



Case Study

Off-Grid CCTV

- ▶ Your answer to off-grid power requirements.
- ▶ Our engineers design your bespoke renewable energy system in-house.
- ▶ Wide range of solar panel options built to last and withstand harsh weather conditions.
- ▶ Advice and guidance offered by the most experienced solar engineers in the business, from the UK's original renewable energy company.

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The Project

The Green Systems team have worked with Komcept on this project for the past few years. The project develops trailer platforms that house powerful CCTV cameras and sensor equipment to monitor land borders overseas to protect civilians from terrorism. The camera and sensor equipment is powered by solar energy, where Marlec's Green Systems team comes in. Komcept was established in 2001 and is based in Northampton. They design and develop surveillance and security equipment for Governments internationally.

The image shows a 10m pneumatic, telescopic mast extending vertically from the trailer. The camera sits at the top, designed to monitor several square miles of the surrounding area. In transport, the mast is laid flat in its shortest fixture.

On the top side of the trailer, a solar panel is mounted underneath the stowed mast and in full view of the sun when extended. Four further panels are securely stowed vertically on the trailer, dismantled to a ground position upon setup underneath the stowed mast and in full view of the sun when extended. The team opted to provide 300W Spectra Perc Shingle panels to the 21 trailers constructed thus far. This panel model is light and space-saving while boasting durable and rigid aluminium frames, making them perfect for a variety of weather conditions and the rugged trailer transport they will be subject to. Its unique cell design and stable build allow the panel to be highly effective in any application, whether on-grid or off-grid.



Target

We develop and deliver off-grid solutions to power lighting, CCTV, monitoring systems and more.



Development

Our technical team works closely with the R&D department to develop bespoke, off-grid solutions to every environment across the globe.

Requirements

- Off-grid power
- Panels adaptable to the unique design of their trailer
- Panels capable of meeting equipment power demands
- Robust enough for transport and handling
- Simple to connect and disconnect

"Our alternative was to use generator power. The use of solar means that a supply of fuel and associated replenishment is not required. We have tested our equipment in the English weather and found it successful. For our customers in Africa, this will be even better."
- Chris D (Komcept Project Manager)

The Challenges

One of the biggest challenges faced during this project was advising power requirements and suitable panel options to Komcept before they had actualised their trailer and CCTV designs. The project has taken a great deal of communication so far.

"Estimating the maximum power consumption of equipment still under development was difficult, and establishing a way of carrying and deploying enough solar panels to supply it was equally challenging. The engineering work undertaken for design of the carrying tray of the trailer was based on the dimensions of the panels that Marlec provided."

- Chris D (Komcept Project Manager)

Of course, supplying power in off-grid applications can become problematic, too, if the requirements are far more significant than a feasible design can offer. Fortunately, our Green Systems team are qualified and experienced in providing support and advice.

"A long time ago, I was a user of Rutland Fencing equipment. We also wanted to find a company with technical design knowledge rather than just a supplier."

- Chris D (Komcept Project Manager)

Why Choose Solar?

Where the project is set to be housed makes a significant difference in which power source the Green Systems team will suggest. Solar was offered due to the site location.

The end destination is close to the equator. The strength of the sunshine is far more significant than in England. Therefore, the energy output of the panels is also greater.

Uniquely, the panel can lay completely flat on the top of the trailer. Usually, PV is angled to receive as much sun as possible. Because of the location, the sun sits higher in the sky for longer. Despite that, the panel can be tilted as needed while fixed into place.

300W Spectra Perc Shingle

- Shingled Cell Module Design (Shade Resistant Technology).
- High light absorbency especially in low light.
- Highly reliable internal electrical connections.
- PERC (Passivated Emitter Rear Cell) Technology.

Our Services



Marlec Engineering, the longest-standing renewable energy company in the whole of the UK, has a dedicated Green Systems team on hand for off-grid energy issues of all kinds.



With projects on the railways, highways, utility sectors, telecoms, land & marine leisure industries and sustainable signage solutions. You can rely on Marlec's renewable energy systems.



Thousands of our systems guarantee sustainable energy worldwide. We're on hand to advise, design and implement off-grid power, whatever your requirements.

