

ADGEX

Advanced Green Expertise



UNIQUE MOBILE ENERGY STORAGE

ENERGY  **BRICK**

EnergyBRICK – SUSTAINABLE ENERGY STORAGE SOLUTION

energyBRICK is a unique fully automated energy storage solution for universal accumulation and effective storage of electrical power, generated by any type of conventional or alternative power sources.

energyBRICK units can be connected to the electricity grid or any other renewable ways of energy generation like solar, wind or greenBLAZE waste to energy processors. as a backup power supply to improve grid reliability and integration of renewable energy.

energyBRICK represents several pre-manufactured units or “bricks”, rapidly erected at any required location to form a highly effective storage complex of any size and capacity.

energyBRICK operation needs no any auxiliary infrastructure and can easily withstand poor weather conditions such as strong winds, showers, frosts, dust storms etc.

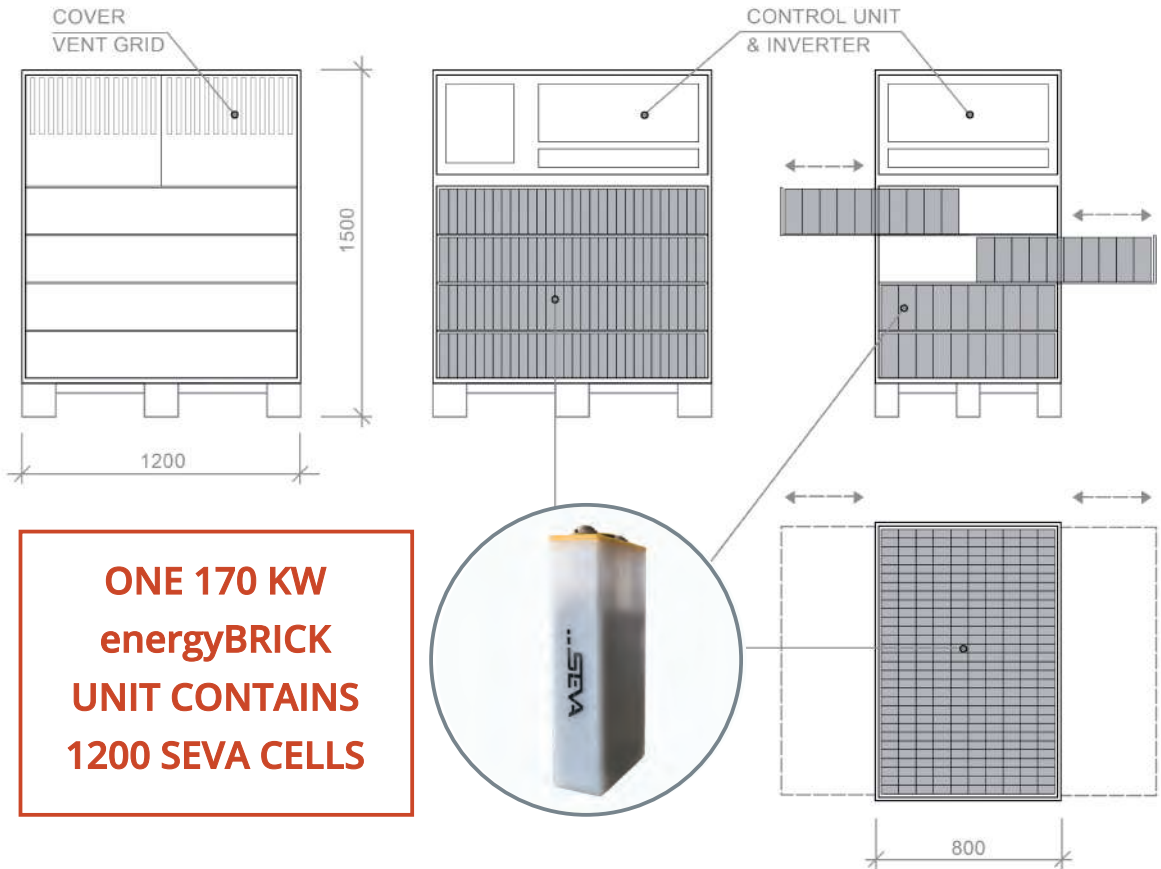
MODULAR DESIGN

energyBRICK – effective backup power source for improvement of grid reliability and integration of renewable energy.

