

## AN OLD PREFAB WITH NEW ENERGY

Fully modernised prefabricated building uses solar power  
with an innovative storage system



### PROFILE

**Client:**  
Ascherslebener Wohnungsbaugesellschaft

**Business:**  
Building industry

**Special characteristics:**  
From prefabricated building to efficient homes

**Region, country:**  
Salzland district, Saxony-Anhalt

### THE BACKGROUND

Three structurally identical prefabricated apartment buildings were built on the outskirts of Aschersleben, the oldest town in Saxony-Anhalt, in the early 1970s. Some 50 years and only a few modernisations later, the buildings were in something of an unattractive state. The current owner, Ascherslebener Gebäude- und Wohnungsbaugesellschaft mbH (AGW), therefore began extensive modernisation work in 2020. One of the aims was to achieve state-of-the-art energy standards using solar power and innovative storage technology.



### THE CHALLENGE

Partial dismantling of entire rows of prefabricated buildings, demolition of individual building sections, reduction of the number of storeys, revitalisation of the remaining buildings, and the creation of attractive, modern living space – the construction project in Aschersleben was ambitious from the outset.

The same could be said of the energy concept, which aimed for a high level of energy autonomy and energy standards that the federal government doesn't envisage achieving until 2045. Luckily, the structural fabric was in good enough condition that it didn't require a complete teardown – and modernisation work could begin.

The developer undertook extensive insulation work, and fitted all suitable roofs and façades with photovoltaic installations. 114 kilowatt peak capacity were installed on the roofs in addition to modules with 71 kilowatt peak capacity on all façades except the north sides. The modern apartments are heated by current-operated

infrared heating, and hot water is supplied by self-sufficient boilers that make use of surplus solar power.

In the future, four charging points will feed the solar power to electric vehicles – both private vehicles and a planned car-sharing project.

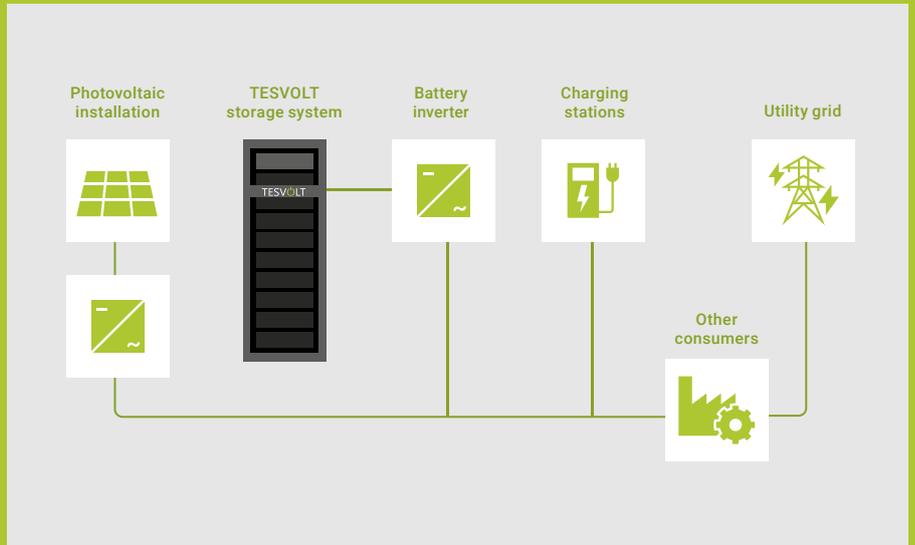
A key component of the energy concept is the high-performance battery storage systems from TESVOLT, which ensure that the power supply works even when the sun isn't shining.



INCREASED  
SELF-CONSUMPTION

## THE SOLUTION

Low energy consumption thanks to thorough insulation, environmentally friendly solar energy and a sophisticated storage system – that is the recipe for a successful energy concept that KUMMER GmbH & Co. KG implemented in Aschersleben. The storage system consists of three parts: the high-performance storage (particularly for night-time hours), solar-powered water boilers, and concrete elements in the building itself, which are thermally charged using the infrared heating.



“The size and orientation of the PV installation means we need high charging and discharging power for the building, which the TESVOLT storage system provides with an output of 120 kilowatt. The storage system we installed significantly increases the self-consumption of this innovative, state-of-the-art living concept.”

Chris Kummer from KUMMER GmbH & Co. KG

“The first renovated building was officially opened in May 2023. Since then, the storage technology has proven to be highly effective.”

Mike Eley, Managing Director, AGW mbH

## THE BENEFITS

### • Powerful

TS HV 70 E storage systems can store energy very quickly and release it again just as quickly. A continuous power rating of 1C for charging and discharging, combined with active cooling, provides high-performance operation optimised for continuous use in industrial and commercial applications.

### • Safe and long-lasting

Prismatic battery cells are highly durable, safe and powerful, particularly in comparison with round cells. TESVOLT uses Samsung SDI cells and offers a capacity guarantee of 10 years on the battery

modules. The storage system also offers multi-layer protection of each individual cell as well as functional safety at system level.

### • Highly economical

The TS HV 70 E is an extremely efficient battery storage system with low costs per kilowatt hour of stored energy. This is due to the guaranteed 100% depth of discharge as well as the comparatively low investment costs along with increased energy density and reduced space requirements.

## FACTS AND FIGURES

Storage system	TS HV 70 E
Energy/output	144 kWh/120 kW
Cell	Lithium NMC prismatic (Samsung SDI)
Efficiency (battery)	Up to 98%
Expected cycles	6,000–8,000 (0.5C to 1C at 23°C +/-5°C with 100% depth of discharge)
Operating temperature	0°C to 50°C
Battery inverter	SMA STPS 60
Installer	KUMMER GmbH & Co. KG

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