

# Glossary of Terms

**Aggregators:** An organisation which specialise in co-ordinating demand and generation (including storage) to provide demand response and other market services. The network operators buy demand response and other grid balancing services from aggregators.

**Balancing and Settlement Code (BSC):** The Code which determines the rules governing the Balancing Mechanism and settlement process for electricity trading in Great Britain. A BSC Panel has been charged with overseeing the management, modification and implementation of the BSC rules, as specified in Section B of the BSC. The Balancing and Settlement Code Company (ELEXON) supports the BSC Panel.

**Balancing Mechanism:** The National Electricity Transmission System Operator (NETSO) has a licence obligation to manage the Transmission System and, and needs to have an arrangement in place for the scenario where more energy is generated than consumed, or vice versa. Unchecked, this would result in system frequency falling or rising to an unacceptable degree. The balancing mechanism provides a means by which NETSO can buy or sell additional energy close to real-time to maintain energy balance, and also to deal with other operational constraints of the Transmission System.

**Capacity:** The capacity of a generating units is the maximum power that can be produced if the units are running normally at full power.

**Capacity Market:** A market that aims to ensure security of electricity supply by providing a payment for reliable sources of capacity.

**Climate Change Levy (CCL):** Part of a range of taxation measures designed to help the UK meet its legally binding commitment to reduce greenhouse gas emissions. This levy / tax is chargeable on the industrial and commercial supply of taxable commodities for lighting, heating and power by consumers in the following sectors of business: industry, commerce, agriculture, public administration and other services.

**Distributed Generation (DG):** A generating unit which is connected to a distribution network rather than to the transmission system. Distributed Generation is generally smaller than generating units connected to the transmission system as the maximum operating voltage of distribution networks is 132 kV in England and Wales and 33 kV in Scotland.



**Distribution Network (System):** The distribution system is the network that comprises the equipment between the transmission system and the customer's service switch. In England and Wales the distribution systems are the lines with a voltage less than or equal to 132 kV. In Scotland the distribution network is composed of lines less than 132 kV.



**Distribution Network Operator (DNO):** A holder of a Distribution Licence, the DNO owns, operates and maintains a Distribution network and is responsible for confirming requirements for the connection of Distributed Generation to that network.

**Embedded Generation:** Another term used for Distributed Generation (DG) - see above.

**Energy Service Company (ESCO):** A Government paper defines ESCOs as "a company that provides a customer with energy solutions" rather than simply being an electricity or gas supplier.

**EU Emissions Trading System (ETS):** Formerly referred to as the EU Emissions Trading Scheme, the EU Emissions Trading System (EU ETS) is one of the key policies introduced by the European Union to help meet its greenhouse gas emissions reduction target. It is a Europe-wide cap and trade scheme that started in 2005. The EU ETS covers electricity generation and the main energy-intensive industries.

**Extension:** It is sometimes necessary to extend the DNO's distribution network in order to provide a connection for a new user (demand or generation customer).

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**Generating Unit:** Any apparatus which produces electricity. Is a synonym of a generation set as defined in the Distribution Code.

**Generator:** A person who generates electricity under licence or exemption under the Electricity Act 1989.

**Grid Supply Point (GSP):** Any point at which electricity is delivered from the National Electricity Transmission System to the DNO's Distribution system.

**Independent Distribution Network Operator (IDNO):** A holder of a distribution licence, an IDNO designs, builds, owns and operates a distribution network, which is an extension to existing DNO network. They typically build network for new developments such as business parks, retail and residential areas and leisure facilities.

**Low Voltage (LV):** A voltage normally exceeding 50 V AC between conductors and earth or 120 V DC between conductors but not exceeding 1000 V AC or 1500 V DC between conductors or 600 V AC or 900 V DC between conductors and earth.

**National Electricity Transmission System Operator (NETSO):** Operates the electricity transmission system in England, Wales and Scotland (see System Operator).

**National Grid Electricity Transmission (NGET):** Owns the electricity transmission network in England and Wales, and operates the transmission system in England, Wales and Scotland (takes the role of the NETSO). NGET is a member of the National Grid group of companies.

**Ofgem:** The Office of Gas and Electricity Markets.

**Reinforcement:** Reinforcement work is usually required to increase the electrical capacity of those parts of the network which are affected by the introduction of new generation or demand. Other work might include upgrading the switchgear at a substation some distance from the proposed generation project, due to the increase in fault level caused by the connection of generating units.

**Renewable Obligation Certificates (ROCs):** A green certificate issued to an accredited generator for eligible renewable energy generated within the UK and supplied to customers within the UK by a licensed electricity supplier. ROCs are issued for each MWh of eligible renewable output generated, the amount of ROCs received depend on the technology of the generating station.

