Maximising solar self-consumption

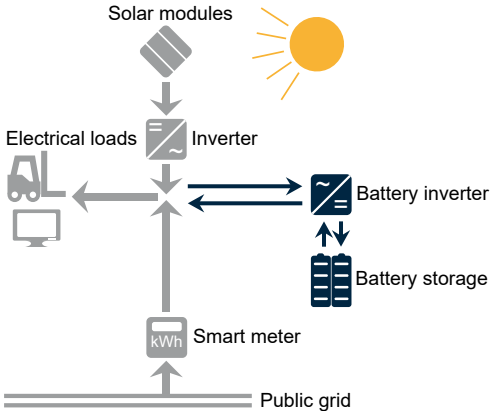
Use more inexpensive self-generated solar power and reduce your company's overhead costs with an energy storage system

Background

Depending on the type and size of your company, electricity expenses can represent a major cost factor in your financial statements. These costs can be easily and reliably reduced by a solar electric installation, but only in the very sunny times of the day. In the mornings and evenings when solar insolation is not at its peak level, expensive power from the grid needs to be purchased. In contrast, during the midday hours inexpensive excess solar power is exported to the grid.

Solution

By installing a **battery storage system**, excess energy from the photovoltaic system can be stored and used at a later point of time, thus minimizing the use of expensive power from the grid.



Challenges

- ✘ high costs for buying power from the grid
- ✘ electricity demand partly takes place outside sunny hours
- ✘ cheap excess solar power is exported to the grid
- ✘ **savings potential of solar electric system is not fully unlocked**

All advantages at a glance

- ✓ higher return on investment for your solar system
- ✓ less use of expensive power from the grid
- ✓ more independence from rising electricity prices
- ✓ **fast amortisation**

Which types of businesses are suitable?

Basically, the following factors have a positive impact on the return on investment by maximising solar self-consumption:

- large roof areas
- high electrical power consumption
- electricity consumption outside sunny hours (e.g. mornings or evenings)
- a high reference electricity price (more than 17 c / kWh)

Typical businesses are:

- office buildings
- manufacturing / craft businesses
- agriculture
- warehouses
- industry and production

Energy storage systems pay off even faster by combining various uses, e.g. peak load shaving and/or emergency power supply.

Examples

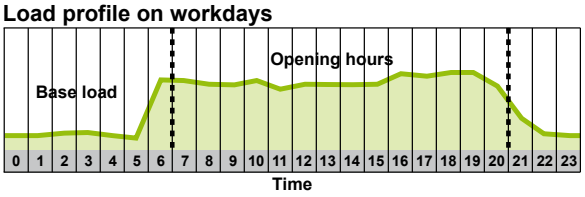
Supermarket

A supermarket is a typical example of a business that is characterised by **high power consumption** in the morning and in the evening hours when the solar system is in off-peak production. By including a battery system into this setup, the share of self-consumption of inexpensive solar power has been increased significantly. In addition, the use of electricity from the grid has been reduced during peak demand intervals.

Parameters:

- annual electricity consumption: 80,000 kWh
- net electricity price: 23.53 c / kWh
- annual electricity costs: € 22,000

Load profile on workdays



Profitability:

- total investment costs: € 146,130
- annual electricity costs: € 5,800
- share of self-consumption with energy storage: 63 %
- annual savings: at least € 16,200

✓ revenues after 20 years: € 470,130

✓ **payback period: 9 years**

✓ additional uses available, e.g. emergency power supply

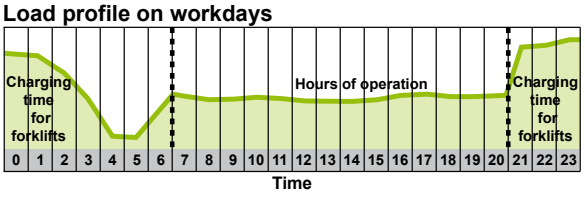
Transport and logistics company

Large roof areas are perfectly suited for installing a solar electric system and, in addition, they favour short payback times of commercial battery storage systems. Department stores and logistics companies are good examples, especially when electrical forklifts are charged after work.

Parameters:

- annual electricity consumption: 150,000 kWh
- net electricity price: 21.85 c / kWh
- annual electricity costs: € 33,000

Load profile on workdays



Profitability:

- total investment costs: € 229,000
- annual electricity costs: € 12,000
- share of self-consumption with energy storage: 50 %
- annual savings: at least € 19,000

✓ revenues after 20 years: € 650,000

✓ **payback period: 8 years**

✓ additional use available, e.g. peak load shaving

Your solar and storage partner:

Consult us – free of charge and without obligation. We are your partner for:

» individual profitability calculation
» detailed project planning
» professional installation with quality components

We are looking forward to your call!

Basis for both calculations: dynamic electricity price increase of 1 – 2 %, costs for maintenance and insurance: 2 % of the annual investment costs, revenues from feed-in tariff or direct marketing: 7.8 or 8.2 c / kWh