VDMA Power Systems

As the association for energy plant construction, we connect leading companies in power and heat generation. Whether wind energy, photovoltaics and hydropower plants, thermal power plants, engines, storage technologies, and sector coupling technologies — we are the only association that brings together all these technologies, market knowledge, and regulatory frameworks to enable a successful energy transition. Together, we drive innovation and power the energy of tomorrow!

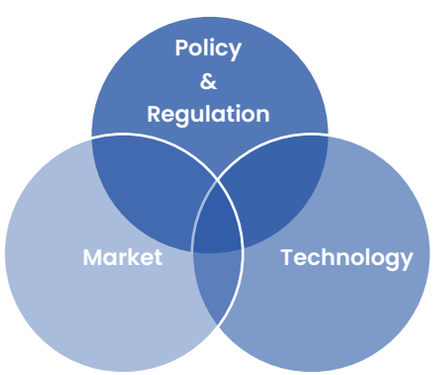
VDMA Power Systems is part of the VDMA, Europe's largest mechanical engineering industry association.

Strong Partner for Energy Storage Systems

Our mission is to connect manufacturers and suppliers of energy storage systems, providing a platform to strengthen the European energy system by

- fostering supply chain resilience
- enabling industry collaboration
- promoting reliable regulatory frameworks

We support you in our areas of focus:



ADVANCING EUROPE'S MACHINERY INDUSTRY

POWER SYSTEMS

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VDMA

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Energy Storage Systems

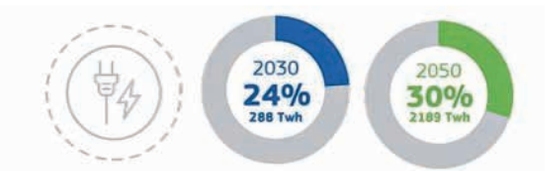
A key driver for the European energy transition

Quelle: Shutterstock

Energy storage – a growing technology

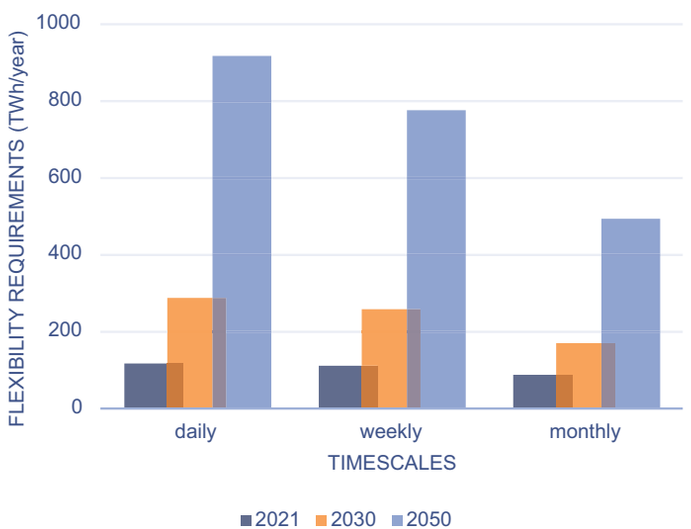
Energy storage is a key technology to accelerate the transition to a climate-neutral energy system by 2050 in Europe. With the rapid expansion of renewable energy sources like wind and solar, which are inherently variable, energy storage provides flexibility and reliability needed to balance supply and demand.

EU's future flexibility needs



Source: Joint Research Centre of the EU Commission (JRC) 2023

Flexibility needs for different timescales



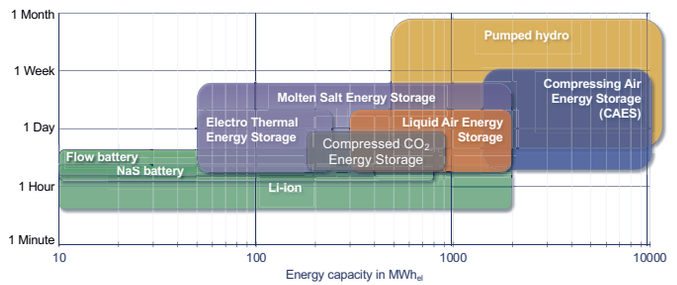
Source: Joint Research Centre of the EU Commission (JRC) 2023

The demand for flexibility in the European Union will increase significantly: from 11 % of total electricity consumption in 2021 to 30 % in 2050. Energy storage is a key factor to meet the flexibility requirements across different timescales.

Energy storage technologies

Different energy storage technologies are suited to varying timescales and capacity needs. From a systemic perspective, a variety of technological approaches are relevant.

Duration vs. energy capacity

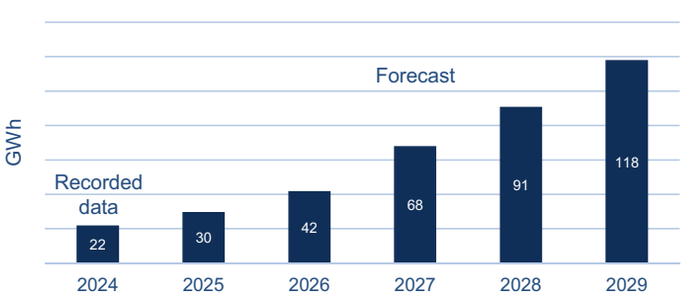


Source: Everllence 2024

Accelerating growth of battery storage

Due to the decreasing costs of batteries and the technological progress in recent years, battery energy storage systems (BESS) are gaining importance specifically, reaching fivefold the volume by the end of the decade.

Europe's annual BESS market forecast



Source: SolarPower Europe 2025

Strengthening European value chains

The need for flexibility and the resulting growth of energy storage capacity present substantial opportunities for the energy plant manufacturing industry and its value chain, where European manufacturing companies have the potential to strengthen their competitive position.

VDMA Power Systems is the platform for companies along the entire energy storage system supply chain in Europe. Using BESS as an example, the focus lies on cell, module, and pack manufacturing, along with the development and application of the complete energy storage system.

BESS supply chain

Source: Industry visualisation

Overcoming barriers for grid access

Clear rules for connecting systems to the grid are needed to ensure a reliable energy storage market. With deep expertise in the electricity market and strong connection to policy makers, research institutes and grid operators, VDMA Power Systems is working to ensure that flexibility solutions can be efficiently installed and connected to the grid. The aim is to reduce regulatory uncertainty and to promote a standardized European framework.

Together, we are paving the way to strong energy storage technologies in Europe and a net-zero energy system.