



# Case Study Surrey County Council

Off-grid sign lighting for roundabouts  
Powered by 100% clean, green renewable energy

## Customer

Surrey County Council

## Project

Installation of off-grid multi-point sign lighting at three roundabouts, with seven more planned

## Locations

Stroude Rd roundabout, nr Egham  
Coxbridge roundabout, nr Farnham  
Egerton Rd roundabout, Guildford

## Product

Kight KV5 off-grid multi point site lighting. 100% renewable energy hybrid wind and solar powered

## Duration

Typical installation takes under two days, with no requirement for mains connection or road excavation

## Key Facts

- 1 no wind-solar column per roundabout
- DC 6m column delivers 152 lumens per watt
- Off-grid power to 4+ sign lights from a single column
- Energy saving 1,693 kWh over lifecycle
- CO2 saving 327 kg over lifecycle
- Typical installation time – two days



## The Challenge

Surrey County Council faced a risk of permanent power loss to sign lighting in vulnerable areas like roundabouts. The existing infrastructure relies on the Distribution Network Operator (DNO) supplying power through mains cabling to a feeder pillar. The dangerous nature of the operational environment means that in the event of a fault, crash, or other issue resulting in power loss, the DNO will no longer service these locations. The extensive digging required to service mains connections to roundabouts is deemed too high risk.

## The Solution

Surrey County Council partnered with Kight to install a hybrid solar/wind street lighting column, providing 100% clean energy off-grid power for four roundabout sign lights. The solution incorporated a standalone DC 6m column with a marine-grade turbine, three vertical solar panels, and a programmable solar charge controller. The innovative design and ground embedded sleeve installation method aimed to eliminate the need for extensive excavation in case of faults whilst reducing maintenance and replacement costs. No mains connection or back-up power is required. Following the initial pilot at Stroud Road in 2021, the Council has since installed Kight's off-grid lighting technology at two more roundabouts, with budget committed for seven more.

## The Result

**Future-proofed Lighting Solution:** Surrey CC has mitigated against the risk of permanent power loss to the roundabouts. The solar/wind option eliminates the need for prohibitively high-risk works and reduces maintenance costs. The column's embedded sleeve installation design allows for easy disconnection and replacement, ensuring minimal disruption in case of issues or faults.

**Environmental Impact:** The off-grid solution provides a highly visible contribution to Surrey County Council's carbon/net zero by 2030 aspirations. The vertical orientation of solar panels minimises maintenance requirements and enhances efficiency, especially during winter months.

**Future Applications:** The project's success has sparked excitement about the potential for wider adoption of this technology. Surrey County Council envisions expanding the use of hybrid wind and solar lighting columns to high-value, high-risk locations, such as motorway junctions.

## Ease of Maintenance

- Disconnection and replacement is quick and simple in the event of collision damage
- Battery cells designed for 20+ year lifecycle, maintenance free
- No running costs, no emissions

**“It is about removing that risk of having to put significant traffic management out to excavate and replace services, as well as not needing to put guys out to that vulnerable location. This kit is transferable; it is implanted in a pot so we can remove it and replace it easily.”**

**- Andy Royce** Street Lighting Manager  
at Surrey County Council



**Kight**  
Off Grid