



techno green
ENERGY



COMPANY PROFILE

**GO GREEN
SAVE ENERGY**

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ABOUT US

Techno Green Energy was founded in 2012 by Richard Joseph Baloyi. Richard is a former Engineer Support Services in Electricity and Energy Department of City of Ekurhuleni 1998-2016. The Company is Registered as Rapid Techno Solutions Reg No: 2012019666/07 and Trading as Techno Green Energy. We are a Renewable Energy Retailer and Installer of all renewable energy and energy efficient products. We advise and support our customers to have their energy needs met by using the right equipment. We manage and save energy for businesses, commercial and industrial thus reducing energy costs which results to reduced operating costs. We work with reputable suppliers and have trained personnel to ensure that installation does not affect of our products warranties and efficiency.

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PRODUCTS & SERVICES

Techno Green Energy offer services which includes Renewable Energy and Energy Efficiency. Our Renewable Energy Products are seen below.

Solar Power

Our solar power systems are products or electrical systems used to power domestic and commercial building without the use of conventional electricity supply. Supply of electricity is generated from an array of solar panel that are placed on the roof to generate much needed electricity for that particular building as seen below:



Domestic Solar Systems



Commercial Rooftop Solar System



Off Grid Solar Systems

The solar systems are classified as **On Grid and Off Grid systems**

On-Grid Systems are solar pv systems that only generate power when the utility power grid is available. They must connect to the grid to function.

They can send excess power generated back to the grid when you are overproducing so you credit it for later use.

These systems allow you to store your solar power in batteries for use when the power grid goes down or if you are not on the grid. Hybrid systems provide power to offset the grid power whenever the sun is shining and will even send excess power to the grid for credit for later use.

We install hybrid and off-grid solar systems from 600watts to 80MW.

The systems are for domestic and commercial buildings including the stand alone systems

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PRODUCTS & SERVICES

Solar Water Heating Systems

At Techno Green Energy we supply and install all types of water heating systems which can save 40% household electricity bill.

Solar water heaters -- also called solar domestic hot water systems -- can be a cost-effective way to generate hot water for your home. They can be used in any climate, and the fuel they use -- sunshine -- is free.

How they work?

Solar water heating systems include storage tanks and solar collectors. There are two types of solar water heating systems: active, which have circulating pumps and controls, and passive, which don't.

Advantages of Solar Water Heating

- You are using free energy! Solar energy is free and abundant
- They are efficient. Approximately 80% radiation is turned into heat energy.
- You save money on fuel bills. On an existing gas heating system,
- The saving can be about R10200.00 a year and more.



Evacuated Tubes High Pressure Geyser



Flat Plate High Pressure Geyser



Geyser Conversion with Evacuated Tube



Geyser Conversion with Flat Plate

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PRODUCTS & SERVICES

Solar Water Heating Systems



100L High pressure System No Element/
Element



Industrial/ Commercial Bulk Water System

Heat Pumps Systems

Domestic heat pumps



Industrial heat pumps



Swimming pool heat pumps



A heat pump works like an air conditioner in reverse. It uses a relatively small amount of electricity to extract heat from the surrounding air and then heats water with this energy

A domestic heat pump with a COP of 4 (efficiency of 400%) will save you 75% of the electricity currently used with a normal electrical element. So, for example, a family of 4 with a 200L geyser is currently using R480/month to heat the water. If a heat pump with a COP of 4 is connected to this geyser and the current electrical element is disconnected then they will not only use R120/month to heat the water.

Advantage of a Heat Pump

The main advantages of a heat pump are the ability to re-heat a geyser a few times per day and that it can work day and night, rain or shine. A solar system will only save you more money than a heat pump but only if the system had much more capacity than the demand and also depending on the usage pattern. The main disadvantage of a heat pump is that it is dependent on an electricity supply and so during a power failure you will need a backup generator.

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PRODUCTS & SERVICES

Solar Pool Pumps

At Techno Green Energy we supply and install solar pool pumps to ensure a clean pool at all times without dependency to the grid or electricity source. No trenching and no cables

Solar Swimming Pool Pumps are high quality products designed for use in residential and commercial swimming pools and spas. In most pool applications all of the filtration needs can be met directly from solar panels meaning no electricity costs and significant benefits to the environment. Solar Swimming Pool Pumps uses a DC brushless motor for high efficiency and reliability.

