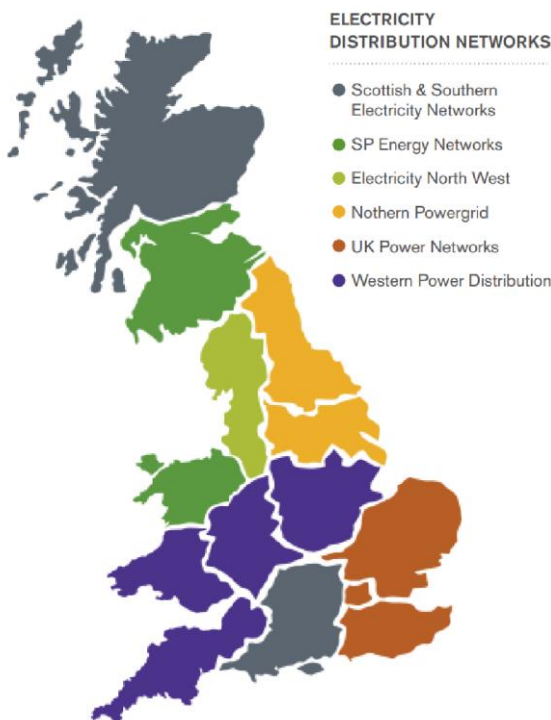


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Connections

- 🔌 **Distribution Network Operator (DNO)** – these companies are licensed operators and are responsible for operating their regional electricity services.



- 🔌 **Independent Distribution Network Operator (IDNO)** - these companies develop, own, operate and maintain local electricity distribution networks.
- 🔌 **Independent Connection Provider (ICP)** – these companies are contractors that are accredited to carry out specific works associated with the installation of electrical connections. The network is then adopted by an IDNO or DNO.
- 🔌 **Building Network Operator (BNO)** – these own and operate the risers and lateral cables, typically inside a multi-occupancy building, between the DNO's cutout and the end user installation, i.e. the meter.

- 🔌 **National Grid Electric Transmission (NGET)** - National Grid owns the main transmission systems and is responsible for transmitting the electricity from generation to the local DNO's area.
- 🔌 **Distributed Systems Operator (DSO)** – is the new name for DNOs as they transform from just being a Network Operator to a facilitator of an effective and well-functioning system, which gives options for all the new technologies emerging in the market.
- 🔌 **Competition in Connections (CiC)** - this is the ability for a customer to seek connection to the network using a Lloyd's accredited ICP or IDNO of your choice.
- 🔌 **Distributed Generation (DG)** - this is the connection of electricity generation to any point of the distribution system, from 230V up to 33,000V, in England and Wales.
- 🔌 **Point of Connection (PoC)** – this is the point in the electricity network at which your site load will be connected.
- 🔌 **G99** - this is the industry standard for generators greater than 16 amps per phase.
- 🔌 **G83** - this is the industry standard for small scale embedded generators for connections up to 16 amps per phase (3.68kW single phase connection) or when multiple generators are to be connected.
- 🔌 **kVA (kilovolt amperes)** - Power factor-adjusted kW demands = kVA (true power). As a rough guide, using the kW divided by 0.8 will calculate the kVA, if no other information is available.

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- 🔌 **Low Voltage (LV)** – A voltage rating up to 1,000V. Typically, connections to domestic and commercial properties are delivered at LV i.e. 100amp single phase or 100 to 1,600 amp three phase supplies are all LV connections
- 🔌 **High Voltage (HV)** – A voltage rating over 1,000V to 33,000V.
- 🔌 **Extra High Voltage (EHV)** - voltage rating over 33,000V.

Metering

- 🔌 **Meter Point Administration Number (MPAN)** - this is a 21-digit reference used to uniquely identify electricity supply points.
- 🔌 **Pseudo-MPANS** - this enables clients to sub-meter behind a single point of supply, making individual bills available (e.g. a shopping centre with multiple outlets). This option requires a common meter operator and a boundary meter.
- 🔌 **Meter Operator (MOP)** - any qualifying site wishing to benefit from contract rates must have appointed a meter operator. It is the function of the MOP to run the half hour data meter and collect the data. The MOP gives your meter details to a *data collector*.
- 🔌 **Data Collector (DC)**. The DC will communicate the meter readings to the *supplier*.
- 🔌 **kW (kilowatt)** - Kilowatts are the units used to measure *maximum demand*.
- 🔌 **kWh (kilowatt hours)** - electricity consumption (as opposed to maximum demand) is measured in kilowatt hours.
- 🔌 **Load Factor** - measures the relationship between unit consumption and *maximum demand* and thus the percentage capacity utilisation figure of a site's power consumption.

