

A wide-angle photograph of a railway depot. In the foreground, several sets of tracks lead towards the background. A red and white train is visible on the right side, and another is further down the tracks on the left. The depot buildings are visible in the background, with one building featuring the 'ALSTOM' logo. The sky is overcast with grey clouds. The overall scene is industrial and functional.

Case Study | Network Rail

Zonal lighting for Wembley Park area railway depots
Powered by 100% clean, green renewable energy

Customer

Murphy, Network Rail's Construction Contractor

Project

Illumination of three railway depots

Location

Wembley Park Area, London

Product

Kight KV2 Zonal Column Light (24 units)

Duration

All three depot installations were completed in one week

Cost Savings

50% cheaper than a comparable on-grid lighting installation in this location

Key Facts

- 24no off-grid zonal lights
- 100% solar & wind energy
- No 'back-up' grid connection
- Energy saving 40,646 kWh over lifecycle
- CO2 saving 7,844 kg over lifecycle
- Installation time of columns – 5 days



The Challenge

Network Rail's construction contractor Murphy, responsible for undertaking railway infrastructure projects, faced the challenge of illuminating three depots in the Wembley Park area. The constraints of the railway environment, coupled with stringent safety procedures, demanded an outdoor lighting solution that was not only cost-efficient but also minimally invasive. Traditional on-grid solutions involving trench digging, cabling, and grid connections were not viable options due to the associated costs and potential disruptions to rail operations. Murphy sought a robust and reliable off-grid, sustainable lighting solution that could meet Network Rail's specific safety and environmental requirements.

The Solution

Kight's KV2 zonal permanent lights, powered by a dual-source of wind and solar energy, emerged as the ideal solution for Network Rail's unique challenges. The off-grid nature of the lights meant that costly trench digging, cabling, and grid connections were eliminated, easing compliance with the rigorous safety procedures of the railway environment.

Key features of the KV2 zonal column lighting solution for Network Rail:

Off-Grid Green Energy: The lights operate independently of the grid, utilising wind and solar energy, capable of operating reliably 365 days a year, including in extreme weather conditions and low light levels in winter. The system produces zero carbon emissions over its 20 year lifespan.

Heightened Safety Measures: The installation process included an enhanced site survey, utilising ground scanners to ensure the safety and integrity of the railway environment. The off-grid nature of the solution added an extra layer of safety by removing the need for disruptive construction activities.

The Result

Cost Savings: The elimination of excavation works for cabling infrastructure and grid connections was critical due to the prohibitive costs associated with undertaking invasive works in the constraints of a railway environment. Savings amounted to at least 50%.

Operational Efficiency: The off-grid lights have been providing year-round reliable illumination without any interruptions, contributing to the overall safety and efficiency of rail operations. Energy savings over the twenty-year lifespan amount to 40,646 kWh.

Environmental Impact: The zero-emissions lighting solution is showcasing the versatility and effectiveness of off-grid technologies in challenging environments whilst helping to deliver Network Rail's sustainability goals. Carbon savings over twenty years equate to 7,844 kg.



Kight
Off Grid