Energy storage is a crucial pillar of a reliable 24/7 renewable energy supply worldwide, even more so thanks to its flexibility. The International Energy Agency (IEA) anticipates significant growth in the global photovoltaics market, with around 720 gigawatts of new capacity expected to be installed by 2024 alone. Given the increasing efforts to create a climate-friendly energy and transportation sector, energy storage solutions are also predicted to become much more widespread. These are the findings of the IEA’s recent market report, Renewables 2019. In addition to the development of various battery technologies and systems, second-use concepts are also opening up very attractive prospects for the future. The aim of these concepts is for old electric car batteries to be given a second life as stationary storage devices. This would not only ensure that renewable energy is available around the clock, but would also further improve the CO₂ footprint of battery systems. In the future, it should be possible to supplement battery systems with modern technology that is capable of storing energy in the long term. Current hot topics include Power-to-Gas and green hydrogen, both of which will feature heavily at ees Europe in Munich. The three-day event is a launchpad for innovative storage projects around the world. Make sure you don’t miss out!
It’s not without reason that the renewable energies market is booming. Innovations in the energy storage industry are propelling the modernization of our energy infrastructure worldwide, and the ever greater diversity of storage solutions is particularly exciting from a technological point of view. The ees AWARD aims to honor the people driving these innovations on a very public platform. On June 17, 2020, during The smarter E Europe in Munich, the award will once again be presented to companies whose storage technologies are helping drive a smart, sustainable and affordable energy supply.

Innovations can be submitted in the ees AWARD category of Electrical Energy Storage until March 31, 2020. And, as clearly proven by the 2019 results, it is worth taking part. Besides major industry players, the applicants once again included many forward-looking SMEs and start-ups – some of which went on to rank among the winners! As confirmed by past winners, the award is not the only thing successful contenders walk away with. Winning the ees AWARD highlights a company’s innovative spirit, honors its extraordinary teamwork and boosts the impact of its marketing and sales campaigns. Companies are also rewarded for blazing new trails. “This award is a brilliant endorsement of our decision to expand into practical solutions in the area of renewable energy integration,” confirmed Wilfried Breuer, managing director of Maschinenfabrik Reinhausen, during an interview with the trade magazine 50,2.

The utility company Allgäuer Überlandwerke (AÜW) has constructed a hybrid power plant with a new battery storage system connected to a gas turbine. According to AÜW, it is the first such plant in Germany that has been approved for the primary control reserve market. The energy storage system, which has a capacity of 16 MW and an energy content of 8.5 MWh, was put into operation in August 2018 on the premises of AÜW in Sulzberg, Germany, and helps stabilize the power grid.

Since the Tesla big battery in Australia was commissioned, its performance and business model has been a source of fascination within the industry. Tesla founder and CEO Elon Musk recently confirmed that the 95 million dollar installation would pay for itself within a few years. Owned and operated by Neoen Australia, the battery storage system receives annual payments of four million dollars from the government for the provision of grid services.

The energy transition would fail without energy storage, which is why the number of new large-volume storage projects is on the rise. In the Netherlands, energy group Vattenfall has spent a good 60 million euros on building and combining a 22 MW wind farm, a 38 MW photovoltaic installation and a 12 MW battery storage system all in one location. Vattenfall believes that old mining land, including in Germany, provides huge potential for the construction of renewable full-hybrid power plants like this.

The ees Europe Conference has already been running as an independent event at The smarter E Europe for a number of years and in 2020 will focus on the challenges faced by an expanding, consolidating sector under the motto “Growing up with the Market.”

Market analysis focusing on Europe
- The latest market studies underpin the analysis and discussion of hotspots in the storage market
- Project financing, corporate finance and sector coupling
- Panel discussion on obstacles to and strategies for successful business models
- E-mobility and the role of storage in energy supply systems

A new addition to the program is a networking session offering participants direct contact with relevant experts and potential business partners.

**Date**
June 16–17, 2020

**Venue**
ICM – Internationales Congress Center München
Even after the expiry of the nationwide subsidies for new domestic storage systems, the German market enjoyed particularly positive growth during the first half of 2019. According to analyses conducted by the Bonn-based market and economic research company EuPD Research, this market growth can be largely attributed to a continuous rise in the number of newly installed small-scale photovoltaic installations. Here, an increase of 15 percent was recorded in the first six months of 2019 alone. The analysts believe that the rise in new domestic storage systems is also down to other factors including the latest hike in domestic electricity prices, the abundance of regional incentive programs for domestic storage, and the falling cost of photovoltaic installations and storage technology.

