SAVE | GENERATE | STORE | UTILISE

Free yourself from increasing electricity costs.

Generate a portion of your power yourself.
The GILDEMEISTER **energy solutions** park in Bielefeld.

15 %
of the required power is generated by renewable energy

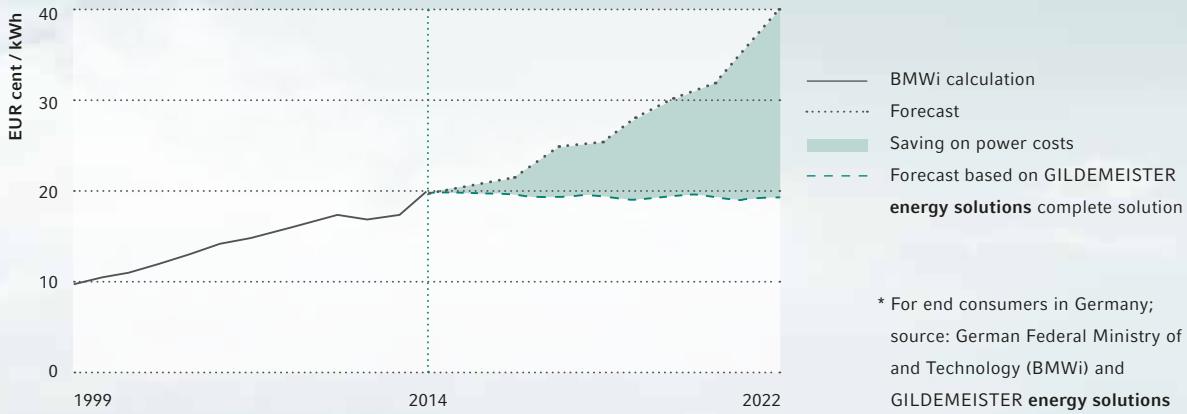
www.energy.gildemeister.com

GILDEMEISTER
energy solutions

The local energy revolution.

Generate your own energy revolution with a local, independent power supply. This gives you more independence from public power suppliers and political decisions. Let us use the DMG MORI site in Bielefeld as an example of how the sun and wind can be used efficiently and how you can even utilise your solar power at night.

DEVELOPMENT OF AVERAGE ELECTRICITY PRICES 1999–2022*



* For end consumers in Germany; source: German Federal Ministry of Economics and Technology (BMWi) and GILDEMEISTER **energy solutions**

25 %
energy saving in production

We can provide the solution to increasing power costs!

Companies and businesses which now use large quantities of energy will have to reckon on increasing energy prices. Decentralised energy systems reduce costs for your company and increase independence and supply reliability by taking the strain off the mains power grid.

Generate local power for your own consumption. The complete solutions for saving, generating, storing and utilising energy offer more independence from increasing electricity costs. Profitable applications that you can implement independently within your company include using solar and wind energy to cover basic-load and peak-load requirements and supporting emergency power generation for business-critical departments such as IT and administration. **Give yourself more independence from the mains power network – we'll show you how.**

Planned stages for energy-efficient solutions

For industrial and commercial customers.

SAVE ENERGY

- Energy efficiency analysis
- Optimisation of major consumers
- Sustainable energy monitoring

GENERATE ENERGY LOCALLY

- Using the SunCarrier range
- Using the WindCarrier

STORE ENERGY LOCALLY

- Using the CellCube FB 10/20/30
- Using the CellCube FB 200

UTILISE ENERGY

- Covering basic load
- Shaving power peaks
- Securing sensitive areas
- E-charging station

Improve your company's energy efficiency

Consciously saving energy and effectively generating, storing and utilising energy are worthwhile targets for any company. But efficient optimisation can only be developed on the basis of the analysis of the current situation in terms of energy consumption. In the first step, our energy experts will use an energy efficiency analysis and an individually designed energy monitoring system to optimise your location's energy needs. In the next step we will develop a solution and recommend an energy supply system for you. **The aim is: to save energy costs. We would be happy to advise you!**

