SOLAREDGE

COMPANY PROFILE

SolarEdge ltd is a locally incorporated company founded by professionals in renewable energy sector to utilize their experience and expertise in the design and installation of renewable energy systems throughout the Eastern African region.

We endeavour to provide the highest standards of service and support in Solar Water Heating, Power Backup Systems, Solar Photovoltaic Lighting, Solar Water Pumping, Wind Power Generation, Energy Management and Audit Services, Biomass and Biogas installations and services, and Hydro Power consultancy for domestic, commercial, institutional, and industrial facilities.

OUR VISION

To be recognized as a customer driven company in the renewable energy sector focused towards exceeding customer expectations.

OUR MISSION

We provide energy efficient solutions that conserve natural resources and promote individual and community self-reliance and explore the alternatives to the existing energy solutions.

KEY PERFORMANCE INDICATORS

10 years

in business

100

projects so far

OUR CORPORATE VALUES

Quality	We adhere to international standards of quality, institute stringent quality control processes, and strive to consistently deliver high quality products and services.
Realiablity	We maintain a strong sense of professionalism and accountability. The company seeks to build strong relationships for success.
Sustainability	We continually work to improve the efficiency and quality of our products and services as well as to advance the technology we use.

HEALTH SAFETY AND ENVIRONMENTAL POLICY

It is the policy of SolarEdge Ltd that each employee shall be provided with a safe and healthy place to work. The management will make every reasonable effort in the area of accident and injury prevention,hazard removal and control. Each employee has a personal obligation to ensure and practise safety first in the work place.

- Put priority on matters relating to Safety, Health and Environment in all our daily business activities.
- Abide by all procedures that have been endorsed by the Occupational Safety and Health Laws Of Kenya.
- Make available adequate information to the staff to conduct daily work activities in a safe manner.
- Develop a safe working environment.
- Provide training and periodic updates on Safety, Health and Environment matters to all staff.
- Create a positive Safety, Health and Environment awareness culture within the company.

Why go solar?

It's a great way to save money and help the environment.

Save money
You are generating a portion of your own electricity instead of buyingit from the grid.

Energy independence
Batteries enable you to store your excess solar energy to use later.

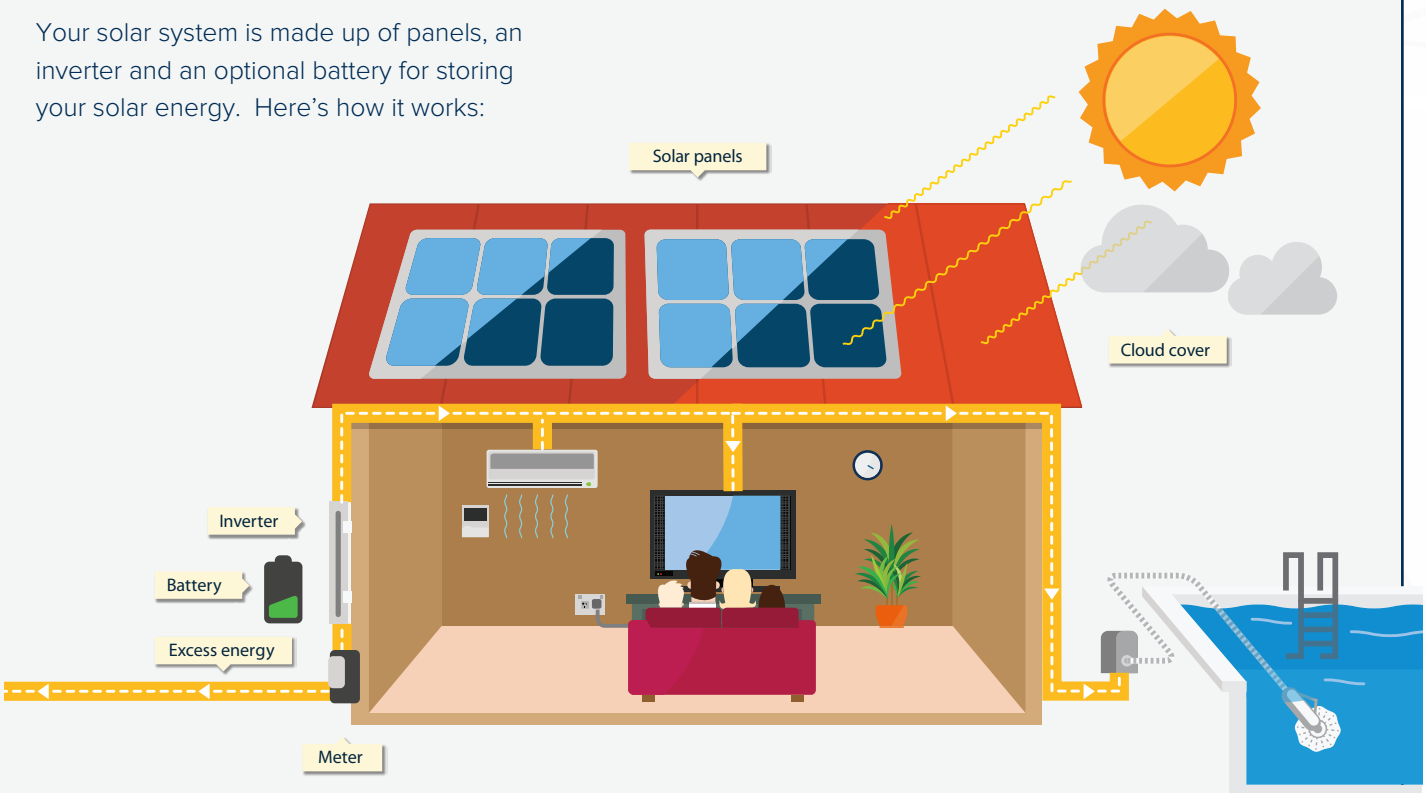
Renewable energy buyback
Receive payment for feeding excess solar energy into the grid. Kenyan laws and conditions apply.
.

Clean energy
Solar power systems produce significantly less carbon emissions than fossil fuel.

Increase the value of your home
Solar power savings can make your home more attractive to potential buyers.

How does solar and battery storage work?

Your solar system is made up of panels, an inverter and an optional battery for storing your solar energy. Here's how it works:



Solar panels
When sunlight hits your solar panels, they begin to produce power.

Inverter
Your inverter converts the power from your solar panels into electricity that your home can use, and charges your battery.