EuPD Research estimates that 28,900 domestic storage devices were installed in Germany during the first half of 2019, although this includes both new systems and those retrofitted to existing photovoltaic installations. Figures from recent years reveal that more photovoltaic systems and, as a result, domestic storage systems are installed in the second half of the year. With this in mind, EuPD Research predicts that a total of 60,500 storage systems will be installed in Germany by the end of 2019, which equates to growth of one third in comparison to the previous year. This once again puts Germany firmly at the forefront of the domestic storage market in Europe. However, according to studies by market researchers such as Delta-EE, there is also an upsurge in demand in Italy, Austria, the Czech Republic, Switzerland and Spain.

"Regardless of how visually appealing they are, almost all domestic storage systems are installed in a basement or special electrical cupboard," says Patrick Willems, the founder of Vision UPS Systems. This is partly because higher temperatures are common in living areas, whereas optimum operating conditions can be found in basement and utility rooms. "Battery modules must not be exposed to any unfavorable temperature conditions," explains Ralf Osenbrink, head of communications at E3/DC, highlighting a key factor to consider during installation. However, when the set-up is right, the latest energy storage systems make for a fine addition to any living room or hall. You can see the new lifestyle models for yourself at ees Europe.

"a distinctive design can be advantageous in a highly competitive market." He nevertheless firmly believes that quality, guarantee, performance and easy installation are still the most important product development criteria.

SOLARWATT product manager Sandra Thiele is of a similar opinion. She cites efficiency and performance as important factors when purchasing a storage system, but also agrees that design plays a role. VoltStorage is convinced that the significance of product design as an emotional factor in purchase decisions should not be underestimated. "Only a good design that’s in tune with the product’s particular benefits will trigger this subconscious emotional connection, which boosts the positive impression created by its technical features," explains marketing manager André Gracella. The solar storage manufacturer attaches huge importance to the appearance of its devices. "As a young company, we’re particularly focused on using modern product design to stand out from other manufacturers," Despite their attractive appearance, energy storage devices are still rarely found in living areas.

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Bengt Stahlschmidt, General Manager of VARTA, believes that energy storage systems have become a lifestyle product whose design plays a major role. "In theory, your energy storage device should not look out of place in your living room." SENEc media spokesman Stefan Dietrich also confirms that increasing emphasis is being placed on the appearance of batteries. For him, another reason for the trend towards eye-catching systems is that...
As a complement to renewable energy generation, Power-to-X technology is crucial to the success of the energy transition. This process supplies carbon-neutral fuel for power plants, vehicles, buildings and industry. In this context, green hydrogen (Power-to-Gas) is increasingly being cited as a way of achieving mandatory energy and climate objectives. At present, hydrogen is generally obtained from natural gas or coal – with harmful effects on the climate. These production processes released 830 million metric tons of CO₂ worldwide in 2017, which is more than the total amount emitted by Germany. Less than one percent of hydrogen is currently produced renewably using electrolyzers. According to a recent report by US analysts Wood Mackenzie, the total capacity of systems used to produce green hydrogen amounts to 252 MW. By 2025, new electrolyzers with a capacity of 3,205 MW will have been deployed, marking a leap of 1,272 percent. In Germany, it should be less expensive to produce green hydrogen than hydrogen from fossil fuels within ten years. This is subject to solar and wind power production costing no more than 2.7 euro cents per kilowatt hour by 2030. Today, the prices in PPA agreements range from 4.8 to 13.7 euro cents per kilowatt hour. At these costs, green hydrogen cannot compete with the fossil-fuel variety in most cases – at least not before 2025. National targets and pilot projects are nevertheless expected to lead to a considerable expansion in capacity. And experts believe that in the long term, as production runs for storage systems grow, investment costs will fall. What can be done to accelerate the use of green hydrogen? This and other topics will be discussed at the Power-to-X side event held during the ees Europe Conference, which has been supported by the European associations Hydrogen Europe and Eurogas as strategic partners since 2019. Jorgo Chatzimarkakis, Secretary General of Hydrogen Europe, has an optimistic outlook: “Solar and gas could be the perfect coupling of the future.”