



# “eBuilding” Solutions

## Energy Storage Solutions for Buildings and Multi-Tenant Properties

Worldwide growing energy demand and often shortage of supply is leading to growing power interruptions in both residential and business buildings.

The use of diesel generator is expensive, polluting, and hungry in maintenance. The associated management of collections, failures and service requests make building manager seek cleaner, cheaper and self managed energy alternatives.


Using its leading solar energy generation, energy storage technology and pay as you go energy meters, E24 solves it all in a clean, easy to install and headacheless solution.

With its leading smart energy storage technology and energy billing system, eBuilding eliminates the need for generators and seamlessly manages the cost of back-up power fairly among building residents.

S311E

**E24**<sup>TM</sup>  
BRIDGING THE ENERGY GAP





**“Finally, a solution that fairly and smartly distributes the cost of energy among building residents.”**



# Why eBuilding?

## Global gap in energy supply

With rapid demographic and economic growth, demand for electricity is ever-increasing, and with it the gap between energy supply and demand. Electricity production from fossil fuels is the largest source of greenhouse gas emissions and will continue to grow as more people are connected to the grid. With the time and resources required to upgrade grid capacity, it is becoming harder for utilities to stabilize the availability of energy on the grid. In some countries, the supply-demand gap, and oftentimes utility mismanagement have led to a situation where utilities must ration available power through regular blackouts.

## Global challenges

With utilities resorting to financial measures such as Time of Use billing (TOU), Capacity Billing, and Low Power Factor Surcharges (LPFS) to influence consumption, homeowners' energy bills continue to grow higher.

Additionally, blackouts and brownouts create a burden and added expenses for home and villa owners. Most of the time, people resort to diesel generators that are inconvenient on several levels:

- They are costly to buy, refuel and maintain
- They create air and noise pollution and are harmful in residential environments
- They require space, regular maintenance and repetitive refuelling

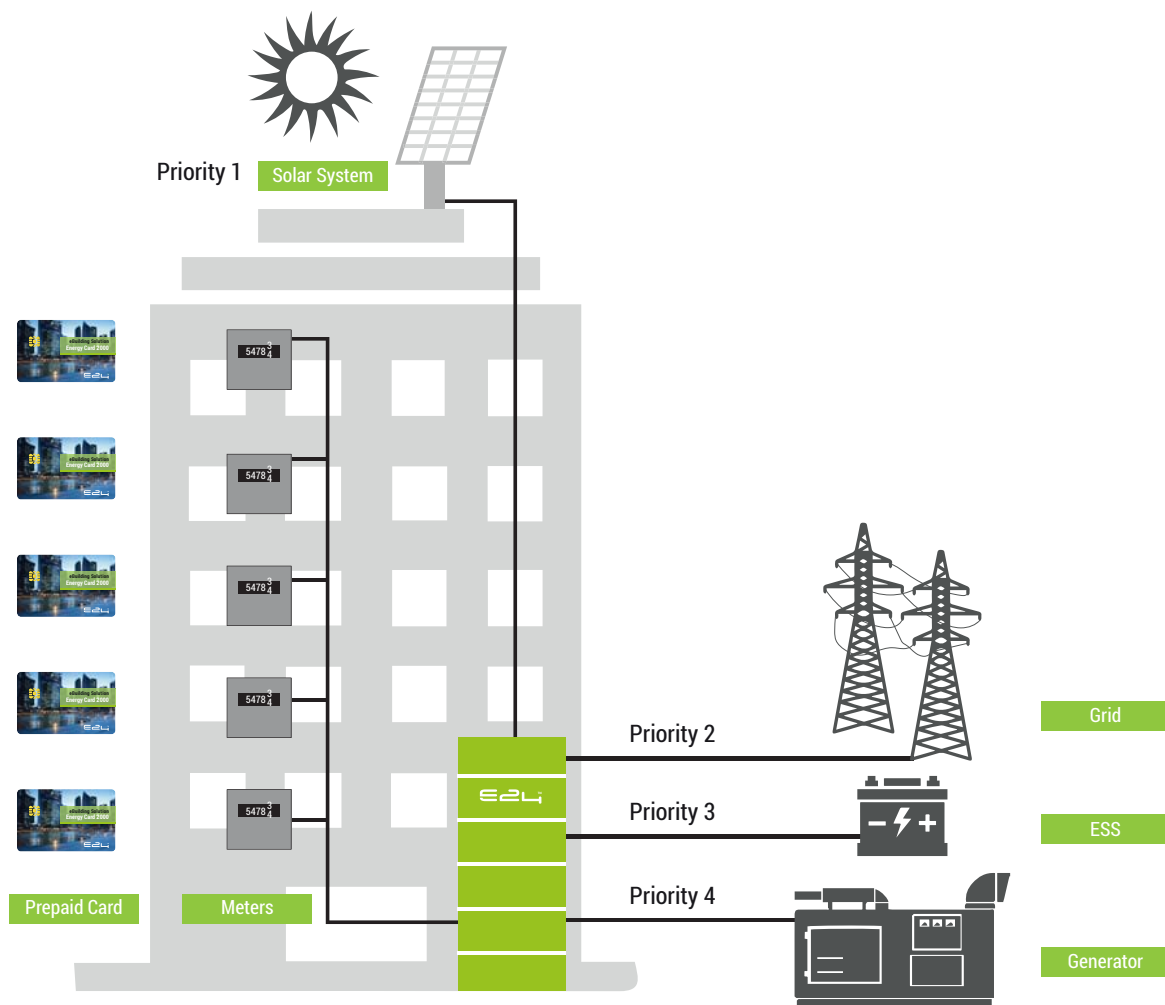
The associated costs of operation and maintenance of back-up generators are complicated to manage among the residents of buildings who consume different amounts of energy.

