

PV Case Study – Solar PV street lamps

Conventional street lamps can be expensive to install, especially if they are not near to an existing electricity cable.

This pilot in Newtown tests the effectiveness of lamps that do not need a mains connection, the lamps are powered with a combination of a self-contained Solar PV panel and battery.

The lights are valuable here so that the track can be used by young people on winter evenings, which otherwise would not be possible.

- Location: The Pump Track on Trehafren Hill in Newtown
- Equipment: Supplied by Dragons Breath Solar, Pembrokeshire
- Lamp: 15W LED producing 2035 lumens
- Battery: Lithium battery, 300Wh capacity
- Solar panel: 175W panel
- Charge time: 5 hours
- Run time: >8 hours on full charge
- Installation: Evabuild, Newtown
- Total cost: £4,200 excluding VAT for 2 lamps, installed



Street lights need planning permission, and one issue that might arise is that of the impact of the light on nocturnal wildlife such as bats, and also on local residents if it is close to housing.

In this location, there are other brighter lights nearby (the flood lights of the football pitch) so the added impact of these low power lights was not sufficient to cause concern. For a more remote site this could be an issue

In addition these lights are fitted with motion sensors so that they only activate when people are present. This helps to preserve battery life in addition to reducing the effect on nocturnal wildlife.

Each 15W bulb LED bulb produces about 2035 lumens. For comparison, a conventional 100W incandescent bulb would produce about 1600 lumens.

The funding for this pilot was provided by the Powys Leader fund Arwain.

For more information, contact Open Newtown on contact@opennewtown.org.uk