Modular structure allows combining any number of the units into powerful energy storage facilities to optimize a power management system and avert power blackouts and outages. Such facilities can be rapidly deployed at any location and if required disassembled and relocated to meet any energy challenges.



SEVA – UNIVERSAL ACCUMULATING MODULE FOR ANY ENERGY NEEDS



SEVA represents unique modular cells, forming the core of energyBRICK units. The accumulating method is based on altogether new technology of a volumetric porous nickel frame, lending SEVA unprecedented specifications in terms of capacity and efficiency.

Several SEVA cells are combined into integrated energyBRICK units to reach required capacity.

The units are placed together and interconnected, forming one large energy storage complex. If needed, such complexes can be easily scaled up to infinite capacity by adding new extra units.



UNIQUE CUSTOMER SPECIFICATIONS

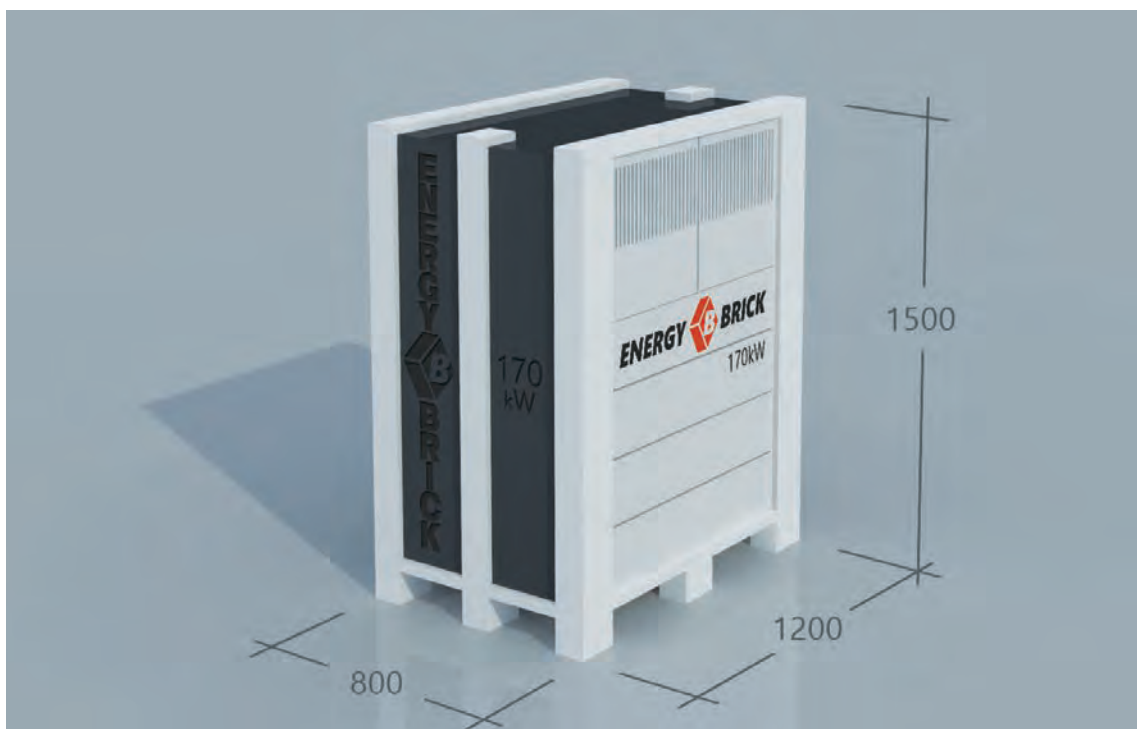
energyBRICK can be charged with high amperage currents in a matter of minutes using any traditional or alternative power sources. It can be fully discharged to “zero” and safely stored in such a condition.

energyBRICK features high resistance to short circuit – it absorbs any peak electrical shocks and fluctuations, securing twofold safety reserve and providing the highest level of stability and self-sufficiency.

No need to obey the golden rule and charge the units from zero to full to extend its life: energyBRICK can start taking the charge from any level without compromising its lifetime and reducing charging efficiency.

energyBRICK HIGHLIGHTS

- Low internal resistance value
- Rapid deployment and short commissioning
- High efficiency due to lack of heat losses
- Modular structure
- Low self-discharge level
- No memory effect – can be fully charged
- Absorbs any short circuit failures
- Ecological safety and high stability level
- Ultra-fast charging using high amperage currents



NEW ERA OF ENERGY TRANSMISSION

energyBRICK is breaking new ground in electrical power transmission as it creates an altogether new logistics schemes of energy distribution. Thanks to modular design the units are not fixed to a specific place and can be relocated to another location if needed by conventional transportation methods i.e.; road or rail.

