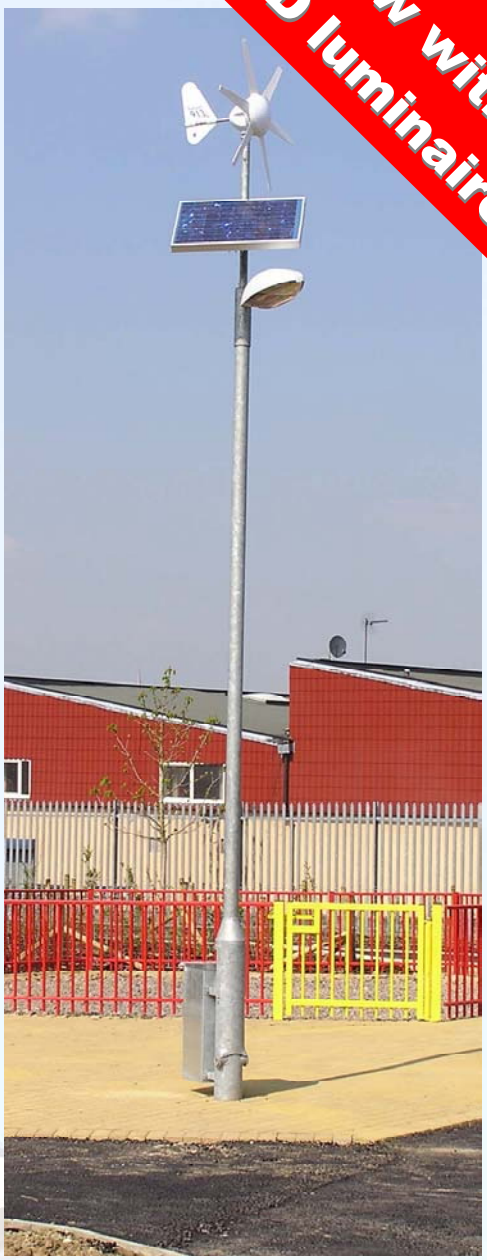
The Green Column

A 21st Century lighting concept!

Now with LED luminaire

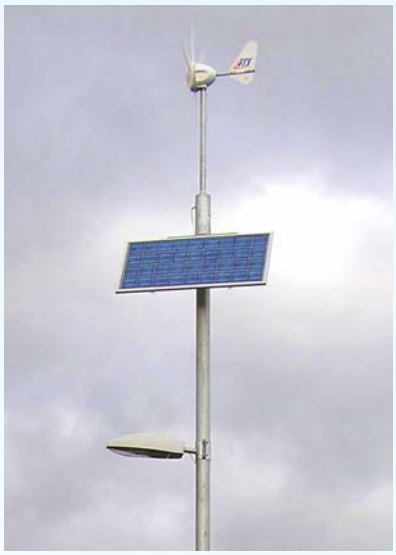


The Green Column is an environmentally friendly, cost saving solution to provide amenity lighting at remote sites. Locations previously considered too far from the grid but require lighting can now be considered for a Green Column.

The wind and solar powered solution delivers free, renewable energy which is stored in a battery ready to be consumed when darkness falls. High output LEDs and efficient internal reflector minimises unwanted light pollution. Green Columns are already in use all over the UK on footpaths, playgrounds and car parks.

It's environmentally friendly!

- Green Column's produce their own power so there's no on-going use of fossil-fuels
- Installation has very minimal environmental impact as only a small bored hole is normally necessary



It's cost effective!

- When you install a Green Column there's no need to dig trenches for underground cables as it is totally independent of the grid
- By generating its own power from the wind and sun there will be no grid connection charges, no on-going energy or standing charges
- Installation is quick and easy by your own contractor or ask Marlec for a quotation

Versatile in applications

The Green Column has proved the ideal lighting solution for:

- Discreet lighting in conservation areas
- Countryside roads
- Play areas
- Footpaths in parks
- Car parks
- Bus shelters
- Harbour-side lighting
- Industrial buildings
- Airfields
- Remote homes
- Developing countries

Green Columns are adaptable to other applications such as shorebased navigation lighting, road sign illumination, CCTV cameras and others. Area or path lighting models are available with different light spread configurations.

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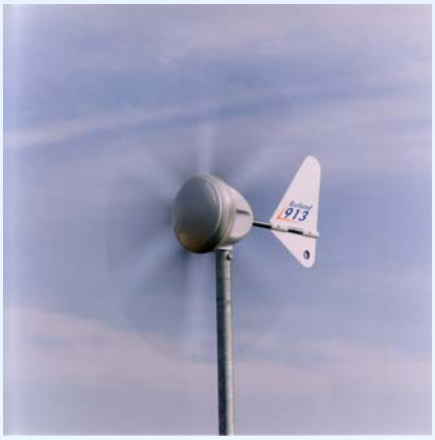
Established products

Marlec has been manufacturing micro wind turbines since 1979 and products are installed worldwide in some of the harshest weather conditions. The Green Column kit uses our own proven Rutland wind turbines and photovoltaic panels from BP Solar, our solar panel partners for over 15 years.
The storage battery is a long life sealed battery that requires no maintenance and the whole electrical connection comes together at our purpose designed programmable power controller. The columns are manufactured to our specification by Abacus Lighting, one the UK's most reputable street lighting suppliers.