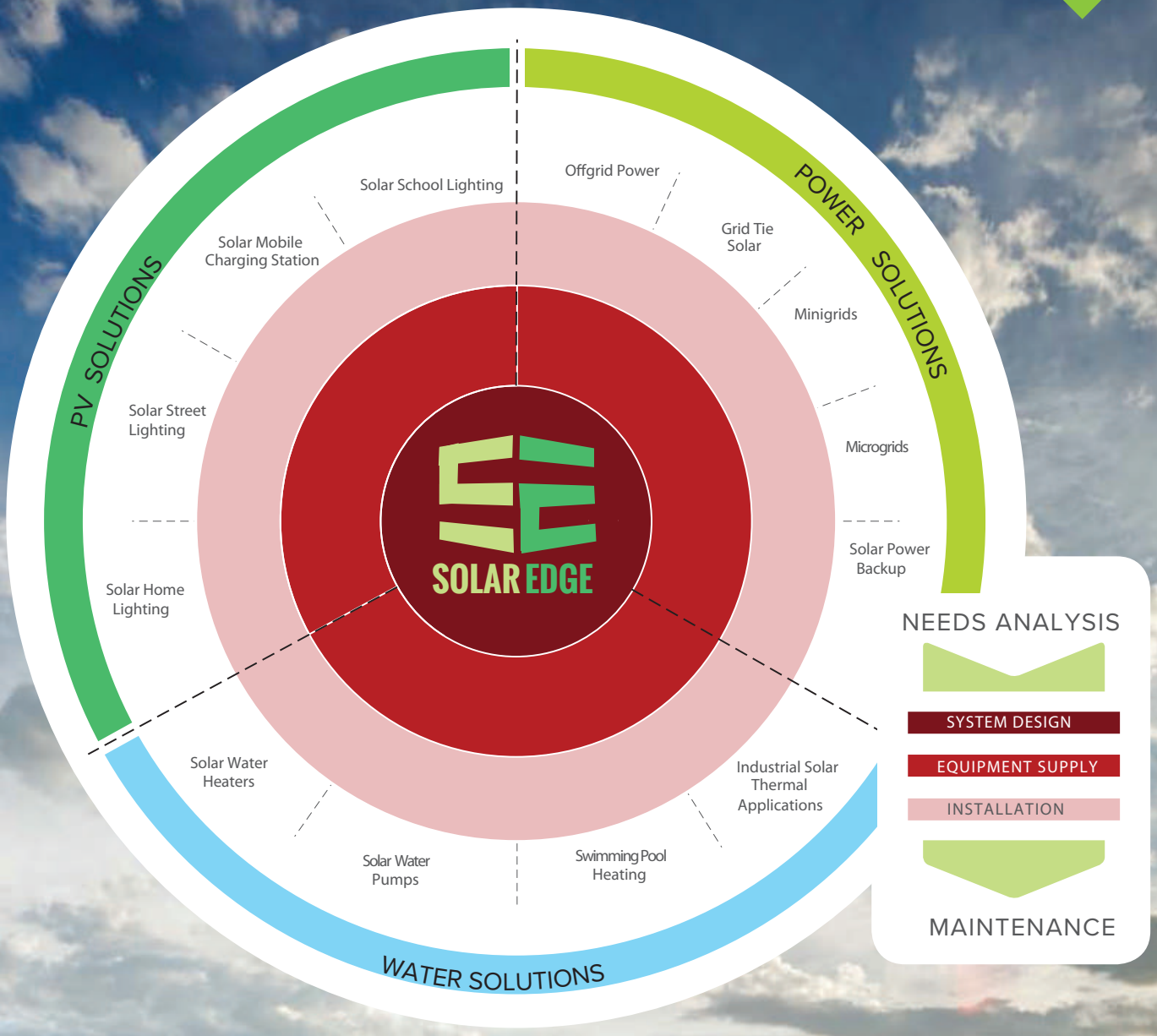
Battery storage
Your battery stores your excess energy for when you need it.

Excess energy
Any electricity you aren't using is fed into the grid for others to use.If you are eligible for renewable energy buyback this will show as a credit on your bill.

Meter
Your meter measures how much excess energy you're importing and exporting to the grid.

Cloud cover
When it's cloudy, instead of buying power from the grid, you can use power stored in your battery.

OUR SERVICES



COMPLETE EPC SERVICE

SolarEdge Ltd offers complete end-to-end solutions from resource assessment and feasibility analysis of the site to the designing and installation of the solution.

ENGINEERING

The core team of in-house design experts uses cutting-edge software to design the layout and choose the best technology for renewable energy solution.SolarEdge Ltd produces optimized design for lowest capital cost and higher ROI after thoroughly studying the long term energy prediction analysis.

PROCUREMENT

SolarEdge Ltd accesses the best technology solution facilitated by its wide experience across global supply chain and long term component partnerships it shares with equipment suppliers.

CONSTRUCTION

World class construction management and planning with single point responsibity gives us an edge over competition. SolarEdge Ltd ensures timely project completion within the estimated budget,establishing a long term sustainable solution for the customer in the shortest time.

OPERATION AND MAINTENANCE

SolarEdge Ltd offers post commissioning monitoring,operations and maintenance support with tailor made O&M packages for smooth operation.With our monitoring systems integrated with the inverter, you can monitor real time generation activities.We have introduced innovative ways of providing unparalleled after sales service to the customer.

SOLAR WATER HEATERS

Our range of solar water heating solutions can cater to everyone, right from small domestic requirements to large scale industrial requirements. Switching to solar for water heating is one of the best things you can do to minimize your household energy consumption. Solar water heating stands out as a proven, reliable, simple and effective solution that lowers a total electricity bills through using the sun's free energy to supply hot water by up to 65% on overall energy savings. Solar water heating generates savings for institutions and households since it provides 90% of hot water requirements during sunny months and up to 40% during overcast months.

These systems provide quality hot water at a lower cost than heating with electricity, gas, wood, and diesel. Solar collectors are typically designed to last for over 25 years with little maintenance. These systems give a yearly non-taxable return on your money even for a two person household. It is also important to remember that hot water is a constant daily expense.

EVACUATED TUBE WATER HEATERS

Evacuated Tube Collector is made of double layer of glass tube evacuated providing insulation. The Outer wall of the Inner tube is coated with selective material. This helps observation of solar radiation and transfer the heat to the water which flows through the inner tube.

FEATURES

- Evacuated tubes contain practically no water and so they can resist freezing conditions.
- The curved shape of the tubes allows thermal absorption from a greater range of sun angles, and therefore for a greater portion of the day.
- Tubes permit high heat retention.
- Tubes provide lower aerodynamic.
- Work exceptionally well on cloudy/overcast days.
- Ideal for high temperature applications such as boiling water and steam production.

SOLAR WATER HEATER APPLICATIONS

01 EDUCATIONAL INSTITUTIONS

02 HOMES

03 FACTORIES

04 CHURCHES

05 HOTELS

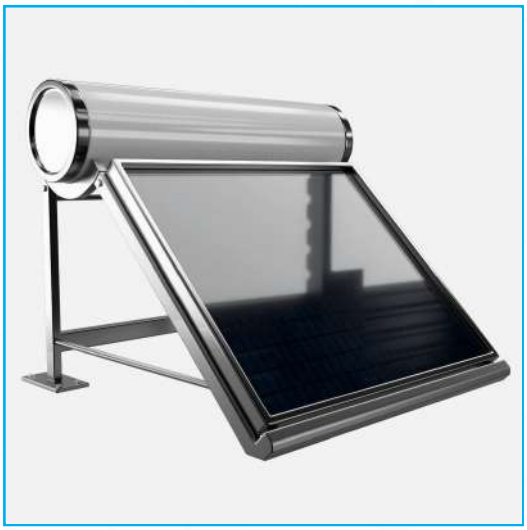
06 SWIMMING POOLS

07 OFFICES

08 HOSPITALS

FLAT PLATE COLLECTOR

It is a solar collector that has copper fins which are connected with a riser tube (copper) by ultrasonic welding. The tube & fins are coated with special solar selective coating to increase the heat absorption from the sun. A series of riser tubes are connected with both the bottom and the top hot water heater and hence water gains heat from the solar energy and flows upwards.



