BOSCH WATER & ENGINEERING LTD.

SOLAR & ENERGY SOLUTIONS

Engineering in Every Drop



Reliable, sustainable power for water systems, homes, farms and businesses.

From energy audits and system design to solar installation, testing and maintenance, Bosch Water & Engineering delivers integrated water and energy solutions in Kenya.

Solar water pumping | Solar water heating | Backup generators | Energy audits

The Energy Challenge in Kenya

Grid electricity costs and interruptions can affect households, farms, hotels and industrial operations. For medium commercial customers, the supplied estimate for all-in grid electricity is KSh 18-28 per kWh. The supplied EPRA figure for the first half of FY 2024/25 reports an average 9.15 outage hours per month, above the 3.25-hour target.

The estimated levelised cost for a suitably designed commercial solar installation is KSh 8-14 per kWh over 25 years. Actual savings depend on the site, load profile, financing, equipment and proportion of solar energy used directly.

Why solar?

- Lower long-term operating costs and reduced dependence on grid electricity
- More reliable daytime power for borehole pumps and other essential loads
- Low-maintenance renewable energy for remote and grid-connected locations
- Integration with water storage, batteries and backup generators where needed



Our Solar & Energy Process

1. Energy Audit & Site Assessment

Measure consumption and peak demand; identify suitable loads such as pumps, heating and lighting; assess solar exposure and installation space; compare grid, solar and hybrid options.

2. Custom System Design

Size the solar array, pump or heater; assess storage and generator backup; select inverters and controllers, including MPPT where appropriate; model costs and return on investment.

3. Supply & Installation

Supply suitable equipment and install mounting structures, wiring, protection and connections to the existing water infrastructure.

4. Testing & Commissioning

Test system output, pump performance and generator operation under load; calibrate equipment and train the client team.

5. Ongoing Support

Provide maintenance, performance monitoring, troubleshooting and emergency repairs.

Solar Water Pumping



Photovoltaic panels generate electricity for a pump that lifts water into a storage tank. Daytime pumping may operate without batteries; stored water can provide supply outside sunlight hours. The final design depends on borehole yield, total dynamic head and daily water demand.

- No fuel purchases for solar-powered daytime operation
- Suitable for remote farms, domestic boreholes and commercial water systems
- Low routine maintenance requirements
- PV modules can have useful service lives of 25 years or more

Application	Illustrative daily output	Typical head
Domestic borehole	3-6 m3/day	30-60 m
Farm irrigation	10-15 m3/day	40-100 m
Commercial / industrial	15+ m3/day	80-110 m+

Available as component kits or complete installed solutions. Output ranges are indicative, not site-specific guarantees.

Solar Water Heating & Pool Heating

Solar collectors transfer the sun's heat to water held in insulated storage. Thermosyphon or pumped-circulation systems can be designed for households, hotels, clubs and pool heating.

System	Typical household	Daily heat output	Indicative price
150 L	3-5 people	5.6-8.3 kWh	KSh 125,000-145,000
200 L	5-7 people	7.4-11.2 kWh	KSh 125,000-145,000
300 L	8-10 people	11.2-16.7 kWh	Quote required

Prices and performance are indicative and should be confirmed for the proposed equipment and installation.

Backup Generators

Where continuous supply is critical, Bosch can integrate Perkins-powered diesel generators with solar and grid systems. Automatic Transfer Switch (ATS) options allow automatic backup during power failures.

Model	Power	Engine	Fuel at 75% load
DGP12	12 kW	403A15G2	~3.1 L/hr
DGP24	24 kW	1103A33G3	~5 L/hr
DGP48	48 kW	1103A33TG2	~10 L/hr
DGP80	80 kW	1104C44TAG2	~17 L/hr

The supplied diesel price estimate is KSh 218-223 per litre in 2026. A generator consuming about 10 litres per hour would therefore use roughly KSh 2,200 of fuel per hour, excluding maintenance. Confirm current fuel costs and manufacturer specifications before quoting.

Energy Audits

An energy audit identifies where power is consumed, what it costs and which technologies can lower operating expenses.

- Load profiling: equipment demand and operating schedules
- Tariff analysis: assessment of the current KPLC tariff category
- Solar suitability: realistic share of consumption that can be solar-powered
- Return-on-investment modelling: solar, generator and hybrid comparisons

The supplied illustrative payback period for some commercial solar installations is 4-6 years. Actual payback depends on tariffs, self-consumption, equipment cost, financing and system performance.

Why Choose Bosch Water & Engineering?

- Integrated expertise across water pumping, treatment and power systems
- Established equipment and technologies with accessible spare parts
- Designs adapted to local conditions and operational requirements
- End-to-end service from site assessment to installation and after-sales support

Ready to Cut Your Energy Costs?

Contact our engineering team for an energy assessment and a quotation tailored to your site.

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Figures, technical specifications and price ranges are based on the supplied marketing content and should be verified before publication.