



Guide for Businesses: Electricity Terminology

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Business Cost Consultants

AMR

Automated Meter Reading - automatic collection of data from meters which is transferred to a central database for billing and/or analysis.

Availability

See *Capacity*

Balancing Mechanism

The mechanism by which electricity demand is matched with electricity generation as near to real time as possible. It currently operates from three and a half hours ahead of delivery of the power up to the actual time of delivery.

Baseload Demand

Minimum demand experienced by a generating plant.

Capacitance

The property of a capacitor that determines the quantity of electric energy that it can store.

Capacitor

A device consisting of two conducting surfaces separated by an insulator and having the ability of storing electric energy. Also called a condenser. Capacitors can be installed to control and improve the [power factor](#).

Capacity

Supply Capacity (or *Availability*) is a limit on monthly [maximum demand](#) agreed between the user and the regional distributor (normally via the supplier). Measured in kVA.

Climate Change Levy

A customs and excise levy charged to most commercial users of electricity since 2001. The levy is applied at a fixed rate per [kilowatt hour](#).

Combined Heat and Power (CHP)

A power generation plant which produces electricity and uses the waste heat generated to warm a building or buildings. This may be small scale inside a factory or large scale where heat from a power station is used to provide heating for a local district containing domestic, commercial and industrial premises.

Communication Charges

Communication charges cover the cost of the telephone line or cellular link used for remote access to the electricity meter. This applies to half-hourly metered sites only. Communication charges can be billed to the customer by either the meter operator or the supplier.

De Minimis

If the amount of electricity supplied to a commercial site is less than 33 kWh per day over a billing period then de minimis applies and VAT is charged at the reduced rate (currently 5%).

Demand

The rate at which electric energy is used in any instant or average over a period of time. Usually expressed in [kilowatts](#) (kW) or [kilovolt-amperes](#) (kVA). See also [Maximum Demand](#).

Distribution Network Operators (DNOs)

DNOs are ex-Public Electricity Suppliers that came into existence on 1 October 2001. There are currently 14 Distribution Network Operators (DNOs) in the UK.

Forwards contract

An agreement to buy electricity from another party at a specified time in the future at a specified price with money changing hands at the delivery date.

Futures contract

Similar to a forwards contract these are normally traded through an exchange on standard contract terms with profits or losses calculated and paid daily.

Gate closure

In relation to a settlement period, the time 3.5 hours before the start of that settlement period. It defines the moment when bilateral contracting ends and the Balancing Mechanism for each associated trading period begins.

Gigawatt

The equivalent to one thousand megawatts or one million [kilowatts](#) (kW).

Half-hourly Metering

Since April 1998, half-hourly meters have been mandatory for all sites over 100 [kVA](#), and voluntary for sites under 100 kVA. This meter sends consumption data by telephone or radio every half-hour to a central data bank. The supplier will then access this information from the data bank and bill the user accordingly.

Imbalance

A situation where there is a difference between the amount of power produced (supply) and the amount of electricity contracted or sold ([demand](#)). At such times spare capacity in the system can be brought on stream, normally at a much higher cost than the contracted price.

Interconnector

A cable connection allowing electricity to flow between two countries or markets. There are interconnectors between the north of England and Scotland and between the south of England and France.

Kilovolt Amperes (kVA)

A measure of electrical load on a circuit or system. The units used to measure apparent electric power or “true power”. For billing purposes maximum demand measured in kilowatts (kW) is converted to “true power” in kilovolt amperes (kVA) by dividing by the power factor. [Maximum demand](#) and capacity charges are billed using kVA rather than kW.

Kilowatt

A measure of electrical power. One kilowatt (kW) equals 1,000 watts.

Kilowatt Hour

A measure of electrical energy. One kilowatt hour (kWh) of energy is the energy produced by one kilowatt acting for one hour. Electricity meters record in kilowatt hours and electrical consumption is billed on kilowatt hours.

