POWER STORAGE UNITS IN TEST: FRONIUS AND BYD ARE TEST WINNERS IN THE 5-KWP-CATEGORY

The current Energy Storage Inspection 2022 analysed and compared the energy efficiency of 21 electricity storage systems. As in the previous year, Fronius and BYD are way out in front, taking 1st and 2nd place in the two test categories. Fronius is thus the only manufacturer of hybrid inverters to have achieved the highest efficiency rating in both categories. In this article, we show why the Fronius and BYD storage solution achieves the best results and how energy efficiency affects the profitability of photovoltaic systems.

WHAT ARE THE ADVANTAGES OF AN ELECTRICITY STORAGE SYSTEM?

Before going into the detail, let's consider two further questions that you may be asking yourself:

- **Why should I invest in PV storage?**
- **And does it make financial sense?**

The first question is very easy to answer: a PV system only generates electricity during the day. On sunny days, however, it will usually generate so much electricity that even a household with an **intelligent energy management system** will not be able to use all its self-generated solar power itself. The surplus energy is then fed into the public grid, though feed-in tariffs are getting lower all the time.

During the night, by contrast, expensive electricity is drawn from the public grid. **A home storage unit also enables you to use self-generated solar power at night.**

Another factor in favour of investing in a solar battery is that it **provides electricity during a blackout**. Note, however, that not all storage systems can be recharged while operating in backup power mode. You can find out more about storage units and backup power in the **interview with our storage expert, Susanne Lampl.**

A PV storage unit has many advantages:

- You can use your self-generated electricity during the night as well – **saving yourself** expensive **energy costs** while **doing something good for the environment**
- The right PV storage system makes you **self-sufficient** and **provides you with a backup** in the event of a blackout

THE MORE EFFICIENT THE SYSTEM, THE MORE COST EFFECTIVE IT WILL BE – DO THE NUMBERS

The answer to the question regarding the financial viability of a home storage system will not be the same for every system. As well as other factors, one of the most important criteria determining the cost effectiveness of a PV system is the efficiency of the battery. Efficient home storage systems have **low conversion losses** – in other words, far less electricity is lost during storage and discharging. The upshot of this is that more of the generated kilowatt hours can actually be used.

The power storage inspection by the Berlin University of Applied Sciences (HTW Berlin) showed that with the overall system consisting of the Fronius GEN24 Plus and the BYD Battery-Box Premium, significantly more energy reaches the electrical consumers than with other systems.

THE HOME STORAGE SYSTEM FROM FRONIUS AND BYD – PERFECT FIT

The efficiency of the storage systems is evaluated in the study using the **System Performance Index (SPI)**. In addition to conversion losses, other technical factors such as energy management and standby operation have the greatest influence on the SPI. The power storage inspection shows that the **GEN24 Plus inverters and the BYD Battery-Box Premium are perfectly matched** and achieve very high efficiency values compared to other storage systems. The Fronius Primo GEN24 6.0 Plus hybrid inverter achieves first place with the BYD Battery-Box Premium HVS 7.7 in the 5-kWp category with an SPI of 92.2%. The **Fronius Symo GEN24 10.0 Plus and BYD Battery-Box Premium HVS 10.2 also impress in the 10-kWp category with an SPI of 94.7 %**, placing them in 2nd place.

With the Fronius GEN24 Plus hybrid inverters, Fronius is thus **the only company to achieve efficiency class A in both categories**.

More information on the storage units in the test can be found here.

BOOST IN EFFICIENCY WITH MULTI FLOW TECHNOLOGY

Its integrated Multi Flow Technology is partly responsible for the outstanding test result of the GEN24 Plus. This technology ensures that the inverter is able to handle simultaneous energy flows in all directions, meaning that **electricity can be used by the household while the battery is being charged at the same time**.

GEN24 PLUS – AN ALL-ROUNDER, EVEN WITHOUT ITS HOME STORAGE UNIT

The proven Fronius Multi Flow Technology is not the only highlight that this newcomer to the Fronius inverter range has to offer. The GEN24 Plus will help you bring about your own energy revolution:

- It **charges your electric car** and your energy storage unit with self-generated solar power.

- When combined with a storage unit, the inverter can use its sophisticated backup power function **to supply** your entire household, **even if the grid goes offline**.

Thinking about investing in a PV system or expanding an existing one?

Find answers to all your questions about photovoltaic systems and energy storage units here.

Solar battery test: Best results in the Energy Storage Inspection 2022

- Fronius and BYD were joint winners in 2022 in the 5-kWp-category
- 1st place in the 5-kWp-category and 2nd place in the 10-kWp-category
- Efficiency class A in both reference cases

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