FEATURES

- Virtually maintenance free.
- It's durable.
- Cost effective in terms of purchasing and installation.
- Readily available in several different designs.
- One collector can heat between 200 and 400 litres of water per day depending on the weather.

Why Use Solar Water Heaters?

In a world, where costs of fossil fuels are rising, their reserves are fast depleting and the environment is at risk, the sun can be an ideal solution for our energy needs.

You will obviously save a proportion of your energy costs every year and this will grow as energy prices increase. Beyond the payback period (which will probably be shorter than you think) your solar water heating system will be providing around 80% of annual water heating FREE.

Hot water all day, all year

Negligible operating cost

High durability (lasts up to 15 years)

Major savings on your electricity bill

Negligible maintenance cost

Safe for homes & industries (Risk & hazard-free)

Reduces your carbon footprint

Modular design & easy installation

Customized according to your need

TECHNICAL SPECIFICATIONS

Tank Capacity	No. of Tubes	Tube Size (Length)	Tank MOC	Collector Area (m^2)	Suitable for (No. of people)	Installation Space Required (NS X EW)
100	10	58 mm X 1800 mm	SS 304 L, SS 316 L, Galvanized Steel	1.5	3-4	2.5 m X 1.2 m
150	15			2.25	5-6	2.5 m X 1.7 m
200	20			3	7-8	2.5 m X 2.2 m
300	30			4.5	10-12	2.5 m X 3.4 m
500	34	58 mm X 2100 mm		6.5	16-20	3.0 m X 3.4 m

SAVINGS ESTIMATE WHEN USING OTHER HEATING ALTERNATIVES FOR A TYPICAL HOME

Parameters	Electricity	LPG (10500 kcal/kg)	Diesel (8500 kcal/ltr.)
Units used	3.0 units	0.24 kg	1 ltr.
Price per unit	Ksh 30/-	Ksh 176/-	Ksh. 100/-
Per day savings	Ksh 90/-	Ksh 42.24/-	Ksh 100/-
Annual usable days	365 days	365 days	365 days
Annual savings	Ksh 32,850/-	Ksh 15,206/-	Ksh. 36,500/-

SOLAR WATER HEATERS

Mission Hospital

Childrens Home

Church

School

Apartments

Hospital

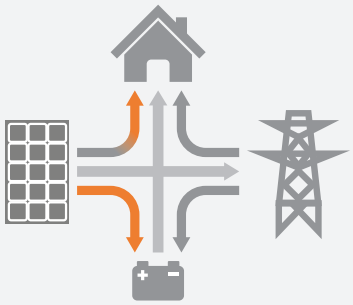
GRID TIED SOLAR

Our Grid tied systems are designed to convert solar photovoltaic power into electricity that can be utilized by load appliances or sold to the local power company. Advanced state of the art electronics embedded inside the inverter ensures that maximum PV power is converted to AC and delivered to utility grid.These inverters are configured to feed into the LT(low Voltage)utility network and have inbuilt safety anti islanding feature to ensure that the inverter switches off when grid is absent.In order operate,the solar grid tie inverter must have grid power available and connected. A wide input voltage range gives flexibility to the designer to use a large range of PV modules.

APPLICATION SCENARIOS

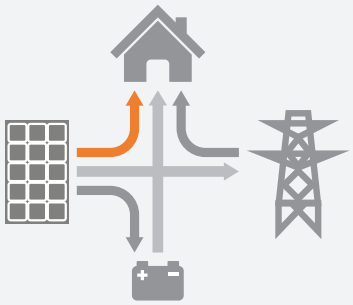
Back-up

When to use: The utility is cheap, but power is unstable



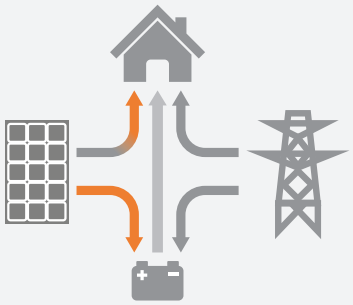
Residential

When to use: The utility is expensive, but power is stable.



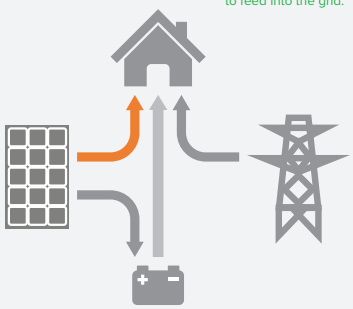
Back-up Without Feed-in

When to use: The utility is cheap, and you do not want to feed into the grid.



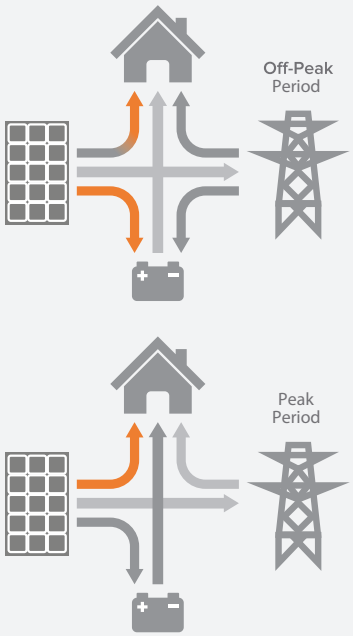
Residential Without Feed-in

When to use: The utility is cheap, and you do not want to feed into the grid.



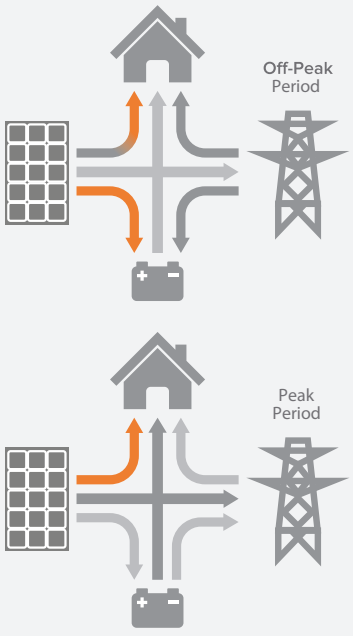
Time-Of-Use (TOU)

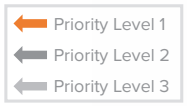
When to use: When TOU is defined.



Time-Of-Use (TOU) with Battery Feed-in

When to use: When TOU is defined, and battery feed-in is allowed.





SOLAR HYBRID UPS

Solar Hybrid UPS systems operate in parallel with solar and grid utility solar PV panels convert solar energy into electrical energy as DC power. This DC power is used to charge the batteries throught a charge controller and also feed the load through UPS.If the load requirement is more than solar power, the remaining power is drawn from the grid.