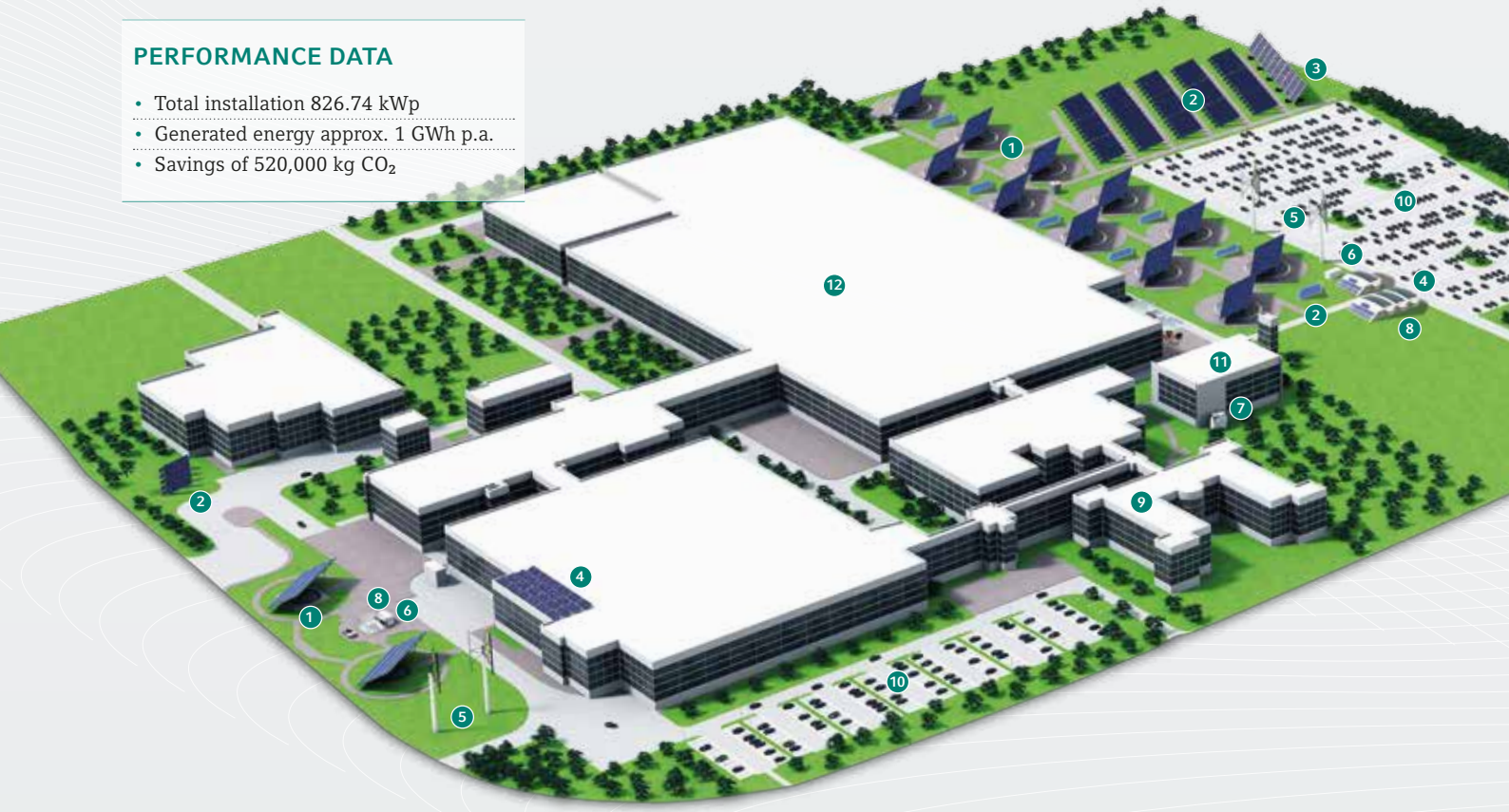
According to the economic viability calculation for the GILDEMEISTER **energy solutions** Park, and assuming a slight increase in electricity costs, an amortisation period of 8 years can be expected.

The DMG MORI energy project.

A systematic analysis of the current situation, introduction of an intelligent energy-management system and a few small investments have reduced the power costs for the hall lighting, air-conditioning and compressors in production and other areas of the business by **25 %**. Our mission: generate, store and utilise energy locally. **Approximately 1 GWh** of electricity is now produced at the Bielefeld site every year, thus saving **EUR 140,000**. The management building is now supplied completely independently. Lower levels of external power procurement and peak load shaving add together to savings of an additional **EUR 130,000** per year. At the same time, sensitive areas such as the IT department can be supported by energy produced in-house. Two state-of-the-art e-charging stations with fast charging options round off the profile.

PERFORMANCE DATA

- Total installation 826.74 kWp
- Generated energy approx. 1 GWh p.a.
- Savings of 520,000 kg CO_2



PERFECT OVERVIEW

With monitoring and control functions. The whole system incorporates new monitoring software to give a complete overviewof all current relevant operating data. Built-in information systems are installed at various sites across the **energy solutions** Park. The GILDEMEISTER **energy monitor** provides comprehensive overviews of the kilowatt hours generated and used. The data is processed and can be used for optimisation, decision making processes or an appropriate allocation of costs.

