

IHR ANSPRECHPARTNER
TELEFON
E-MAIL

Mathias Fischer, Pressesprecher
+49 921 50740-4044
mathias.fischer@tennet.eu

DATUM
SEITE

10.11.2021
1 von 2

TenneT and be.storaged to use flexibility of battery storage to support stable network operation

- **Battery storage helps to stabilize the electricity system by providing system services**
- **Intelligent interaction of battery storage systems to support congestion management in the transmission network**

Bayreuth/Oldenburg, 10 November 2021. Transmission system operator TenneT and EWE subsidiary be.storaged GmbH, which specializes in services relating to the construction and operation of battery storage systems, are collaborating on a pilot project that will test support for congestion management in the transmission network through the intelligent interaction of decentralised battery storage systems.

To do this, be.storaged will bundle the flexibility potential of different battery storage systems via an agent-based energy management system and transfer it to the aggregated flexibility potential in the event of bottlenecks in the power grid. This will not only increase the economic value of the battery storage systems participating in the pilot project, but also allow them to contribute to a successful energy transition.

Agent-based energy management system increases the flexibility potential of battery storage systems for congestion management

Until now, battery storage systems have primarily been used in a so-called 'single-use operation', e.g., to increase the consumption of photovoltaic electricity among household customers or to limit load peaks for commercial customers. However, the existing flexibility potential for the various uses in the electricity and system service markets remains mostly unused. As such, be.storaged has developed an agent-based decentralised energy management system with the Oldenburg OFFIS Institute for Computer Science, which enables a 'multi-purpose operation' of battery storage.

In the pilot project with TenneT, local agents connect the individual battery storage systems to form a swarm and the pooled flexibility potential that is still available is transported from be.storaged to TenneT via the Equigy Crowd Balancing Platform. Depending on the respective load flow situation, this enables TenneT to test how the flexibility potential of battery storage systems can support congestion management. The pilot project will see an agent-based and a blockchain-based platform linked for the first time in order to give small-scale flexibility potentials efficient access to the system service markets.

Background

The expansion of renewable energies is increasingly leading to decentralised structures in the lower-level German energy distribution system. This will massively increase the number of small

producers, storage facilities and consumers in the coming years. At the same time, the high feed-in of fluctuating renewable energies is leading to transport bottlenecks in the transmission network. In the future, there will be less and less conventional generation capacity from large power plants available to manage these network bottlenecks and to compensate for fluctuations in electricity generation and consumption. Once intelligently networked and integrated into the system service markets, the flexibility potential of millions of decentralised producers, storage facilities and consumers can make a major contribution to the control of power grids.

Use of blockchain-based technologies

The provision of system services for the control reserve market and congestion management from millions of individual systems requires a new approach to automated control and integration into the processes of TSOs, as well as technical solutions from device manufacturers and energy service providers. As such, TenneT has developed a cross-border blockchain-based data platform – the Equigy Crowd Balancing Platform – together with a number of European TSOs. This platform will make it easier for millions of households in Germany and Europe to actively offer the flexibility of their systems via electricity providers and manufacturers on the system service markets, and so help stabilise the electricity grid. Equigy enables the automated integration and control of these systems into the processes of network operators and market parties.

Press contact

TenneT: Mathias Fischer Email: mathias.fischer@tennet.eu Phone: +49 (0)921 507 404 044

EWE: Katharina Schütz Email: Katharina.Schuetz@ewe.de Phone: +49 (0)441 480 518 17

TenneT

TenneT is a leading European grid operator. We are committed to providing a secure and reliable supply of electricity 24 hours a day, 365 days a year, while helping to drive the energy transition in our pursuit of a brighter energy future – more sustainable, reliable and affordable than ever before. In our role as the first cross-border Transmission System Operator (TSO) we design, build, maintain and operate 23,900 km of high-voltage electricity grid in the Netherlands and large parts of Germany, and facilitate the European energy market through our 16 interconnectors to neighbouring countries. We are one of the largest investors in national and international onshore and offshore electricity grids, with a turnover of EUR 4.5 billion and a total asset value of EUR 27 billion. Every day our 5,700 employees take ownership, show courage and make and maintain connections to ensure that the supply and demand of electricity is balanced for over 42 million people. Lighting the way ahead together

be.storaged

Based in Oldenburg, be.storaged is a wholly-owned subsidiary of EWE AG, the fifth largest energy supplier in Germany whose main supply area is in the northwest of the country. be.storaged GmbH aims to integrate battery storage solutions into the operations of commercial and industrial customers. The energy and transport transition poses new challenges for the use of battery storage systems. We want to counter these with the use of innovative storage solutions and the associated control and optimisation software.