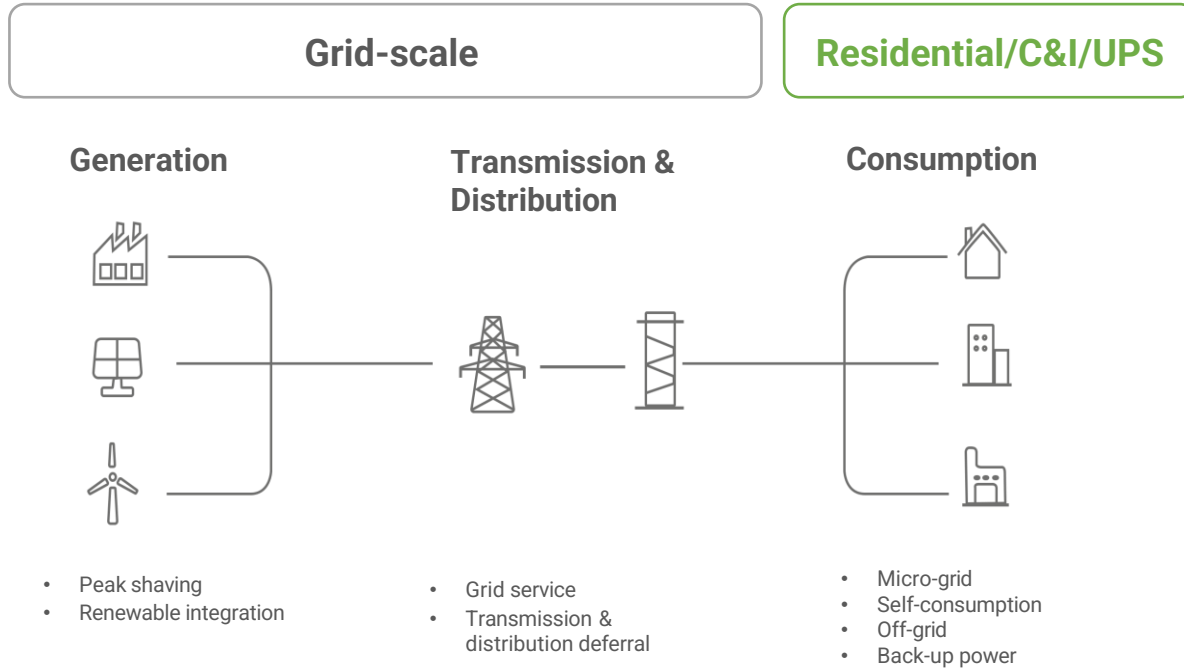


# ENERGY STORAGE SYSTEMS





## Graphene Power Battery

derives its remarkable electrostatic energy storage capacity from the extraordinary properties of graphene. NEXTEN offers diverse range of Graphene Power batteries, each meticulously tailored to address a spectrum of energy storage needs:

- Telco BTS
- Mega MW
- Marine
- Residential
- Solar/Wind
- Forklift/Machinery





## High Capacitance

Graphene's large surface area and excellent electrical conductivity enable supercapacitors to achieve high capacitance values, which means they can store a big amount of energy.



## Rapid Charging and Discharging

Graphene supercapacitors can charge and discharge rapidly, making them suitable for applications that require quick bursts of power, such as electric vehicles and regenerative braking systems.



## Wide Temperature Range

Graphene supercapacitors can operate efficiently over a broad temperature range, from extremely low temperatures (e.g., -45°C) to high temperatures (e.g., 65°C), making them versatile for various environments.



## Long Cycle Life

These supercapacitors can endure more than 20.000 1C rate (1 hour) charge/discharge cycles without big degradation, which results in an extended operational lifespan.



## Environmental Benefits

Graphene supercapacitors are more environmentally friendly than traditional batteries because they do not contain hazardous materials or require the disposal of toxic chemicals.



## Safety

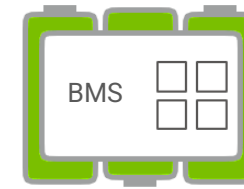
Unlike some chemical batteries, graphene supercapacitors do not pose a risk of thermal runaway or explosion, ensuring safety in demanding applications.