Bielefeld Energy Park in detail

1. 13 x **SunCarrier 250** (483 kWp)
2. 76 **SunCarrier 22** (222 kWp)
3. 6 x **SunCarrier Fixed** (37 kWp)
4. 3 x **Roof system** (28 kWp)
5. 3 x **WindCarrier** (30 kW)
6. 1 x **CellCube FB 13-130**
7. 1 x **CellCube FB 200-400**
8. **E-charging station and bike garage**
9. **GILDEMEISTER Group** building
10. **Car park lighting**
11. **GILDEMEISTER IT** building
12. **GILDEMEISTER** lathe factory

WINDCARRIER

- installed power: 10 kW nominal
- overall height: 14.25 m
- independent of wind direction
- low-maintenance and low-noise
- gearless principle – activation speed: 3 m/s
- space-saving, high yielding and reliable

CELLCUBE FB 30-130 AND 200-400

- intelligent storage system
- long life: >20 years
- vanadium redox flow principle
- flexible output and storage capacity (up to MW/MWh)
- high level of safety, non-flammable, non-explosive

SUNCARRIER 250

- completely low-maintenance, long life, simple to install
- very stable construction
- installed power: 483 kWp
- up to 45% higher energy yield through tracking system

SUNCARRIER 22

- type: azimuth tracking
- flexible »master-slave system«
- an additional yield of up to 35 % compared to fixed systems
- up to 4.3 kWp per wing
- installed power: 237 kWp

PHOTOVOLTAIC ROOF SYSTEM

- type: Schletter Alugrid
- steel construction: stainless steel
- installed power: 28 kWp

SUNCARRIER FIXED

- type: Fixed position elevated system
- steel construction: 100 % galvanised (type: S390)
- installed power: 37 kWp

ELECTRIC-MOBILITY INFRASTRUCTURE

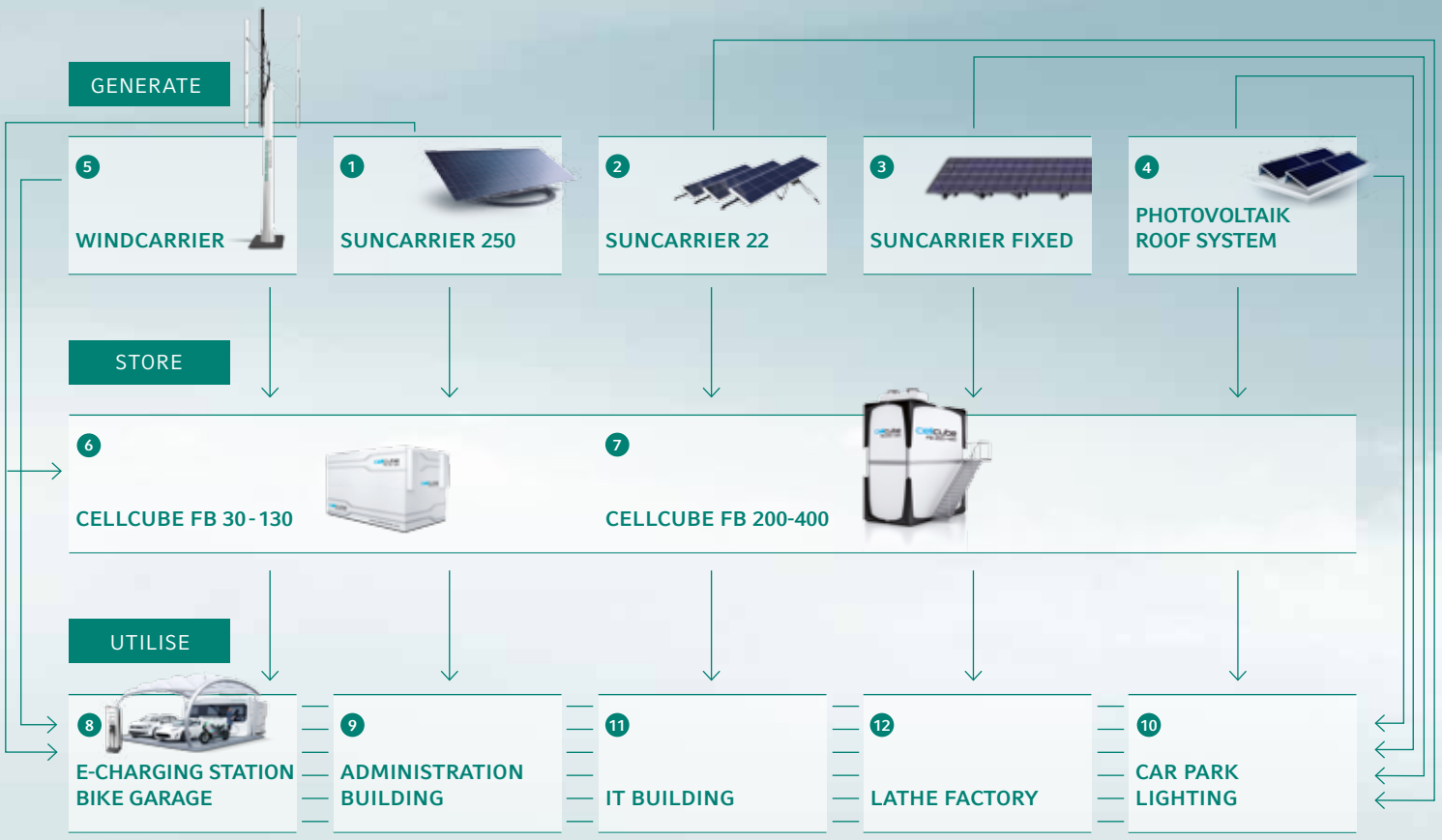
- 15 charging stations for different contact systems
- charging points with up to 50 kW DC, fast charge in less than 30 minutes
- RFID access control
- free e-fleet for employees
- emission-free and clean energy supply

