

# Generate up to 20% of your power requirements.

Free yourself from increasing power costs with innovative and fully integrated solutions to generate, store and utilise 100% sustainably generated energy.



Generate 100% renewable energy.



**Global presence:** GILDEMEISTER energy solutions operates a global service network in cooperation with 75 international GILDEMEISTER sales and service locations.



**MORE INFORMATION HERE!**

If your mobile phone comes with QR-Code recognition software, you will be directed to [www.gildemeister.com](http://www.gildemeister.com).

## → generate

→ **SunCarrier:** The SunCarrier is a **unique tracking system** which continuously aligns the surface of its modules with the current position of the sun via its vertical axis.

→ **WindCarrier:** The new generation of small wind turbines using the Darrieus principle with a rated power of 10 kW **guarantees efficient power generation.**

## → store

→ **CellCube:** A new generation of stable electricity storage devices – the long-life and low-maintenance vanadium-based **redox flow battery** provides **uninterruptible power, supplied for example by solar- or wind-powered systems.** The large, weather-proof battery is extremely low-maintenance and is therefore able to supply clean electricity 24 hours a day.

## → utilise

**Intelligent products and technologies for modern energy management:**

→ e-mobilitysolutions → telesolutions  
→ backupsolutions → off-gridsolutions  
→ industrialsolutions → powersolutions

→ Visit us at our **energy solutions Park** in Bielefeld and experience modern energy supply first-hand: Gildemeisterstrasse 60, 33689 Bielefeld, Germany

GILDEMEISTER energy solutions:  
Tel.: +49 (0) 931-25064-120, Fax: +49 (0) 931-25 064-102,  
energysolutions@gildemeister.com, [www.gildemeister.com](http://www.gildemeister.com)  
**a+f GmbH:** Carl Zeiss Strasse 4, 97076 Wuerzburg, Germany  
**cellstrom GmbH:** Industriezentrum NOE Sued, Strasse 3, Objekt M36, 2355 Wiener Neudorf, Austria

**GILDEMEISTER**  
energy solutions

# Solid construction with significant impact.

SunCarrier fixed | Fixed position elevated PV systems.



**green energy**  
Utilise 100% renewable energy!



**For every use**  
short construction times, flexible use, high-quality materials



SunCarrier solar park in Italy, Francavilla Nicola. 31 SunCarrier units provide a total performance of 1 MW.

## Fixed position elevated PV systems. Reliable technology for clean energy.

The sun produces approximately  $1.08 \times 10^{18}$  kWh of power annually, which is about 10,000 times the world's primary energy need. With the SunCarrier fixed, a significant part of this renewable energy supply can be converted into electricity and put to use. The SunCarrier fixed produces optimal energy yields and is characterised by a long lifespan.

→ The worldwide proven **SunCarrier fixed series** includes established fixed position elevated PV systems for locations where it does not make any sense economically to use tracking systems. More than **6500 SunCarrier units in operation worldwide** are proof of its efficiency and reliability.

In order to make area-wide use of solar energy in any condition, the fixed position elevated systems of the SunCarrier fixed series were developed. **High energy yield and low amortisation times** are herewith achieved. The solid construction using high-quality materials was designed with a **long lifespan** and **low-maintenance** operation in mind and can be flexibly adjusted to the local conditions.

→ **SunCarrier Services:** In addition to the **worldwide development and implementation of ready-made, large-scale projects**, we also offer our customers comprehensive service for operating solar plants. This includes monitoring, maintenance, immediate error correction and restoration as well as full technical and commercial operation management.



### **SunCarrier Services:**

Individual service packages depending on plant design.



### **SunCarrier Services:**

On customer request, PV plants can be monitored around the clock by our **monitoring centre**.

# The technology SunCarrier fixed

## → Solid construction with significant impact

The SunCarrier fixed is convincing in its perfect combination of clever design and high-quality materials. The fixed shelf construction was designed for the installation of photovoltaic modules from various manufacturers. It is made of cold-rolled steel profiles that are reliably protected against corrosion and display extreme rigidity.