## Pouch Grade A Supercapacitor Cell 31 Ah

- Greatly enhance the energy density, up to 170 Wh/kg increased by 41% compared with previous-generation products
- Unique advantages of high security and long cycle
- Good power performance, can be applied for vehicles with higher power performance requirements such as PHEV



## Battery Management System

- The interface of charge and discharge is integrated
- The cell voltage and module temperature is detected by BMS
- Support fast charging and discharging
- Active monitoring of the system
- Smart action when protection function activated
- 3-level software protection, Redundant hardware level protection



Features	Lead Acide	Li-ion	LiFePO4	Graphene
Energy Density	30-50 Wh/kg	150-250 Wh/kg	100-160 Wh/kg	170 Wh/kg
Usage Capacity	50%	60%	70-80%	98%
Cycle Life	500 (50%DoD)	6.000 (60%DoD)	6.000 (80%DoD)	20.000 (100%DoD)
Charging Speed, C-rate (for 10kW)	0.2C (5 hours)	0.2C (5 hours)	0.2C (5 hours)	1C-3C (1h-20 min)
Discharging Speed, C-rate (for 10kW)	0.1C (10 hours)	0.2C (5 hours)	0.2C (5 hours)	1C-3C (1h-20 min)
Energy loss	3-4%/month	5-10%/month	3-5%/month	1-2%/month
Temperature range	-20°C to 50°C	0°C to 45°C	-30°C to 55°C	-45°C to 65°C
Ventilation	None	Yes	None	None
Disposal costs	High	Very high	Low	Very Low
Warranty	2-3 years	6-10 years	10-12 years	15 years

→ **\* DON'T SPEND YOUR TIME AND MONEY**



## Li-ion/LiFePO4

10kW ≈ €5.000,00

Usage capacity ≈ 7kW

Result: €5.000,00/7kW=€714/kW

6.000 Cycles

If 0.2C (5 hours charging)

10 Years warranty

## Graphene Supercapacitor

9kW ≈ €6.750,00

Usage capacity ≈ 9kW

Result: 6.750/9kW = €750/kW

20.000 Cycles

If 1C (1 hour charging)

15 Years warranty

99,1%  
USAGE  
CAPACITY



Choose the best storage solution for YOURSELF







## Battery system designed for PV household application

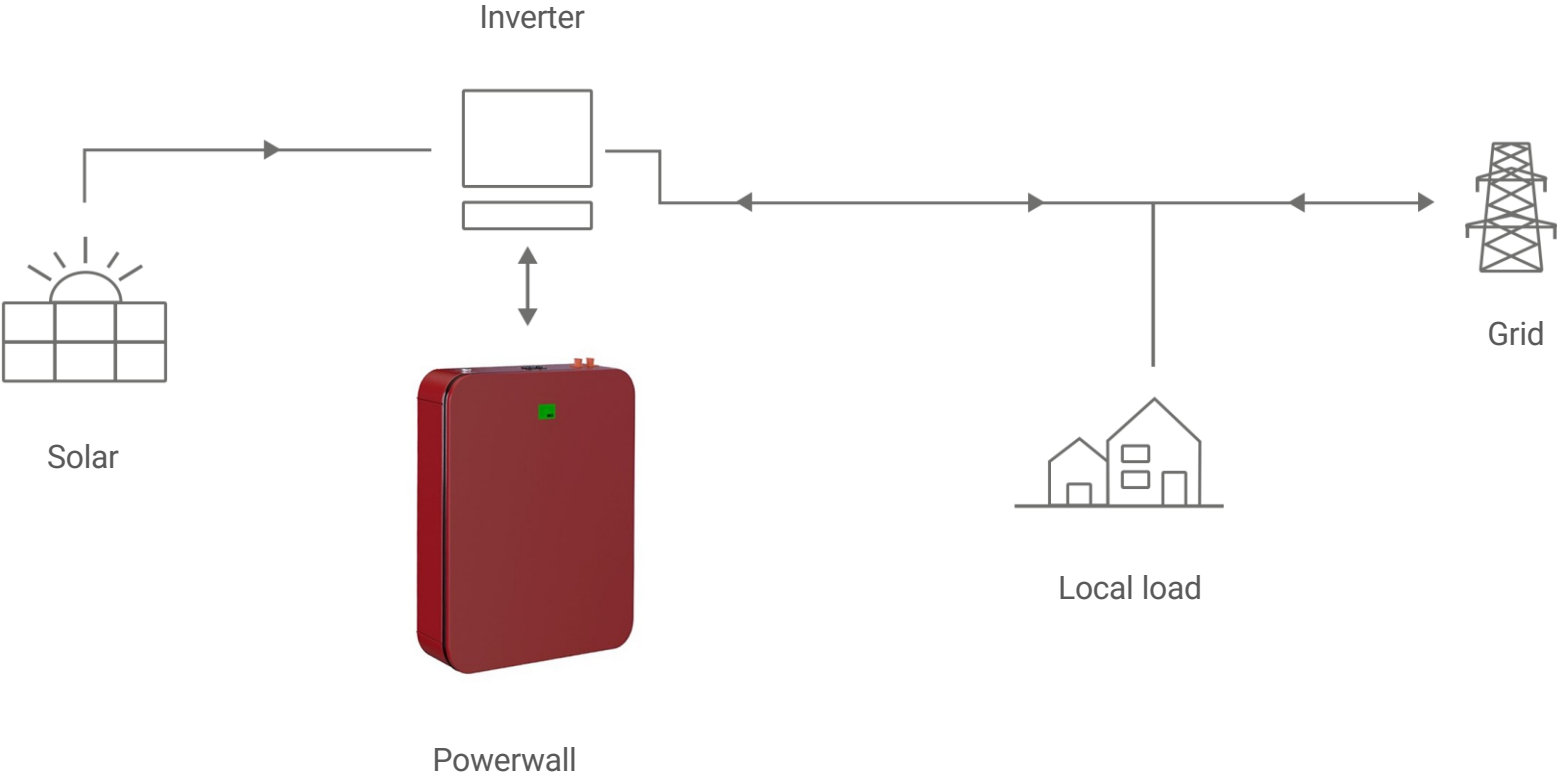
Enables the storage of 6-14kW of renewable or on-grid energy during periods of lower electricity tariffs, allowing the usage during high-tariff hours and serving as a backup power source in the event of a power outage at home.