- 01 SINGLE PHASE SYSTEMS: 1-10KVA
- 02 THREE PHASE SYSTEMS: 5-100KVA

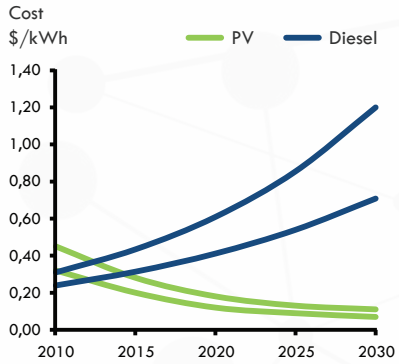
FEATURES

- 01 Hybrid -Current sharing between Solar power& Grid Power
- 02 Local and Remote monitoring system
- 03 Microprocessor based design
- 04 Battery backup
- 05 Highefficiency and Relibility
- 06 Bi-directional solar inverter with built in MPPT charge controller and output isolation transformer

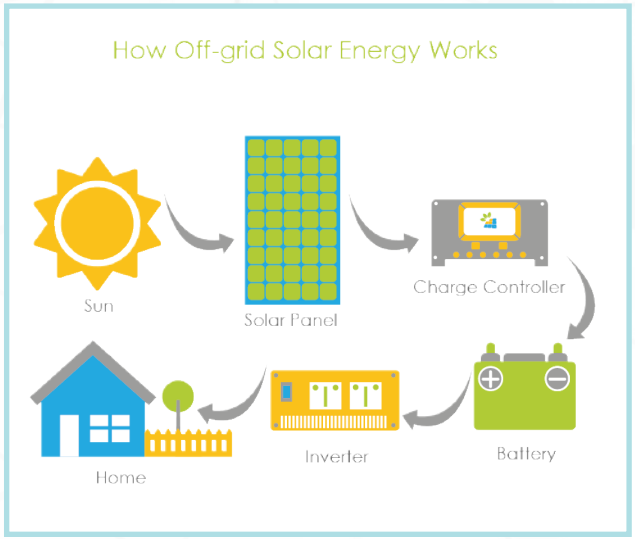
OFF GRID SOLAR

Many rural regions are too sparsely populated to justify building a central energy supply system.This is where off grid solar systems excel.They can supply buildings and factories with reliable off-grid AC power using solar energy.In contrast to on grid home systems, off grid solar power systems can power any household appliances, electrical tools or machines that run standard AC power irrespective of the presence of power grid solar off grid systems can be used in any location that lacks a stable supply.In many remote parts of the world diesel generators are used to generate electricity for mining operations, remote communities , telecom towers and other installations and facilities. Apart from the negative effects on the environment diesel also puts a heavy strain on expenses and financial planning.

Replacing diesel with off grid solar power storage solutions



Diesel price development vs. price for solar energy



The issues SolarEdge Ltd is addressing

- Costly diesel genset operations
- Demand-side energy management
- Energy supply security
- Environmental policy compliance and stewardship
- Local/Native community relations

And our vision

- Value creation and cost savings using PV solar-diesel hybrid systems
- Hedging against diesel prices and supply risks with PV solar power
- Efficient and sustainable demand-side energy management
- Lower emissions and environmental impact
- Improved local/native community relations

OUR OFFGRID PROJECTS

Golgotha Centre for Evangelisation-Sori

Afrenpren

Vision Africa –Kandara Children's Home

SOLAR WATER PUMPS

Why Use Solar Water Pump?

A solar powered pump runs on electricity generated by photovoltaic panels available from collected sunlight as opposed to grid electricity.The operation of solar powered pumps is more economical mainly due to the lower operation and maintenance costs and has less environmental impact.Solar pumps are useful where grid electricity is unavailable.

BENEFITS

01 No more fuel bills

02 No loud noise

03 Easy to install operate and maintain

04 No maintenance or running cost

04 No dependance on grid power

APPLICATIONS

- Irrigation
- Drinking Water Supply
- Livestock watering
- Industrial Water supply

COMPONENTS

- Solar PV Modules
- Pump and Controller
- Mounting Structure and Accessories

Technical Specifications of Submersible Solar Pumps					
Model	Motor Capacity (HP)	Type	Solar Array (Wp)	Head Range (Meters)	Water Discharge* (x 1000 LPD)
LWP-1SD	1	DC	1200	20-45	40-42
LWP-2SD	2	DC	1800	20-45	60-63
LWP-3SD	3	DC	3000	30-80	42-105
LWP-5SD	5	DC	4800	30-80	45-100
LWP-1SA	1	AC	1200	20-45	35-38
LWP-2SA	2	AC	1800	20-45	55-57
LWP-3SA	3	AC	3000	30-80	39-96
LWP-5SA	5	AC	4800	30-80	40-91
Technical Specifications of Surface Solar Pumps					
Model	Motor Capacity (HP)	Type	Solar Array (Wp)	Head Range (Meters)	Water Discharge* (x 1000 LPD)
LWP-1MD	1	DC	900	10-12	85-90
LWP-2MD	2	DC	1800	10-12	170-180
LWP-3MD	3	DC	2700	20-25	125-135

* Water output figures are on a clear sunny day with three times tracking of Solar Array, under the 'Average Daily Solar Radiation' condition of 7.15 KWh/ Sq.M. on the surface of PV array (i.e. coplanar with the PV Modules).

☞ For higher or lower head / PV capacity, or in between various models; water output could be decided as per the performance specifications and requirements.

SOLAR STREET LIGHTING

Establishing a greener tomorrow requires more than just technologies that run entirely on clean energy. They need to be cost-efficient and highly reliable as well. The Solar Street Lighting is the revolution that reshapes conventional street lighting. Its minimalistic design offers premium solar technology at an affordable price. The Solar street lights does not require an electricity grid or lighting infrastructure at all. Its clever design allows it to be installed anywhere in the world.

SolarEdge Ltd has a range of smart and sustainable solar solutions. Our product range offers revolutionary wireless lighting,charging & connectivity systems to anyone,anywhere. Our products are sustainable,reliable and built to last.

ADVANTAGES OVER CONVENTIONAL LIGHTING

- Grid-independent operation, insensitive to blackouts.
- No trenching required, no electricity fees, low maintenance costs.
- Eco-friendly: zero emission, non-invasive installation, minimised light pollution.
- Advanced remote monitoring & control.
- Quick & easy installation in less than half an hour.
- Easy to move, ideal for temporary locations.

Economical, reliable & smart

The solar street light is powered directly by the sun. It is equipped with the most efficient solar cells on the market (>23%).The unique solar panels always capture sunlight because dirt or water cannot accumulate on them. At night, the integrated high capacity batteries use the energy to power an efficient LED light. The battery capacity is sufficient to bridge periods of bad weather, so that the light will always last through the night.

Each Street lights is equipped with GSM and GPS, allowing for remote management and monitoring. The intelligent lighting scheme automatically adapts to local weather conditions and seasons.Because the cylindrical solar panel catches light from all directions, the pole can be placed in any orientation.The Solar street light is built for maximum compatibility with standardised light pole structures and can be produced and assembled locally.

At the heart of each product is a custom designed microcontroller unit (MCU) that directs all energy flows and maximises system performance. Each side of every solar module is individually tracked for maximum power output. Furthermore, all battery cells are continuously balanced and monitored to extend battery life. This means maintenance is reduced to a minimum. Additionally, every Street light is equipped with a GPS receiver. The exact time and location given by the GPS receiver ensure automatic adaptation to sunset and sunrise.