## A hassle free, cost-effective solution

eBuilding overcomes these problems by providing a fully integrated building energy storage solution that uses a smart billing system to fairly manage energy costs among building residents. eBuilding acts as a backup power source in times of blackouts or peak billing periods and guarantees substantial savings over any fuel based alternative while improving power quality, removing noise and environmental pollution, and limiting human intervention.



# eBuilding: A new concept



**eBuilding is a centralized energy storage solution conceived for buildings in areas where utility power is intermittent. eBuilding comprises a centralized energy storage solution and energy management and billing system. Its main functionalities include:**

## Continuous Power & Quick Switch to Backup Mode

When utility power fails, eBuilding quickly switches to backup batteries (10ms transfer time) in a way that you never see it happen. It does this through a backup system which stores energy from multiple possible sources, including optional solar panels and electricity from the grid. This overcomes the need for an expensive, polluting diesel generator and the cumbersome maintenance it requires.

## Integration with Renewable Energy

eBuilding is easily compatible with solar PV panels or wind energy to charge the backup system, reducing your bills in the process. eBuilding also returns unused solar energy to the grid.

## Energy Management and Billing System

eBuilding includes prepaid cards, meaning each resident or tenant pays for the energy he/she has consumed. This overcomes the hassle of managing centralized generator costs among residents. The prepaid card contains a certain allowance of energy, and each tenant is equipped with a smart meter to measure energy consumption.



# eBuilding Key Benefits

**eBuilding's demonstrated benefits make it the ideal all in one solution for your energy needs, saving money and improving quality of life:**

## **Substantial Cost Savings**

eBuilding saves on your energy bills, with a lower cost of operation compared to diesel generators, and achieving the greatest savings when coupled with solar PV.

## **Easy and fair distribution of costs**

eBuilding's prepaid card solution allows each resident to pay for the energy he/she has consumed through a pre-programmed allowance, avoiding the hassle of managing centralised generator costs.

## **Safe and Reliable**

eBuilding accepts wide input voltages and frequencies, operating safely between 154V and 280V, and 40 and 70Hz.

## **Calm and Clean**

eBuilding allows you to avoid the use of noisy, polluting diesel generators that release harmful gases.

## **Resilient**

eBuilding is conceived in a manner to bypass itself in case of an unlikely failure in order to avoid disconnecting the utility supply.

