




ACRONYMS & GLOSSARY FOR GB ELECTRICITY MARKET

KEY

 Agreements	 Operation & Control Aspects
 Bodies	 Physical Assets
 Charges	 Renewable & Carbon Trade
 Codes/Directives, etc.	 Reviews & Work Groups
 Electricity Trading	 Standards

AC

Alternating Current (i.e. not DC) with sinusoidal waveform of voltage and current assumed (but see Harmonics).

Apparent Power

Measured in VA (VoltAmp) or multiples kVA, MVA and represents the power flow taking account of the actual current and voltage including both Real and Reactive Power. Equipment must be designed to carry this power.

Availability

The percentage of time a generator (e.g. wind turbine) is mechanically ready to generate (regardless of whether there is wind or not).

BEGA

Bilateral Embedded Generation Agreement – between an Embedded Generator and GBSO anywhere in GB.

BELLA

Bilateral Embedded Licence exemptible Large power station Agreement - between an Embedded Generator (only in Scotland) and GBSO.

BETTA

British Electricity Trading and Transmission Arrangements, for a Great Britain-wide electricity market, which took effect from the 1st April 2005.

BM

The Balancing Mechanism operates from Gate Closure through to real time and is managed solely by the GBSO to ensure that supply and demand can be continuously matched in real time. Participation is voluntary for certain generators.

BMU

Balancing Mechanism (BM) Unit.

BSC

Balancing and Settlement Code administered by ELEXON.

BSP

Bulk Supply Point - e.g. 132kV/33kV substation in England or Wales.

BSUoS

Balancing Services Use of System Charges levied by GBSO to recover the costs of balancing the GB electricity system.

Cable

An underground circuit with insulated conductors.

CAP

CUSC Amendment Proposal (e.g. CAP156) a sequential list of number for proposed modifications to the CUSC.

Capacity Factor

The ratio of the average output of a Generator compared to its rated/ maximum output over a period (typically 25% to 40% for GB wind).

CCL

Climate Change Levy - a tax on certain larger electricity and gas customers.

CEC

Connection Entry Capacity defined in the CUSC.

Connection Agreement

Between a Customer (e.g. Generator) and Network Operator, endures for as long as a connection is in place.

Constrain Off/Down or Run-Back

An imposed limitation on a Generator's output due to local or regional network limitations e.g. a fault, outage or overload.

Construction Agreement

An agreement between a Customer and Network Operator to undertake works for a new connection, endures until the works are completed

Contestable Work

Certain works for a new connection which can be carried out by an approved third party contractor and novated to the DNO or TO.

Curtail

An imposed limitation on a Generator's output due to system issues, e.g. inadequate demand / load for generation. With growing wind penetration in a system Curtailment would most likely occur during a windy summer night.

CUSC

Connection and Use of System Code the contractual framework for connection to, and use of, the transmission system.

Customer

A person with a Connection Agreement to import or export electricity.

CVA

Metering that is registered in the Central Volume Allocation system (typically larger generation and consumers at the 'wholesale' level). See also SVA metering.

DC

Direct Current (i.e. not AC) See HVDC.

Dcode

Distribution Code rules for users and operators of networks, including connection conditions for generators.

DCUSA

Distribution Connection and Use of System Agreement - framework of standard terms for connection to and use of distribution networks.

DFIG

A type of induction generator with a wound rotor, slip rings and an inverter enabling variable speed plus control of Reactive Power.



Distribution

The electricity assets operating at voltages at or below 132kV (but excluding 132kV in Scotland and offshore).

DNO

Distribution Network Operator / Owner there are seven DNOs in GB managing fourteen licensed areas.

DUoS

Distribution Use of System Charges made by the DNO for a site to use the network for importing power.

Elexon

ELEXON administers and manages the BSC and the wholesale electricity balancing and settlement arrangements for Great Britain.

Embedded/ Distributed

Generation connected to the Distribution Network (rather than Transmission).

ENA

Energy Networks Association.

ESQCR

Electricity Safety Quality and Continuity Regulations - a Statutory Instrument.

