

Glossary



Active Power

The rate of transferring, using or generating electrical energy. Measured in kW (Kilowatts – 1,000 Watts) and sometimes MW (Megawatts – 1,000 kilowatts). Also known as ‘Real Power’ or ‘Power’.

AD (Anaerobic Digestion)

AD is a process of electricity generation by which energy is generated from the gas produced by degrading biomass such as plants, food waste and animal matter. AD is currently emerging as a key renewable electricity generation technology.

Amp

A unit to measure that rate of flow of an electric current.

Annual Agreed Quantity (AAQ)

The annual volume of gas consumed, measured in Kilowatt hours (kWh).

Apparent Power

The product of the voltage (volts) and the current (amps), comprising both active and reactive power. Measured in kVa (kilovolt-amperes) or Mva (megavolt-amperes).

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Availability Charge

The charge for the amount of power made available to a site. It is related to the maximum demand and the agreed supply capacity. The distribution company sets the rate and it is expressed in kVA (kilovolt-amperes).

Agreed Supply Capacity (ASC)

The amount of power that a customer is allowed to take from the distribution system through their electricity supply, measured in kVA (kilovolt-amperes). The maximum demand should not exceed the ASC, and if it does, most distribution companies will increase the availability charge to reflect this.

Base Load

The minimum amount of electricity being used during non-operational hours.

BETTA

The British Electricity Transmission and Trading Arrangement. Covering England, Wales and Scotland, this was introduced in 2005 as a replacement for NETA which did not cover Scotland.

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Bilateral Energy Trading

A contract between two parties, for example a generator and a supplier, to deliver electricity at a specified time in the future.

Calorific Value

The ratio of energy to volume in gas. Calorific value is measured in mega joules per cubic meter (MJ/m).

Carbon Emissions Trading Scheme

A scheme in which emissions are controlled by setting a cap on the amount of a pollutant that can be emitted. Emission permits and allowances are distributed to companies in such a way that companies that need to increase emissions must buy allowances from companies that pollute less. The largest Carbon Trading Scheme in Europe is EUETS, the European Union Emissions Trading Scheme.

Carbon Trust

An independent company set up by the government with support from business to promote the development of low carbon/renewable technologies. The Carbon Trust supports businesses in the UK in reducing carbon emissions through funding, supporting innovation in renewable technologies and by encouraging energy efficiency in the workplace.

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CCGT (Combined Cycle Gas Turbine)

A gas fired electricity generation plant.

CCL (Climate Change Levy)

A government tax on energy consumption for non-domestic users. A reduced rate of CCL is attainable if a CCA (Climate Change Agreement) is signed.

CCA (Climate Change Agreement)

An agreement between the Government and a business, that allows for a reduced rate of CCL providing that the energy user achieves certain targets for energy consumption and carbon emissions.

CHP (Combined Heat and Power)

A gas-fired electricity generator, usually small and situated on-site, that simultaneously provides energy and heat to the site.

CRC (Carbon Reduction Commitment)

A new piece of legislation planned for 2009, covering all organisations with an annual half hourly electricity consumption over 6,000 Mwh. The CRC will create financial incentives and penalties based on carbon emissions, as well as publishing a 'league table', ranking all organisations covered in terms of environmental performance.

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Data Aggregator

The organisation appointed to aggregate the meter-reading data received from the Data Collectors so that it can be forwarded to the suppliers.

Data Collector

The organisation responsible for collecting, processing and validating meter reading data, who then passes the information to the Data Aggregator.

De-energisation

When a site is de-energised, it is no longer supplied from the network.

DEFRA

Department for Environment, Food and Rural Affairs.

Demand

The requirement for power.

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Disconnection

The permanent removal of an electricity supply and meter from a site, carried out when it has been determined that it will not be required in the future.

Distribution Network

The local cables, transformers, substations and other equipment used to distribute and deliver energy to consumers. In the UK, the distribution network is divided into regions, managed by regional DNOs (Distribution Network Operators).

DNO (Distribution Network Operator)

A privately owned company that owns, maintains and manages the local Distribution Network.

DUoS (Distribution Use of System) Charges

The charges passed through from the supplier to the DNO for distributing electricity across the local Distribution Network to the supplied site.

Energy Watch

A non-governmental body, set up in 2000 to safeguard the interests of gas and electricity users.

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Energy White Paper

The Energy White Paper was issued by the government in May 2007, and sets four new goals for energy policy: to cut the UK's carbon dioxide emissions by 60% by the year 2050, to maintain the reliability of energy supplies, to promote competitive energy markets in the UK and beyond and to ensure that every home is affordably heated.

