

THE REALITY OF **LOADSHEDDING**

As we are all aware, South Africa faces many challenges and none more so than securing consistent and reliable electricity from Eskom and our municipalities.

State capture, infrastructure demise, poor service delivery and yearly tariff increases are unfortunate realities that we are all dealing with.

What can we do to reduce our electricity bills and survive being without electricity during load shedding?

Here we provide a short summary of the options available on the market – each with its own advantages and disadvantages.

That said, we also understand that, for the average person on the street, it is not possible to invest in any of these available “loadshedding remedies” without significant financial commitments.

Note: If you're living in a homeowners association, body corporate, block of flats or any other densely populated area, there will be general rules and safety regulations that would have to be adhered to, or permissions requested and granted by relevant authorities.

WARM WATER SUPPLY

1 SOLAR GEYSERS

- ▶ Average household geyser consumption is approximately 30% of the total monthly consumption.
- ▶ Solar geysers reduce the need for electricity to heat water by using the sun's energy, or a combination of the sun and electricity.
- ▶ Solar geysers come in different models and water storage abilities.
- ▶ The application and volume of water to be used and/or stored will guide the type of solar geyser to be used.
- ▶ Cloudy and rainy days directly affect the heating capability of the solar geyser.
- ▶ Solar water storage often requires electricity to drive circulation pumps.
- ▶ Approval from HOA, BC or other relevant authorities is required before installation.



2 HEAT PUMPS

- ▶ On average, a properly installed and correctly placed heat pump is more efficient than a normal geyser.
- ▶ Models vary from a direct infeed to having water storage with circulation for when the water temperature drops below a set point.
- ▶ Heat pumps require electricity to function (for heating and the water pump).
- ▶ Approval from HOA, BC or other relevant authorities is required before installation.



3 GAS GEYSERS

- ▶ Gas geysers are not dependent on electricity.
- ▶ In most household applications, they are used for direct heating of incoming cold water.
- ▶ Legislative requirements must be adhered to, and the installer needs to be certified.
- ▶ Low risk of geyser bursting.
- ▶ Requirements include gas storage safety, cut-off valves, and ventilation, to name a few.
- ▶ Approval from HOA, BC or other relevant authorities is required before installation.

4 GEYSERS AND TIMERS

- ▶ Average household geyser consumption is approximately 30% of the total monthly consumption.
- ▶ Properly insulated geysers and pipework will help reduce heat loss and additional electricity costs.
- ▶ Geyser blankets on geysers installed on the exterior of a house or living unit will also help keep the water warmer and reduce heat loss.
- ▶ Reducing the geyser thermostat temperature to a comfortable, warm water temperature reduces electricity consumption.
- ▶ Installing a monitoring system on your geyser and adapting the requirement to when water heating is needed can also reduce costs.
- ▶ Keep in mind that the usage of large volumes of warm water at any given time will influence electricity consumption when reheating cold water flowing into the geyser.
- ▶ Geysers use more electricity during autumn and winter to heat the colder incoming water.
- ▶ We often take longer showers and fill the baths up with more warm water during winter. This also increases electricity usage on our geysers.



ELECTRICITY GENERATION/SUPPLY

1 GENERATORS

- ▶ The size and capacity of a generator will be determined by equipment and other electrical needs during power interruptions.
- ▶ Automated switch-over functionality can be added to / or included in the generator for when electricity supply disruptions are detected.
- ▶ Safety is of utmost importance, and no electricity should be pushed back into the internal grid past the household with the generator.
- ▶ Notice of generator integration must be clearly displayed on the electrical kiosk and at the unit.
- ▶ Notice of the installation of a generator must be given to the utilities company.
- ▶ Installation should be done by a qualified electrician or installer that will provide a Certificate of Compliance.
- ▶ Modifications will be done on the electrical distribution board of a household or living unit to supply power to essential electrical equipment.
- ▶ Typically, geysers, stoves, heating systems and kettles are excluded from the essential electricity supply, as the amount of electricity consumed at a given time by such devices would damage or overload a small generator.
- ▶ Insurance should also be updated.
- ▶ Sufficient ventilation is required as well as the reduction of noise (which may not be a disturbance to fellow residents).
- ▶ Rules of the BC/HOA regarding the use of generators must be adhered to.