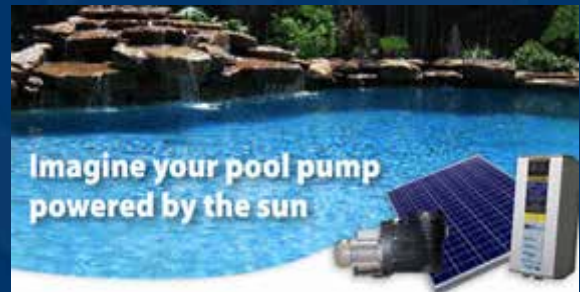
The controller monitors the system, controls the pump speed and optimizes the amount of water pumped based on the power available.

Benefits

- Zero energy costs provide a very fast return on investment
- Longer life expectancy than standard AC motors
- Quiet and efficient
- Proven in service record
- Speed controllable to match the pool size exactly
- Smart modular design for simple and cost effective servicing and repair
- Fast and simple installation, direct replacement for an existing pool pump



Solar Pool Pump with Controller and Panels



Solar Pool Pump with Controller and Panels



Solar Pool Pump application



Solar Pool pump runs Your pool for Free

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PRODUCTS & SERVICES

Solar Pool Heaters

At Techno Green Energy we supply and install solar pool heaters to keep your pool warm and ensure warm swimming without dependency to the grid or electricity source. Warm your pool for free!!!



Solar energy helps the environment: Solar power is a renewable source of energy. A solar pool heater uses solar panels to transfer heat from the sun to your pool. Using solar pool heaters instead of electric pool heaters will reduce the use of fossil fuels, and in turn reduce the smog created by nitrogen dioxide released when burning fossil fuels. Using a solar pool heater instead of a gas pool heater will also reduce the carbon dioxide released to the atmosphere. This will help slow global warming and climate change for every installation.

Higher return on investment: A solar pool heater has a lifespan of 15 to 20 years or longer where an electric or gas pool heater has a lifespan of about 5 years. A solar pool heater also requires very little maintenance each year where an electric or gas heater requires yearly maintenance cost.

Energy efficient: A solar pool heater operates with the pump that you already have with your pool, therefore it is the most energy efficient option.

The pump circulates the water to the solar collectors where it is warmed by the sun, then back to the pool. An electric or gas pool heater has a very low energy efficiency rating. A heat pump has a higher energy efficient rating as compared with the electric or gas pool heater, but still far lower than a solar pool heater.

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PRODUCTS & SERVICES

Solar Borehole Pumps

At Techno Green Energy we supply and install solar borehole pumps to ensure water supply without dependency to the grid or electricity source. No trenching and no cables and no manual water pumping systems

A solar-powered pump is a pump running on electricity generated by photovoltaic panels or the radiated thermal energy available from collected sunlight as opposed to electricity or diesel run water pumps. The operation of solar powered pumps is more economical mainly due to the lower operation and maintenance costs and has less environmental impact than pumps powered by an internal combustion engine (ICE). Solar pumps are useful where grid electricity is unavailable and alternative sources (in particular wind) do not provide sufficient energy.



Rural Domestic Borehole



Farming application



Livestock Farming Borehole

- You can use it in all areas where electricity can't reach
- No need to pull stretches of cable to get the borehole water system to work
- Simple – only moving parts are pump/motor. Plug and-play electrical connections.
- No fuel costs.
- No routine maintenance.
- Minimal supervision.
- Capital costs increasingly competitive with diesel power.
- Environmentally friendly.

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PRODUCTS & SERVICES

Solar Pressure Pumps

At Techno Green Energy we supply and install solar pressure pumps to ensure the water pumping without dependency to the grid or electricity source. No trenching and no cables

Solar pumps are an energy efficient, environmentally friendly way to pump water for a variety of domestic and commercial purposes, including agricultural and residential irrigation and cattle or livestock watering. Solar pumps are easy to install and require virtually no maintenance, and they can have a lifespan of roughly 20 years, so after the initial set up costs their servicing requirements are virtually nil.

The solar pressure pumps can be used on different types of fountains as seen below:



Fountains for Parks



Entrance Fountains



Residential Fountains



Solar Irrigation Systems

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PRODUCTS & SERVICES

Solar Street Lighting

At Techno Green Energy we supply and install solar street lighting and area lighting to ensure the lighting supply without dependency to the grid or electricity source. No trenching and no cables. Solar street lights are raised light sources which are powered by photovoltaic panels generally mounted on the lighting structure or integrated in the pole itself. The photovoltaic panels charge a rechargeable battery, which powers a fluorescent or LED lamp during the night.