ETS

Emission Trading Scheme (i.e. Cap and Trade) e.g. the European EUETS.

Exempt

Exempted (by class or specific exemption) from holding a Licence.

Export

Indicates a flow of electricity or Reactive Power from a Customer's site into a network.

Fault level

Also known as the Prospective Short Circuit Current. When electrical faults occur very high currents flow to feed these faults and these currents must be interrupted to disconnect the fault. The Fault Level is a measure of the potential current that must be interrupted when a fault occurs. Expressed in units of Amps (A), Volt Amps (VA).

FRT

Fault Ride Through, specified in Grid Code, where a generator continues to generate during and/or immediately after a fault which causes a voltage dip on the network. The alternative is for the generator to trip off and reconnect when the network is back to normal.

FSL

Final Sums Liability, relating to financial security against stranded investments by transmission licensees.

G59

Recommendations for the connection of Embedded Generating Plant to the Public Electricity Suppliers' Distribution System.

G75

Recommendation for the connection of Embedded Generating Plant to Public Distribution Systems above 20kV or with outputs over 5MW.

G83

Recommendations for the connection of Small-scale Embedded Generators (up to 16A per phase) in parallel with Public Low-Voltage Distribution Networks.

Gate Closure

One hour ahead of real time – see BM.

GBSO

Great Britain System Operator – NGET.

GBSQSS

GB Security and Quality of Supply Standard used for design of transmission assets.

GDUoS

Generation Distribution Use of System Charges made by a DNO for a generation site to use the network for exporting power from the generating plant.

Generator

A Licensed or Exempt body who can sell electricity to electricity suppliers.

Grandfather rights

When changes occur to rules and regulations, grandfather rights protect the position of incumbents.

Grid Code

Grid Code, rules for users and operators of the transmission system, including connection conditions for generators.

GSP

Grid Supply Point - substation interface between Transmission and Distribution.

Harmonics

Ideally, the voltage at any point in a distribution system should have a perfectly sinusoidal, 50Hz waveform. However, this is rarely achieved in practice. Any non-linear device drawing current from or injecting current into the power system will introduce harmonic components which will show as distortion of the voltage waveform. Typical equipment includes rectified power supplies, compact fluorescent lights, variable speed motor drives and other switched loads including inverter-coupled generation schemes. Limits on the level of harmonic currents that generators and loads are permitted to inject into distribution networks are specified in Engineering Recommendation G5/4.

HVDC

High Voltage Direct Current is used to connect two independent synchronous networks (e.g. GB-Ireland) and for long distance transmission of power without losses, particularly by underground and subsea cable (e.g. Nordned).

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Import

Indicates a flow of electricity or Reactive Power into a Customer's site.

Intermittency

A pejorative term misused for renewables which are Variable in output. Large non-renewable generators are much more intermittent when they fault from full to zero output instantaneously.

Intertrips

A device that may be 'armed' so that it automatically trips a breaker that removes a generator from a network when it receives a specific signal, i.e. means of Constraining Off.

Lagging

Represents relationship of Voltage and Current waveforms for a load importing Reactive Power or a Generator Exporting Reactive.

LCPD

Large Combustion Plant Directive, the EU directive governing the operation of large combustion plants including most coal-fired power stations.

LEC

Levy Exemption Certificate (from CCL) - generated with electricity produced by renewables.

Licensed

Licensed to Supply, Generate, Distribute or Transmit electricity.

LTDS / LC25

Long Term Development Statement (Distribution Licence Condition 25) published by DNOs for assessing demand and generation opportunities.

MITS

Main Interconnected Transmission System i.e. excludes radial spurs.

MRA

Master Registration Agreement, the multilateral framework agreement governing the customer switching process.

National Grid

Is used to refer to the Transmission and Distribution Networks and System of GB as well as the company NGET.

NETA

New Electricity Trading Arrangements - replaced the electricity Pool in England and Wales. Defined within the BSC.

NFFO

Non Fossil Fuel Obligation, a precursor to the RO used for financial support to nuclear and renewable generation.