Standardized weight and size parameters of energyBRICK units allow using standard forklift to load and unload the units to / from any vehicle or platform.



TECHNICAL SPECIFICATIONS OF energyBRICK UNIT

PARAMETER	VALUE
Capacity	170kW
Charging rate, A	250
Discharging rate, A	500
Length, mm	1200
Width, mm	800
Height, mm	1500
Mass, kg	1950
Service life, years	15
Service Life, charge-discharge cycles	25000
Operating temperature	-60°C to +60°C

INFINITE POWER SCALE-UP

Modular structure allows scaling up the power infinitely by connecting additional energyBRICK units. Commissioning of new units is carried out under normal operating conditions and requires no system shut-down.

All units can be recharged remotely using any external power source with no compulsory connection to the power grid and then – delivered back to the complex or any other place.

energyBRICK is equipped with inverter, allowing connecting the complex to any type of current power sources – traditional grid, solar, wind, and greenBLAZE waste-to-energy processor.

EASY OPERATION AND SIMPLE MAINTENANCE

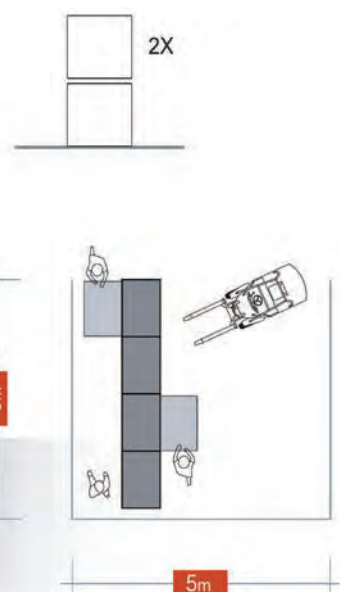
energyBRICK operation is fully automated and can be remotely monitored by just 1 operator.

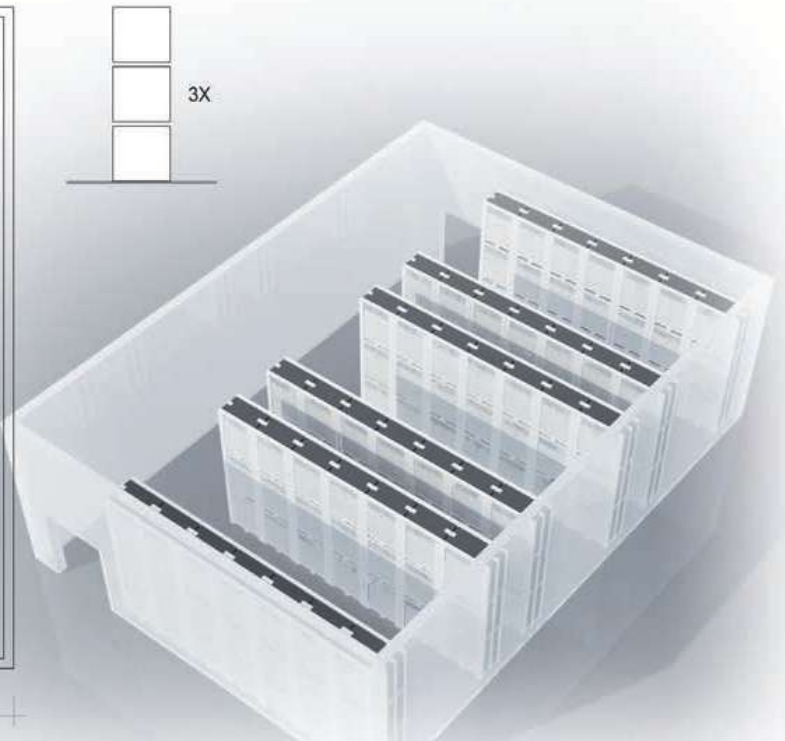
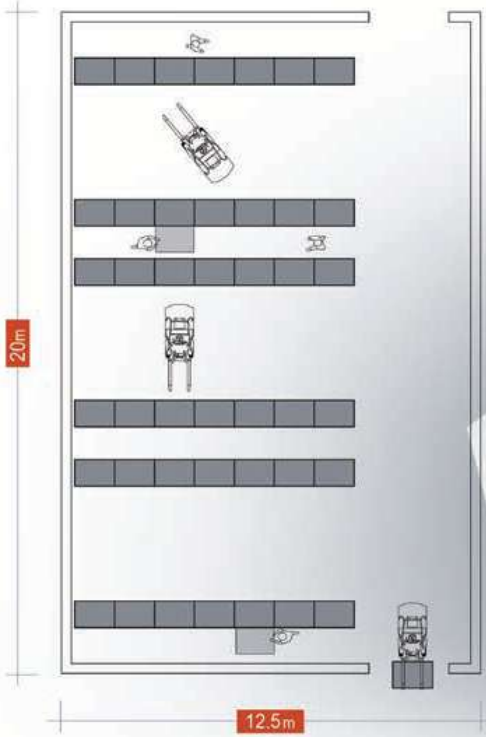
Replacement of used or faulty “bricks” is incredibly easy: they are simply swapped in a matter of minutes for new ones by a single person, causing no equipment breakdown.