## Solution for your home energy system

- Support RS485, CANBUS, RS232, Wi-Fi, Bluetooth, mobile App
- Compatible with industry standard inverters and chargers
- Long cycle life, reduce maintenance cost









## Flexible Stackable Power Bank

Stackable power bank is for residential or light commercial use. It is flexible from 6kWh to 60kWh configuration. Electrical interface of the stackable powerbank provides a simple connection to inverters. Compact design and flexible configuration lead it to market-leading products.



Safe



Uninterrupted Power Supply (UPS)



Fast response



Easy installation

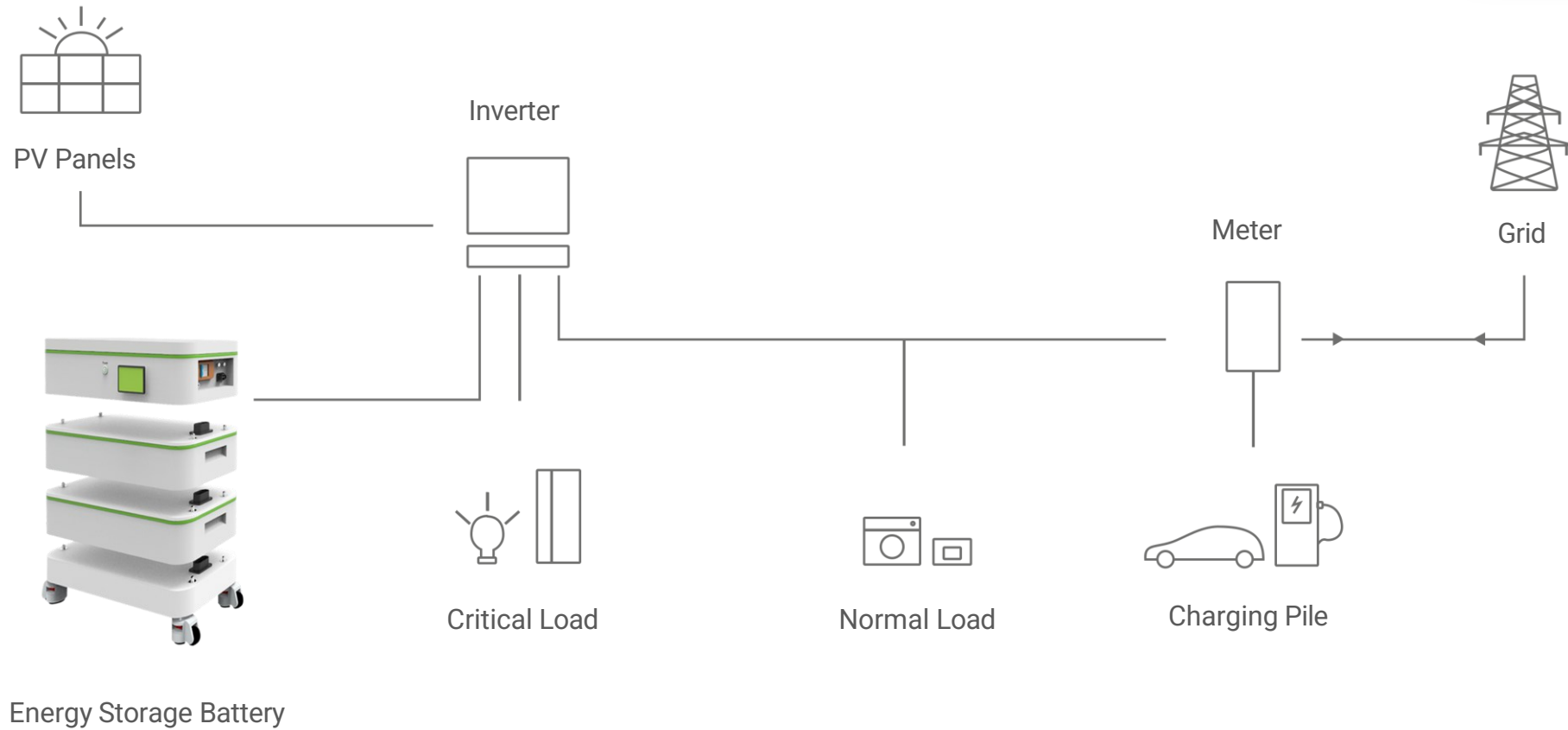


Compact design



24/7 App monitoring





## Real-time Monitoring

Keep track of your home's energy generation, storage, and consumption in real-time.

## Cost reduction

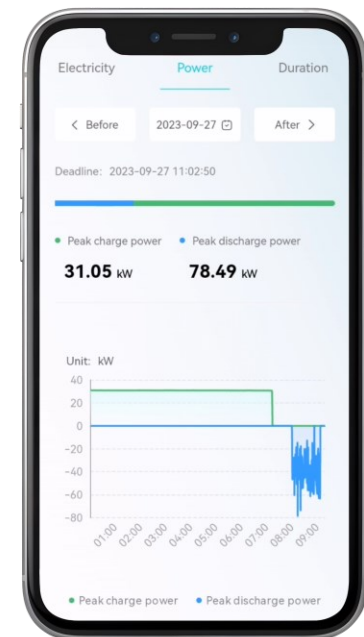
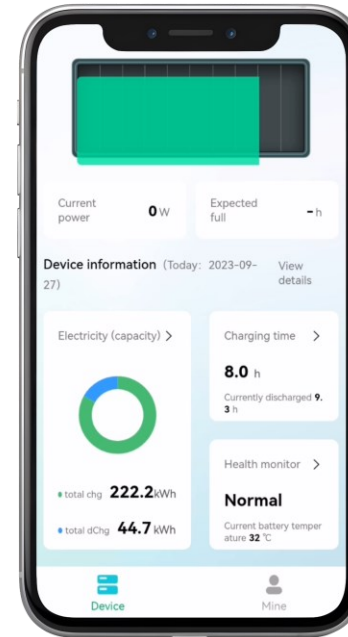
The APP is the management system to create a cost-efficient electricity in house system and create cost reduction for the customer.

## Analytics

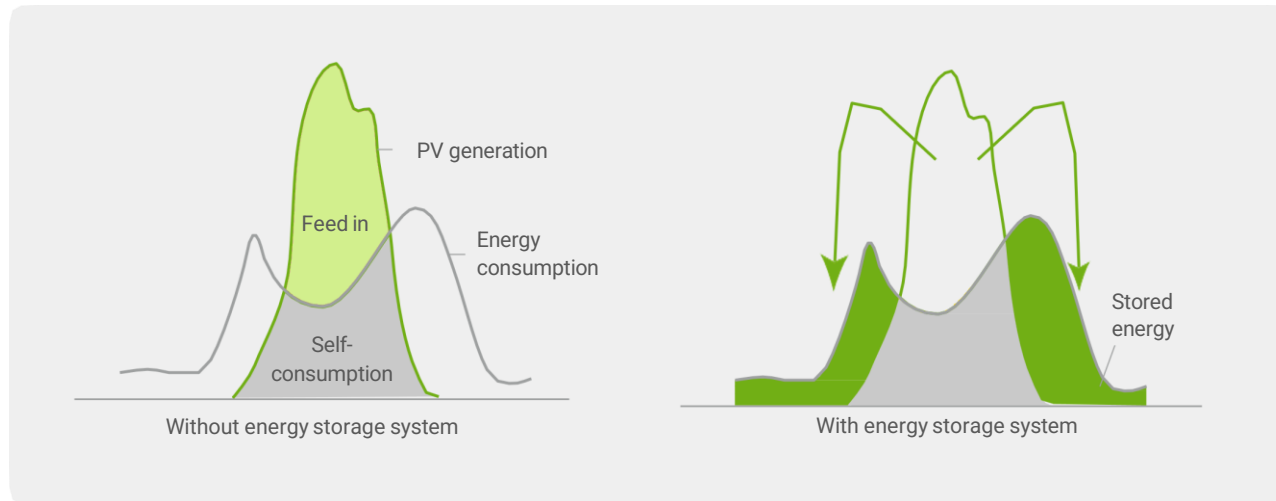
Receive insights into your household energy consumption patterns, helping you make informed decisions to enhance efficiency

