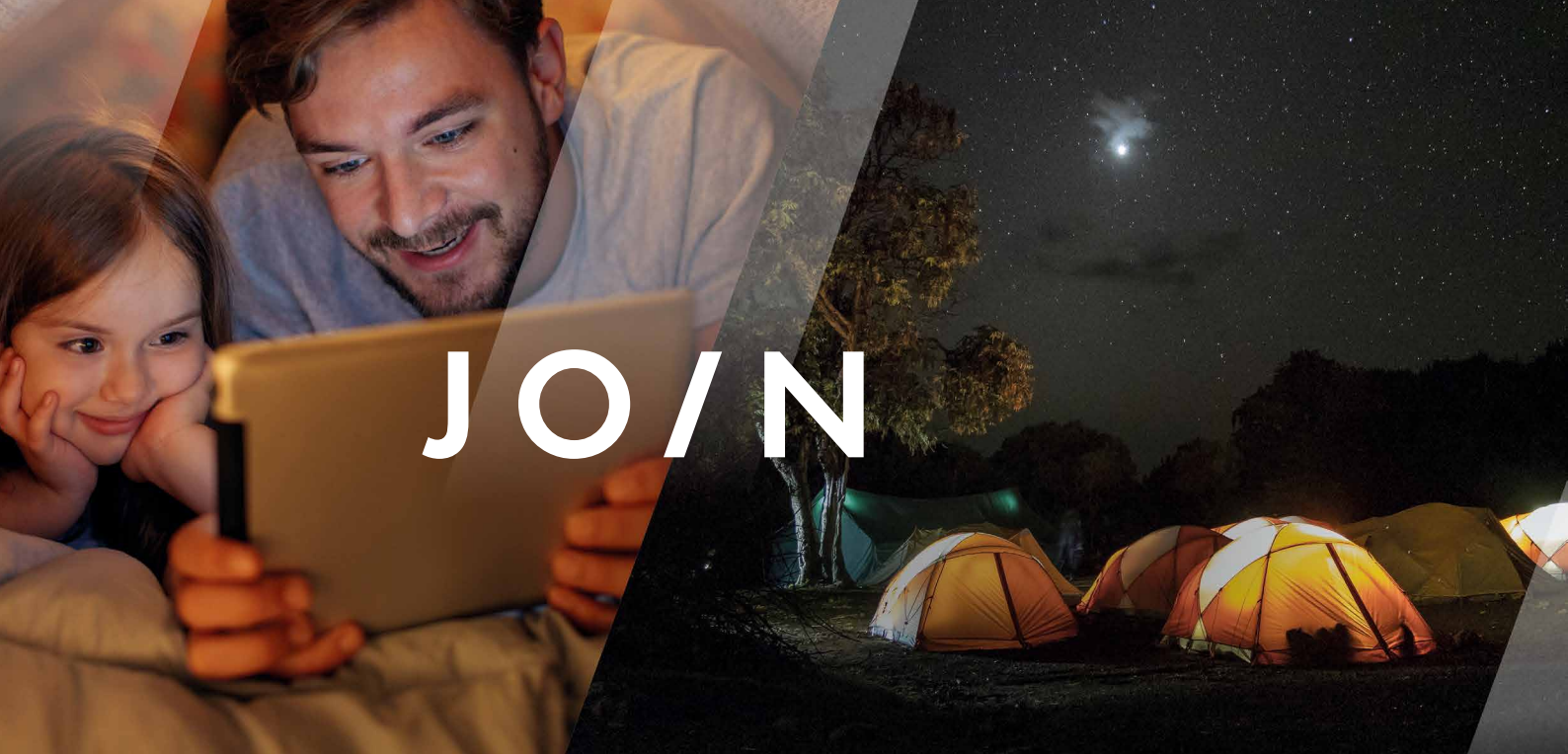
Battery inverter:
SMA Sunny Island manages the off-grid system and ensures grid quality.



Battery:
Efficiently stores the solar power and ensures a reliable energy supply (batteries supplied by external partners, for example, BYD or LG Chem).



SMA Monitoring:
The Sunny Portal monitoring portal or the new Energy app allow you to monitor SMA energy flows as well as visualize and control the performance of your SMA Energy System Home.



JOIN



Your electricity tariff for the energy transition at home.

Get your electricity from 100% renewable energy sources.

With or without your own PV system – SMA JOIN makes you independent of coal and nuclear power. Play an active part in shaping the energy transition and ensure even greater sustainability inside your own home.

SMA JOIN is an electricity tariff based on 100% renewable energy sources supplied by predominantly decentralized plants in Germany – designed for anyone who wants to be part of the energy transition now.

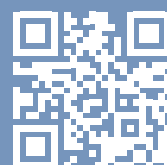
**Our vision:
100% renewable energy for everyone.**

Through their SMA Energy Systems Home, millions of system operators already contribute to the energy transition. Our goal is to combine solar power generation and procurement to create the largest sustainable power plant in Germany. Sunshine is just a click away with SMA JOIN.

Good to know

- If you already have a Sunny Portal account, changing tariff is even easier and faster.
- Even if you don't have your own PV system you can become part of the solar community and use the electricity tariff.