EUETS (European Emissions Trading Scheme)

A Carbon Emissions Trading Scheme that is being introduced across Europe to tackle emissions of carbon dioxide and other greenhouse gases in order to combat the serious threat of climate change.

Excess Availability Charges

A penalty charge levied by certain DNOs (Distribution Network Operators) to clients who are drawing kVa above their Available Supply Capacity (ASC).

Extra High Voltage

22,000 volts or higher voltage

Feasibility Study

A study of a particular site to ascertain its suitability for a particular project, for example wind generation, or combined heat and power.

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Firm Gas

Gas supplied to a customer on an agreed guaranteed basis, without interruption.

Fixed Charge

A monthly or quarterly charge levied by the supplier, in addition to the standing charge levied by the DNO.

Forwards Contract

An agreement to buy electricity from another party at a specified time in the future at a specified price.

Fossil Fuel

A carbon-based energy source formed from decayed organic material, such as oil, coal, and natural gas.

Gas Substation

A pressure reduction station located at a customers' site, where gas is reduced from mains pressure down to medium or low pressure, suitable for domestic or industrial use.

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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.

Generation

The production of energy, either on site or at power stations. At present the main fuels used are gas, nuclear and coal, although there is now a growing use of renewable forms of energy, such as wind power, solar power, hydropower, gas from landfill and waste incineration.

Gigawatt (GW)

A unit of power equal to 1 billion watts; 1 million kilowatts, or 1,000 megawatts.

Grid Supply Point

A point of supply from the national transmission system to the local system of the Distribution Network Operator.

Half-Hour Data (HHD, HH Data)

The output of a half-hourly electricity meter, showing electricity demand and consumption by half hourly periods. The data is used for invoicing, tendering and reporting purposes.

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HV

High Voltage (Normally 11,000 Volts).

Imbalance

A situation where there is a difference between the amount of power produced and the amount of electricity contracted or sold.

Interconnector

A connection between power systems, enabling them to draw on each others' reserve capacity in times of high demand.

Interruptible Gas

Gas supplied to a customer whose site has an alternate fuel source, on the basis that the main supply might be interrupted for a specified period.

IPPC (Integrated Pollution Prevention Control)

A European Union directive containing a set of regulations that must be met by businesses with an ultimate goal of reducing pollution and emissions.

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Kilovolt Amperes (KVA)

Also known as Total Power or Apparent Power. The resultant effect of the active (kW) and reactive (kVAr) power is the total power measured in kVa. Demand and ASC are measured in kVa. kVa can also be calculated by dividing the kW by the Power Factor.

Kilowatt (kW)

A standard unit of electrical power equal to 1,000 watts.

Kilowatt-hour (kWh)

The most widely used unit of energy consumption.

Kyoto Agreement

An international agreement made in 1997 by 31 countries, pledging to limit or reduce their emissions.

LEC (Levy Exemption Certificate)

LECs are granted to renewable generators, and can be sold to commercial energy users to claim relief from the Climate Change Levy as part of a green energy tariff.

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Load

The amount of electric power delivered at any specific point on an electrical system.

Load Factor

A measure of the relationship between unit consumption and maximum demand. To calculate load factor take the total number of units of consumption, divide by the maximum demand (i.e. the most used in one hour) and divide by the number of hours in the period, then multiply by 100 to express as a percentage. A low load factor shows an uneven demand.

Load Management

The process of shifting the use of electricity from periods of high demand to periods of lower demand, when the cost of electricity is usually lower, for example night time. This may also allow for a reduction in ASC.

LV

Low Voltage, normally at 240 or 415 Volts.

Maximum Demand

The highest power demand (measured in kW or kVA) occurring in a half hour period.

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Megawatt (MW)

A unit representing one thousand kilowatts (kW).

Meter Operator (MOP or MO)

The organisation appointed to install and maintain metering equipment.

MPRN (Meter Point Reference Number)

A unique reference number identifying a gas meter that used in the preparation of supply tenders.

MPAN (Meter Point Administration Number)

A unique reference number identifying an electricity meter that used in the preparation of supply tenders.

MPRS

The Meter Point Registration System is owned by the distribution companies, and keeps track of all the MPAN's for that distribution area.

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Net Capacity

The maximum load that a generating unit, station or other electrical apparatus can safely carry under specified conditions without exceeding approved limits of temperature.