The Advantages of Solar Street Lights

Solar street lights are independent of the utility grid resulting to lessened operation costs. These means that these are wireless lights and are not connected to your electricity provider. The lights are dependent of the heat energy given off by the sun, storing as much of it throughout the day. Solar street lights require lesser maintenance than conventional street lights. These have lower chances of overheating. Since solar wires do not have external wires, the risk of accidents is minimized. Solar street lights are environment-friendly because its panels are solely dependent to the sun hence eliminating your carbon footprints contribution.

Some parts of solar street lighting systems can be easily carried to remote areas making these more efficient and handy solutions to lighting problems



Solar Street lighting on single Road



Solar Street Lighting in High Ways



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PRODUCTS & SERVICES

Solar Traffic Lights

At Techno Green Energy we supply and install traffic management systems to ensure the flow of traffic without dependency to the grid or electricity source.

Solar traffic lights are signaling devices powered by solar panels positioned at road intersections, pedestrian crossings and other locations to control the flows of traffic. They assign the right of way to road users by the use of lights in standard colors (red - amber/yellow - green), using a universal color code (and a precise sequence to enable comprehension by those who are color blind). Most of the solar traffic lights have battery back-up for functioning during night.

Advantages Of Solar Traffic Lights

First, solar power traffic light module is easy to install and quick to reinstall, which is the best advantage over others.

Second, power supply independent. Solar power traffic lights mainly rely on the solar, which is independent and not influenced by other factors, thus solar power traffic lights are low power consumption.

Third, solar power traffic light is no cabling and higher level of security than traditional traffic lights. Certainly, there are other advantages, such as continuous signal monitoring, Free programmable, Status checking via sms.

Besides solar power traffic lights `s advantage, it also bring convenience to pedestrian crossings , alternated traffic and vehicle detection as option and customised pole`s design.



Solar Traffic Lights



Solar Traffic Lights

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PRODUCTS & SERVICES

Domestic and Industrial LED

At Techno Green Energy we supply and install all types of LED lighting and area lighting to ensure the efficiency of all lighting projects, domestic , industrial, commercial and municipal lighting LED is a highly energy efficient lighting technology, and has the potential to fundamentally change the future of lighting in the South Africa. Residential LEDs -- especially ENERGY STAR rated products -- use at least 75% less energy, and last 25 times longer, than incandescent lighting.

Widespread use of LED lighting has the greatest potential impact on energy savings in the South Africa. By 2027, widespread use of LEDs could save about 348 TWh (compared to no LED use) of electricity.

Advantages of LED lights

- Long Life - LED Lighting Features Long Operational Life Time Expectations
- Energy Efficiency - LED Lighting Features A Much Better Energy Efficiency
- Ecologically Friendly - LED Lighting Is Much More Eco-Friendly
- Durable Quality - LED Illumination Can Withstand Rough Conditions
- Zero UV Emissions - LED Lighting Features Close to No UV Emissions
- Design Flexibility - LED Lighting Has Powerful Flexible Design Features
- Operational in Extremely Cold or Hot Temperatures
- Light Dispersement - LED Lights Achieve Higher Application Efficiency
- Instant Lighting & Frequent Switching - LEDs Can Be Turned On/Off Many Times



LED Down Lights 12V/220V



LED Tubes 12V/220V



LED Flood Light 12V/220V



LED Street Lights 12V/220V

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PRODUCTS & SERVICES

Induction Cooking Stoves

At Techno Green Energy we supply and install 3 types of induction cook tops which are safer and energy efficient than gas and conventional electricity cook tops

Induction cooking is a method of cooking that heats a cooking container through electrical induction, rather than the traditional thermal conduction produced by a gas or electric stove. Induction cooking requires an induction cooktop and a cooking container made of a ferromagnetic metal such as stainless steel or cast iron.

Advantages of Induction Cooking

Induction cooking is safer and more efficient than cooking by thermal conduction or element stove. This method of cooking uses an induction cooktop that produces an electromagnetic field to heat the cooking container. This process leaves the cooking surface cool to the touch, which makes it easier and safer to clean. Induction cooking doesn't produce excess heat in the kitchen, so it's energy efficient. Induction cooking transfers 90 percent of the energy used to produce the heat into the cooking container, whereas gas stoves transfer only 40 percent of the energy.



Four Plate Induction Stove



Single Plate Induction Stove



Two Plate Induction Stove



Four Plate Cook Top

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POLOKWANE OFFICE

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