The electronics can also be coupled to other smart city systems for integration of additional functionalities.

FEATURES

LED lighting
Powerful and energy saving.

Smart city connectivity
Attach sensors and communication hardware to build the smart city.

100% solar-powered

Steel or aluminium construction
Durable, sustainable and recyclable pole constructions.

Customizable finishes
High quality powder coating or anodizing in many colours.

Long lasting, maintenance-free, high capacity batteries.

Reduce Your Power Bills

Take control of your energy costs with the

Solar Grid Tie System

SOLAREDGE

TABLE OF CONTENTS

The Problem

Kenya Power has opened talks with the energy regulator to increase electricity prices by up to a fifth after the State softened its earlier stand against higher tariffs.The listed utility firm said it was engaging the Energy and Petroleum Regulatory Authority (EPRA) — the electricity sector regulator — on the application it made last year seeking a revision of tariffs.

Kenya Power wants to increase the consumption charge for usage of less than 100 kilowatts per month to Sh12.50 a unit, up from the current Sh10.The charge for consuming above 100 units will rise to Sh19.53 a unit from the current Sh15.80 in the event that the regulator approves the proposed tariffs.

Regulator agrees to Kenya Power electricity bill hike

TARIFFS Energy and Petroleum Regulatory

Edwin Okoth

The Energy regulator has ap-

Electricity consumption charge Sh/kWh

EPRA HAS APPROVED THE NEW

Daily that the regulator had agreed to offer the utility a tariff hike, more than one year after Kenya Power submitted

Kenya Power raises alarm over clients solar switch

ENERGY Electricity distributor warns that a growing number of top customers are defecting from national grid

Edwin Okoth

The growing shift to solar power systems by heavy-consuming industrialists seeking reliable and cheaper supply has rattled electricity distributor Kenya Power amid thinning revenues.

The utility firm said some of its industrial customers – who account for about 54.8 percent

54.8%

FRACTION

of the firm's sales revenues linked to industrial customers

of its sales revenues – are gradually shifting to own-generated solar power, dealing a further

blow to its already dwindling finances.

"The company operated in a challenging environment over the financial year under review, where demand growth at 3.7 percent remained below the projected level of five percent. The dampened demand growth is further compounded with the increased

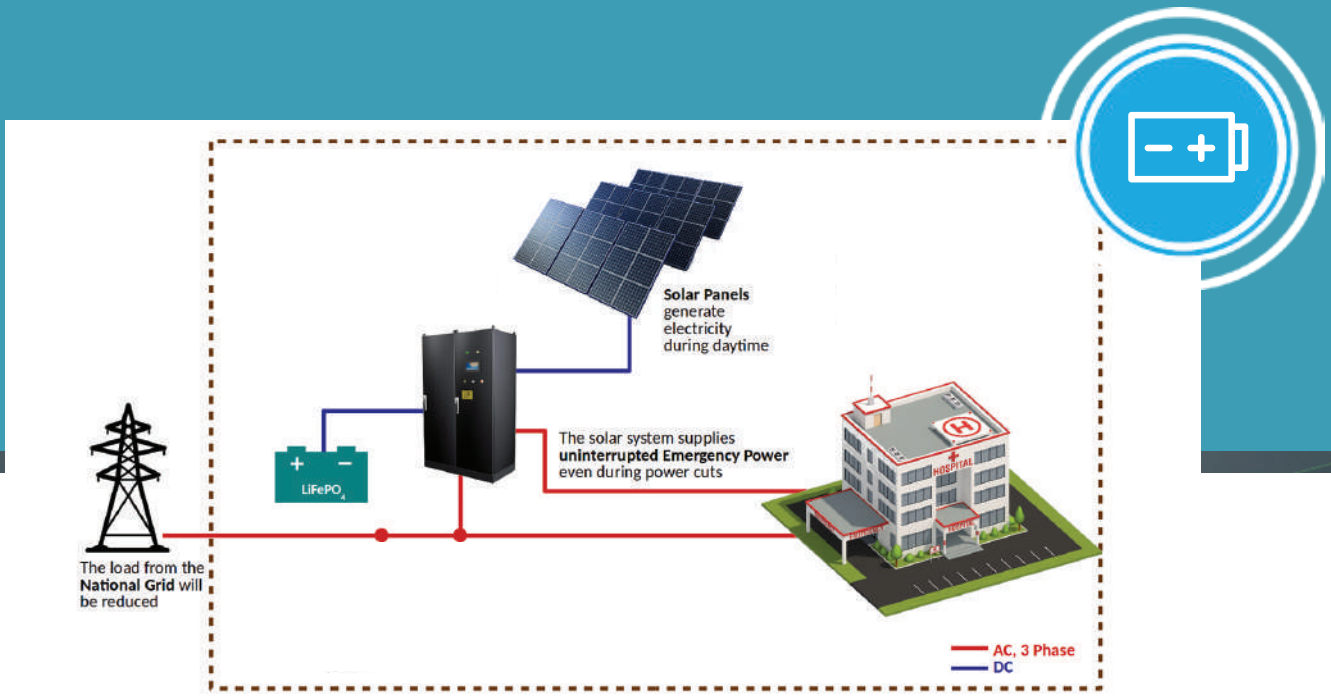
POWER | PAGE 4

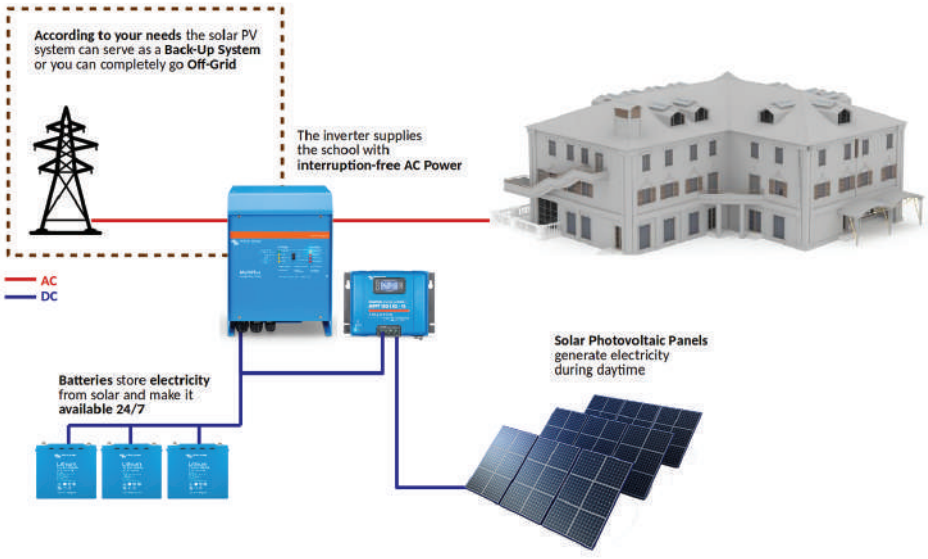
Solar Grid Tie System Solution – How it Works

Solar panels convert sunlight into DC (direct current) electricity. The solar panels are connected to a grid-tied inverter, which converts the DC electricity into AC (alternating current) electricity. The inverter is then connected to the main DB (distribution board) for supplies to the loads.AC electricity has a specific frequency (normally around 50 Hz Herz). The inverter synchronises with this grid frequency. Electricity produced by the solar panels supplements electricity supplied by the grid.