## Time configuration

Specify the time of charging/discharging in comfortable time and profitable tariff

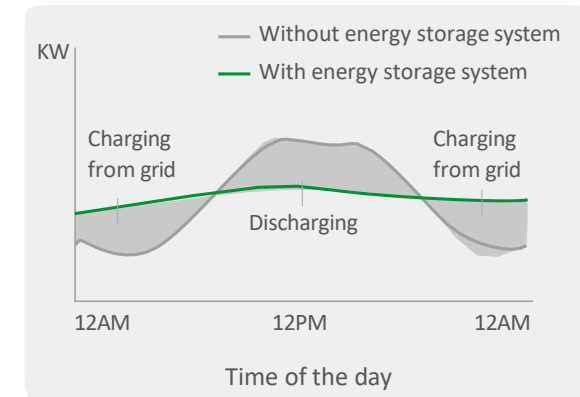


## 1. Self-Consumption Optimization



Store the surplus PV generation in the battery and smartly discharge the energy to match your electricity usage. You can cut electricity bill by minimizing the energy consumption from the grid.

## 2. Load Shifting



### Consumer: Load shifting

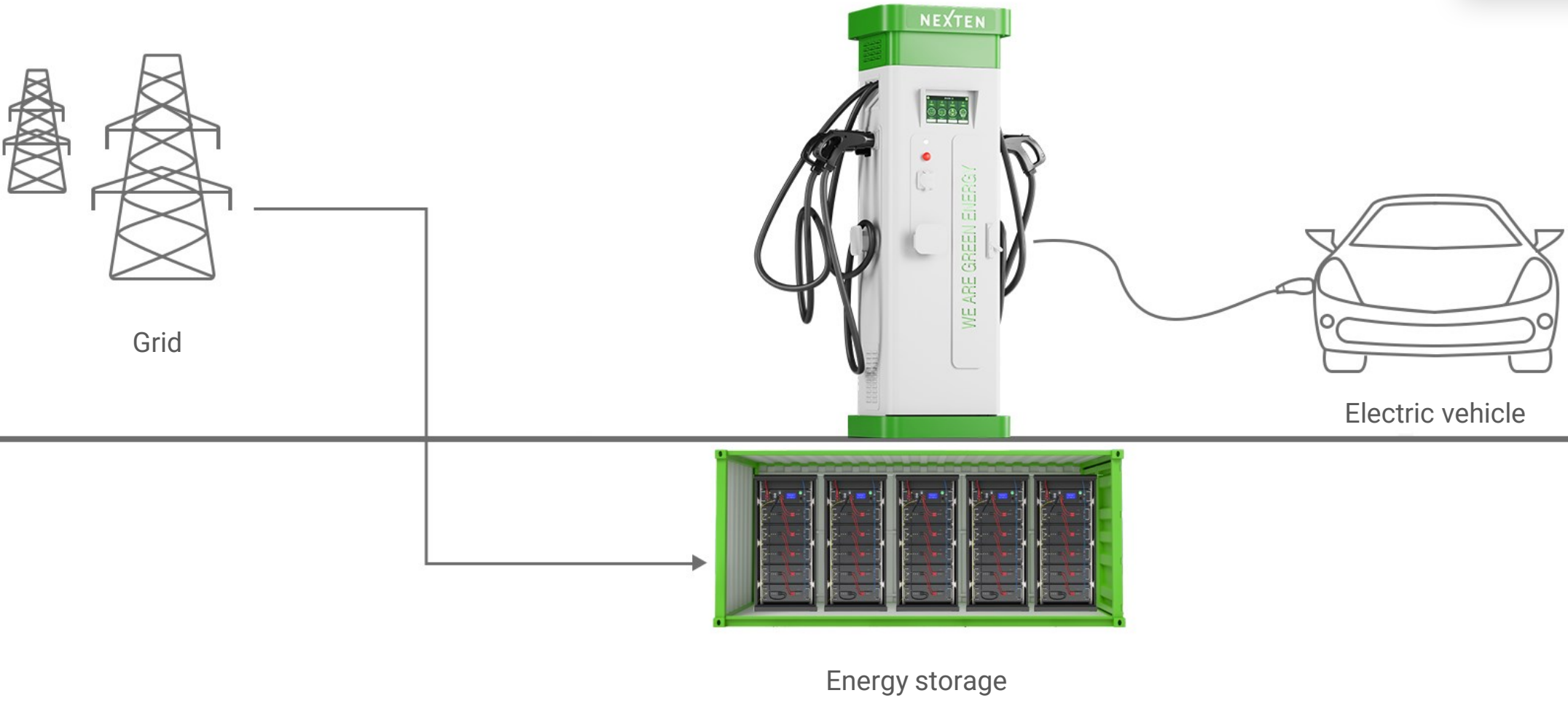
Store electricity during off-peak time and shift energy to be used at peak time. You can save money by avoiding electricity peak rate.

