

Electricity pylon — Peilonau trydan — Pylon



Description

Tall, grey steel lattice structures with attractive glassy appendages dangling from their arms. Long cables are suspended from these appendages. In still weather, the cables may make a slight humming noise, in damp weather a sizzling or crackling can be heard and in windy weather they hum. They bear a number of identifying signs and warning notices. They grow to at least 36m (118ft).

Observing

When



Pylons are visible throughout the year. There seems to be little or no seasonal variation in appearance though they lose their colour over several years and need attention from “painters” (a commensal relationship).

Where

They are visible from almost anywhere on the reserve due to their preference for open, exposed locations and remarkably slow movement.

Why

The reserve has a community of electricity pylons (sometimes known as *transmission towers*) that is important for its diversity. This is known to attract enthusiasts from great distances. Some examples are at least 50 years old.

They are not particularly rare (with about 90,000 adult pylons in the UK) but the reserve has an unusually large population.

Pylon watching, unlike bird watching, requires little fieldcraft.

Pylons have their own distinctive anatomy and terminology:

Suspension tower — a pylon with insulators hanging vertically in a straight section of route

Tension tower — a pylon where the route changes direction, its insulators extend sideways to withstand the cables' pull

Terminal tower — a special pylon at the end of a route which anchors the cables and connects them to transformers at the generator or at a substation

Earth cable — the single cable connecting the highest points of a series of pylons

Three-phase cables — pylons carry an earth cable and three power cables, one for each of the three phases from the generator

Circuit — a set of three-phase cables, usually on one side of a pylon. Most large pylons carry two circuits by having three cables on each side

Insulator — glass or porcelain discs which prevent the high voltage electricity in the cables finding its way onto the pylon (and thereby short-circuiting to earth)

Stockbridge damper — weights clamped to the cables close to the pylons to overcome harmful vibrations caused by the wind

Arcing horns — projecting conductors on each side of an insulator which allow excessively high voltages to go to ground instead of damaging the system (from lightning, for example)

High voltage — pylon circuits do not carry electricity at “mains voltage” (230V). Instead the need to overcome transmission losses dictates the use of much higher voltages— 400kV, 275kV and 132kV are the high voltages used in the UK

Data cable — an extra cable, wound round the earth cable, carrying digital data

Anti-climb device — barbed wire around the bottom of the pylon to discourage humans from climbing the pylon

References:

[Everything you ever wanted to know about electricity pylons | National Grid Group](#)

[Pylon of the Month](#)

[Pylon Appreciation Society](#)

[Open Infrastructure Map \(openinframap.org\)](#)

[The Secret Life of the National Grid - BBC News](#)

[G. B. National Grid status \(templar.co.uk\)](#)

These notes are part of the “species of the week” folder. They are written to help staff and volunteers gain some knowledge of the species likely to be found on or near the Newport Wetlands Reserve and to help them engage with visitors. Each week they can be displayed near the list of sightings and be used to answer the “what can I see” question.

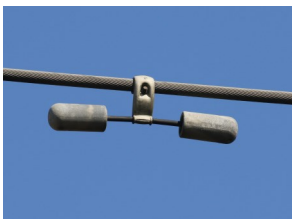


Identity plates showing the pylon's operator, emergency contact details, route code and pylon number



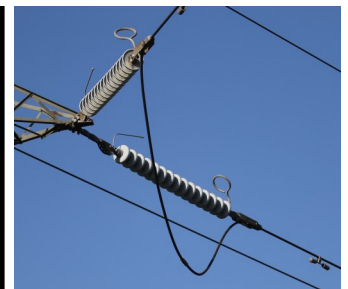
Warning plate which seems to state the obvious

Spacer maintaining the correct distance between the two cables of a high voltage phase to prevent damage in the wind



Stockbridge damper

Insulators on a tension tower with **arcing horns**



Anti-climb devices do not deter Chiffchaffs



Starlings and Cormorants seem to enjoy using the pylons as convenient perches (here a suspension tower and a tension tower).



Landing on the cables does not (and cannot) electrocute the birds because they do not make a connection to another conductor.

Pylon routes are a collision hazard to anything that flies including aircraft and birds. Some routes have markers on the cables to make them more visible or warning lights on top of the pylons. On the reserve, large birds are at greatest risk. The lagoons run parallel to the pylon routes so that birds taking off and landing run the least risk (but not a zero risk) of collision. Each year there is a small number of casualties.