Kyoto Protocol

An international agreement signed in December 1997 that introduced emissions targets to be achieved by the period 2008 - 2012.

Load Factor

Ratio of average energy [demand](#) (load) to maximum demand (peak load) during a specific period. Usually stated as a percentage, or number of hours used.

Maximum Demand (MD)

The measure of the highest peak of electricity flow into the site during a half-hour period, in the period of a month. Measured in either [kW](#) or [kVA](#).

Megawatt

The equivalent to one thousand kilowatts.

MPAN

Meter Point Administration Number - a 21 digit reference, used to uniquely identify the electricity supply point. Although the name suggests that an MPAN refers to a particular meter, an MPAN can have several meters associated with it.

National Grid

The National Grid owns the main transmission systems and is responsible for transmitting the electricity from the generator to the local [REC's](#) area.

Network

A distribution system in which the secondaries of the distribution transformers are connected to common conductors for supplying power directly to a customer's service.

Ofgem

The Office of Gas and Electricity Markets. The industry regulator.

Percentage Day

This refers to the percentage ratio of electricity used in the daytime against that used in the night. This information is used by suppliers to quickly identify the type of profile.

Power Factor

The ratio of active or real power in [kilowatts](#) (kW), to apparent power in [kilovolt amperes](#) or kVA. Power Factor is normally expressed as a figure between zero and one. Unity power factor is 100% (or 1.0) power factor which is the highest available. In practice 0.99 is the highest.

Reactive Power Charges

Electricity that is deflected by electrical motors and is accounted for by the supplier by billing as a separate item. It is possible to install Power Factor Correction Equipment which will eliminate or reduce the reactive power charges.

REC

Regional Electricity Company. The UK is split into local electricity regions. Each REC is responsible for supply to domestic, commercial and industrial customers in its area.

Renewable sources of energy

Energy sources that occur naturally and repeatedly in the environment, eg from the sun, the wind and the oceans, and from plants and the fall of water. It also refers to the energy available from wastes and to the emerging clean technology of fuel cells.

Settlements charges

A charge applicable to half-hourly metered supplies. Effectively a standing charge that covers balancing and settlement.

Settlements Agency

This is the body that "settles" the distribution of electricity to establish where and to whom the generated load has been distributed to.

Smart meters

Any meter which allows for the identification of consumption in more detail than a conventional meter. Smart meters will generally also include a means of communicating information to a central data collection site for energy management and/or billing purposes.

Spill

Surplus electricity that a generator has produced but is not able to sell.

System Buy Price (SBP)

The price paid in the [Balancing Mechanism](#) by a party that requires more energy to meet its contractual commitments. Prices are often volatile and very high.

System Sell Price (SSP)

The price paid in the [Balancing Mechanism](#) by a party that has produced more electricity than it had users to buy. Prices are very volatile and often negative, meaning that a payment would need to be made to dispose of the unwanted electricity produced.

Transformer

An electric device, without moving parts, for transferring electric energy from one or more circuits to one or more other circuits by electromagnetic induction.

Transmission

The transfer of electricity at high voltage from power stations across the UK through wires on pylons to points where it can be distributed to users.

Transmission Losses

In transmitting electricity from generator to local [REC](#) area, some electricity is lost. Specific calculations have to be made by suppliers to determine the level of these losses.

Triad

The National Grid takes readings of [maximum demands](#) three times a year. The average of the three readings is used by the National Grid to calculate the transmission charges.

UKPX (UK Power exchange)

A trading arena in which electricity can be bought or sold normally up to two days ahead of real time, often via the internet.

Voltage

The force that causes a current to move through some resistance, in this case, the National Grid. In industry terms, electricity moves round the main grid at a high voltage. When it is stepped down to the level of a smaller grid or an actual site it is regarded as low voltage. Low voltage supply is more expensive because of the costly process of stepping it down from high voltage. A number of larger industrial sites take high voltage direct which means they incur the cost of stepping the voltage down. For this, they subsequently receive more competitive pricing.



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