### Transmission & distribution: Peak shaving

Avoid the upgrade of substation and power line to supply the peaks of variable load, where energy storage provides a fast response and emission-free solution.









## Graphene power for Telecom

NEXTEN offers a comprehensive range of power batteries, accommodating diverse equipment sizes and voltage specifications. Each variant of the Telco Graphene power battery is designed to seamlessly integrate into a standard rack, eliminating the need for additional battery sections. The Telco Graphene battery stands as the ultimate solution to guarantee uninterrupted and enduring equipment operation, establishing new benchmarks for efficiency and reliability in the industry. The solution is applicable for data centers or UPS systems for offices.

## Features

- Support for parallel connection
- Support for high current charging and discharging
- Extended battery service life
- Support for consistent-voltage long-distance power supply
- Integrated with BDC allowing for active cycle control
- Standard rack-mounted design (3U size)
- Support for remote monitoring





## SOLAR & WIND GRAPHENE POWER

Graphene battery, intelligent BMS and bidirectional DC converter (BDC). The product features active control of the charge and discharge voltages to solve the bias current and circulating current issue inside battery packs when connected in parallel. Moreover, the product can be used for smart peak shifting and off-peak power consumption to save the initial investment and thus increase the income on investment.



Power Backup



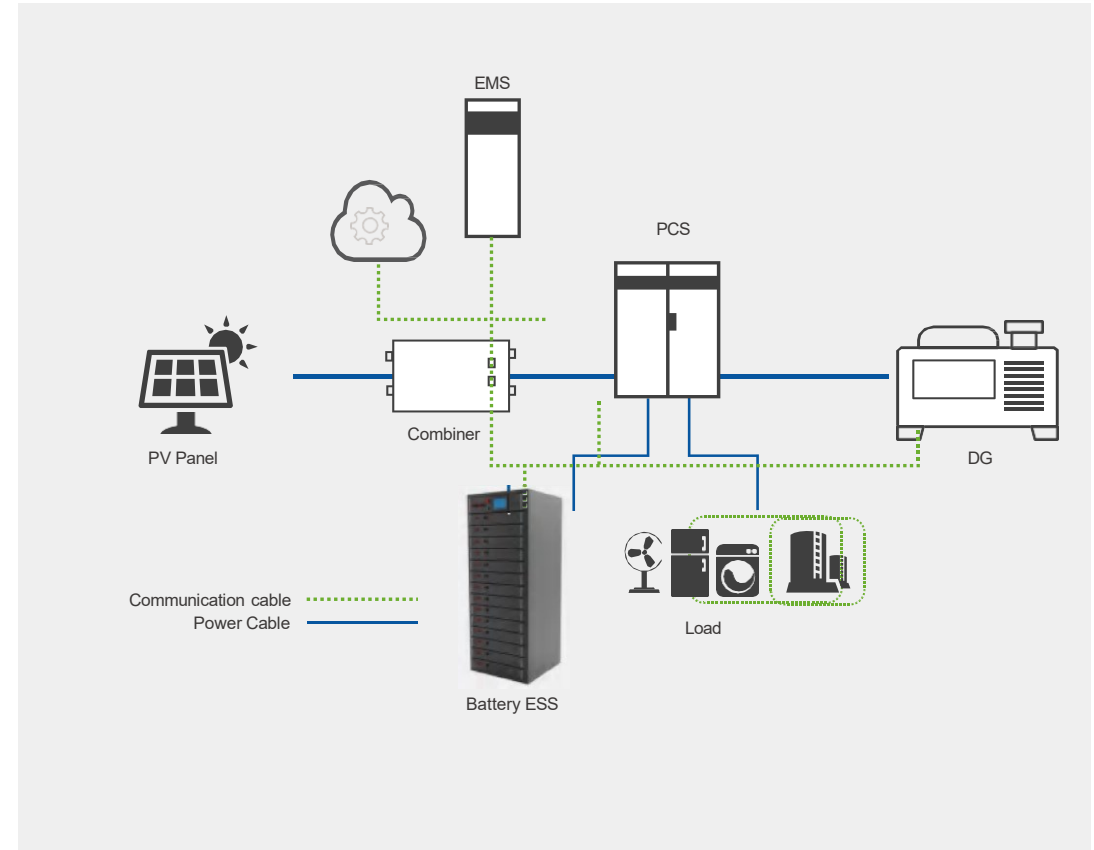
Off-grid



Micro-grid

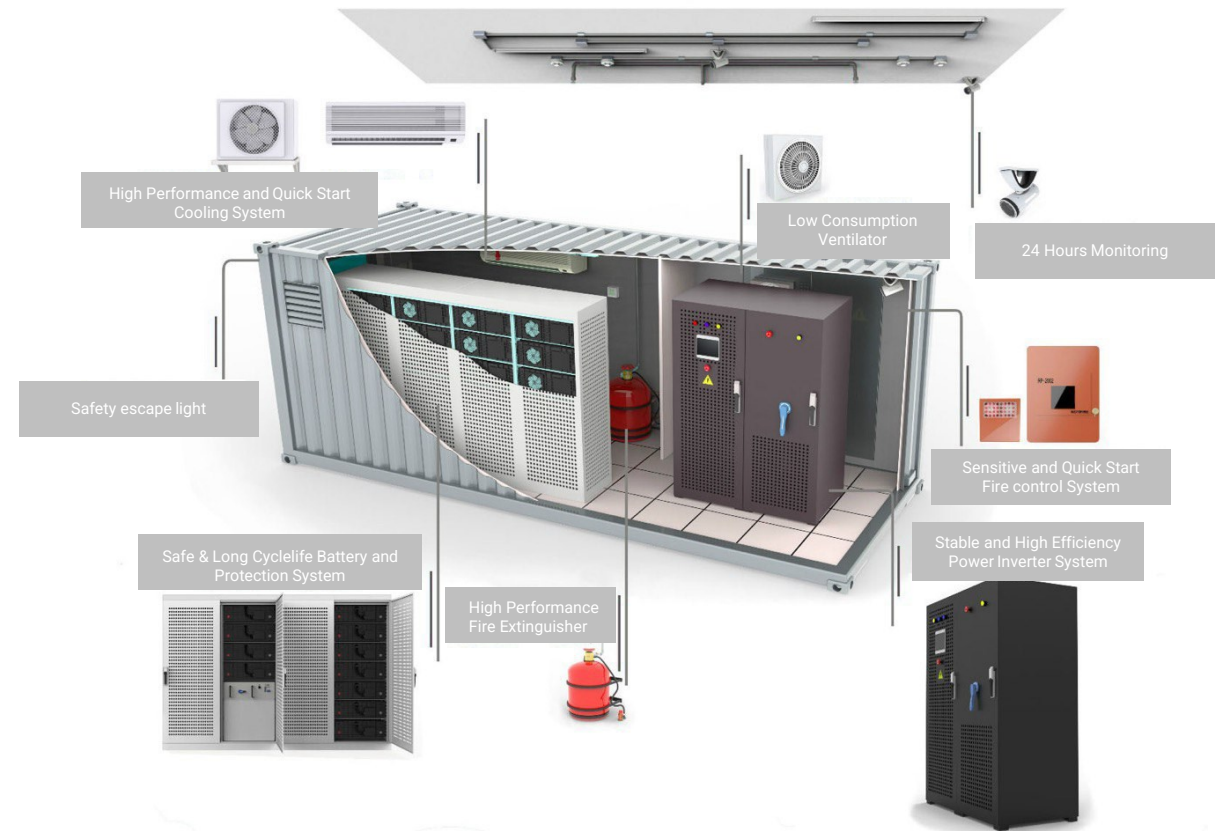


Self-consumption

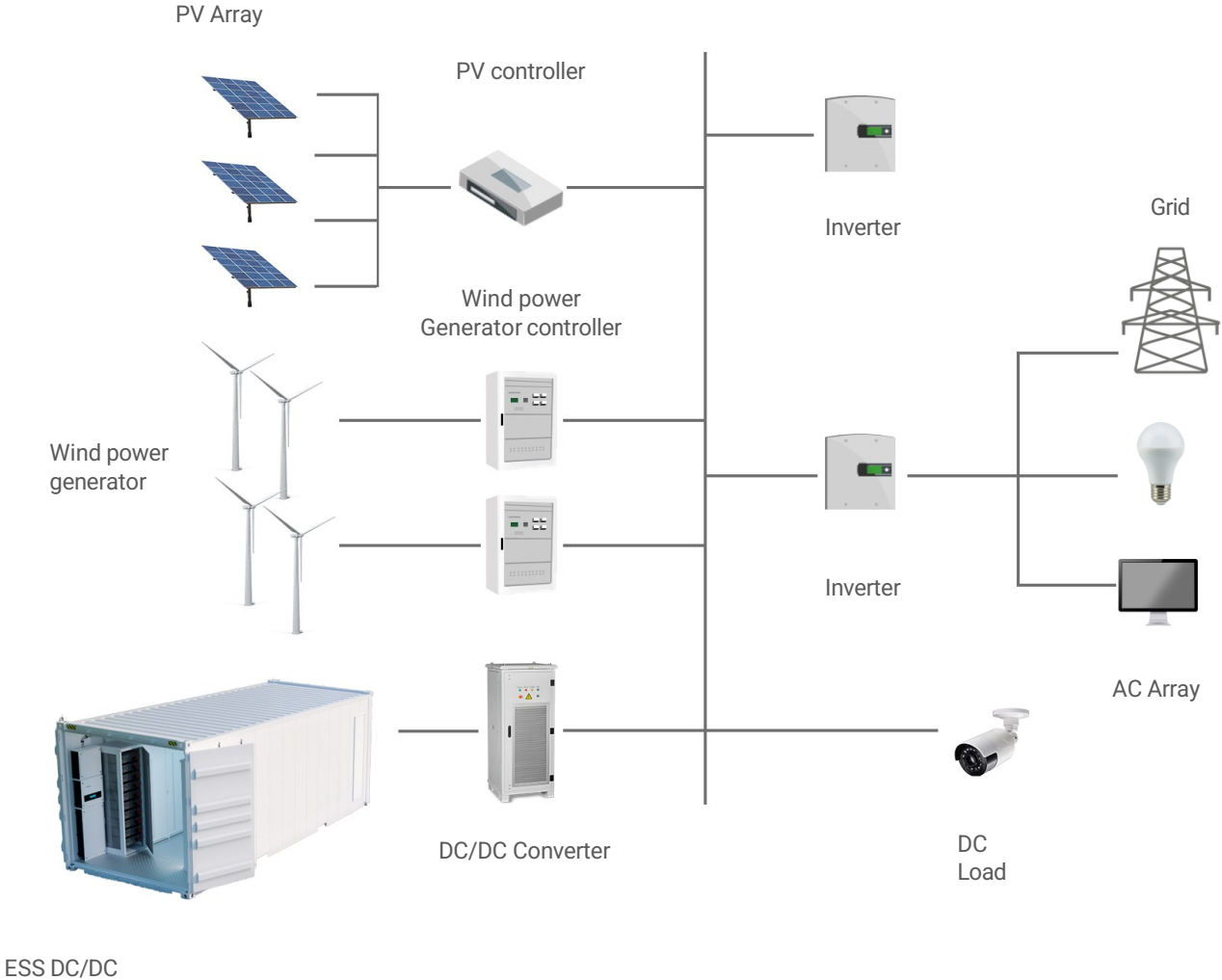


## MEGA ESS 500kWh - 2MWh

The Industry and Commercial Energy Storage with Integrated Construction, using All-In-One Cabinet, Energy can reach over MWs level, including Battery System +BMS, PCS, EMS, transformer, Connection cable, Busbar, Lightning, Grounding System, Monitoring and Alarm system, Flexible System Voltage and Capacity.







## Forkess

Supercapacitor batteries have a considerably higher energy density, making them an excellent choice for material handling equipment such as forklifts, mobile robots, ground support equipment, and other industrial applications.

### Features:

- Supercapacitor cells
- Outstanding cycle life
- Virtually maintenance free
- The best for fast charging applications
- CAN bus communication
- Comprehensive BMS to protect the asset
- Laser welded cells and rugged construction
- Minimal downtime with optimized plug-and-play charging



Scissor lift



Forklift



Pushback tractor



## WHERE INNOVATION MEETS SUSTAINABILITY

