



# Car Repair Shop

Bad Sooden-Allendorf > Germany

**System size**  
21 kWp

**Location**  
Bad Sooden-Allendorf, Germany

**Operator**  
Axel Umbach

**Planning and realization**  
Ralf Umbach

**Commissioning**  
2006

**Annual yield**  
Approx. 11,000 kWh

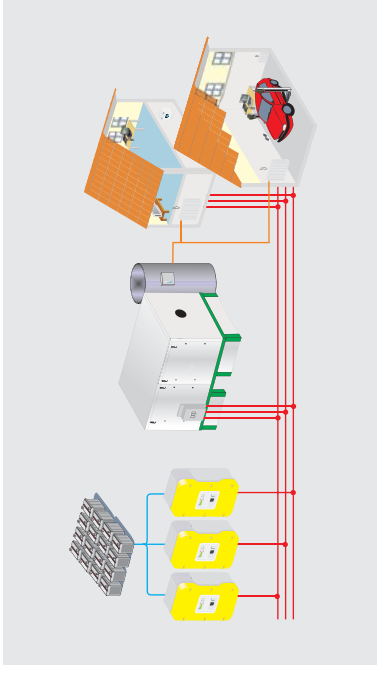
**Generator**  
Combined heat and power plant

**Inverters**  
3 x Sunny Island 5048

## Car repair shop with stand-alone power grid

When Axel Umbach purchased his site in the 1990s, a connection to the public grid would have cost him about 100,000 DM (Deutsche Mark). A mechanic specialist, Umbach decided to install a stand-alone energy supply, initially with a diesel generator, and a 1 kW battery inverter for overnight operation.

The car repair shop established itself quickly, increasing the site's base load. When the 6 kW level was reached, he had the diesel generator replaced with a combined heat and power (CHP) plant. However, the CHP plant generated a large amount of heat which was not required, especially in the summer. Shortly afterwards, in order to reduce the power plant's operating hours, the Sunny Island system with three Sunny Island 5048 was added. The entire energy supply is now taken care of by the battery inverters, and the CHP plant is only started in order to charge the batteries. This not only prevents unnecessary heat, but also results in fuel savings.



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