energyBRICK complex requires no annual technical maintenance. Servicing of the complex is condition-based and just annual checking of the unit’s condition is to be done.

1MW BATTERY STORAGE FACILITY

energyBRICK units are able to form integrated energy storage facilities of any size and capacity. A 1MW energyBRICK project requires positioning of just 6-8 units. They can be aligned in a straight row to keep the footprint of the facility to minimum.



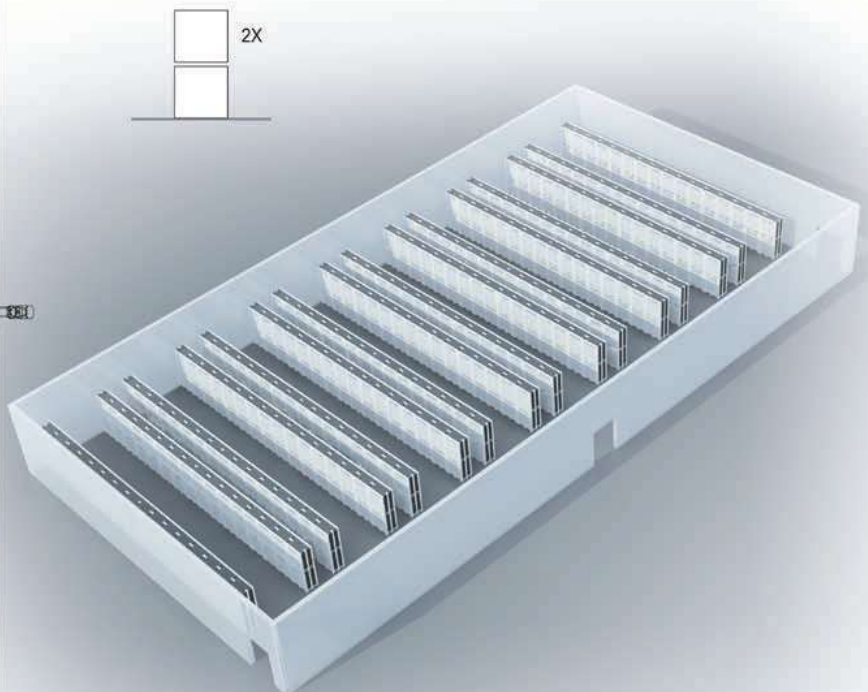
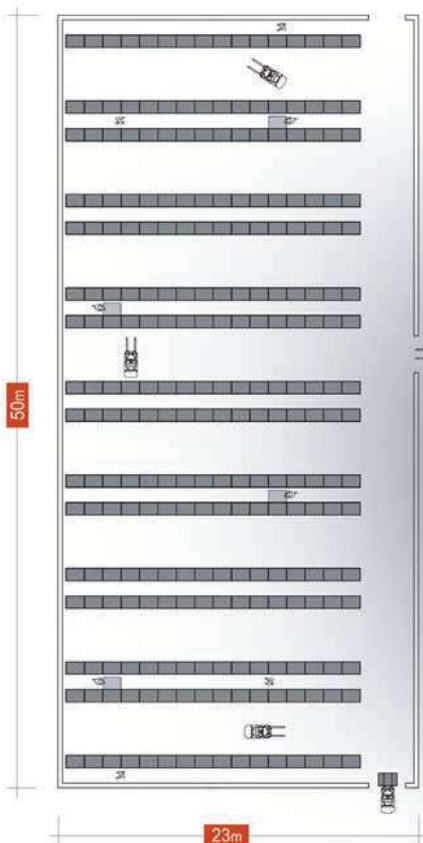