2a SOLAR SYSTEMS

Direct Solar System (without battery)

- ▶ Least expensive system with no battery backup or charging.
- ▶ The size of the system will be determined by the client's needs.
- ▶ An inverter regulates the solar supply into the household or application during the day.
- ▶ Electricity requirements over and above solar production are drawn from the municipal supply.
- ▶ During loadshedding, the direct solar system will also shut down.
- ▶ Safety is of utmost importance, and no electricity should be pushed back into the internal grid past the household.
- ▶ Installation must be done by an accredited installer or supplier that will provide a Certificate of Compliance.
- ▶ Insurance should also be updated.
- ▶ Rules of the BC/HOA with regards to permission for installing solar systems, placing of panels, in-feeding to households and insurance must be adhered to.



2b SOLAR SYSTEMS

Direct Solar System (with battery backup)

- ▶ More expensive system.
- ▶ The size of the system will be determined by the client's needs and preferences.
- ▶ Battery size for backup electricity is also determined by the client's specific requirements and needs.
- ▶ An inverter regulates the solar supply into the household or application during the day.
- ▶ Battery backs up electricity supply, preferably to essential equipment or services only.
- ▶ Excluded equipment and services are geysers, stoves, heat pumps, air conditioners and other high-consumption electrical devices.
- ▶ Electrical work is needed on the distribution board to separate essential and non-essential supply to the household.
- ▶ During loadshedding or power interruptions, the system will regulate electricity supply from the battery backup in accordance with the setup of the system.
- ▶ Safety is of utmost importance, and no electricity should be pushed back into the internal grid past the household.
- ▶ Installation must be done by an accredited installer or supplier that will issue a Certificate of Compliance.
- ▶ Rules of the BC/HOA with regards to permission for installing solar systems, placing of panels, in-feeding to households and insurance must be adhered to.

3 INVERTER AND BATTERY BACKUP

- ▶ No solar panels.
- ▶ The size of the system will be determined by the client's needs and preferences.
- ▶ Battery size for backup electricity is determined by client's specific requirements and needs.
- ▶ An inverter regulates and charges the battery backup when there is municipal electricity supply.
- ▶ During loadshedding or power interruptions, the inverter will regulate and draw power from the battery backup system to power essential equipment.
- ▶ Once the battery is depleted during an extended period of loadshedding or power interruption, the system shuts down.
- ▶ Battery backup electricity supply preferably to essential equipment or services.
- ▶ Excluded equipment and services are geysers, stoves, heat pumps, air conditioners and other high-consumption electrical devices.
- ▶ Electrical work is needed on the distribution board to separate essential and non-essential supply to the household.
- ▶ Installation must be done by an accredited installer or supplier that will issue a Certificate of Compliance.
- ▶ Safety is of utmost importance, and no electricity should be pushed back into the internal grid past the household.
- ▶ Depending on the type of inverter installed, a solar panel infeed could later be added to the system.
- ▶ Rules of the BC/HOA with regards to permission for installing solar systems, placing of panels, in-feeding to households and insurance must be adhered to.

THE ABOVE IS A GENERAL GUIDELINE AND WILL VARY DEPENDING ON YOUR INSTALLATION. COMPARATIVE QUOTES ARE ADVISED FROM DIFFERENT SUPPLIERS. REFERRALS PLAY AN IMPORTANT ROLE IN DECIDING WHICH SUPPLIER TO CONTRACT.

Should you require more information or a discussion, please do not hesitate to contact us.

CONTACT DETAILS

Support / Customer care:

071 687 0113 | 082 404 8954

Tel: +27 (12) 426 3400

Email: customer@midcityutilities.co.za