- 🔌 **Maximum Demand** - the measure of the highest peak of electricity flow to a given point, often during a half-hour period.
- 🔌 **Availability** - the limit of capacity for *maximum demand*. Consumers pay a fee per unit for the capacity they have (i.e. if a site has an availability of 200 kVA then *maximum demand* should not exceed that figure at any time.
- 🔌 **Base Load** - base load is the level below which electricity demand never drops (i.e. a site with a high *maximum demand* of 550kVA which has a demand that never drops below 200kVA would have a base load of 200kVA.
- 🔌 **Power Factor** - this is a measurement of inefficiencies at the customer's load source. The industry standard is 0.9 (i.e. 90% efficient).
- 🔌 **Communications Charges** - this is the cost passed back to the customer to have the meter return the half-hourly consumption data back to the *data collector (DC)*.
- 🔌 **Contract Price Structure (all inclusive)** - this indicates a contract offer which has all delivery charges (*DUoS* & *TUoS*) built into the unit rates for the supply of electricity.
- 🔌 **Distribution Use of System Charges (DUoS)** - these are charges that are levied by the UK's regional *DNOs* and go towards the operation, maintenance and development of the UK's electricity distribution network. Approximately 20% is paid to *DNOs* to distribute electricity to homes and businesses.
- 🔌 **Transmission Use of Systems (TUoS)** - an average of 6% of electricity bill costs is paid to the National Grid to transmit the electricity from generation to the local *DNO* areas.

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👉 **Energy Only** - this indicates a supply offer where the supplier advises of the energy element of the unit-rated costs only. The offer must have the delivery charges (*DUoS & TUoS*) added on to indicate the full cost of the offer.

👉 **Half-hour meter** - since April 1998, code five meters have been mandatory for all sites over 100kVA, and voluntary for sites under 100kVA.

👉 **HHD (Half-hour data)** - this is the product of the half-hour data meter. The data is usually made available to end users by a way of a spreadsheet. A full year's half-hour data will be a spreadsheet with 17,520 cells of data.

👉 **Seasonal Time of Day (STOD)** - this is a unit-based supply offer where electricity is supplied at different unit rates according to the time of day the power is taken by the customer. Typically, they have different tariffs for 'day night', 'summer day', 'winter day' and 'winter peak' supply times, generally between 4pm and 7pm. In addition to this, they often have an 'evening' supply period. STODs can have between 4 and 56 different unit rates in them.

👉 **Tariff Structure** - suppliers quote for electricity in numerous different formats. These range from simple one-rated structures (the same price per *kW* at all times throughout the year) to complex '*Seasonal Time of Day*' tariffs which are multi-rated i.e. the price changes three, six or eight times a day.

👉 **Transmission Losses (Line Losses)** - in transmitting electricity from generation to local *DNO* area, some electricity is lost. Specific calculations have to be made by suppliers to determine the level of these losses.

👉 **Triad** - National Grid takes readings of maximum demands three times a year. The average of the three readings is used by National Grid to calculate transmission charges.

👉 **Automatic Voltage Regulator (AVR)** - this is a device which can be deployed on our overhead line network and controls the voltage to ensure the network remains within statutory limits.

👉 **Profile classes 05 – 08** – under the conditions of P272 legislation, all electricity customers identified as profile classes 05-08 must use an accredited, automated meter, which is capable of sending regular half hourly data usage, to provide more accurate billing information.

👉 **Profile Class** – profile classes can be found in the top left-hand corner of the S (supply) number. The S number can be found on the monthly energy invoice. The example is a profile class 05.

S	05	123	456
	12	3456	7891 068

Other







👉 **Active Network Management (ANM)** - this is using technology to enable generators to connect in constrained areas on a commercially un-firm basis.

👉 **Constraint Managed Zones (CMZ)** - effectively manage peaks in demand or distributed generation without needing to reinforce the network.

👉 **Grid Supply Point (GSPs)** - this is the point at which electricity enters the distribution network, leaving the transmission network.

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-  **CiC Code of Practice (CoP)** - this is an industry standard which was developed jointly by *DNOs*, *Ofgem* and stakeholders. The code is aimed at making it easier for alternative connection providers to get their customers connected and to better inform customers of their choices.
(<http://www.connectionscode.org.uk/>)
-  **Low Carbon Networks Fund (LCNF)** - this was established by *Ofgem* as part of the electricity distribution price control. The fund offers capital to support projects sponsored by the *DNOs* to try out new technology, operating and commercial arrangements.
(<https://www.ofgem.gov.uk/electricity/low-carbon-networks-fund>)
-  **National Electricity Registration Scheme (NERS)** - this performs technical assessment of the service providers who elect to be assessed for accreditation for contestable works associated with the installation of electrical connections. (<https://www.lr.org/en-gb/utilities/ners/>)
-  **Energy Network Association (ENA)** - this is the voice of the networks, representing the 'wires and pipes' transmission and *DNOs* for gas and electricity in the UK and Ireland.
(<http://www.energynetworks.org/>)
-  **Guaranteed Standards of Performance (GSOP)** - these are set by *Ofgem* and refer to the standards of customer service all *DNOs* should provide, e.g. expected timescales for contact, quotations and completed connections as well as penalties the *DNOs* must pay customers if the standards are not met.
-  **Office of Gas and Electricity Markets (Ofgem)** - Ofgem regulates the gas and electricity industries in Great Britain. It is governed by a market authority and its powers are provided for under the Gas Act 1986, the Electricity Act 1989 and the Utilities Act 2000. Everything that Ofgem does is designed to promote and protect the interests of gas and electricity customers.
(<https://www.ofgem.gov.uk/>)