From the Sahara to the Antarctic, Rutland Windchargers are used worldwide

Getting Up and Running

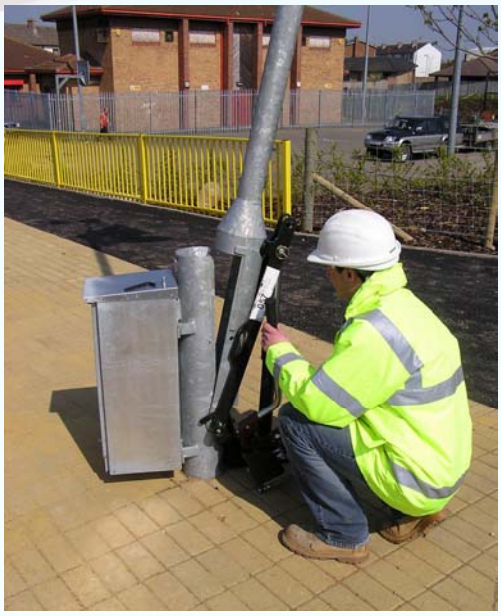
One of 5 Green Columns installed at the Olympic bid site in 2005.

Siting

When considering your location for a Green Column, site conditions which may affect the performance of the system should be taken into account. Nearby buildings, trees and other obstructions will cause turbulence to the turbine and shading to the solar panel, the latter should be South facing in the UK. Performance of the system can be enhanced by adjusting the settings of the controller, eg reduce the number of hours of operation when light is not required late at night. Contact Marlec for further advice and to discuss the proposed location

Installation

We offer an installation & commissioning service. Please ask Marlec's sales team for a quotation. Installation can also be effected by a building or electrical contractor with appropriate experience of installing street lamps. The system is supplied with a complete wiring harness for simple connection but we recommend commissioning be undertaken by an electrician for adjustment of the controller electronic light sensors and timer. The controller is supplied with standard light level and timer settings adjustable by the user.



Left & above:
Marlec's purpose designed raise and lower column makes installation and maintenance safe at ground level and avoids the cost of platforms

Specifications
Each system is individually tested and incorporates the following components and features:

Rutland 913 Windcharger
Our world renowned quiet, compact and efficient windcharger of less than 1m in diameter. Charging starts at just 2.5m/s (5mph) so a gentle breeze is all that is required to deliver power.

Solar Panels
Each system is supplied with a 30W peak power rated BP Solar photovoltaic panel as standard and other sizes are available to order. The solar panel complements the windcharger delivering power throughout the summer and into icy cold winter days.

Energy Efficient LED Technology
The lamp utilises the latest high output Luxeon LEDs built into the purpose built housing. The lens is manufactured from high impact materials and the optics are designed to minimise upward light pollution thereby maximising the performance and light towards the ground. The lamp is activated by the controller's light level and timer settings, these are adjustable by the user.

Battery
A high quality sealed battery is used to deliver power over a long life. The maintenance free battery provides energy storage for back up power over periods of low wind & solar power generation. The reserve is determined by usage but typically 4/5 days in wintertime and up to 10 days in summertime.

Controller
The controller interconnects all the components of the system and features voltage regulation to prevent over charge and deep discharge protection for the battery. Built-in programmable controls allow the user to manage the hours of illumination thereby minimising power consumption and conserving power. A wind and solar power shutdown switch is included along with LCD display for operating status and conditions. Supplied with preset factory levels which are restorable.

Raise and Lower Type Column
The purpose designed 8m column raises and lowers for ease of installation and inspection using a hydraulic counterbalance unit available to hire or purchase. The tower is manufactured to BS5649 and is finished galvanised to ISO1461. Paint finishes are available to order, please ask our sales team for a quotation.

Control Gear Housing
Finished to the same standards as the column this houses the battery and controller conveniently at ground level and the door secures with security keys provided.

Optional Features to Order:
- Green Columns are supplied galvanised as standard. RAL colours are available at cost.
- Passive Infra Red (PIR) activated lanterns are available to reduce power consumption
- A furling model windcharger is available in place of the Rutland 913 for installations at very exposed locations. Please discuss the intended locations with Marlec before ordering if in doubt.
- A vandal protective cover for the Solar Panel is available at cost.
- Anti-climb spike bracket available to order.

Owing to continuous product improvements specifications may be subject to change without notice.

Please call Marlec to discuss any proposed applications.

ISO 9001 REGISTERED FIRM

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MARLEC RENEWABLE POWER

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