GILDEMEISTER ENERGY MONITOR

- low integration expenses
- intuitive operation
- energy cost transparency across the company
- ready for ISO 500001

GILDEMEISTER ENERGY SOLUTIONS PARK IN BIELEFELD

Energy flow in the park.



HERE IS THE ANSWER TO RISING ENERGY COSTS

CellCube - The solution for decentralised fast charge.

SUNSHINE/ DAYTIME

Electric vehicles are charged using renewable energy. CellCube is charged at the same time.

Fast charge

CLOUDY

Electric vehicles are charged using renewable energy. CellCube provides energy to fill the shortfall of electricity.

Fast charge

RAIN/ NIGHTTIME

Electric vehicles are charged using energy from the CellCube. Grid provides energy to fill the shortfall of electricity.

Fast charge

For example, ...

... a BMW i3 can be charged in 30 mins and has a range of about 150 km.

... a VW e-Golf can be charged in 30 mins and has a range of about 150 km.

... a Tesla Modell S can be charged in 75 mins and has a range of about 450 km.

Advantages of generating, storing and utilising green energy

- freedom from increasing electricity prices
- reduced electricity purchase costs
- elimination of 520,000 kg CO_2
- 100 % CO_2 free e-mobility fleet with 50 kW fast charge from the CellCube
- load supply direct from renewable energies and the CellCube large battery
- GILDEMEISTER Aktiengesellschaft management building is independent in terms of energy
- energy cost transparency through the GILDEMEISTER energy monitor
- if the power fails, key areas such as the IT and administration buildings are protected

GILDEMEISTER
energy solutions

Energy-efficient complete solutions.

Energy efficiency in industry

Save energy

GILDEMEISTER **energy solutions** represents necessary and comprehensive awareness of energy, focusing on intelligent generation, storage and use of energy. It all starts with an energy efficiency analysis.

Energy solutions Park, Bielefeld, Germany

Generate energy

SunCarrier: The SunCarrier is a unique tracking system, which continuously aligns its module face to the current position of the sun.

WindCarrier: The small wind turbine according to the Darrieus principle with a nominal power rating of 10 kW guarantees efficient generation of power.

Energy solutions Park, Bielefeld, Germany

Store energy

CellCube: The vanadium-based energy storage system with a long service life offers interruption-free supply of power. It is available with power ratings from 10 to 200 kW and a scalable capacity up into the MWh range. In this way base load coverage, power peak limiting and safeguarding of sensitive areas can be guaranteed at all times.

DECKEL MAHO Seebach, Germany

Utilise energy

Intelligent products and technologies for modern industry:

- **E-mobility solutions**
- **Industrial solutions**
- **Backup solutions**
- **Off-grid solutions**
- **Tele solutions**
- **Power solutions**

Our energy experts and their team would be happy to work out a concrete plan to sustainably lower your energy costs.
Give us a call on: : +49 (0) 931 250 64-120

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All information here!

If your mobile phone has QR software installed, you can go directly to www.energy.gildemeister.com

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