COMPANY PROFILE

PhaTumo
Trading and Projects

DOCUMENT

Company profile

PREPARED BY

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B-BBEE LEVEL 1 – 135% - PROUDLY SOUTH AFRICAN

PHATUMO TRADING AND PROJECTS		
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1. ABOUT US

PhaTumo Trading and Projects was Formed in 2017 by an intelligent young entrepreneur with vast experience participated in many projects for Renewable Energy (PV Solar Plant and Wind Energy) and Power Plant Maintenance.

We are licensed, registered and **Accredited PV Green Card Installer** with more than 15 years in all aspects of the electrical field from domestic houses to commercial building services and industrial sites, Transmission and Distribution substations & lines, Reticulation network and Energy management.

We believe in Honesty, Reliability, Integrity & Consistency. Our hard work, excellence & professional integrity is evident by the augmented client base with repeat business from our clients within the short lifespan of conducting business.

2. Mission and Vision

Our Mission To be an innovative provider of technical and project management solutions through anticipating and reliably responding to customer needs.

Our Vision

- Customer service excellence
- Accountability, responsibility and transparency
- Honesty, integrity, objectivity and mutual respect
- Organisational learning and development

3. Services and Benefits

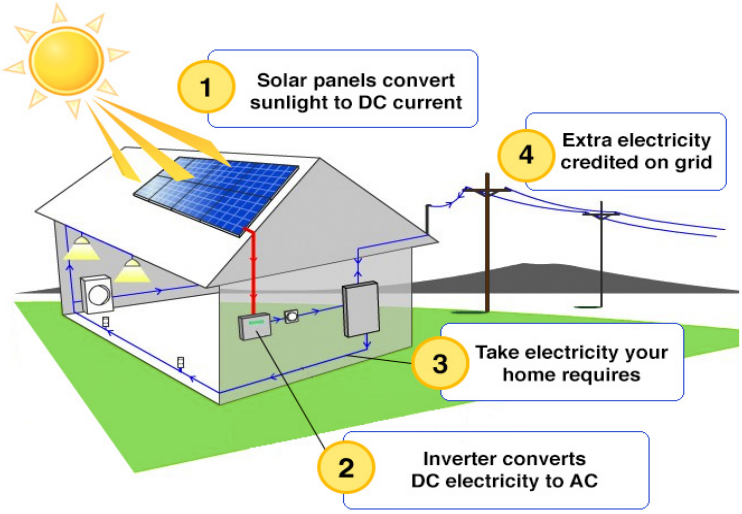
- Provide unique Solution and Techniques to ensure the successful delivery of renewable and sustainable energy project promptly.
- Deliver a value for our clients with creative, experienced and highly skilled in the design, installation, operation and maintenance of high-quality sustainable Energy Solution.
- Produce Solar Photovoltaic power plant in various application such as Residential, Industrial, Commercial and Agriculture.
- We offer tailored solution according to the client best interest and needs.

BENEFITS of INSTALLING SOLAR PV

- Save on your electricity costs,
- Less impact due to tariff increases,
- Generating your own renewable energy,
- Backup to reduce load shedding impact,
- Increase of property value,
- Good return on investment for years to come.

4. SOLAR ENERGY

Energy from the Sun that converted into electricity using PV panels



5. GRID TIE SYSTEM

Grid Tied Solar systems are the most popular and economical system and a good step to going green.

Grid Tied systems are ideal for saving electricity costs and reducing monthly expenses, and offers the best Return on Investment

A Grid Tied system is very simple in design and consists of the following components:

- Solar modules that collect sunlight and convert it into DC electricity
- Inverter which receives the DC current and converts it into AC grid power

The solar generated power is connected through the inverter to the building's grid at the main distribution board.

The inverter facilitates a seamless, dynamic interface between Grid Power and Solar Power, ensuring that there is always power supply going to the building and prioritizing the Solar Power supply so that the solar power is used first.

For example, if the power consumption is 100kW and solar is generating 95kW, then:

- 95kW will be supplied from Solar with the inverter ensuring that the 95kW from Solar is used first
- Grid power will supply the balance of 5kW

If power consumption is less than Solar Power supply, then no power will be drawn from the Grid.

There is no switching between Solar Power & Grid Power, but rather a continuous supply of both Solar Power & Grid Power with Solar Power supply being the first priority. Subsequently there is no dip in power supply to the building, and therefore the Grid Tie solution is safe to use with any and all sensitive equipment, including PC's.

Grid Tie systems are fully expandable so that more Solar PV Panels can be added to the system to generate more Solar power. Battery Systems can at later stage be incorporated with Grid Tied systems.

Grid Tie systems can be added to existing warehouses, packaging plants and manufacturing plants or can be incorporated into the design and building of new premises. Grid Tied systems are available in Single Phase and Three Phase. There is no limit to the power supply potential of Grid Tied systems and can be implemented for small buildings with low power usage or big manufacturing plants with high power consumption.

