

Realise the Power of Solar Electricity

Sunfish Solar Electricity, available from Climatron, can assist companies and institutions intent on saving energy, cutting costs and acting in an environmentally responsible manner.

CLIMATRON 

SUNfish 
solar electricity



The concept of a company's complete electricity needs being met by solar electricity may seem too good to be true. However, the implementation of solar electricity should be an essential business consideration.

Stop to consider:

- South Africa's abundance of sunshine
- The environmental impact of coal fired power
- The challenges associated with the supply of electricity to meet the country's energy requirements
- The ever-increasing cost of electricity

The implementation of a photovoltaic (PV) system for the supply of solar electricity is the answer. Yet, the perception exists that the costs associated with the implementation of a PV system are prohibitive.

Whilst the initial capital outlay may be substantial, what is important to note is the fact that **a PV system will pay for itself within a 2 to 3 year period**. This is made possible by costs saved through not having to pay monthly electricity bills, as well as SARS tax rebates.

Sunfish Solar Electricity, available from Climatron, will develop a solution for businesses intent on saving energy, cutting costs and acting in an environmentally responsible manner. Designed to suit each specific site's requirements.

Understanding Photovoltaic Technology

The technology being employed in PV systems is well developed, with improvements and modifications occurring on a regular basis. Whilst PV cells are most adept in direct sunlight, they are highly effective at generating energy even in cloudy weather conditions. PV systems have proved themselves to be both efficient and reliable in a variety of applications internationally.

A PV system can be either 'grid tied' or 'off grid'.

Grid tied systems vary in size according to the application and are a form of decentralised electricity generation. These systems are connected to a large independent grid and are able to feed excess power into the grid. In the case of residential or building mounted grid connected PV systems, the electricity demand of the building is met by the PV system. No battery is required in such a system as no storage of electricity is required.

An off grid system does not have a connection to the electricity grid and varies in size according to the application for which it has been installed. PV generated power in an off grid system is initially stored in the battery bank that continuously goes through a charging and discharging process regulated by a charge controller. The battery bank supplies power to the load as needed, while an inverter converts DC to AC power.



The PV system installed at Climatron is saving the environment an average of 7 tonnes of carbon emissions per month!

Case Study – Climatron

Climatron has successfully implemented an off-grid PV system and is one of the first companies in South Africa to operate completely off the grid. At the time of the PV system installation, (first quarter 2013) the company was paying approximately R500 000 per year for electricity. The savings on annual electricity bills, combined with the SARS rebate alone will see this particular system pay for itself in a period of just over two years. Interested parties may view this system by appointment. To do this contact pv@climatron.co.za

Frequently Asked Questions

Is it possible to be electrically self-sufficient?

Yes. The installation of a PV system that specifically addresses a business' energy requirements will enable the business to operate completely off the grid negating the need to purchase electricity.

What is the process?

After assessing a business' existing electricity usage, Climatron will submit a proposal that details what type of PV system would be required to meet their energy requirements. This proposal will also detail how long it would take for the system to 'pay for itself'. The next step involves a more detailed energy audit and ultimately implementation of the PV system.

How does the SARS rebate work?

The South African Revenue Services (SARS) has introduced an income tax incentive for businesses that invest in machinery and plant such as wind generators and solar energy projects dedicated to the generation

of electricity. This incentive allows for the depreciation of these assets over a three year period at a 50:30:20 percent rate year-on-year respectively.

Who is responsible for communication with SARS?

The customer is ultimately responsible for this process. Climatron will however act in an advisory capacity.

How does Climatron determine if the amount of sunshine in any part of the country is sufficient to generate electricity?

Accurate irradiation data available from NASA is used to determine the amount of sunshine experienced in any given region in South Africa. This information is then used to ascertain the viability of a PV system in any particular part of the country.

What is the expected lifespan of a PV system?

Normally PV modules have a designed lifespan of 25 years.



About Climatron

Founded in 1970, Climatron has served its clients with a high degree of professionalism in line with the ever-increasing standards of engineering required. The organisation employs professionals from a variety of disciplines within the building services industry.

Climatron's approach combines a personal service, high quality standards and a deadline driven mindset within crucial budgetary and safety parameters.

Extensive use of modern technology is employed in the design, estimation, cost accounting and communication aspects of any particular project enabling Climatron to deliver a timeous and

professional response to each request. Climatron is well versed in the progressive development of building management systems that ensure cost effective design solutions and ultimately result in project economy being passed onto clients.

Climatron at all times strives to deliver environmentally safe and responsible engineered systems that will benefit all stakeholders. Furthermore, they are dedicated to improving the quality of human life, whilst preserving valuable natural resources.

Why Sunfish?

Sunfish are ocean fish that make effective use of currents to swim great distances – some have been known to swim distances of 26km a day with a top speed of 3.2km/hour. Moreover, sunfish are known to bask on the surface of the ocean using the sun to thermally recharge following dives into deeper, colder water.

In much the same way that the ocean sunfish harnesses the power of natural elements for performance and survival, Climatron believes that harnessing the powers of nature will not only benefit the environment, but will play an important role in assisting South African business enterprises in accessing affordable and sustainable energy.

Contact us now to book a viewing of an existing project and to discuss how we can help you realise the power of Solar Electricity:
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