



“eVillage” Solutions


Energy Storage Solutions for Villages and Communities

Villages may experience frequent power cuts, and bad quality electricity forcing them to resort to polluting, noisy, and expensive generators

eVillage is a turnkey energy solution allowing residents of a village to benefit from 24/7 clean and green electricity at substantially lower costs

eVillage is a turnkey centralized solar and storage solution with a built in energy management and billing system allowing each resident to pay only for the alternative energy used without fixed fees

S350E

An aerial photograph of a vast solar farm. The solar panels are arranged in neat, parallel rows across a green field. In the background, there is a small village with red-roofed buildings and lush green hills under a clear sky.

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

Why eVillage?

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

It is also difficult for municipalities to collect payment and manage associated costs of operation and maintenance of back-up generators are among the residents of buildings who consume different amounts of energy.

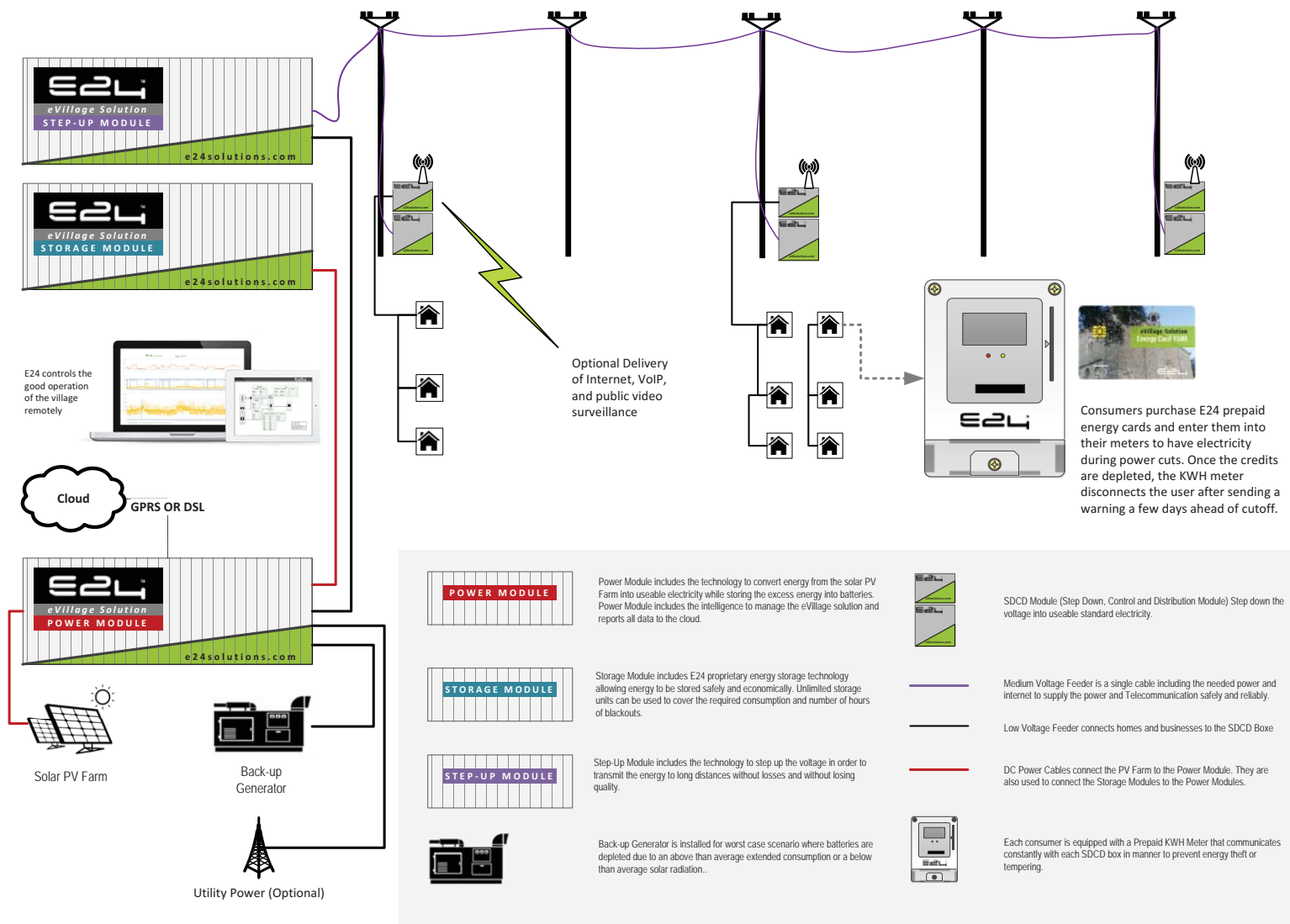
A Hassle-Free, Cost-Effective Solution

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



eVillage can combine private rooftops with a centralised PV area to optimize solar space

eVillage: A New Concept



eVillage is conceived for villages and communities where utility power is intermittent. eVillage 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, eVillage quickly switches to backup batteries. 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 expensive, polluting village diesel generators and the cumbersome maintenance they require.

