

PRESS RELEASE

Tesla Storage Announcement is another Piece of the Puzzle in Renewable Energy Hybrid Markets

THEnergy observes increasing interest in storage solutions from industrial off-grid end-customers and project developers.

At the end of April, Tesla Motors launched its energy storage solutions. At the center of public attention was the Powerwall, a residential battery. Numerous competing storage manufacturers of residential solutions see positive effects for their businesses. In the context of solar- or wind-diesel hybrid energy plants, the solution for larger applications, called Powerpack, is more interesting.

Via Twitter, Elon Musk advertises a sales price of 250 US\$/kWh for Tesla's large-scale battery. This price seems to be without taking into consideration the cost depression which might arise from Tesla's so-called "Gigafactory 1", which is expected to be inaugurated in 2017. Other manufacturers already report similar pricing for the near future. Hybrid applications sometimes have very special requirements. These requirements can be mainly derived from the fact that many hybrid applications are in remote locations and often extreme climatic conditions apply. A second factor is the sometimes very intense charge and discharge cycle which is provoked by the volatile loads and fluctuating supply from renewable energy sources. A competitive advantage arises only partly through the battery itself, but more through its integration into the energy system. From a technical standpoint, many details of Tesla's Powerpack have not been communicated yet. The available data does not permit a thorough technical evaluation. As a consequence, the commercial value of Tesla's Powerpack solution is similarly vague. It appears to be quite competitive without being a complete game-changer.

The biggest impact on hybrid applications is of an indirect nature. Until now, the decision-making process for hybrid solutions was mainly rational with a focus on short-term pay-off periods. Frequently, storage solutions were not even considered because they were notorious for being expensive. The lack of awareness of competitive storage solutions often ended the purchase process before it even had begun.

The hype around the Tesla announcement draws additional attention toward all storage solutions, including battery usage in solar- and wind-diesel hybrid projects. In many cases, Tesla creates an awareness of storage solutions that was missing before. Indirectly, Elon Musk refers to hybrid applications by comparing leapfrogging in telecommunications to captive solar solutions. Decentralized energy solutions enable regions to prosper that were not connected to the grid before, just as many users in developing countries today have mobile phones but no landlines previously. This comparison from the mouth of an influential visionary like Elon Musk helps to create awareness that the future of energy generation will be decentralized to a considerable extent. Tesla's market entry will contribute to make the whole "pie" of decentralized energy solutions grow. This is good news for the existing storage manufacturers and solution providers. On the market side, they can expect a general growth which can only partly be covered by Tesla. Most likely, that there will be more than enough space for other players in the electrical storage market. All storage providers are in a better



position to convince their investors that they are in an attractive business field, but do not need to fear that Tesla will crowd them out in the near future.

Tesla itself does not seem to focus too much on the hybrid markets. However, in Tesla's network there are potential partners for collaborating on hybrid applications: first and foremost Solarcity for a PV-diesel hybrid. It can be expected that many companies will try to partner with Tesla, from the solar as well as from the wind sector.

Through expert panels, THEnergy tracks energy-related developments in many industries such as mining, tourism, food / agriculture, IT / data centers and telecommunications. "After Tesla's storage introduction, THEnergy has observed that more and more industrial and commercial end-customers actively ask for information about energy storage solutions", points out Dr. Thomas Hillig, founder of THEnergy. In hybrid applications, storage can be used amongst others for (load) peak shaving and stabilizing volatile renewable energy sources. Storage solutions in hybrid applications often allow for considerably reducing diesel consumption by increasing the share of renewable energy in the system. Sometimes it is even possible to shut down the diesel engine over longer periods during the day.

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About Dr. Thomas Hillig Energy Consulting (THEnergy)

THEnergy assists companies in dealing with energy-related challenges. Renewable energy companies are offered strategy, marketing and sales consulting services. For industrial companies THEnergy develops energy concepts and shows how they can become more sustainable. THEnergy combines experience from conventional and renewable energy with industry knowledge in consulting. In addition to business consulting, THEnergy is active in marketing intelligence and as an information provider in select fields such as renewables and mining through the platform www.th-energy.net/mining or renewables on islands through a new platform ([launch in June](#)).

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