



Energy self-sufficiency: Office complex with direct self-consumption and storage

## EnFa – Die Energiefabrik, Germany

Photovoltaic systems for self-consumption are a worthwhile investment for any business owner, one that can help you safeguard your competitive advantage and independence over the long term. Even in low-sunlight Germany PV solutions for businesses currently produce electricity at a cost of around 10 cents per kilowatt hour — making PV power far less expensive than public electricity.

» I wanted to proof that in 2014 we are already able to realize a stable and economically attractive energy supply exclusively from renewables. «



Friedhelm Widmann, Widmann Energietechnik GmbH

### System information

■ Annual energy demand:	155,000 kWh
■ Plant size:	112 kWp
■ Photovoltaic system cost (including storage):	€220,000
■ Electricity procurement costs avoided over twenty years (2.5% electricity price increase p.a.):	€436,800

IBC SOLAR and its Premium Partner Widmann Energietechnik have been granted the Intersolar Award 2015 for this project.



# Decrease electricity costs and be self-sufficient with photovoltaic systems for self-consumption.

## The challenge

- ❑ Office complex with no power grid connection
- ❑ Energy from renewable sources: Combination of PV, heat pump and CHP

## IBC SOLAR's solution

- ❑ Premium Partner support for Widmann Energietechnik GmbH: Including PV Manager to plan and design customized PV self-consumption system with storage solution
- ❑ 100 % IBC SOLAR components: Mounting systems, modules, inverters, and 400 kWh battery storage

## Result

- ❑ 100 % self-sufficient "energy factory"
- ❑ PV electricity: 100% self-consumption 80% of total energy supply
- ❑ Financial planning security and independence

## 100 % self-consumption; 100 % independence

EnFa Energiefabrik (Energy Factory) is a self-sufficient office complex that sets new standards for the future. EnFa is not connected to the power grid, but covers all of its power needs using renewable energies — thanks to a clever combination of different sources and a specially developed energy management system.

During the day, when the complex is in use, the PV system runs at full capacity, delivering electricity for direct self-consumption. The system makes good use of excess solar power as well, feeding it into a 400 kWh battery storage unit and using it to power the company's electric vehicles. Thanks to all of this, 80% of the company's total energy demand is covered by the sun.

A 40 kW combined heat and power station (CHP) kicks in on low-radiation days. A heat pump takes care of the building's heating and cooling needs.

The man responsible for developing and building EnFa is solar-energy entrepreneur Friedhelm Widmann, one of IBC SOLAR's Premium Partners — and a true visionary when it comes to the energy of the future.



EnFa battery compartment - total capacity 400 kWh