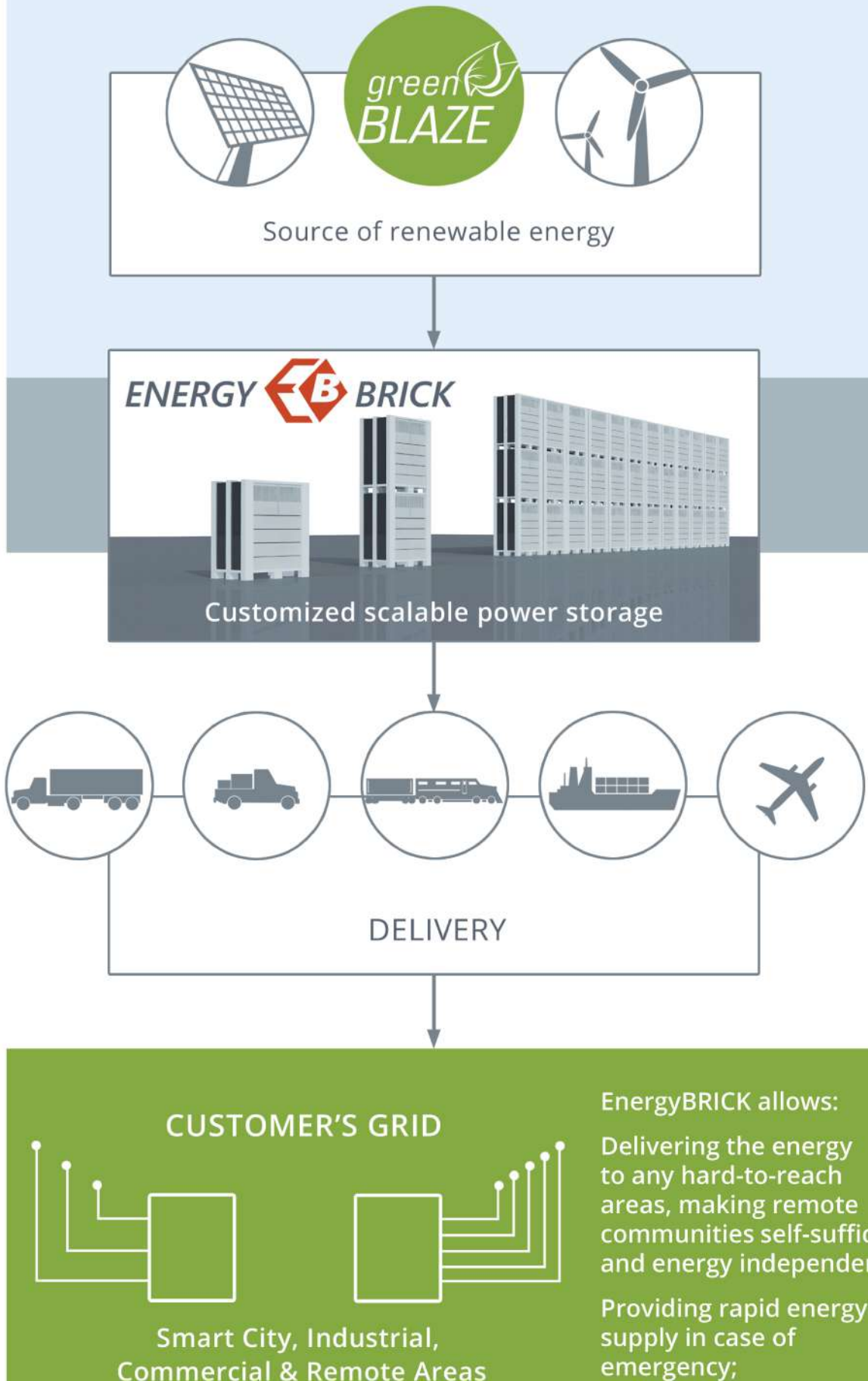
A 20MW energyBRICK complex requires positioning of 125-130 units with capacity of 170kW.