Grid-tied solar systems are connected to the utility grid via a grid-tie inverter. The grid-tie inverter enables a two-way transfer of power between the home's solar-powered system and the grid.

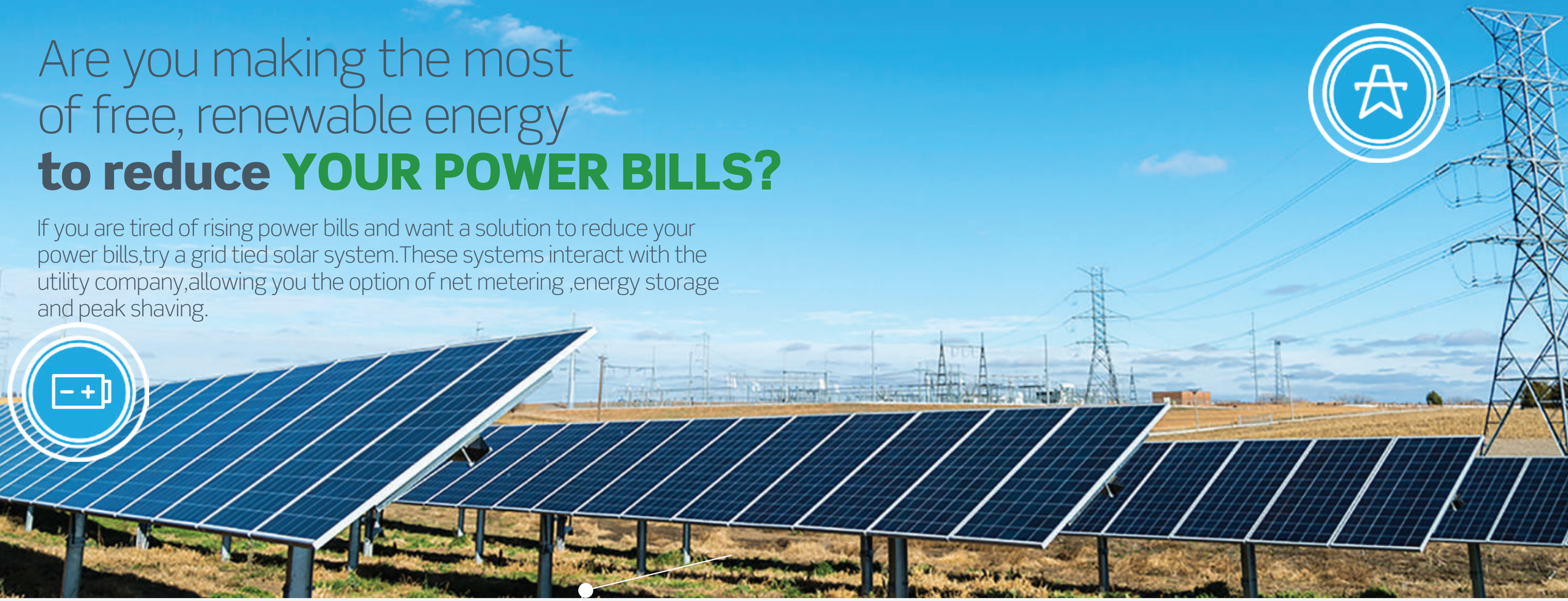
A grid-tied solar system with battery backup is most useful if you live in an area where the electrical grid is unreliable, repairs to the grid tend to take a long time, or extreme weather events are common.This system with battery backup is also known as a "hybrid solar system" because it provides a hybrid of the benefits of grid tie solar - using clean, renewable solar power as your primary source of electricity and selling excess power to the utility through net metering - with the benefits of off-grid solar - having home battery storage to power your critical loads when the grid goes down.





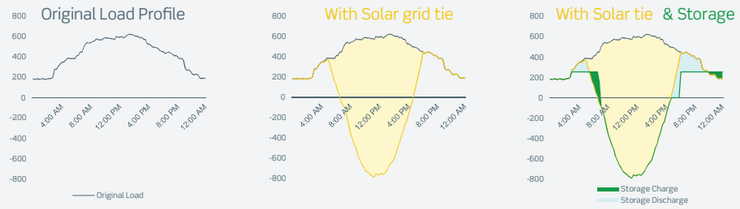
Are you making the most of free, renewable energy **to reduce YOUR POWER BILLS?**

If you are tired of rising power bills and want a solution to reduce your power bills,try a grid tied solar system.These systems interact with the utility company,allowing you the option of net metering ,energy storage and peak shaving.



The benefits of our solar grid tie solution

With a grid tied solution from solaredge , users can now substitute, partially or in full, the grid and make use of renewable energy. Our solutions are fully integrated and all energy sources and equipment are managed by a single controller. The benefits have been realized by our numerous clients and solar egde grid tie solutions contribute to saving energy, diesel and money in hundreds of installations.



- Consumes 10 MWh from the grid
- Has a peak load of 625 kW

- Net consumption is wiped out
- Peak load is reduced to 450 kW

- Net consumption stays the same
- Peak load is further reduced to 250kW

UP TO 70% REDUCTION IN POWER BILLS

Grid tied systems can eliminate your electric bill completely or reduce it so dramatically that electricity costs are no longer a significant factor in your budget. Your savings with solar depend on a few different factors, like how much energy your system produces and how much you consume, but the biggest factor is the rates you would otherwise pay to your utility.

PAYBACK PERIOD

The payback period for a grid tie depends on your electric bill, your location, your current utility rates and other factors. However, many new systems can pay themselves back in 5-10 years.

POWER BACKUP

Installing a grid-tied system with battery backup, can help prevent a complete loss of power in those situations where the grid goes down unexpectedly.Backup solar batteries typically gives you up to 5-6 hours of extra power to offset situations where energy is scarce or nonexistent. You'll be the only house or business on the block with the lights still on!

FULLY INTEGRATED

The site is controlled and monitored by a single controller, providing full overview and management of all equipment .

REDUCED SERVICE REQUIREMENTS

Grid tie solar systems don't require much maintenance. You only need to keep them clean from dust and debris. Usually, there is no wear and tear involved in a grid tie system. You should, however, buy a grid-tie solar system from a reliable company like Solaredge Kenya that offers twenty-five years of warranty on solar panels and five years warranty on grid tie inverter.

NET METERING

This system enables the user to avail Net Metering. In case of extra power generated by the grid tie System, the power is sent back to the grid. The user can then avail credit for the surplus power supplied by the power distribution companies. A Bi-directional meter is employed which measures both the inflow & outflow of power.

REMOTE MONITORING AND CONTROL

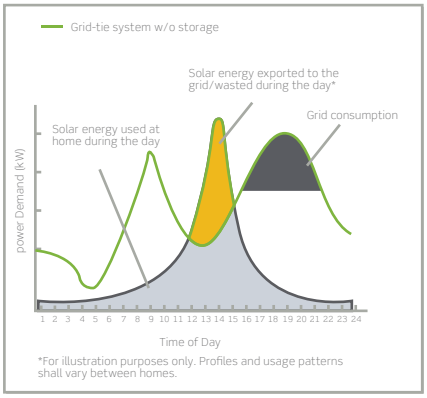
Our solutions come fully prepared for remote monitoring and control, and using our MultiSite Monitor software, consolidated performance reports can easily be generated and underperforming sites identified.