**Retail Price Index (RPI):** General purpose measure of inflation used in the UK.

**Small Scale Embedded Generation (SSEG):** A source of electrical energy and all associated interface equipment, rated up to and including 16 A per phase, single or multi phase 230/400 V AC and designed to operate in parallel with a public low voltage distribution network.

**Supplier (Electricity Supplier):** Electricity suppliers purchase electricity (on the market or in contracts) and sell electricity to customers (commercial, industrial and domestic).

**System Operator (SO):** The operator of the transmission networks, the System Operator balances supply with demand on a minute by minute basis.



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**Transmission Network (System):** A system of lines and equipment owned by the holder of a Transmission Licence and operated by the GB SO, which interconnects Power Stations and substations. In England and Wales the transmission system is the equipment principally rated above 132 kV while in Scotland they are those principally at or above 132 kV.

**Type Tested Equipment:** Equipment that has been tested in accordance to ensure that it meets the requirements of EREC G83 or G59. Using type tested equipment simplifies the connection and commissioning process.

**Use of System (UoS):** The use of a transmission or distribution system by a generator, supplier, customer or an interconnected party for the purposes of transporting electricity.

# References

## Standards and other documents:

[Balancing and Settlement Code \(BSC\)](#) is available free of charge on Elexon's website

[Connection and Use of System Code \(CUSC\)](#) is available free of charge on NGET's website

[Distribution Code](#) of Great Britain—available free of charge on the Distribution Code website

[Engineering Recommendation G83](#): Recommendations for the Connection of Type Tested Small-scale Embedded Generators (Up to 16 A per Phase) in Parallel with Low-Voltage Distribution Networks—a technical document, with references to other relevant sources of detailed technical information. Some appendices are available free of charge: [www.energynetworks.org/electricity/engineering/distributed-generation/distributed-generation.html](http://www.energynetworks.org/electricity/engineering/distributed-generation/distributed-generation.html)

[Engineering Recommendation G59](#), relating to the connection of generating equipment to the distribution systems of licensed Distribution Network Operators—available to buy on the Energy Networks Association website.

[Engineering Recommendation G81](#) is called “Framework for design and planning, materials specification, installation and records low voltage housing development installations and associated new HV/LV distribution substations”. It can be found free of charge on the Energy Network Association's website.

[Electricity Safety, Quality and Continuity Regulations \(ESQCR\) 2002](#), Section 22: Statutory Instrument Number 2665, available free of charge.

[Grid Code](#) of Great Britain — available free of charge on NGET's website.

[IET Wiring Regulations](#) (British Standard 7671) are available to buy on the IET website.

[Metering Codes of Practice](#)

[Statutory Instrument 2001 No. 3270, The Electricity \(Class Exemptions from the Requirement for a Licence\) Order 2001](#)

[Statutory Instrument 2008 No. 2376, The Electricity \(Applications for Licences, Modifications of an Area and Extensions and Restrictions of Licences\) Regulations 2008](#)

# References

## Useful websites:

Association of Meter Operators	<a href="http://www.meteroperators.org.uk">www.meteroperators.org.uk</a>
British Hydropower Association	<a href="http://www.british-hydro.org">www.british-hydro.org</a>
Renewable UK	<a href="http://www.renewableuk.com/">http://www.renewableuk.com/</a>
Carbon Trust	<a href="http://www.carbontrust.com">www.carbontrust.com</a>
The Association for Decentralised Energy (combined heat and power)	<a href="http://www.theade.co.uk">www.theade.co.uk</a>
Department for Energy and Climate Change	<a href="http://www.gov.uk/government/organisations/department-of-energy-climate-change">www.gov.uk/government/organisations/department-of-energy-climate-change</a>
Distribution Connection and Use of System Agreement (DCUSA) website	<a href="http://www.dcusa.co.uk">www.dcusa.co.uk</a>
Electricity Networks Strategy Group	<a href="https://www.gov.uk/government/groups/electricity-networks-strategy-group">https://www.gov.uk/government/groups/electricity-networks-strategy-group</a>
Elxon	<a href="http://www.elxon.co.uk">www.elxon.co.uk</a>
Energy Networks Association	<a href="http://www.energynetworks.org">www.energynetworks.org</a>
Energy Saving Trust	<a href="http://www.energysavingtrust.org.uk/Generate-your-own-energy">www.energysavingtrust.org.uk/Generate-your-own-energy</a>
Energy UK	<a href="http://www.energy-uk.org.uk">www.energy-uk.org.uk</a>
Lloyds Register	<a href="http://www.lloydsregister.co.uk/schemes/NERS/">www.lloydsregister.co.uk/schemes/NERS/</a>
Microgeneration Certification Scheme	<a href="http://www.microgenerationcertification.org">www.microgenerationcertification.org</a>
National Grid Electricity Transmission (NGET)	<a href="http://www.nationalgrid.com/uk/Electricity/">www.nationalgrid.com/uk/Electricity/</a>
Ofgem	<a href="http://www.ofgem.gov.uk">www.ofgem.gov.uk</a>
Renewable Energy Association	<a href="http://www.r-e-a.net">www.r-e-a.net</a>