## **Eco-friendly image and values**

Choosing solar energy demonstrates a commitment to lowering carbon emissions. eBuilding improves your image, sending a message of environmental responsibility.

## **Unattended operation and low maintenance**

eBusiness is a standalone system that automatically switches between power supplies and manages energy storage, requiring very low maintenance. Its remote monitoring tools allow our technicians to ensure smooth operation and get notified in case of any issues.

## **Adaptable & Compatible**

eBuilding is easily compatible with PV panels or existing auxiliary power sources, and includes technology to automatically start any available generator in case of extended blackouts beyond storage capability. Of course it is possible to pre-program generator operational hours.

## **Modular and Upgradable**

eBuilding's modularity means that it is possible to add more inverters in parallel to increase power and reliability, and more battery modules to increase backup time. eBuilding dynamically grows with your evolving energy needs.

## **Continuous Elevator Operation**

eBuilding's backup system ensure that building common areas are lit, and elevators receive uninterrupted power.

## **Plug and Play**

E24 technology is supplied in prepackaged boxes allowing systematic assembly without external components.



# Health Comes First

## Installing diesel generators in residential areas is harmful to health and wellbeing

- Toxic gases have a direct effect on the respiratory system, posing a variety of diseases
- Fine particle pollution contributes to asthma, emphysema, chronic heart and lung disease, with elderly and young people being more sensitive.
- Exposure to diesel exhaust poses high risks of cancer.
- Engine produces irritating audible noise
- Exhaust interaction with other particles in the air contributes to smog creation.



# Enhanced Quality of Life

## There are multiple operational advantages that eBuilding has over diesel generators

### Generator

- High operational cost
- Air & noise pollution
- Continuous maintenance
- Power cut between utility and generator
- Minimum 30% load
- Bulky (fuel tank and exhaust required)
- Continuous refueling
- Narrow temperature operation (deration)

### eBuilding

- Low Operational Cost
- Silent and non polluting
- Low maintenance
- Reliable
- Stable voltage and frequency
- Can be installed in any space
- Install once - replace batteries every 6 to 10 years
- Wide temperature operation
- Ready to be coupled with Solar PV

# How Does eBuilding Save On Your Energy Bills?

**eBuilding's smart system collects and stores energy from multiple sources according to their availability and lowest cost.**

- eBuilding overcomes the need for expensive diesel generators, generator maintenance and subscriptions.
- eBuilding stores solar energy for use during blackouts, saving on energy bills.
- eBuilding's smart billing management system ensures that building residents only pay for the energy they consume, avoiding unfair distribution of costs among them.



## Smart Energy Management

### Pre-Paid Energy Cards

To avoid the hassle of cost-sharing among building tenants or residents, each resident purchases a prepaid energy card that contains a certain amount of energy (kWh).

### Pre-Programmable Energy Allowance

Each building resident is equipped with a smart energy meter that measures instantaneous power consumption (Amps) and energy consumption (kWh). The prepaid card is inserted into individual smart meters, making the energy available for use. The meter gradually depletes the available energy according to resident consumption.

### Controlled Consumption

When the card is reaching its allowance limit, the meter signals a reminder alarm. Power is disconnected until a new card is inserted. When a building resident exceeds the preprogrammed allocated maximum load (A), the system disconnects the resident for 1 minute until the overload is cleared. Power is then restored automatically.





# Who can Benefit From eBuildings?

The eBuildings solutions best suits all buildings residents and businesses having a power supply ranging from 3 KVA to 2000 KVA. It is ideal for buildings sharing back-up generators or private generators subscriptions such as commercial malls, residential buildings, hotels, towers, etc.

## eBuilding Applications

eBuilding is optimally designed for residential or commercial buildings in areas or countries where utility power is intermittent. With its smart billing management system, eBuilding is ideal for applications where power is distributed among several users and consumption needs to be monitored and billed individually.

eBuilding is always sized to your requirements as recommended by our energy consultants. To guarantee continuous operation, the highest cost savings, and extended battery life, it is always recommended to couple eBuilding with one of E24's solar generation solutions.