Find out more about electricity tariffs here: *

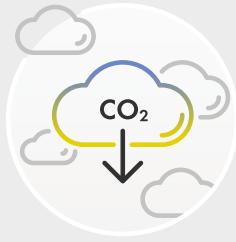


* Only in market Germany available.

Benefits



Help drive the energy transition as part of the community.



You can be independent of coal and nuclear power.



No minimum contract period, no fixed contractual obligations.



Guaranteed pricing* allows for better planning.

* On the price components that we can control.

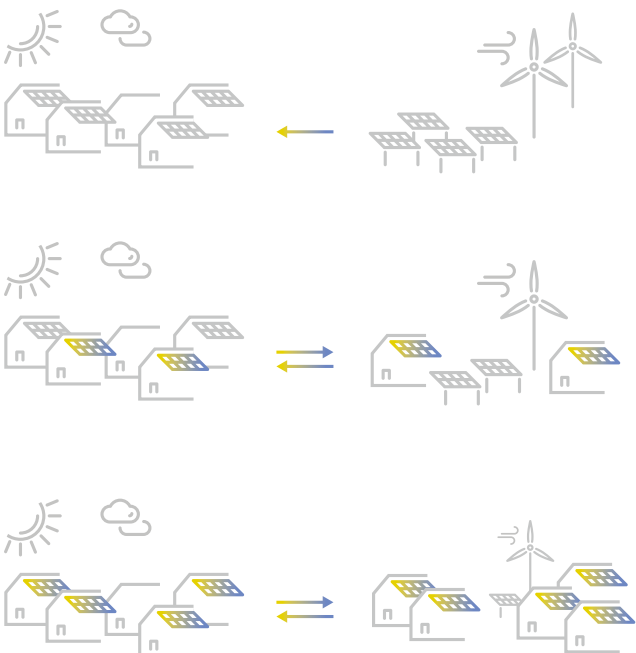
SMA JOIN electricity tariff

For the shapers of the energy transition.

Based on factors such as the size of the system, electricity demand and weather and seasonal fluctuations in generation, part of the electricity will come from the electric utility company. Yet this balance holds great potential. With SMA JOIN, you can supply your household with 100% renewable electricity.



The path to the solar community



Today: With the electricity tariff from 100% renewable energy sources you can help shape the energy transition and get electricity from decentralized renewable power generation plants.



Tomorrow: PV system operators will feed surplus solar power into the solar community and turn SMA JOIN into the solar power tariff.



Beyond tomorrow: Reap the benefits of solar power at the touch of a button as part of the solar community with SMA JOIN.



When the power you need comes from your own rooftop.

The Butterweck-Werner family relies on solar power. They gradually expanded their PV system to include an energy management system, battery storage and e-mobility. As a result, the family from Kassel, Germany, needs to buy very little electricity from the grid.

Objectives

Generate and supply the household with clean, cost-efficient solar power and become independent from utility companies.

Solution

Installation and modular expansion of an SMA Energy System Home. The basic system was complemented by a storage system and smart energy management.

Result

- Up to 90% of energy consumption covered by self-generated solar power.
- Monthly electricity bill cut down to less than €20.
- Integrated electric car powered by clean, green solar power further reduces the family's carbon footprint.

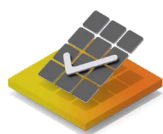
Household appliances powered by the sun.

When the Butterweck-Werners were planning their new home in 2009, one thing was clear: they needed a PV system. Their sustainable, low-carbon lifestyle is something they want to pass on to their son. With their PV system, the family of three wanted to cover as much of their energy consumption as possible with their own power and save big on their utility bills.

The energy in the new home is green and self-generated. The 13.455 kWp PV system generates exactly 11,033 kWh of solar power per year and supplies electricity for the washing machine and dishwasher from the rooftop PV system. Self-generated green power is also used to provide warm water and energy for heating.

Your SMA inverter can do more.

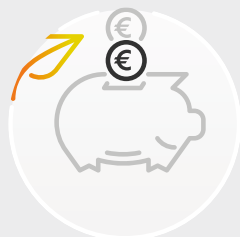
With SMA inverters, you benefit from an exceptionally slim system design. Our devices already contain everything you need for a reliable and highly sustainable energy supply. Smart features optimize the yield of your PV systems in every situation at no extra cost.



SMA ShadeFix

It is not always possible to prevent dormer windows, chimneys, trees and other obstructions from casting shadows on PV modules. Our proprietary inverter software optimizes your energy yield automatically and in every situation.

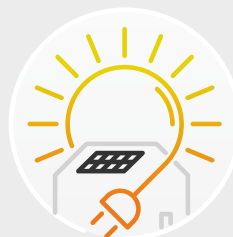
Benefits



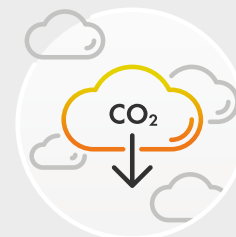
Higher yield in every situation and over the entire lifetime of the system.



Enhanced reliability due to fewer components.