# References

## Relevant reports and guides:

[A Guide: Sale of Power Opportunities for Distributed Generators](#); DTI (Department for Trade and Industry); Electricity Networks Strategy Group website

[Electricity Trading Arrangements: A Beginner's Guide](#); Elexon

[Future Network Architectures](#); BERR (Department for Business, Enterprise and Regulatory Reform); 2007

[Making ESCOs Work: Guidance and Advice on Setting Up and Delivering an ESCO](#); London Energy Partnership

[Overview of Embedded Generation Benefits](#); Elexon; November 2006

[Review of Distributed Generation](#); DTI (Department for Trade and Industry) and Ofgem; May 2007

[The UK Low Carbon Transition Plan—National strategy for climate and energy](#); Government; 2009

[The UK Renewable Energy Strategy](#); Government; 2009

[The Tradable Value of Distributed Generation](#); DTI (Department for Trade and Industry); 2005

# Revisions

Version Number	Date	Details of Changes
1	June 2010	<p>A major revision of the Technical Guide for the Connection of Generation to the Distribution Network, DTI document reference K/EL/00318/REP (URN 03/1631).</p> <p>Key changes include division of Guide into three Guides for different DG applications (G83 Stage 1, G83 Stage 2 and G59/2); revision of the style of the Guide to “plain English”; and inclusion of chapters on the role of Distributed Generation, Technical and Commercial Interfaces and Selling Electricity (FITs and ROCs).</p>
2	October 2010	<p>Minor edits to the Guides:</p> <ul style="list-style-type: none"> <li>• Addressing issues raised in HSE response to the consultation direction (8 July 2010);</li> <li>• Changes to timescales associated with a Section 16 connection applications arising from DNO advice;</li> <li>• Alteration to the text on Assessment and Design Fees and reference to the Statement of Methodology and Charges for Connection; and</li> <li>• Inclusion of a note about dealing with disputes.</li> </ul>
3	November 2010	<p>Minor edits to the Guides to reflect the changes in ownership of networks from EDF Energy to UK Power Networks.</p>
3.1	April 2011	<p>Edits to the Guides to reflect the issuance of a Guidance Note from the Distribution Code Review Panel on:</p> <ul style="list-style-type: none"> <li>• the application of G83/1-1 to small scale wind, and other small scale generation technologies that do not have a type testing annex in G83/1-1; and</li> <li>• a relaxation of G59/2 to small scale generating equipment greater than 16 Amps per phase and up to 50 kW 3-phase (17 kW single-phase) provided that certain conditions are met.</li> </ul> <p>Edits to clarify the applicability of G83/1-1 Stage 2 to multiple generating units within different customer sites and in a close geographic region.</p>
3.2	June 2011	<p>Minor edits to the Guides to reflect the changes in ownership of networks from E.On Central Networks to Western Power Distribution. Update of Feed-in Tariff and Renewables Obligation sections to reflect recent changes, e.g. tariff increases and scheme review details.</p>

# Revisions

Version Number	Date	Details of Changes
3.3	November 2011	Minor edits to the Guides to reflect rebranding of C E Electric to Northern Powergrid.
3.4	January 2013	Edits to the Guides to reflect updates to G83, with the publication of Engineering Recommendation G83/2, and outcomes from the Feed-in Tariff reviews (Phase 1, Phase 2A, Phase 2B).
4.0	March 2014	Considerable revisions and updates throughout the Guides, to reflect changes in the Distributed Generation landscape since the Guides were revised in 2010, as well as feedback received from stakeholders during a workshop. Both content and structural changes have been made, including the introduction of: <ul style="list-style-type: none"> <li>• A Guide for G59 generation at 50kW or less; and</li> <li>• A “summary” version of each Guide, containing the minimum, essential information from each chapter.</li> </ul>
4.1	August 2015	Minor revisions to keep the Guides up to date. Revisions include: full review of FITs and ROCs chapter; introduction to EU Network Codes Requirements for Generators; update on innovation projects and new technologies; update on provision of information by DNOs; introduction to Contracts for Difference.
4.2	To be confirmed	Revisions to keep the Guides up to date. Revisions include: a new page on FIT deployment caps; update on EU Network Codes; update on innovation projects and industry developments; a new page on Energy Storage; listing and describing new types of key players (aggregators);