



**GREEN LIGHT CITY**  
tech meets green

# UNDERSTANDING ALTERNATIVE ENERGY

Back Up & Solar Power



# Insight to Solar Energy

Many people do not understand alternative power or what it is.

We are here to guide, inform and answer the many questions there is when it comes to solar energy.

Firstly, Who are we? Green Light City is a contracting company linking the consumer to alternative energy through back up and solar systems. Founded during the 2020 pandemic, we wanted to assist all consumers with alternative energy at a reasonable price as well as quality service, products and installation. We believe in getting it right the first time. Though we are still new in the industry, our team has years of experience.

The next few pages will explain the basic of alternative energy and more specifically that of solar energy. We also look at the advantages, disadvantages and benefits thereof as well as the meaning of ROI (return of investment) and Payback Period.

This may all sound like a bunch of gibberish to people who don't understand the concept but we want to help you learn and understand so that you may make the right decision when it comes to looking at a installation.

When we understand something better, we can make better decision which can save us money and give us peace of mind. With the uncertainty that eskom brings through load shedding, we want to assist you in getting an installation that fits your needs and budget.





# About Alternative Energy

As per the Dictionary:

"energy fueled in ways that do not use up the earth's natural resources or otherwise harm the environment, especially by avoiding the use of fossil fuels or nuclear power."

The most popular renewable energy sources currently are:

- Solar energy.
- Wind energy.
- Hydro energy.
- Tidal energy.

Why alternative energy?

Environmental and economic benefits of using renewable energy include: Generating energy that produces no greenhouse gas emissions from fossil fuels and reduces some types of air pollution.