NGET

National Grid Electricity Transmission plc, the GBSO and the TO for England and Wales.

Ofgem

Office of Gas and Electricity Markets - the industry regulator.

OFTO

Offshore Transmission Owner, a new form of entity based on onshore TOs, who will own and operate offshore transmission assets.

Overhead line

Making a circuit above ground with conductors suspended from poles or towers (pylons) insulated by air.

P2/6

Security of Supply standard for distribution and demand.

PF

Power Factor, the ratio of Real Power to Apparent Power indicating the amount of Reactive Power also called $\cos \phi$. Unity Power Factor means zero Reactive Power.

PPA

Power Purchase Agreement - a bilateral between a Generator and trader/ Supplier / Customer.

Predictable

Variable renewable generation output (e.g. wind power) can be accurately forecast making it highly Predictable.

Primary Substation

Typically a 33kV/11kV substation.

Reactive Power

A conceptual measure of the part of AC that is not Real Power, measured in Var. Results from capacitive and inductive elements in an AC power system, including certain loads, generators, capacitors, reactors, cables, overhead lines and transformers.

Real Power

The "useful" part of AC power that transfers useful energy measured in Watts or multiples kW, MW, GW.

RECs

Renewable Energy Certification Scheme; International, pan-European and Australian certificate trading systems.

REGO

Renewable Energy Guarantee of Origin deriving from EU Directive 2001/77/EC.

RES-E

Electricity generated from Renewable Energy Sources - used within European Renewables Directive.

RO

Renewable Obligation - legislation that places a requirement on Suppliers to provide a proportion of their electricity to Customers from renewables.



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ROC

Renewable Obligation Certificate, a tradable entity to facilitate the operation of the RO. Used to be fixed to one ROC/MWh of energy.

RPZ

Registered Power Zone where DNOs are marginally incentivised to apply new technology to connect generation.

SBP

System Sell Price is paid to BSC trading parties who have a net surplus of imbalance energy.

Section 36

Consent Government planning approval for a power station over 50MW.

Section 37

Consent Government planning approval for an overhead line greater than 20kV.

SHETL

Scottish Hydro-Electric Transmission Ltd the TO for North of Scotland.

SPT

Scottish Power (SP) Transmission Ltd the TO for South of Scotland.

SRO

Scottish Renewables Order, the Scottish equivalent of the NFFO, superseded by the RO.

SSP

System Buy Price is paid by BSC trading parties who have a net deficit of imbalance energy.

Stability

The ability (or inability), of an interconnected electrical network to return to stable operation after suffering an electrical disturbance e.g. a fault.

STC

(SO-TO-Code) System Operator (GBSO) to Transmission Owner (TO) Code.

Supergrid

That part of the GB Transmission System operated at a nominal voltage of 275kV or above.

Supplier

A Licensed or Exempt body who can sell electricity to Customers.

SVA

Supplier Volume Allocation metering normally required for smaller generators and consumers and registered by suppliers for electricity settlement purposes. See also CVA metering.

SYS

Seven Year Statement to show generation and demand opportunities and published by the GBSO for all transmission assets in GB.

TADG

Transmission Arrangements for Distributed Generation.

TAR

Transmission Access Review.

TASG

Transmission Access Standing Group.

TCMF

Transmission Charging Methodology Forum.

TEC

Transmission Entry Capacity defined in the CUSC.

TIWG (or TWIG)

Transmission Issues Working Group.

TL

Transmission Licensee the holder of a Transmission Licence in GB there are three onshore: NGET, SHETL and SPT

TNUoS

Transmission Network Use of System Charges levied on some Generators and Suppliers for nominal use of the network. Charges can be zero or negative dependent on time and location.

TO

Transmission Owner / Operator equivalent to TL.

Transmission

The electricity assets operating at voltages above 132kV (and including 132kV in Scotland and offshore).

Triad

The three half hours of peak GB system demand peak between November and February which are separated by at least ten days used for calculating TNUoS charges for demand.

VAR

Volt-Amp Reactive, a measure of Reactive Power.

Variability

The nature of much renewable energy - however the variability can be highly Predictable.