# E24 Quality Pledge



**E24 has been designing energy technology solutions since 2011. E24 accumulated substantial experience across diverse markets and segments, resulting in a demonstrated market edge, experience and leadership.**

E24 designs, engineers, manufactures, assembles, tests and delivers its solutions in modular components that are easy and cost-effective to assemble on site.

E24 commissions its solutions through a network of affiliates or business partners under strict quality standards and procedures to ensure the highest optimal performance and customers' satisfaction.

E24 continuously invests in R&D and develops its own proprietary technology. Each part of the energy solution supplied is optimized to bring the highest customer value.

All solutions are designed for quick and hassle-free capital recovery and high return on investment.

# E24 Comprehensive Services

Our turnkey approach is what sets us apart. In addition to our complete solutions, we offer a variety of services, allowing you to make the most of your investment:

- **Site Assessment Visits**
- **Energy Saving Analyses**
- **Feasibility Studies**
- **Structural Designs**
- **Multi-Level Training Programs**
- **Commissioning Services**
- **Financing Services**

E24 works closely with its clients to look at all aspects of their energy-related costs and performance, identifying opportunities for improvement and potential to lower overall costs.

E24 also offers a number of financing services allowing customers to pay for their equipment gradually and partially finance their investments from the savings they generate.

With support centers, regional offices, and knowledgeable personnel, E24 brings an uncompromising commitment to customer satisfaction. Our after sales services include:

- **Warranty Extension Programs**
- **Comprehensive Maintenance Programs**
- **Field Service**
- **Overhaul & Refurbishments**
- **E24 certified parts**

Our services are provided by engineers operating from E24 regional offices, allowing customers to benefit from accurate data based on relevant local field experience.

**Our Energy Consultants are here to answer all your questions.**





# Build your Ideal Solution

**Make the most of your eBuilding solution by coupling it with one of our energy generation solutions to achieve the greatest value and cost savings.**

**eSolar**



If you decide to forego storage and just require energy generation, eSolar is the right choice for you.

**eHybrid**



eHybrid can be easily coupled with eBuilding or any E24 storage solution, adding a solar energy generation capability to your system. This reduces energy costs further and prolongs the life of your storage system.

**eParking Hybrid**



If your Building contains unused parking space, eParking Hybrid makes the most of it by providing solar energy generation, reducing costs and prolonging the life of your eBuilding system.

## Energy Storage Solutions



eHome



eVilla



eBuilding



eBusiness



eGrid



eVillage



eTelecom



eGrid

## Energy Generation Solutions



eSolar



eHybrid



eParking



# Comprehensive Energy Solutions

E24's broad portfolio of successfully completed projects ranges across a variety of sectors including Residential, Commercial, Industrial, Telecom and Governmental. We have built our reputation on our client focus and versatility to solve their problems. Our tailored solutions that place the lifestyle and needs of customers at their core. E24 leverages technology as a problem solver and enabler.

It is in this spirit that E24 develops targeted, personalized, seamless energy solutions for homes, villas, businesses, buildings, factories, villages, telecom and utility operators. E24 is constantly working towards enhancing the economics and lifestyle of its customers while saving on the planet.