Diversifying energy supply and reducing dependence on imported fuels



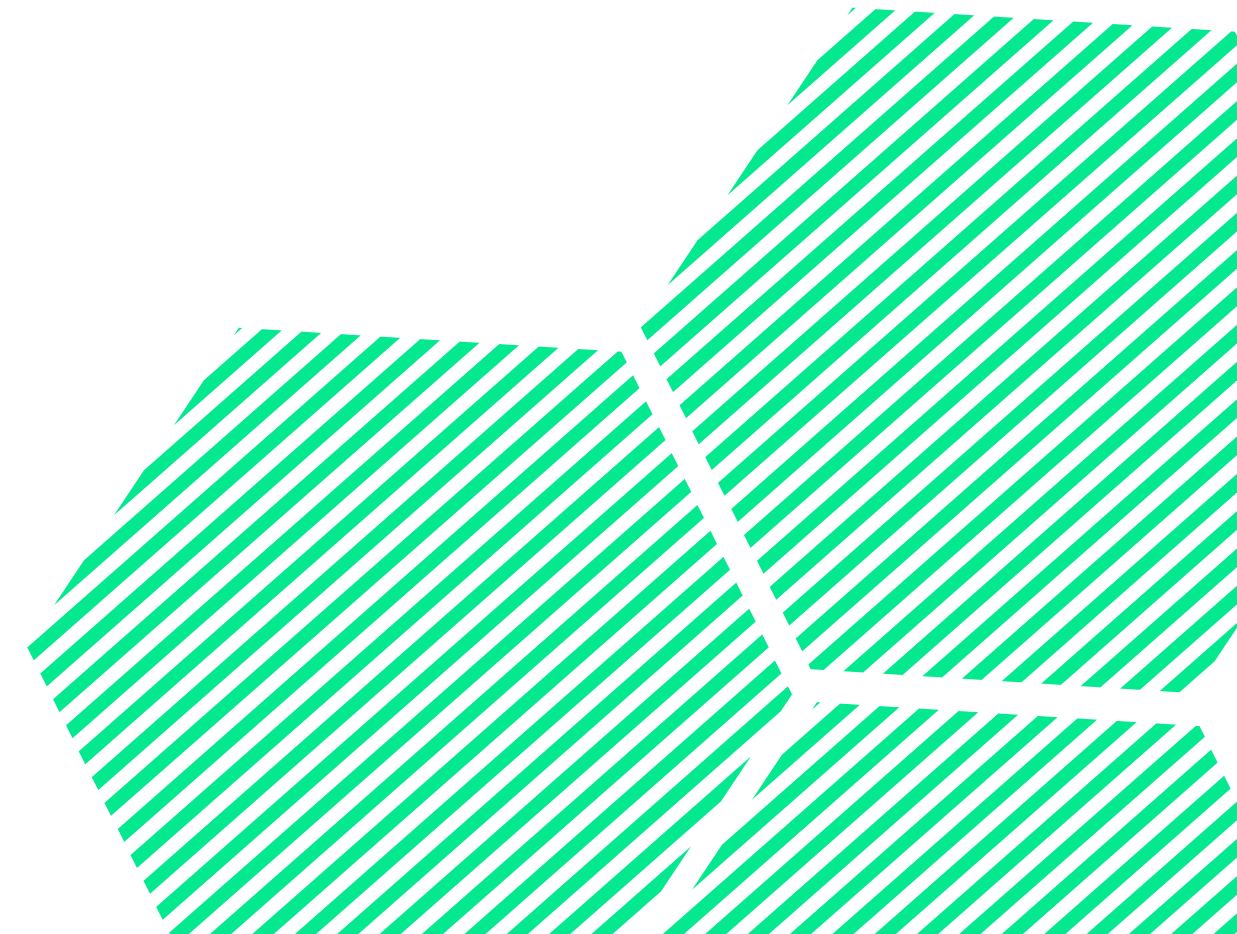
# Solar Energy

Understanding Solar Energy:

Solar energy is simply the light and heat that come from the sun. People can harness the sun's energy in a few different ways: Photovoltaic cells, which convert sunlight into electricity.

Now, Green Light City is a company that wants to help consumers use solar energy as an alternative electricity source due to the unreliability of Eskom as well as to save money on their electricity bills.

We also want to assist in creating a greener and friendlier environment by shrinking consumers carbon footprint as well as turning South Africa green.



# What is Carbon Footprint?

A carbon footprint is the total amount of greenhouse gases (including carbon dioxide and methane) that are generated by our actions.

Human activities are responsible for almost all of the increase in greenhouse gases in the atmosphere over the last 150 years. The largest source of greenhouse gas emissions from human activities is from burning fossil fuels for electricity, heat, and transportation.

## SOUTH AFRICA'S ROLL IN THE CARBON FOOTPRINT:

South Africa emitted 435 million metric tons of carbon dioxide (MtCO<sub>2</sub>) emissions from fossil fuel combustion and industrial purposes in 2020. This was a reduction of seven percent compared with 2019 levels. South Africa is one of the largest emitters of carbon dioxide worldwide. This is mainly due to the country's reliance on coal energy.

Source:

<https://www.statista.com/statistics/486073/co2-emissions-south-africa-fossil-fuel-and-industrial-purposes/>



## ELECTRICITY'S ROLL IN THE CARBON FOOTPRINT:

Electricity production (25 percent of 2019 greenhouse gas emissions) – Electricity production generates the second largest share of greenhouse gas emissions. Approximately 62 percent of our electricity comes from burning fossil fuels, mostly coal and natural gas.

Source:

<https://www.epa.gov/ghgemissions/sources-greenhouse-gas-emissions>



# ADVANTAGES OF SOLAR ENERGY:

- 100% inexhaustible energy, which is renewable and free;
- No toxic or polluting emissions into the air;
- Reduces the use of fossil fuels;
- Increasingly competitive energy source;
- Reduces the need to rely on the electricity grid or natural gas;
- Key measure against climate change;
- Generates wealth and local employment.

# DISADVANTAGES OF SOLAR ENERGY:

- Intermittent energy;
- High initial investment;
- Location of the home.

