





# Case Study

## Solar Signage

- ▶ Your answer to off-grid illuminated sign requirements.
- ▶ Design your sign to incorporate solar panels into the main unit, or choose to install PV separately.
- ▶ Our Marlec Plug and Play system makes installation a breeze.
- ▶ Advice and guidance offered by the most experienced solar engineers in the business, from the UK's original renewable energy company.

## CONTACT US

-  [sales@marlec.co.uk](mailto:sales@marlec.co.uk)
-  [www.marlec.co.uk](http://www.marlec.co.uk)
-  Rutland House, Trevithick Rd, Corby, NN17 5XY

## The Project

The National Space Centre is a visitor attraction in Leicester dedicated to sharing educational resources and information about all space or astronomy-related topics. They may focus on all things off-world, but those at the National Space Centre are focused on sustainability while on the ground.

Implementing Solar Signage outside the main building offered a solution to their signage illumination requirements. It was a way to showcase a commitment to being eco-friendly wherever possible and avoided the cost and inconvenience of trenching in mains power cables. The totem sign is designed to alert visitors to the Centre's location and visually impact arrival. Marlec collaborated with Etchells Signs, which tailored perfectly to ensure the solar-powered solution delivered illumination levels as per their clients' specifications.



### Target

We develop and deliver off-grid solutions to power both totems and trough lighting.



### Development

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



### Integration

It's possible to integrate our systems into your signage installations within a day or less on-site. A member of the Green Systems team can be on hand with your installers to ensure the process runs smoothly.



### Communication

You can trust us to work with you from the design stage through to the installation of the finished signage project.

## Requirements

- Maintenance free
- Simple installation
- Reduction in disruption to the surrounding environment
- Aesthetically seamless with the branding of the visitor attraction
- Fully off-grid
- Integrated LED lighting

## Challenges

- No access to the national grid
- Consistent lighting all year round
- Custom timings



## The Solutions

### Maintenance:

Marlec's solar equipment is designed to run reliably and efficiently with minimum maintenance requirements. The Spectra Semi-Flex Solar panel is integrated into the side of the Totem and discretely provide the power required for the LED internal illumination. Besides a very occasional cleaning cycle, they will be maintenance-free for the signage lifespan.

### Installation and Disruption:

The area proposed as the site for the sign by the main car park entrance needed an off-grid solution, as a connection to a grid-supplied power source would require expensive and disruptive trenching for mains cable installation.

To ensure minimal disruption to the car park access, Marlec provided their Plug and Play solar signage solution to Etchells Signs for them to incorporate into the totem design. The Plug and Play feature eliminates any requirement for complicated wiring and ensures easy installation for the on-site contractors.

The Marlec Solar Signage system uses the power harvested by the Spectra Semiflex Pro 150w solar panel to charge the AGM batteries, which are situated in the base of the totem. The AGM batteries were chosen due to their reliability, longevity, and ability to charge below freezing in wintertime. The kit comprises advanced lead acid batteries, which are sealed and maintenance-free. All necessary cables housed within the sign are IP-65 rated, making the system resistant to water ingress. The "brain" of the system is the Marlec LC101 which controls both the lighting levels from the LEDs and the charge status of the battery. It is fully programmable in switching the lighting on and off and can also perform dimming regimes to ensure the sign gives the end client the necessary solution.

### Off-Grid:

Solar promises power regardless of any connection to the national grid. Marlec designs the Solar Signage system to work 365 days per year despite the changing seasons and includes a minimum of 7 days of autonomy should there be an insufficient solar charge. Our clients want illuminated signage that can be left to run hassle-free all year round.

An adaptable signage system is an answer to the issue. Marlec technology can resolve the problem entirely and guarantee that all harvested energy is used efficiently. The LC101 controller and plug-and-play wiring systems, combined with LED technology, offer Signmakers a uniquely reliable solution.



# The National Space Centre Specifications

- 140mm x 3200 x 900mm
- Mild steel framework
- Clad in a folded and powder-coated aluminium
- Illuminated acrylic detailing

## Spectra Semi-Flex Pro 150W

- High quality copper foundation that's resistant to heat and humidity damage.
- Durable cell design flexes in fluctuating temperatures.
- Unique cell architecture performs better than conventional silicon cells in cloudy weather and partial shade.
- Converts sunlight earlier and generation lasts longer through out the day compared to conventional panels.
- Flexible and durable design ensure a continuous flow of solar energy.



"The National Space Centre is dedicated to 'Space for Everyone' and that includes future generations on this tiny blue dot we call home. Sustainability is really important to our core ethos and values, so when we had to replace our very broken and out of date welcome sign, we knew that solar power was important to the design."  
The National Space Centre Team



## 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.

**marlec**  
renewable power