



Silicon CPV

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# Are you **frustrated** with the **disruption** caused by **continual power outages**?

Are you concerned about **diesel supply** and the ever increasing **cost of fuel** you pay to maintain your personal backup generator supply?



If you are ready to consider a low cost, guaranteed permanent Load Shedding Solution - read on!



### About Silicon CPV Ltd

Silicon CPV plc is a subsidiary of the Akhter Group based in the UK. Driven by a passion for alternative clean energy solutions and growing pressures to reduce worldwide Carbon emissions, Professor Humayun Mughal founded Silicon CPV Ltd with the goal of designing and manufacturing solar power plants and products.

#### Vision

'To develop and manufacture advanced solar systems that will greatly reduce the cost of generating clean electricity from the Sun's energy.'

Professor Mughal's passion for renewable energy led him to build Pakistan's first commercial solar panel manufacturing plant in 2005. Work has started on a new factory to produce concentrating photovoltaic cells, close to Akhter Solar factory in Pakistan and is due to complete this year. In 2009 Silicon CPV won a prestigious award from British Renewable Energy for its low cost System.

Silicon CPV Ltd are keen to spread their knowledge, expertise and ability and are very much aware of the problems that Pakistan has had with balancing the electricity supply against the demand and despite huge efforts, this is still a largely unresolved matter today.

It is understood that the frequent power cuts across Pakistan today are indicative of an emerging prosperity as there is a fast rising demand for electricity. However, the failure to meet the demand is a challenge to that very prosperity.

#### Innova on

Silicon CPV Ltd has brought about a great revolution in the renewable energy industry and after many years of intensive research into this field launches the Green Power Box range of systems - the cost effective, maintenance free, Load Shedding Solution.

#### Why Solar?

Many companies and homes are using generators for load shedding but diesel generators have many disadvantages: The air is constantly getting polluted while the generator is running and with regular deliveries having to be made for diesel, this is not only problematic but also expensive. Generators have to be switched on and off at regular intervals and at that moment, power is lost, regular maintenance is required and eventually replacement of the generator is needed.

Below are the likely costs you are incurring while running your generator. Maintenance or replacements costs are not included:

Generator 4KW Max	Provides approximately 3KW of continuous power
Diesel required to run a 4KW Generator	2 litres per hour (typically)
Typical costs of Diesel per litre	Rs 100/litre
To provide 5 hours cover per day	Rs 1000/day
Monthly Diesel cost	Rs 30,000 per month

## THE GREEN POWER BOX SOLUTION

#### How it works

Solar panels convert the sun's radiation into electrical energy. In turn this electrical energy is used to charge the battery bank. If there is insufficient energy from the sun then the energy is taken from the grid to charge the battery bank.

When the batteries are fully charged, the electricity generated from the solar panels is available to use and therefore electricity costs are reduced by not having to pay for it from the grid.

When the Green Power Box senses a power outage from the grid it automatically switches over and supplies the energy from the solar panels. If there is insufficient solar energy from the panels i.e. in cloudy weather conditions or at night time, then the stored energy will be used from the battery bank.

The Schematic diagram below shows an example configuration: The 'Existing Distribution Board' has had four of its circuits re-routed to the 'Green Distribution Board' which now guarantees power continuity for these circuits.



OPTIONS	System-A (2-3 HOURS/DAY LO
Solar Array	1.5KW (6 Solar Panels) [9.6m2]
Battery Bank	4.8KWH (4x 100AH - No Maintena
Green Power Box	3KW Hybrid Inverter
Complete with	Switches, Isolators and Distributo

HEDDING)	System-B (4-8 HOURS/DAY LOAD SHEDDING)
	3KW (12 Solar Panels) [19.2m2]
)	13.7KWH (4x 285AH - No Maintenance)
	3KW Hybrid Inverter
ĸ	Switches, Isolators and Distributor Box