The panel sizes can be flexibly defined so that an optimal use of the premises, right up to their borders, can be ensured. In addition, the system ideally adapts to the local requirements through the pitch angle of the module set to match local specifications between 20° and 30°.

Depending on the panel size and used module type, the SunCarrier fixed can be equipped with a capacity of up to 48 kWp per panel. To prevent vegetation from overshadowing the modules, sufficient spacing from the ground was taken into account when they were designed. Thus the ground can still be cultivated, for example for livestock, once the solar power plants have been constructed.

## → Benefits of the SunCarrier fixed

In addition to the optimal alignment of the module surface towards the sun, which is ensured by the pitch angle set to match local specifications, the SunCarrier fixed series provides an ideal balance of available module surfaces and materials that is to be implemented. The optimised and simple processes enable short panel construction times. The systems of the SunCarrier fixed series make allowances for sloping surfaces and can therefore also be installed under these conditions. Moreover, the systems can be easily adapted to various locations and ground conditions through different foundation options.

The special construction methods and planning of the systems for high wind and snow loads of the SunCarrier fixed provide attractive solutions for regions with special building regulations and weather conditions. Additional thermal effects for module cooling systems can be extracted from the know-how of the tracking systems and thus a surplus of 1% in comparison to conventional fixed position elevated systems can be gained.

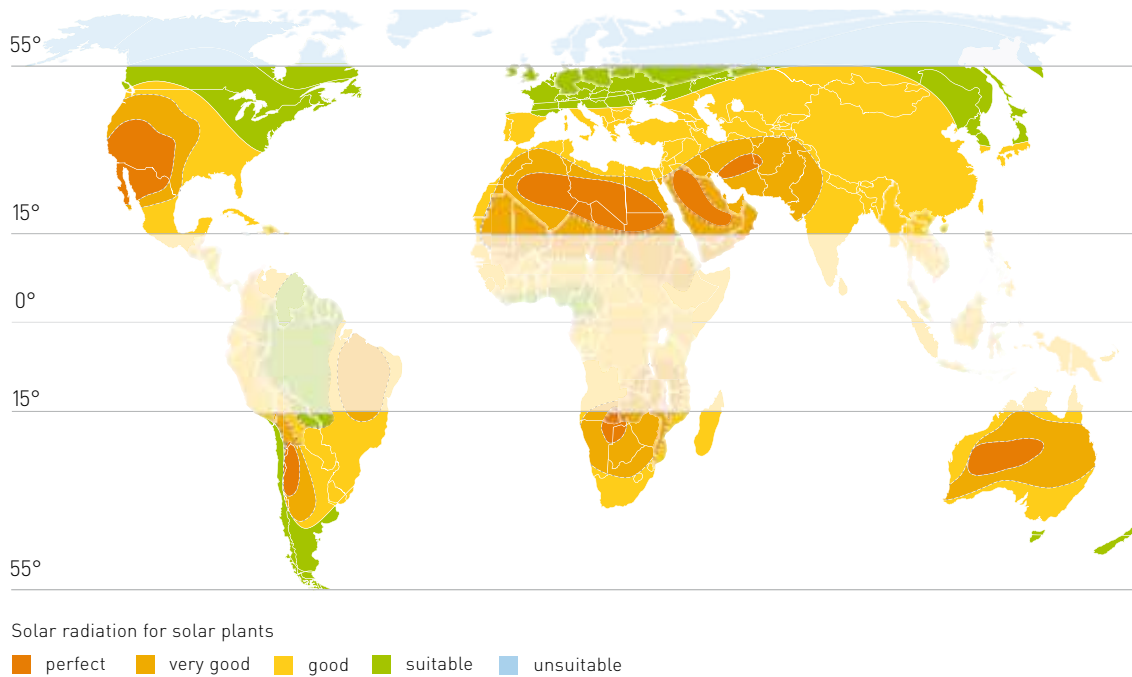


## → A suitable solution for every application

---

With the continuous expansion of our product series we extend and complete our offers for customers who place high demands on the profitability and long-term reliability of a solar park. With its intelligent design characteristics, the highest possible use of scaling effects and the ability to be installed at different pitch angles, the SunCarrier fixed is clearly superior to other fixed position elevated systems.

