

## CLEAN WATER WITH CLEAN ELECTRICITY

Westphalian wastewater company cuts high electricity costs with modern battery storage system



### PROFILE

**Client:**

Warendorf wastewater company

**Business:**

Pumping station/sewage treatment plant

**Special characteristics:**

High peak loads during pump operation

**Region, country:**

Münster Administrative District, North Rhine-Westphalia

### THE BACKGROUND

High energy costs are causing problems everywhere – and that includes municipal operations. To ease budgetary pressure on the Westphalian municipality of Warendorf and protect the climate, the local wastewater company has decided to use solar power. Drawing on a regional funding programme, the Freckenhorst combined wastewater pumping station was equipped with a photovoltaic installation and a modern energy storage system.



### THE CHALLENGE

Many wastewater companies face the same challenge: water pumps need electricity, and lots of it. The Freckenhorst pumping station has an average energy requirement of around 145,000 kWh per year. To avoid high energy costs, the use of photovoltaic installations presented itself an obvious choice.

But if the households in the supply area consume too much water, this results in high peak electricity demand, which can only be covered by photovoltaic systems if the energy storage systems are big enough.

Another challenge at the site, the pumping station in Freckenhorst, is that the pump house is soon to be demolished and rebuilt. The existing on-site data centre, which is intended to support the photovoltaic system, will remain standing, but does not offer suitable space for a commercial power storage system. In order to find the

best and most cost-effective solution to the challenges, the Warendorf wastewater company announced an invitation to tender. The local installation company Ruiz & Schneider Elektrotechnik GmbH came out on top.



PEAK SHAVING



INCREASED SELF-CONSUMPTION

## THE SOLUTION

Reduce peak loads for pump power and optimise self-consumption of solar power: The solution for the Freckenhorst combined wastewater pumping station is a combination of a photovoltaic installation and the new TESVOLT TPS HV 80 E outdoor storage system, which was delivered pre-assembled in a container. The system has been operating in test mode since the beginning of 2024. After the first year, feedback from the system will be analysed, and the PV installation and electricity storage system will then be expanded.



»This was the first storage system container that we installed. It meets our expectations 100 per cent. The project support from TESVOLT was also excellent, from project planning to delivery and commissioning on site.»

Christian Schneider, Managing Director Ruiz & Schneider Elektrotechnik Recklinghausen GmbH

»From the initial launch to operational start-up of the energy technology, everything went very well. We anticipate that our expansion will go ahead as planned next year.»

Michael Hüchtker, Operations Manager Wastewater Company Warendorf

## THE BENEFITS

The TESVOLT storage system TPS HV 80 E has many features that are ideal for the special requirements of wastewater companies:

- **Modules that can be expanded**

The storage system is completely modular and fully customisable. The storage capacity ranges from 80 kWh to 1,280 kWh. Therefore, the smallest possible variant selected for the test operation can be easily expanded.

- **Easy to install**

The storage system is preconfigured, which makes installation simple. The container can also be set up outdoors.

- **Flexible applications**

The TPS HV 80 E can be used for standard applications such as peak shaving and self-consumption optimisation as well as for charging stations or zero feed-in, for example.

- **Durability**

The TPS HV 80 E storage system was developed for long-term use in commercial and industrial applications and has an above-average service life of 25 years. TESVOLT provides a 10-year guarantee on the capacity of this storage system.

## FACTS AND FIGURES

Storage system	TPS HV 80 E
Energy/output	80 kWh/50 kW
Cell	Samsung SDI
Efficiency (battery)	up to 98%
Cycles	up to 8,000
Operating temperature	0 °C to +50 °C
Battery inverter	SMA Sunny Tripower Storage 60
Installer	Ruiz & Schneider Elektrotechnik Recklinghausen GmbH

### TESVOLT AG

Am Heideberg 31 | 06886 Lutherstadt Wittenberg  
Deutschland | Germany  
Phone +49 (0) 3491 8797 100  
info@tesvolt.com | [www.tesvolt.com](http://www.tesvolt.com)

**TESVOLT**  
*Free to go green.*