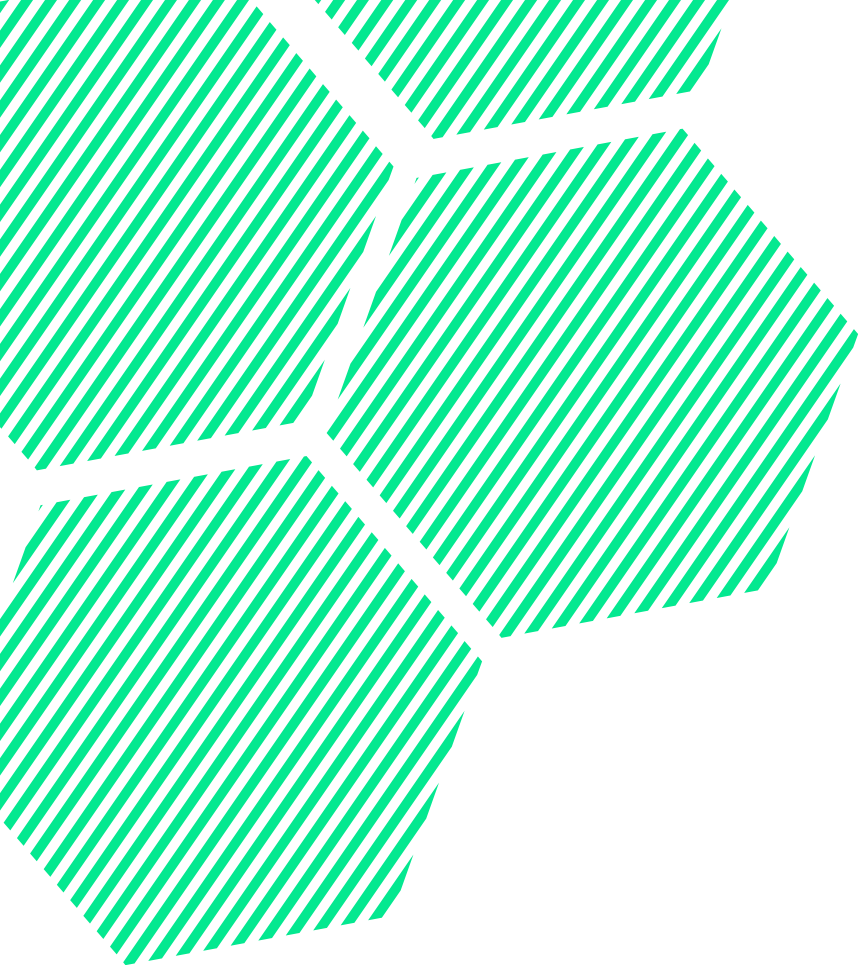


# 7 BENEFITS OF SOLAR ENERGY IN SA:

- Solar power systems are becoming more affordable while electricity continues to increase in price
- A solar panel can make your home more attractive to buyers
- Your business can be eligible for deductions from SARS with a solar panel
- The installation cost is easily recouped after a few years
- Load shedding and power cuts won't affect you
- You don't have to buy a generator in case of power cuts
- You can make your solar power system interact with the power grid







## ROI

The Return on Investment (ROI) refers to the effective returns that your investment would generate throughout the life of the solar system. The higher your monthly savings on power bills from solar is, the quicker your initial investment would be repaid and the higher your ROI would be.

### What is a payback period?

The payback period refers to the amount of time it takes to recover the cost of an investment. Simply put, the payback period is the length of time an investment reaches a break-even point.

The desirability of an investment is directly related to its payback period. Shorter paybacks mean more attractive investments.



## FINANCING AVAILABLE:

Financing for solar is not yet a popular subject but it is available.

Google to find out which companies are willing to assist with financing or a loan.

