

Underground cables

Power on the move

One of the reasons that electricity is so useful is that it is relatively easy to move it around. One of the most noticeable ways that electricity is distributed around the country is by overhead line.

Underground cables

Underground cables are used in areas where overhead lines could cause a danger or damage to a particular habitat or environment.

A typical underground cable consists of a bundle of conductors in the centre, surrounded by a thick layer of insulation, steel wire or another type of armouring as well as a thinner layer of insulation on the outside. The insulation used is usually a plastic such as cross-linked polyethylene (XLPE).



Why don't we replace all those pylons with underground cables?

Many people consider that electricity pylons are a major blot on the landscape and that the countryside would be much nicer if we could replace them all with underground cables.

The main problem with this is **cost**; there will also be limited areas of underground for the cables to run through. High voltage underground cables can cost between 8 and 10 times as much to install as the equivalent overhead lines. Low voltage underground cables cost between 4 and 6 times as much to install as the equivalent overhead lines.¹

Reliability is also an issue. Underground cables are not affected by wind or most other weather conditions whereas overhead lines can blow down. However, if anything does go wrong with an underground cable it can be expensive to repair and it will generally take a lot longer to repair than an overhead line.

Underground cables do also **degrade quicker** than overhead lines. A 40-year-old overhead line may actually prove more reliable than a 20-year-old underground cable.²

The National Grid currently runs 675 kilometres of underground cable and 7200 kilometres of overhead line in England and Wales.³

1 www.sceg.com

2 www.sceg.com

3 www.nationalgrid.com