NETA - New Electricity Trading Arrangements

NETA was put into place in March 2001 as a replacement for the previous 'electricity pool'. It is a wholesale trading market for forward trading on bi-lateral contracts between suppliers, generators, customers and traders.

NGC (National Grid Company)

The National Grid Company operates the electricity transmission and balancing systems within England and Wales.

NHH (Non Half Hourly)

Non Half hourly electricity supplies have a demand and available capacity of less than 100kW. They are charged differently to Half Hourly supplies.

OFGEM (Office of Gas and Electricity Markets)

OFGEM are responsible for regulating the gas and electricity markets in Britain, ensuring that the markets are competitive and supporting environmental initiatives.

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Peak Demand

The maximum electrical load during a specific period of time.

Plant Mothballing

A power plant is said to be 'mothballed' when it is not operating due to there being no demand for its services.

Power Factor

The Power Factor measures how efficiently electricity is being used at a site. Certain types of equipment cause the power factor to be poor. A poor power factor can lead to artificially increased electricity demand and reactive power charges levied by the distribution company.

PPA (Power Purchase Agreement)

A PPA is a legal agreement signed between an electricity generator and a purchaser of energy such as a supplier. A PPA enables organisations with on-site generation to sell the energy they produce.

Reactive Charges

Reactive charges are applied to a customer's invoice by certain distribution companies that enforce a penalty for reactive power use.

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Real Power

See **'Active Power'**.

Regulator

See **OFGEM**

Reinforcement

Any form of alteration to an existing electricity distribution system, designed to enable the system to distribute an increased amount of electricity.

Renewable Energy

Energy derived from regenerative resources as opposed to fossil fuels, including but not limited to solar power, wind power, wave, tide and hydroelectricity. Wood, straw and waste are often described as solid renewable energy, and landfill or sewerage gas can be described as gaseous renewable energy.

ROC (Renewable Obligation Certificate)

A certificate allocated to electricity generators who generate renewable electricity. ROCs can be sold to electricity suppliers, who are required to obtain them to meet the Renewables Obligation target set up by the government.

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Site Survey

A site survey or energy survey is the preliminary assessment of energy use for a customer. It is carried out on site, and usually includes a review of current energy policy, energy consumption, energy management processes and staff awareness, as well as an inspection of all on-site power services.

SOQ

Supply Offtake (Daily) Quantity is the maximum daily gas consumption allowed at a supply point, and is measured in kWh.

Spark Spread

The difference between the market price of one unit of electricity and the cost of the fuel required to generate it.

Standing Charge

A Monthly or quarterly charge, levied by the local distribution company and often applied to the customer's invoice as a pass-through charge.

Sub-Metering

The term often used when a property owner installs separate meters to monitor the consumption of a utility such as water, gas or electricity in particular areas.

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Substation

A facility containing equipment that switches, transforms or regulates electric voltage.

Supply Agreement

A contract between a supplier and the customer to supply electricity at an agreed set of rates for an agreed length of time. Contracts are usually set for a 12, 18 or 24-month duration, however longer and shorter contracts are possible.

Terawatt-hour (TWh)

A unit of electricity consumption that is the equivalent of one thousand gigawatt hours (GWh).

The Carbon Trust

See **Carbon Trust**

Therm

A unit of measurement used for gas, used mainly by wholesale traders. 1 therm is equal to 29.3071kWh.

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Trade Association

An association of firms that operate within a specific industry, with the aim of promoting that industry.

Transco

The organisation responsible for transporting gas within the UK, as well as for dealing with emergencies. Now known as National Grid Gas.

Transformer

An electrical device with the purpose of changing the voltage within an electrical circuit.

Transmission

The transfer of electricity at high voltage from the power stations across the UK through wires on pylons to grid supply points, from where it can be distributed to users by the local distribution company. The transmission system in the UK is owned and operated by the National Grid Company (NGC).

TRIAD

Every year, the three half hourly time periods of highest electricity demand across the whole transmission system are recorded by the National Grid. The TRIAD at a site is calculated from the demand at that site during these peak periods, and is used to calculate TUoS (Transmission Use of System) charges.

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TUoS (Transmission Use of System)

The charges levied by the National Grid for the transmission of energy between the source of generation and the local distribution network. These charges are usually calculated by applying a set rate to the average of the annual TRIAD demands.

UK Kyoto Target

The target set for Britain by the Kyoto Agreement, committing Britain to keeping annual greenhouse emissions to 12.5% below 1990 levels during the period 2008-2012.

Voltage Transformer

See **Transformer**