Our Grid Tied system are compatible with Generators and UPS's and are capable of Grid Feed-In

Grid Tied System are suitable for medium to large domestic, and all commercial and industrial applications.

6. HYBRID SYSTEMS

Hybrid systems are the standard Solar systems which uses Solar to charge Batteries and supply power to the building, with Eskom as tertiary power supply.

This solution is ideal for the following scenarios:

- Electricity savings in conjunction with battery back-up to ensure a steady power supply, even during power outage

Hybrid systems consists of the following components:

- Solar modules that collect sunlight and converts it to DC power
- Inverter (with built-in charge controller and regulator) which:
  - receives DC power from Solar modules
  - receives AC power from Eskom
  - charges batteries with either Solar power or Eskom power (based on programming)
  - discharges batteries and converts it into AC power for supply to the building
- Deep cycle batteries which are managed by the inverter to be correctly charged by Solar or Eskom & discharged to supply power to the building

The Hybrid system is connected to specific circuits as wired in the DB, e.g. Lights, dedicated plug points, etc. All power supply (load) to these connected circuits flows through the Hybrid inverter, irrespective if the power is supplied by Solar, Batteries or Eskom.

The Hybrid inverter needs to be sized correctly to accommodate the required load.

Hybrid systems are suitable for small to medium domestic, and very small commercial applications.

Hybrid inverters are available in different sizes. Multiple Hybrid Inverters can be interconnected to increase the load capacity of the system.

7. OFF GRID SYSTEM

Off Grid systems means you're not connected to the Eskom grid.

This solution is ideal for the following scenarios:

- You're building on a new property and the cost of bringing in an Eskom service is too high
- You wish to be completely independent of Eskom
- The monthly fixed connection cost from Eskom is exuberant relative to the consumption cost

Off Grid systems consists of the following components:

- Solar modules that collect sunlight and convert it into DC power
- Inverter (with built-in charge controller and regulator) which:
  - receives DC current from Solar modules
  - charges batteries with DC current
  - discharges batteries and converts it into AC power for supply to the building

- Deep cycle batteries which are managed by the inverter to be correctly charged by Solar & discharged to supply power to the building

Off Grid systems are typically over designed to include more Solar modules and more battery capacity in order to cater for days of poor weather conditions.

During poor weather, i.e. rain, there is little or no Solar power generation. The battery capacity needs to allow for this in order to ensure a continuous supply of electricity.

Likewise the Solar generation capacity is oversized so that it can accommodate recharging the extended battery capacity and simultaneously supply power to the building.

Due to the overdesign of Off Grid systems, these have typically a longer Return on Investment.

Off Grid systems can be designed to run in conjunction with generators, and even to use generators to recharge batteries. This can result in smaller battery capacity and thus reduction in initial capital cost.

8. BI-DIRECTIONAL SYSTEMS

Bi-Directional System is both a Hybrid- and a Grid Tied system, combining the best of both worlds.

This is a dual Solar feed system where one channel, like the Hybrid system, uses Solar power to charge batteries and supply power to the building. A second channel, like the Grid Tied system, supplies Solar power directly to all other circuits in the building during the day, for maximum savings.

The battery system can subsequently be smaller than the Hybrid system as the battery channel can be wired to only supply dedicated critical circuits which are required to receive power during power outage.

This solution is ideal for the following scenarios:

- Maximizing electricity savings in conjunction with battery back-up to ensure a steady power supply, even during power outage
- Relative lower Capital layout compared to Hybrid system

Hybrid systems consists of the following components:

- Solar modules that collect sunlight and converts it to DC power
- Inverter (with built-in charge controller and regulator) which:
    - receives DC power from Solar modules
    - receives AC power from Eskom
    - charges batteries with either Solar power or Eskom power (based on programming)
    - discharges batteries and converts it into AC power for supply to the building
    - receives the DC current and converts it into AC grid power
- Deep cycle batteries which are managed by the inverter to be correctly charged by Solar or Eskom & discharged to supply power to the building

Bi-Directional System are suitable for medium to large domestic and small commercial applications.

9. OTHER SERVICES WE OFFER

ELECTRICAL SERVICES

Our comprehensive electrical knowledge has allowed us to build a reputation for outstanding service with the highest levels of expertise concerning all electrical requirements. We offer services of cable joint on HT & LV network, fault finding, upgrades, repairs, maintenance & new installations with stringent quality control. Electrical installations are only carried out by accredited & experienced staff. Certificates of Compliance (COC) are issued where required for Legal Compliance.

FACILITY ENGINEERING MAINTENANCE SERVICES

- Maintenance of mechanical and electrical engineering system and plant, civil engineering works, pest control and grounds.
- Operation of all engineering plants and installations.
- Warranty management.
- Life cycle assessment.
- Water management.
- Sewerage system.