Integration with Renewable Energy

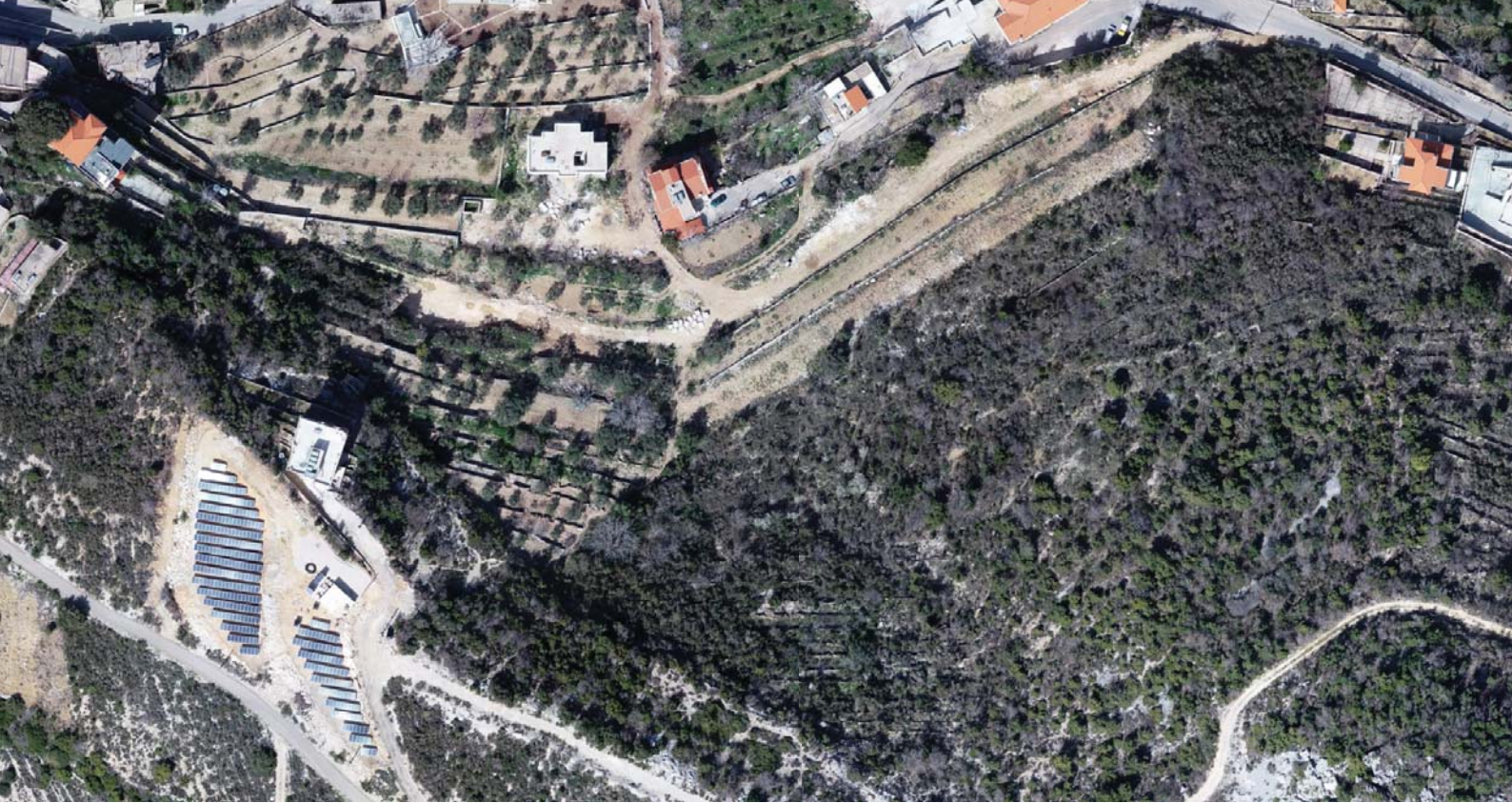
eVillage is easily compatible with and prioritizes solar PV panels or wind to charge the backup system, reducing the cost of energy further. eVillage allows residents to benefit from solar energy both in the day and night time and returns unused energy to the grid.

Energy Management and Billing System

eVillage includes prepaid cards, meaning each resident pays for the energy he/she has consumed. This overcomes the hassle of managing centralised 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.

Grid Stabilization

eVillage's excess production is returned and synchronized with the grid, which reduces sags and brownouts, enhancing the power quality of the grid.



eVillage Key Benefits

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

Substantial Cost Savings

eVillage allows residents to save on energy bills, with a lower cost of operation compared to diesel generators, achieving the greatest savings when coupled with solar PV.

Easy and fair distribution of costs

eVillage'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

eVillage 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.

Eco-friendly image and values

Choosing solar energy demonstrates a commitment to lowering carbon emissions. eVillage improves the municipality and community's image, sending a message of environmental responsibility.

Plug and Play

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

Unattended operation and low maintenance

eVillage 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

eVillage is 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.

Modular and Upgradable

eVillage'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. eVillage dynamically grows with your village's evolving energy needs.

Powering Street Lights and Municipality

eVillage is connected to municipality common areas to with guaranteed 24/7 electricity to village infrastructure, street signs and lights.

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 eVillage 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)

eVillage

- 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.

- eVillage overcomes the need for expensive diesel generators, generator maintenance and subscriptions.
- eVillage stores solar energy for use during blackouts, saving on energy bills
- eVillage returns unused solar energy to the grid,
- 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.

Financing

eVillage is offered to village residents and residential complexes through business partnership agreements with municipalities or managements of residential complexes.

E24 Quality Pledge



E24 is the result of 30 years' experience in the field of energy generation, conversion and storage technology. E24 designs and manufactures the most durable, efficient and reliable energy solutions on the market tailored for the most demanding applications and locations around the world.

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

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 customer's 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 to bring a fast and headache-less 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.**



Energy Storage Solutions



eHome



eVilla



eBuilding



eBusiness



eFactory



eVillage



eTelecom



eGrid

Energy Generation Solutions



eSolar



eHybrid



eParking



eAgri

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.

E24®

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QUALITY STANDARD

