

# Energy 101 - Glossary

## 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 150 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 750 kVa whose demand never drops below 250 kVa would have a base load of 250 kVa.)

## CFD

(Contracts for Difference). This refers to the contractual arrangements suppliers have with the generators to purchase specific amounts of electricity.

## CHP

Combined Heat and Power Unit. Larger sites often choose to generate part or all of their electricity. A CHP unit is an engine which runs on natural gas (a cheaper fuel than electricity) and generates both heat and electricity.

## Communications Charges

This is the cost passed back to the customer to have their half-hour data meter telephoned each day to have the stored half-hour data down loaded.

## Competition Clause

In some electricity contracts there is a competition clause. This normally occurs after 12 months of an 18 month contract. What it means is that the client is free to renegotiate the contract after 12 months and the supplier will either match the lowest price or release the client from the contract to take up the lowest offer.

## Contract Price Structures (All Inclusive)

This indicates a supply offer, which has all delivery charges (DUoS & TUoS) built into the unit rates for the supply of electricity.

## DUoS

Distribution Use of Systems - The RECs receive a market average of 20% of the electricity cost for distribution and this cost is paid irrespective of whether they are responsible for supply.

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 150 kVa then maximum demand should not exceed that figure at any time.)

## Energy Only Offer

This indicates a supply offer wherein the supplier advises of the energy element of the unit rated only. The offer must have the delivery charges (DUoS & TUoS) added on to indicate the full cost of the offer.

## Fossil Fuel Levy

In England and Wales the Fossil Fuel Levy is set at 0.3%. This levy was introduced to cover the cost of decommissioning the nuclear generating plants. The Scottish equivalent is called the S.R.O. (Scottish Renewable Order) levy which was set at 0.8%.

## Generators

Scottish & Southern Energy, National Power (nPower), Eon Energy, Scottish Power and EDF Energy are the main UK generators. The regulator is however keen to increase competition within generation, and it is expected that most of the RECs will eventually buy capacity to become more vertically integrated.

## Half-hour Data (HHD)

Half-hour Data (HHD) This is the product of the half-hour data meter. The data is usually made available to end users by way of a spread sheet. A full years' half-hour data will be a spread sheet with 17,520 cells of data.

## Half-hour Meters

Currently, if you change your supplier to any other than your local REC, you will also be required to change your meter to a half-hour metering system. Since April 1998, code 5 meters have been mandatory for all sites over 100 kVa, and voluntary for sites under 100 kVa. This meter sends your consumption record 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 client accordingly. In changing over to half-hour metering the original metering charges are dropped and merely the rental charge is to be paid (circa £250 per annum).

## kVa

Kilo Volt Amperes. Power Factor adjusted kW demands = kVa (true power).

## kW

Kilowatts are the units used to measure Maximum Demand.

## kWh

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.

## Load Management

Load Management sites are fairly flexible as to when they use their electricity. This means that they can schedule their production and shift patterns according to the price of pool electricity. Consumers who can load manage are able to significantly reduce their consumption at the three times in the year when the National Grid takes the Triad maximum demand readings which are used to calculate the transmission charges.

## Maximum Demand

The measure of the highest peak of electricity flow into the site during a half-hour period in the period of a month.

## Megawatt

1,000 kilowatts, or 1,000,000 watts. It is used to refer to sites with an average maximum demand exceeding or equal to 1,000 kW in the highest three months of the year. The megawatt market was the first to deregulate: - 1st October 1990.

#### Meter Operator

Any qualifying site which wishes to benefit from contract rates must have appointed a meter operator. This is usually the host REC. It is the function of the meter operator to run the half-hour data meter and collect the data. A meter operator agreement costs between £160.00 & £280.00 per annum.

#### National Grid

The National Grid owns the main transmission systems and is responsible for transmitting the electricity from the generator to the local RECs area. It is paid a market average of 6% for this service. All electricity generated in mainland UK is put into the National Grid before being split into the various REC areas.

#### OFGEM

OFGEM is the Office of Gas and Electricity Markets, regulating the gas and electricity industries in Great Britain. Ofgem is governed by an 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.

#### OH

A generic label for electricity sites that have demands greater than 100 kW, = Over a Hundred (OH)

#### 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

This is a measurement of electricity deflected at the supply point. The industry standard is 0.9 (i.e. 90% efficient). If the power factor drops below this point it can be corrected by the installation of capacitors.

#### Pricing Model

Suppliers have computer systems which, given the correct data in the right format, will automatically generate an offer price.

#### 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.

#### Second Tier

When a site is being supplied by a supplier other than the local REC it has 'gone second tier'.

#### 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.

#### STOD

Seasonal Time of Day. 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 and Winter Day and Winter Peak supply times, generally between 4.00 p.m. and 7.00 p.m. In addition to this they often have an Evening supply period. STODs can have between 4 and 56 different unit rates in them.

#### Substation

Electrical Distribution Point.

#### Tariff Analysis

This is an area where savings can be generated without negotiation. In analysing tariffs one identifies whether charges are being made unnecessarily. (i.e. if a site whose maximum demand never exceeds 200 kVa is paying for an availability of 400 kVa the availability should be reduced by 200 kVa. As there is a fixed monthly cost per kVa available this will result in an easily calculable saving)

#### 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.

#### Therms

This is a unit of measurement for gas. 1 therm is equal to 29.3071 kWh

#### Transmission Losses (Line 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.

#### Transco

This is a company who own and run the UK gas pipe line. All gas shippers pay a charge for the transportation of gas. The cost of transportation of gas will vary depending on your location.

#### TUoS

Transmission Use of Systems - An average of 8% of the electricity cost is paid to the National Grid to transmit the electricity from the generator to the local suppliers' area.

#### UH

Under one hundred. A generic label for electricity sites that have maximum demands lower than 100 kW.

#### Voltage

This is 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 a discount from their REC.