20MW BATTERY STORAGE FACILITY

A 80MW energyBRICK project needs 512 units to position. The optimal way is to form 16 double-deck rows of 32 units each.

80MW BATTERY STORAGE FACILITY





energyBRICK can be connected to any power sources such as conventional power grid, alternative renewable energy sources like wind & solar panels, or our waste-to-energy ADGEX greenBLAZE system. The energy combined from all power sources are channeled to energyBRICK to provide maximum charging speed and efficiency.



Mobility and modular design allows forming energyBRICK storage complexes of any size and capacity to suit and support small- and large-scale projects.

energyBRICK units can be easily moved from one place of operation to another. Thanks to low self-discharge level (5% of charge loss per annum), even transportation over long distances will ensure delivery of energy with minimal losses.



Forming local micro grids for industrial applications, turning individual objects into the sites less reliant on centralized power systems;

Establishing back-up power source to relief state power grid overloads and prevent voltage deviations.



HOUSEHOLD INDOOR SOLUTION

Other variations of energyBRICK (SEVA) can be used as a residential backup power source, allowing forming a local power network to provide uninterrupted operation household appliances.

SEVA can be connected to the electricity grid or any other non-conventional ways of power supply like solar or wind in order to accumulate sufficient energy from these sources during off-peak hours and then power up the house when rates are high.

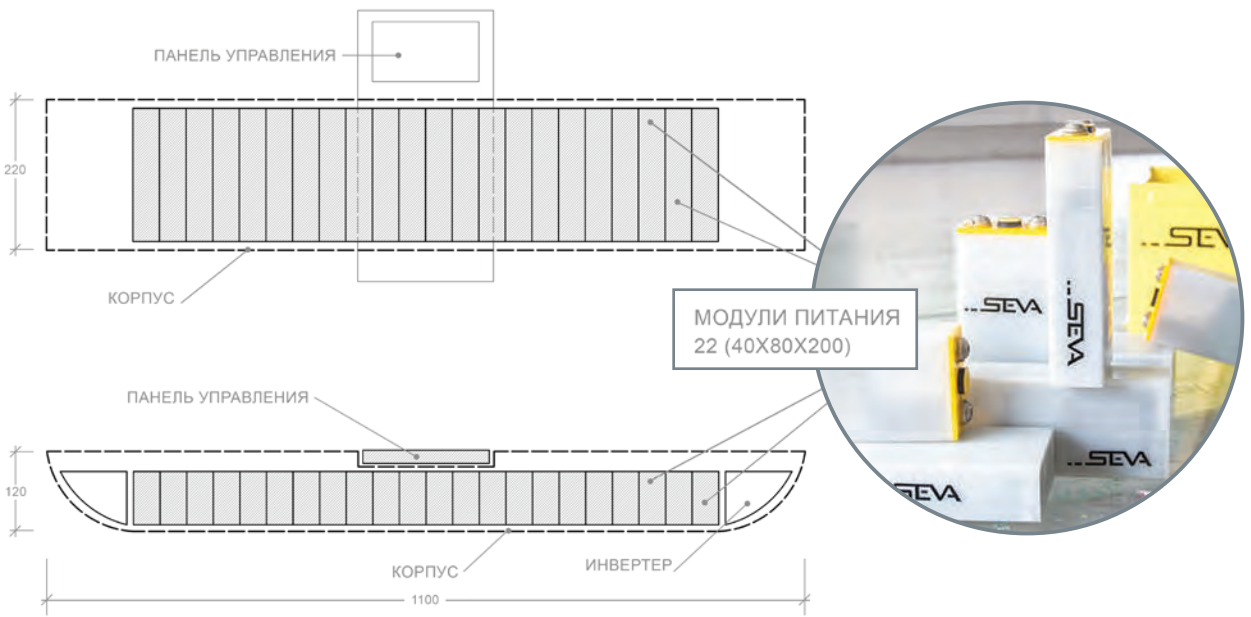
SEVA is a long-lasting and highly efficient back up power source, protecting sensitive industrial equipment and susceptible household appliances from power blackouts and outages.

Capacity of SEVA can be calculated to provide the required power for houses of any size and needs of energy consumption.

OTHER SEVA APPLICATION FIELDS

- Backup energy source to optimize a power management system and avert power blackouts and outages.
- Portable versions of SEVA can be used as an uninterrupted power supply for computers & servers.
- Traction / starter accumulating batteries for vehicles and other electric transport







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