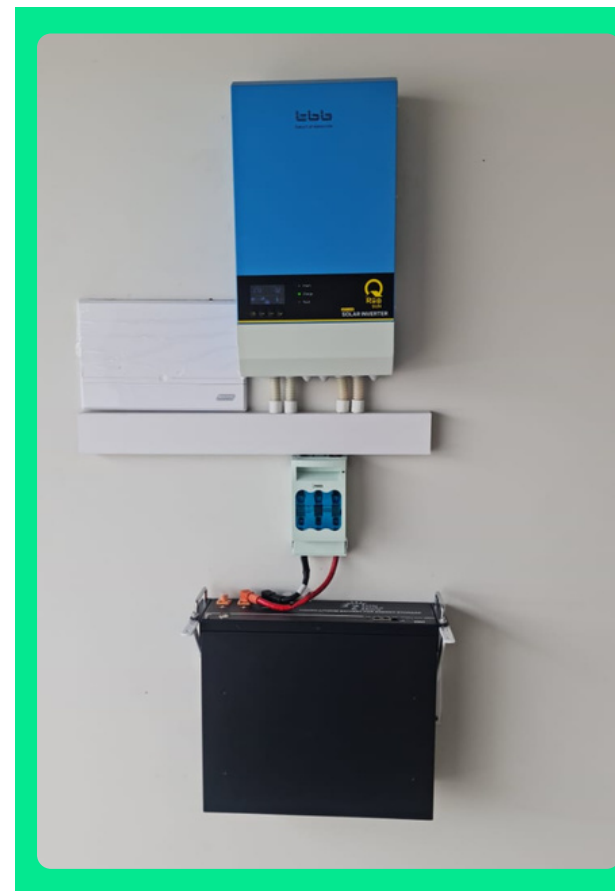
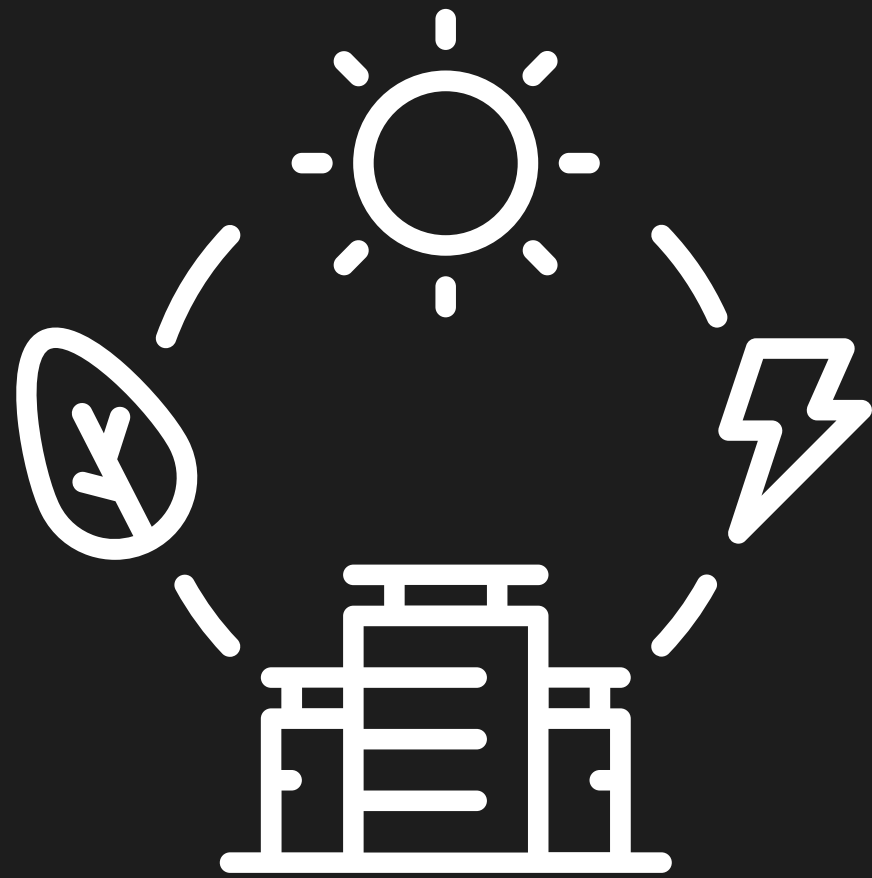
You can also read this article on Business Insider to find out what the banks are offering:

<https://www.businessinsider.co.za/want-a-loan-to-install-solar-panels-at-your-home-or-business-heres-what-the-banks-are-offering-2019-12>



# Our Options

Green Light City offers 3 different types of installations which in turn provides different types of savings and caters for a variety of consumers.



**Back Up System**

Only consisting of an inverter and a battery, this system allows you to keep the necessities on during load-shedding. Your electricity bill may increase due to the batteries having to be charged through Eskom supply. Not a money saver but keeps the lights burning.



**Back Up System with Solar Panels**

Depending on the household and requirements of the consumer, this system will include an inverter, battery and solar panels. Enough to keep the necessities on during load-shedding and your electricity bill might decrease slightly as the batteries will charge through panels.



**Go Off the Grid**

This system may be more expensive with initial start up but will save you money in the long run. Our technical team sees to it to allow for a complete off the grid system and possibly put electricity back into the grid if it is what the consumer wants.





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**WANT TO  
KNOW MORE?**

Get in contact with us today!

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