

## Case Study

# National Highways

### Background

The A14 road between Cambridge and Huntingdon was well known for congestion and delays. Almost 85,000 vehicles use this stretch of the A14 every day; a lot more than was originally designed for. It was earmarked for significant improvements to reduce the delays that users were regularly experiencing.

During the period in which it was active it was the UK's biggest road construction project with a £1.5bn budget to upgrade 21 miles of trunk road between Cambridge and Huntingdon, using a 2,000-strong construction team.

### Challenge

National Highways wanted to ensure that the A14 improvement scheme reduced the impact on the surrounding environment and wildlife as much as possible.

Further aiming to have a positive impact on the biodiversity once the scheme was complete.

Due to the project being spread across a large area and running for over 4 years the need to reduce the impact on the environment was critical. As part of this focus on sustainable construction National Highways wanted to reduce the carbon emissions of the site to as little as possible and reduce the noise and disruption to local wildlife. So much so that National Highways made a commitment to source all electricity for the project from 100% renewable resources.

In addition, due to the size of the project, the need to carefully manage budgets was critical and where savings could be made it would help the project manage its budget effectively.

*Highways England's environmental strategy seeks to help protect, manage and enhance the quality of the surrounding environment.*

*The use of Prolectric solar powered lights on the project is an excellent innovative approach by the A14 Integrated delivery team. The use of renewable power sources on the A14 scheme helps us to work in greater harmony with the environment.*

**David Bray**  
Project Director



# The Solution

The project became the first in the UK to switch to temporary lighting towers powered by solar in preference to diesel. Trials of our ProLight solar lighting towers were initially conducted on the Brampton compound to assess the potential use of solar power as an alternative to conventional diesel-generator lights.

The trial was successful and 24 of our solar lights were deployed across the three compounds along the construction route between Cambridge and Huntingdon, illuminating site operations and helping to protect worker safety.

All ProLight solar tower light units were fitted with an upgrade that enabled the works team to power 1800w hand tools with the solar energy generated and stored in the light's battery storage.

This enhancement increased the team's ability to reduce carbon impact, as well as removing the noise and fumes of diesel generators.

The ProLight provides reliable year round solar-powered temporary lighting, offering 'like-for-like' performance as an alternative to diesel.

**Carbon Savings**  
1,000 tonnes  
of CO<sub>2</sub>e

**Fuel Savings**  
360,000  
litres of fuel

**Diesel Cost Savings**  
£320,000

# The Result

The use of our temporary solar lighting towers saved over 1,000 tonnes of CO<sub>2</sub>e during the course of A14 project, contributing significantly to National Highways' environmental impact goals.

The project benefitted from a total saving of 360,000 litres of diesel and a massive saving of £320,000

in fuel and operative refuelling costs.

Most importantly the disruption to local wildlife was reduced due to less noise from diesel generators and site operatives benefitted from quieter working environments.



## Why choose Prolectric?



**No Emissions**  
No fumes or greenhouse gas emissions.



**No Noise**  
Ideal for urban, residential or night time projects.



**No Refuelling**  
No fuel costs, spills or refuelling labour costs.



**Minimal Maintenance**  
Setup and forget technology.



**Advanced technology**  
Remote control, monitoring and reporting capabilities.