Longer service life thanks to tried-and-tested SMA quality.



Greater sustainability through efficient complete solutions and high recyclability.



SMA Smart Connected

In case of malfunction, our free inverter monitoring function provides your installer automatically with the right diagnosis so that he can service the device with pinpoint accuracy, minimizing downtimes for your system.



SMA Energy app

The SMA Energy app allows you to keep track of your home's energy balance at a glance. You can see exactly whether the washing machine, dryer, dishwasher and heating system are currently using solar power or grid current. You can also charge your electric vehicle conveniently via your smartphone.



**We design future.
From all angles.**



Sustainable in every way.

State-of-the-art test centers guarantee supreme quality.

In our certified test centers and our own PV systems our inverters undergo extensive tests and quality checks. We can simulate the entire service life of our equipment in quick motion. This is how we ensure the longevity of our inverters in extreme weather conditions, from intense heat or biting cold to high humidity, sandstorms and ground vibrations.

Future-proof solutions for the digital energy transition.

The energy supply of the future requires intelligent platforms for comprehensive energy management. We use SMA ennexOS to combine electricity, heat and mobility securely and reliably. Our servers are located in Germany and have maximum protection against cyber attacks.

Suitable systems for global use.

For almost 40 years, our inverters have been contributing to a sustainable energy supply worldwide. In private homes, hotels, agricultural or commercial enterprises and in power plants. In cities, in the country, in deserts, on islands and on mountain-tops, even in Antarctica. Our devices and solutions function reliably even in the toughest of conditions and comply with all international standards.

A pioneer in the energy transition:

90 GW of installed SMA inverter power stops the emission of 59 million tons of CO₂ a year worldwide.

Innovation leader:

3,100 SMA employees work with our partners and customers to deliver innovative solutions for the energy supply of the future.

Leading supplier of storage systems:

2 GW of SMA battery inverter power enables a sustainable power supply around the clock all over the world. This makes us the leading supplier of storage system technology.

Data from 2019/2020



Why SMA?

For 40 years, our products and solutions have been paving the way for a climate-friendly, decentralized energy supply of the future.

We know that clean energy generation is not simply about developing the right technologies. It's also about how they are made. That's why we take a stance. We protect the environment and save resources. We use renewable energies. Our business is based on transparency, fairness and honesty. We adhere to these values at our workplace, in our daily business, throughout our organization and beyond. For a world worth having. Powered by us.



72 tons of CO₂

Amount of carbon dioxide SMA employees saved in 2019 by charging their electric cars with renewable energy at the company's own charging stations.



2001

This is the year the first PV system was installed at our headquarters. Today, our own PV systems cover 38% of our total electricity consumption in Germany. The remaining electricity we use is also renewable.



58%

less energy used to produce 1 kW of inverter output compared to 4 years ago.



€10.5 billion

of environmental damage was prevented in 2019 through the use of SMA inverters.¹

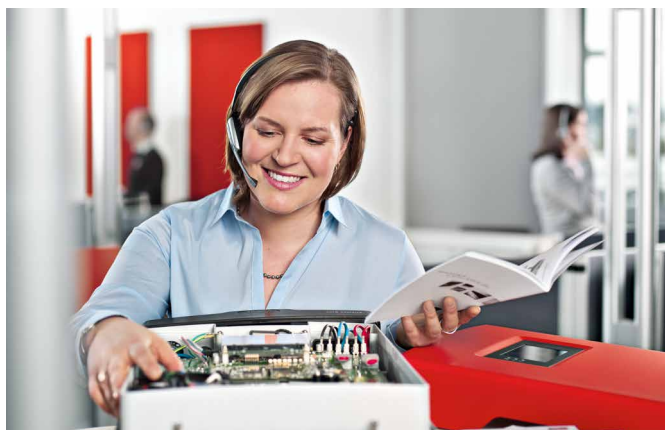


100%

transparency through our sustainability reporting in accordance with GRI standards.²

¹ Calculation: 85 GW total output of all installed SMA inverters x 1,300 kWh power generated per year x 0.53 kg CO₂/kWh x €180 per prevented ton of CO₂ emissions (source costs: Federal Environment Agency)

² GRI = Global Reporting Initiative www.globalreporting.org



SMA Service

SMA Service’s 40 years of experience make us an industry leader. Our SMA warranty gives our customers peace of mind. If your device needs servicing, we will provide a free replacement with all necessary updates. Your system’s downtime and yield losses will be reduced to a minimum.

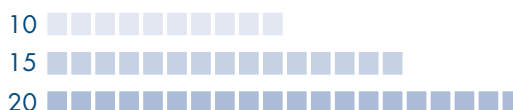
From hotline support to reliable service on-site, we are there for you when you need us. To allow us to process your inquiries more quickly, please register in the SMA Online Service Center so that we can respond quickly to your inquiries.

SMA warranty

Enjoy the benefits of our service warranty:

- Free replacement inverter with all necessary updates
- Fastest possible recommissioning of your SMA Energy System Home
- Minimum downtime and safeguarding of your yields

Extend your warranty to keep your system protected for a very long time.



years of peace of mind



SMA-Solar.com