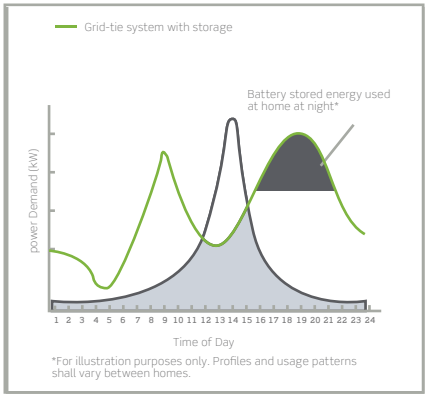
REDUCED OPERATION COSTS

Installing a grid tie system can dramatically reduce a business' operating expenses and therefore, improve the financial bottom line. In virtually every system we've installed, the costs have significantly declined, even to the point where the savings pay for the grid tie system. The financial investment in most solar power systems will not only cover the initial costs, but will pay for itself 10 times over.

USING PEAK SHAVING TO REDUCE YOUR POWER BILLS

Peak shaving is the process of reducing the amount of energy you purchased from Kenya Power during peak demand hours.
The typical electricity demand curve usually doesn't meet the PV generation curve. By storing the surplus PV generation into battery storage unit, it can maximize PV generation and reduce electricity bill.



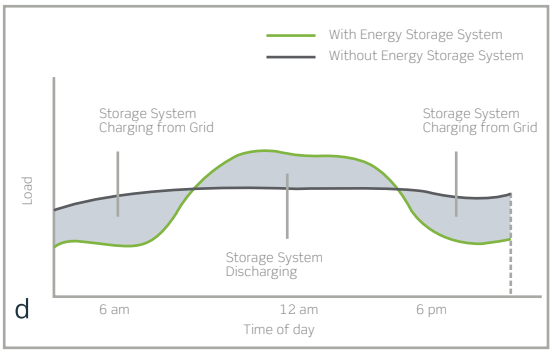


THE FUTURE OF ENERGY IS NOW:

BATTERY BASED GRID TIE + PEAK SHAVING + BACKUP SYSTEM IS TRULY ALL-IN-ONE-SOLUTION

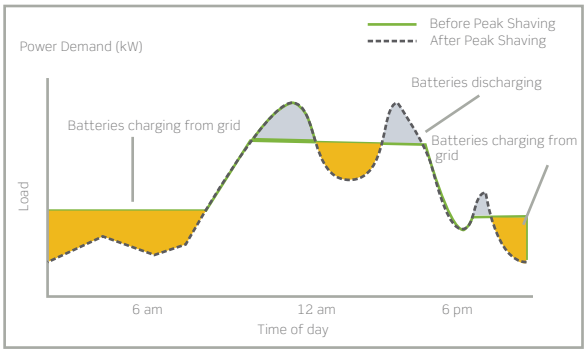
CHARGE BATTERIES DURING THE DAY

During the day, you charge your on-site batteries with solar energy from your PV panels. This approach essentially makes your stored power free. If necessary, any excess charging can happen from the grid during off-peak hours. So you're still technically saving money.



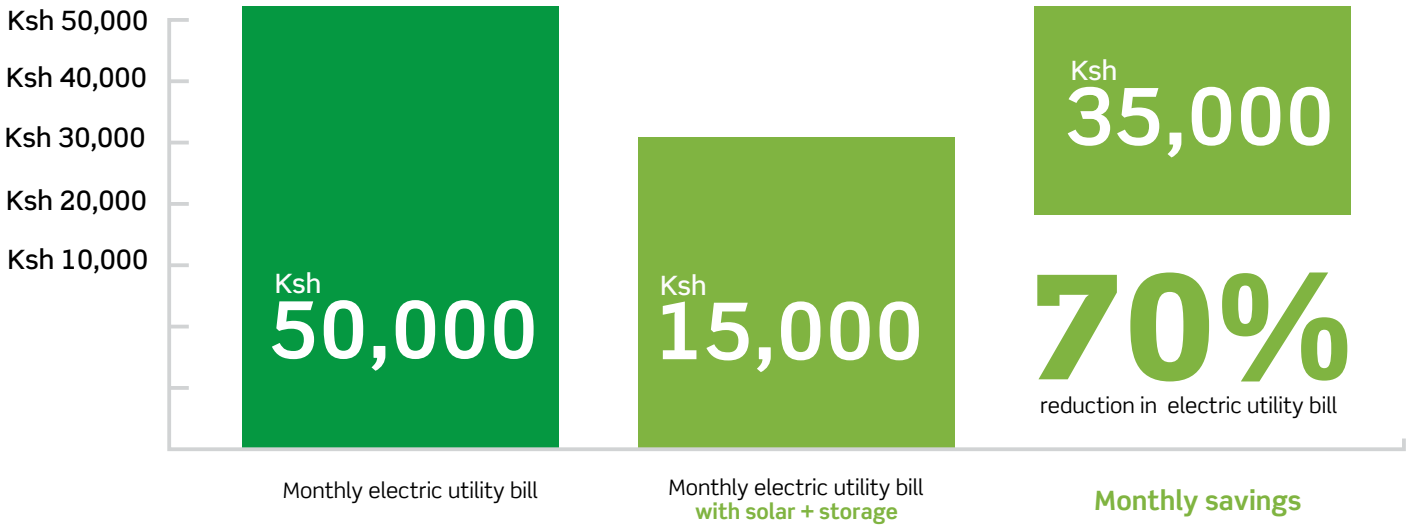
USE POWER FROM BATTERIES AT PEAK TIME

When you need to power your business, you can use whatever electricity source is cheapest at that precise moment in time – whether it's from your PV panels during the day or from the stored solar power (in your batteries) at night or during "peak" hours.



How Much Money Will You Save?

When you have grid tie fully integrated solar + battery storage system, you can power your home and business while putting thousands of shillings back into your wallet.



That's a savings of Ksh 2,100,000* over 5 years!

Cost breakdown for 1KW System

Battery Storage System (1 kilowatt-hours) INSTALLATION INCLUDED	Ksh 100,000
10 x Solar Power Panels (100watts) INSTALLATION INCLUDED	Ksh 50,000
TOTAL SYSTEM COST	**Ksh 150,000**
VAT*	
FINAL COST OF SOLAR SYSTEM	Ksh 200,223

Savings breakdown

Monthly electric utility bill without solar + storage	Ksh 50,000
Monthly electric utility bill with solar + storage	Ksh 15,000
ESTIMATED MONTHLY SAVINGS	Ksh 35,000

*Monthly electric utility bill per month based on an institution whose most of their consumption is during the day. Savings and system production will vary based on location, final design, utility rates, and household energy usage. The actual savings vary based on a number of factors, including weather, shading from growing trees, system components, future electricity use, and the fluctuation of the price of electric in the utility.

Easy Installation Payment Plans

*Excludes repair or replacement of components outside of warranty.

