

All-weather battery storage for private and commercial applications: BlueSky Energy Introduces “Vigos”

Energy storage is a crucial tool for enabling the effective integration of renewable energy and unlocking the benefits of local generation and a clean, resilient energy supply. Experience over the past several decades has shown that the traditional, centralized grid cannot or will not cost-effectively provide even basic electrical service to underserved populations in a reasonable amount of time. Distributed and remote power systems have enormous potential to provide service around the world and even in remote areas. Particularly in remote areas, a reliable, durable and safe product is essential, as service is not available “right around the corner”.

Used Case example 1: An island in the Austrian Alps

Far away from any grid-connection Jürgen Kienbink has a farm and forestry. Till now the power supply for farm, live-stock and saw mills came from a hydro-power-plant. Due to decreasing water levels the power supply comes to its limits and lacks stability. His first thought was to connect to the mains grid and he checked with the grid operator about costs for establishing grid connection. Digging the cables to is remote place and preparing for grid connection would have ment spending 3 times the money he is investing now in upgrading his own grid supply. He decided for adding PV panels with 11 kWc and a Vigos outdoor battery storage with 24 kWh to his hydro-power-plant. “We are setting-up up the storage system outdoors and saving space in our agricultural buildings. The aspect of safety, meant as non-flammable and non-explosive is very important for us as there is a lot of straw and firewood all around the place.” Confirms farmer Jürgen Kienbink.



Farm and forestry Kienbink GmbH in Austria. (Source: Kienbink)

Used Case example (2) Win-Win for landlord and renting party

Renting out a production building with 4,500 square meters, this is what Reinhard Kober is doing. As a property manager he already placed 35 kWc of PV panels next to the building and sells the power to the renting party. Now he decided to optimize self-consumption. Offering sun-power during the night hours to his tenant gives an extra earning for him and saves money for the tenants (as the rate is cheaper than from the grid supplier). For him it was important to set-up the storage system

outdoors. Only there he has free access to the storage. Additionally, he is not interrupting the workflow in the production hall with preparing for a power storage upgrade.



In a next step, he plans to offer charging stations to his tenant. There the e-cars of the employees will be charged. The smart energy management system included in every Vigos system can handle and dynamically shift loads between charging stations. E.g. the system knows which car has priority and gets a fast charging and which car will be there for a whole working day and can take eight hours for charging.

Win-win for property owner and renting party. (Source: BlueSky Energy)

Prepared for power failure

The outdoor power storage Vigos is capable of emergency power, island operation and black start. In the event of a power failure, the system automatically switches over to its own circuit in less than 20 milliseconds. If connected accordingly, the PV system simply continues to operate. "We can proudly say that we offer our customers great advantages with these functions and enable a real emergency power supply with black start capability even over several days. With our new storage, we are securing critical infrastructures such as water supply and the sewerage system against blackouts," explains Krause.

In remote areas without grid connections Vigos allows you to be completely energy self-sufficient. Different energy sources such as combined heat and power plants, PV and wind power plants or diesel generators integrate with Vigos.

Durable and safe

"BlueSky Energy stands for safe power storage", explains managing director Thomas Krause. He adds: "While our established GREENROCK saltwater batteries are suitable for constant energy supply, Vigos expands our portfolio for outdoor installations in even more extreme temperature ranges. The new all-weather battery has been specially developed for applications where a lot of energy is required in a short time".

Vigos has a service life of up to 20,000 cycles. Due to its high performance and cycle stability one can charge and discharge it several times a day. BlueSky Energy offers a ten-year warranty. Vigos is compatible with the company's GREENROCK saltwater storage systems.

Optimizing Self-consumption

An integrated energy management system (EMS) records relevant data such as surpluses from the PV system, optimizes internal consumption and controls producers, dynamic e-charging stations or consumers integrated into the system. Solar power systems and hydroelectric power plants, charging stations, heating rods and heat pumps interact with the system. Due to dynamic load and charge management one can integrate several e-charging stations independently of the manufacturer.

From private homes to agriculture and the hotel business

Vigos cuts peak loads and charges electric vehicles out of the batteries within a very short time. The high charging and discharging performance make that possible.

When farmers operate the milking facilities or dinner is prepared in the hotel while guests are charging their e-cars and relaxing in the spa, there is a short-term increase in electricity consumption. Users cover peaks with the Vigos storage system and thus save electricity costs. Additional charges for higher grid services and expensive, sometimes very time-consuming extensions of the grid connection are no longer necessary.

A new battery storage designed for outdoor installation: The outdoor storage Vigos copes with temperatures from minus 30 degrees Celsius to plus 50 degrees Celsius and withstands rain, snow and frost. The device is scalable from 18 to 96 kWh and is fully set-up as a plug-and-play installation.

Key characteristics

- All-weather storage system classified IP45
- Grid-parallel operation, island operation and black start capability
- Sustainable: up to 20,000 cycles
- High power
- Safe: non-combustable and non-explosive
- 10 years of warranty
- High-end energy management system included



Managing Director Dr. Thomas Krausse and the Vigos Energy Storage System (Source: BlueSky Energy)

About BlueSky Energy

BlueSky Energy is a supplier of energy storage solutions for private and commercial applications with locations in Austria, Belgium and the USA. The company was founded in 2012 and has successfully realized hundreds of projects since then. Safety has the highest priority: all storage units are neither flammable nor explosive. BlueSky Energy employs around 45 people and has been building up its own cell production for saltwater batteries in Austria since September 2020.

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