

Residential energy storage germany

Battery Charts is a development of Jan Figgner, Christopher Hecht, and Prof. Dirk Uwe Sauer from the Institutes ISEA and PGS at RWTH Aachen University. With this website, we offer an automated evaluation of battery storage from the public database (MaStR) of the German Federal Network Agency. For simplicity, we divide the battery storage market into home storage (up to 30 kilowatt hours), industrial storage (30 to 1,000 kilowatt hours), and large-scale storage (1,000 kilowatt hours and above).

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In total, some gigawatt hours of stationary battery storage is reported by now in Germany. The largest share of this is accounted for by home storage, which carries the overall market. Large-scale storage forms the second largest market ahead of industrial storage. For comparison: The national pumped-hydro storage systems have a total energy of 39 gigawatt hours.

Home storage systems are currently mainly used to increase solar self-consumption. Industrial storage systems are primarily used for solar self-consumption as well as peak shaving for businesses or fast charging of electric vehicles. In recent years, large-scale battery storage systems have been built almost exclusively to provide primary control power. Currently, however, three new areas of application are emerging:

Battery storage systems in most cases offer the possibility to be charged or discharged for more than one hour at full power. Therefore, the sum of cumulative storage power is also smaller than the sum of storage energy. The total power is a few gigawatts. The power is distributed roughly in proportion to the storage energy.

In addition to the cumulative presentation of the storage energy, the monthly additions are also shown. It is easy to see that the trend in new installations is clearly increasing. The current developments of rising electricity prices and the war in Ukraine strengthen the desires for self-sufficiency and for an own PV system including battery storage.

At the beginning of the home storage market, lead-acid and lithium-ion batteries had the highest market shares. Over time, however, lithium-ion batteries have clearly gained market shares and have taken up almost the entire market in recent years.

The commercial storage market also features a majority of lithium-ion batteries. It should be noted, however, that systems for uninterruptible power supply are not subject to registration in all cases and lead-acid batteries are still frequently used here.



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