ELEMENTARY
TECHNOLOGIES

SOLAR PROJECT INSTALLATIONS

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North Bank Lane, Century City, Cape Town

PROJECT: BRYANSTON

Industry: Residential.

Area: Sandton, Gauteng.

Tag: Hybrid Solar System.

Client Requirement:

- Energy consumption reduction.
- Up to stage 6 loadshedding immunity.

Electricity saved: 50-60%.
Back-up duration: 6-8 hrs.

PROJECT SUMMARY

The Bryanston solar project, located in Sandton Johannesburg required a hybrid solar system that would be able to provide sufficient solar energy, allowing the home to operate semi-independently from the national power grid.

The project required an installation of a 16kW single-phase hybrid solar system that generates up to 9.2kWp with a storage capacity of up to 42.6kWh. This enables the home to harness and operate on solar energy during the day and store excess energy for nighttime use. If required, the system can draw from the national grid to power the home, however, this will only occur when there is not enough solar energy being produced or the consumption profile is abnormal.

To ensure efficient energy usage, we decided to split the home's electrical loads into essential and non-essential categories. Essential loads included primary lighting, plugs, gates, pool and pond pumps, while non-essential loads comprised of underfloor heating and solar geyser circuits.
Additionally, the user-friendly inverter interface allows the homeowner to monitor system performance, control energy allocation, and manually switch between power sources if required. A graphical user interface is also provided to view historical consumption and any errors in the system.

TECHNICAL DETAILS

- Peak power generated = 9.2 kWp.
- Battery Capacity = 42.6 kWh.
- Inverter size = 16 kW.
- Level of loadshedding avoided = 6.
- Hardware devices used.
  - *Inverter – Sunsynk*
  - *Solar Panel – JA Solar*
  - *Battery – Sunsynk*

RESULTS ACHIEVED THUS FAR (2 MONTHS)

- Solar power generated: 1328 kWh.
- Total money saved: R 2 788.8.
- Hours of loadshedding avoided: 150 hrs.
- CO2 emission prevention: 1.32 Tonnes.

INSTALLER INFO

- UGOT POWER (Pty) Ltd.
- PV Greencard No: INST-5777037