## Ordering Information

Ref Number	Description
E311-240-04I	Energy Storage Solution, eBuilding Series, 3x80A @ 0.9 Pf, 166kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-240-06I	Energy Storage Solution, eBuilding Series, 3x80A @ 0.9 Pf, 221kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-240-08I	Energy Storage Solution, eBuilding Series, 3x80A @ 0.9 Pf, 276kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-240-12I	Energy Storage Solution, eBuilding Series, 3x80A @ 0.9 Pf, 276kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load
E311-300-04I	Energy Storage Solution, eBuilding Series, 3x100A @ 0.9 Pf, 221kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-300-06I	Energy Storage Solution, eBuilding Series, 3x100A @ 0.9 Pf, 276kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-300-08I	Energy Storage Solution, eBuilding Series, 3x100A @ 0.9 Pf, 331kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-300-12I	Energy Storage Solution, eBuilding Series, 3x100A @ 0.9 Pf, 442kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load
E311-450-04I	Energy Storage Solution, eBuilding Series, 3x150A @ 0.9 Pf, 331kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-450-06I	Energy Storage Solution, eBuilding Series, 3x150A @ 0.9 Pf, 386kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-450-08I	Energy Storage Solution, eBuilding Series, 3x150A @ 0.9 Pf, 497kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-450-12I	Energy Storage Solution, eBuilding Series, 3x150A @ 0.9 Pf, 662kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load
E311-600-04I	Energy Storage Solution, eBuilding Series, 3x200A @ 0.9 Pf, 442kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-600-06I	Energy Storage Solution, eBuilding Series, 3x200A @ 0.9 Pf, 552kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-600-08I	Energy Storage Solution, eBuilding Series, 3x200A @ 0.9 Pf, 662kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-600-12I	Energy Storage Solution, eBuilding Series, 3x200A @ 0.9 Pf, 883kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load
E311-750-04I	Energy Storage Solution, eBuilding Series, 3x250A @ 0.9 Pf, 552kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-750-06I	Energy Storage Solution, eBuilding Series, 3x250A @ 0.9 Pf, 662kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-750-08I	Energy Storage Solution, eBuilding Series, 3x250A @ 0.9 Pf, 883kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-750-12I	Energy Storage Solution, eBuilding Series, 3x250A @ 0.9 Pf, 1104kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load
E311-900-04I	Energy Storage Solution, eBuilding Series, 3x300A @ 0.9 Pf, 662kWh, 220V, 50Hz, 4Hrs. Runtime @ 50% Load
E311-900-06I	Energy Storage Solution, eBuilding Series, 3x300A @ 0.9 Pf, 773kWh, 220V, 50Hz, 6Hrs. Runtime @ 50% Load
E311-900-08I	Energy Storage Solution, eBuilding Series, 3x300A @ 0.9 Pf, 994kWh, 220V, 50Hz, 8Hrs. Runtime @ 50% Load
E311-900-12I	Energy Storage Solution, eBuilding Series, 3x300A @ 0.9 Pf, 1325kWh, 220V, 50Hz, 12Hrs. Runtime @ 50% Load





## REGIONAL SALES OFFICES

### North America:

1250, Rene Levesque West, #2200  
Montreal, Quebec,  
Canada H3B 4W8  
Phone: +1-514-9893700  
Sales\_R1@e24solutions.com

### Europe:

20-22 Wenlock Road  
London N1 7GU  
United Kingdom  
Phone: +44-2038242497  
Sales\_R4@e24solutions.com

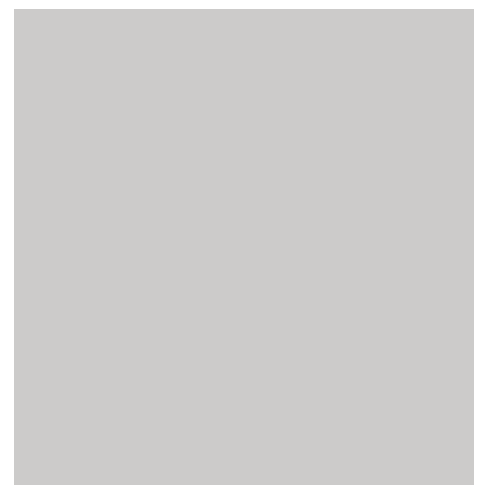
### Eurasia:

5th and 6th Floors,  
14 Tsar Osvoboditel Blvd.,  
1000 Sofia, Bulgaria  
Phone: +359-2-811-1445  
Sales\_R5@e24solutions.com

### Middle East & Africa:

May Tabet Building,  
Sin El Fil  
Beirut, Lebanon  
Phone: +961-1-492705  
Sales\_R6@e24solutions.com

## AUTHORIZED RESELLER



Get more info on [www.e24solutions.com](http://www.e24solutions.com)