### Deployment: between 15° and 55° north or south latitude



## → Intelligent inverter concepts

---

To ensure optimal performance of the installations, GILDEMEISTER **energy** solutions counts on the advantages of decentralisation. The systems are designed in such a way that every panel can be equipped with a separate inverter. This improves the system's efficiency because of short DC cable lengths. In addition, highest possible availability is ensured, as even if an inverter should fail, only a small part of the overall generator power would no longer be fed into the grid. The inverters can be exchanged quickly and easily and, in comparison to central inverters, do not need any additional installation surfaces or heavy lifting devices.

# Technical data

## SunCarrier fixed

Fixed position elevated system	SunCarrier fixed
<b>Material</b>	Sendzimir galvanised pre-material
<b>Elevation</b>	Designed depending on the project requirements and according to the module type
<b>Foundation</b>	Screw-in foundation, concrete foundation, driven piles (depending on the ground conditions)
<b>Panel pitch angle</b>	Available between 20° and 30°, defined in the project design phase
<b>Assembly surface</b>	Depending on panel length and module size (up to 260 m <sup>2</sup> )
<b>Height over open ground</b>	Depending on module size and pitch angle (up to 4 m)
<b>Recorded power output*</b>	Up to 48,000 Wp* per panel
<b>Panel</b>	All common types and sizes can be used
<b>Foundation depth</b>	Depending on ground conditions, up to 4 m (screw-in foundation)
<b>Statics</b>	According to Eurocode 3 (Italy NTC 2008)
<b>Wind gust tolerance</b>	130,4 km/h
<b>Surface requirements</b>	Approximately 2.3 ha for 1 MW, depending on topography, location and vegetation
<b>Area of deployment</b>	Open space, 15°–55° of latitude, northern and southern hemisphere

\* Recorded power output: Watt peak = standard by which the power of solar cells and solar modules is measured, depending on the module type



SunCarrier fixed | 3-D visualisation | 40 m panel



SunCarrier fixed | 3-D visualisation | 40 m panel

Over  
**6.500**  
 SunCarrier units  
 installed  
 worldwide!



#### **Screw-in foundations**

Screw-in foundations are accurately screwed into the ground without the need for excavation. They are suitable for all ground types as well as slopes, and can be mounted flexibly and quickly. The galvanised screw-in foundations are characterised by their quality, lifespan and unproblematic dismantling and are thus particularly environmentally friendly. As alternatives to the screw-in foundations, concrete foundations or driven piles can be used.



#### **Frame design**

The frame design impresses with its well-thought-out structure, which is achieved through the optimised implementation of materials. In addition, excellent corrosion resistance contributes to the long lifespan of the frame. The construction adapts to the local conditions (wind and snow loads) with the help of a variable stringer span and ensures optimal use of materials. The triangular geometry of the supports ensures very high rigidity of the frame



#### **Profiles**

Sendzimir-galvanised pre-material, which achieves the typical sigma or C-form through roll forming, constitutes the basis of the SunCarrier fixed profiles. With the use of cold-rolled profiles, in comparison to conventional steel profiles, steel expenditure is reduced and high rigidity at low weight is achieved. Due to deliveries of profiles that are ready for installation, assembly times on the building site are reduced considerably.



#### **Panel**

All common module types can be installed with the SunCarrier fixed. The panel is optimally adapted to the local conditions and the module type during the project design phase. The pitch angle of the module surface can be adapted to local conditions between 20° and 30°. The mounting of the module is carried out with the support of clamps that have been certified by the module manufacturer.