SOLAR EDGE

DESIGNING INNOVATIVE SOLUTIONS

SOLAR GRID TIE SOLUTION

Solar Edge Kenya implemented a 85KW grid tie solution for St Camillus Mission Hospital,to save money on electricity bills and provide backup power during peak hours where electricity supply is critical.

Customer

ST CAMILLUS MISSION HOSPITAL

Location

KARUNGU, MIGORI COUNTY, KENYA

Equipment running since

MAY 2017

Installation of Solar Grid Tie solution to reduce electricity costs for a Hospital

Project

The St Camillus Mission Hospital, based in Migori County, has life saving equipments in use constantly,consuming significant amounts of energy. When the hospital wanted to reduce its power bills, they turned to Solaredge Kenya ,grid tie solution. By charging the batteries during peak hours using solar for some sections ,grid tie solution helped the hospital to reduce electricity costs while providing reliable power backup.

Project summary

KEY BENEFITS

Reduced electricity power by 70% during peak hours demand

–

System generates enough power that can be stored and used at night or when the power grid is down for different sections.

–

Grid failures and shutdowns will not affect the power supply

–

Lowering the carbon footprints

TECHNOLOGIES

—

257x 330 Watt Solar Panels

—

The Sunny Tripower 25000TL comes with cutting-edge grid management functions such as Integrated Plant Control

—

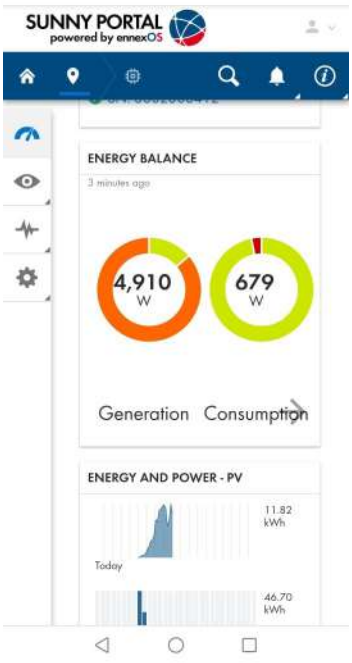
Multiple Maximum Power Point Trackers

—

Sunny Portal Monitoring – Provides real time data to any home or mobile device

Hoppecke Battery Storage System

SMA Inverters



"Solar systems provide a stable, clean and reliable energy supply, more patients can now access the health services they need 24/7."

Contact

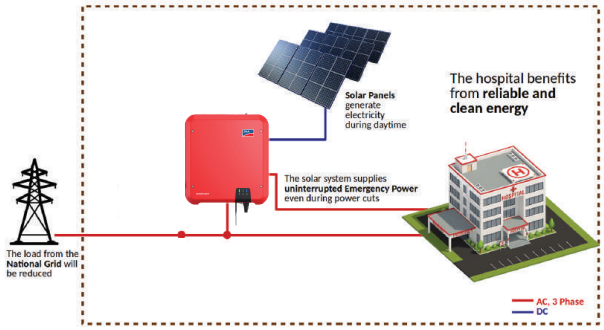
Elephant soap,
Off Lusaka Road,
P.O. Box 51347 00200
Nairobi
Phone: +254 20 559425
Cell: +254 722105684
www.solaredge.co.ke

Background

St camillus mission hospital primary motivation for the solar grid tie installation was to reduce its electricity bills. Hospital decision makers were concerned about the rising costs of electricity and were looking for ways to save money. Facing an average electricity bill of Ksh 550,000/month, the hospital wanted to reduce this expense by at least 45%. Solaredge Kenya designed a system to maximize installation area over 6 building rooftops and ground areas, which eventually offset 70% of the hospital's electricity bill.

Technologies

The Solar Grid Tie Solution stores energy during night time i.e off peak hours to benefit from the lowest electricity costs.The energy is discharged during peak electricity period. An advanced control and monitoring system is in place to ensure continuous energy optimization



Challenges and solutions

The project presented a number of specific challenges and the resulting solution succeeded in:

- Securing reliable power for the hospital
- Reducing electricity power and consumptions during peak hours
- Reducing energy and operating costs
- Ensuring continuous optimization of the system operation through control and monitoring system

Results
Center of Excellence

Following successful commissioning of the equipment in April 2017, the hospital is now able to meet the majority of its electrical requirements from energy provided by the sun and either used directly or stored for later use. The power system is able to meet the demand of all key clinical equipment including operating theatre task lighting, oxygen concentrators, vaccine and pharmacy refrigeration and autoclaves, as well as general lighting, computers for administration work and so on.

SOLAR EDGE

Typical Application For Our Grid Tie Solution

Factories

Industrial and manufacturing facilities consume a great deal of electricity for process heat, lots of big equipment and tools, moving materials on conveyors, lifts & lighting. Solar grid tie solution can significantly cut electricity costs.

Agriculture

Today's farmers are increasingly using the sun's energy to grow more than just fruits and vegetables. Solar grid tie can become a new solution for reducing the energy costs of water pumps, refrigeration, vineyard wine processing, and many other applications.

Hotels and Resorts

People like to get far away from civilization, but they don't want to give up the technology and comforts of home. Hotel and Resorts can use grid tie solutions to lower their electricity bills.

Rural Electrification

Majority of the rural populations are located out of reach of the electricity grid. Up to 30% of operating costs are spent on power generation through diesel power.

Schools

Since utility costs are one of the few areas of a school's budget that can't be trimmed without negatively affecting the student experience, growing numbers of administrators are exploring the benefits of solar grid tie solution for schools.

Shopping Malls

Installing solar grid tie solution in a mall or shopping center rooftop can also provide protection against power outages when the regular grid has an outage,ensuring that critical loads like lifts are always running.

Hospitals

Many common pieces of medical equipment — such as MRI machines and CT scanners — are in use constantly, consuming significant amounts of energy.As well as reducing energy costs, solar grid tie systems can also act as a source of secondary income, which is particularly useful to hospitals as they can sometimes suffer under budget cuts.

Warehouses and Godowns

Energy bills are typically responsible for around 15% of operating costs in a warehouse facility, due to temperature control systems and lighting. By adding a solar grid tie system, which generate their own free electricity, these energy bills can be substantially reduced .

SOLAR EDGE

ABOUT SOLAR EDGE LTD


ST CAMILLUS MISSION HOSPITAL
85KW GRID TIE

- Founded in 2013
- Diversified Integrated Solar power solution provider active around the region.
- 1MWp of PV solar power solutions commissioned in 5 countries
- O&M services for 1+ MWp
- Accreddited by the Energy and Petroleum Regulatory Authority
- We monitor the performance of every system we install on a 24/7 basis.
- We also perform ongoing operations and preventative maintenance services for the customer who wants a truly turnkey solution.


NANYUKI
SOLAR CAR PORT


SOLAR WATER PUMPING

We offer:

- Offgrid Solar
- Solar Grid Tie
- Solar Water Pumping
- Solar Water Heaters
- Solar Street Lights

> The potential for solar power in the replacement of conventional energy sources is substantial and will bring cost benefits and emissions savings for Kenya in the coming years and decades.

— Karani Mutonga,
Managing Director of Solaredge Kenya

SAVINGS **POWERED** BY THE SUN

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