Strategic Connections

Guidance note for DNOs

Tactical Solution 3:
Inclusion of forecast LV LCT demand and generation growth when assessing capacity for new connections

September 2023

DOCUMENT CONTROL

Authorities

Version	Issue Date	Authorisation	Comments
Draft 1	12/09/2023		First draft to BSC workgroup
Draft 2	19/09/2023		Final draft to BSC workgroup for approval
V1.0	21/09/2023	ENA	First issue

Distribution

DNOs, TOs, NGESO

TABLE OF CONTENTS

1. Document introduction and scope

This guidance note sets out a common approach relating to:

- Forecast load/generation growth that DNOs should include when assessing connection applications for connections to the distribution network. This approach applies to demand and generation (including electricity storage) connection applications and applications to modify existing connections received on or after 30 September 2023, where the connection application would result in a customer being connected at HV or above, or via a dedicated connection to an HV/LV substation.

The purpose of this document is to describe this common approach and how it should be applied to help ensure a consistent implementation across DNOs. This common approach was developed by an Energy Networks Association (ENA) industry working group[1] in which all DNOs were represented, and is supported by Ofgem[2].

Section 6 is a glossary, to aid understanding of the abbreviations and key terms used within this guidance note.

Whilst this guidance note is primarily intended for DNOs, it may be of interest to other industry stakeholders (such as the National Grid Electricity System Operator (NGESO), Transmission Owners, and customers seeking a connection to the distribution network). Given this, and the desire for transparency in how DNOs plan and operate their network, this document is freely available to any party.

2. Context for this introducing this common approach

2.1. Background

DNOs are seeing an unprecedented increase in the number of network connection applications, predominantly for renewable energy or electricity storage projects. For distribution electricity storage alone, by June 2023 the combined capacity of all contracted projects had grown to 53GW, with over half of this signed in the last regulatory year. To provide context to this volume, this is close to the total GB electricity peak demand (~60GW) and over seven times the highest forecast for distribution electricity storage at 2030 in the latest NGESO GB Future Energy Scenarios (FES). Some customers are seeking connections for close to the entirety of the remaining capacity headroom at grid supply points (GSPs).

The outcome is that, in many areas, there is little spare network capacity for demand and generation growth associated with smaller-scale[3] connections, including those associated with the societal decarbonisation that is essential to achieving legislated Net Zero targets – this is adversely impacting GB customers.

The ENA's Strategic Connections Group (SCG) convened three workgroups to investigate solutions to this challenge. One of these, the Battery Storage Connections (BSC) workgroup, was tasked with reviewing connection arrangements.

The BSC workgroup started by focussing on changes that could be implemented quickly by working within existing code and licence requirements. Based on this, four 'Tactical Solutions' were proposed to Ofgem on 12 May 2023[4]. These help to prevent the situation deteriorating further and prevent the immediate triggering of unnecessary reinforcements. Ofgem provided a letter of support for Tactical Solutions 1, 2 and 3 on 15 August 2023 (see footnote 2).

Having gained Ofgem support, these changes now need to be implemented. This guidance note covers the implementation of Tactical Solution 3.

---

[1] The ENA's Battery Storage Connections (BSC) workgroup reports to the ENA's Strategic Connections Group (SCG).
[2] Ofgem's letter of support, dated 15 August 2023, is available at: https://www.ofgem.gov.uk/sites/default/files/2023-08/ENA%20SCG%20Electricity%20Storage%20Solutions%20-%20Ofgem%20Letter.pdf
[3] The differences in the typical connections processes for larger and smaller connections are explained in Section 0.
[4] https://www.ofgem.gov.uk/sites/default/files/2023-08/ENA%20SCG%20Electricity%20Storage%20Solutions%20-%20ENA%20Letter%20and%20Supporting%20Information.pdf

For more information on the context, the Tactical Solutions, and their justification, please refer to the ENA's letter to Ofgem, dated 12 May 2023, proposing these changes (see footnote 4). A separate document covers the implementation of Tactical Solutions 1 and 2.

2.2. Tactical Solution 3

When a DNO receives a connection application they assess whether there is sufficient spare network capacity to accommodate the required capacity, or whether additional network capacity is required. This assessment incorporates existing customer demand and generation[5] as at the time of the application, but some DNOs don't include for any growth in this demand and generation[6]. Demand growth has historically been 0-2% per year; generation growth is more varied and locational as it tends to occur due to the connection of a small number of large capacity connections compared to demand growth.

The rate of small-scale demand and generation growth is forecast to significantly increase. This is because GB societal decarbonisation is largely predicated on transitioning from existing fossil fuel technologies (e.g. petrol/diesel cars, natural gas cooking and heating) to electricity-based technologies, and building renewable generation to power these electricity-based technologies. Unlike most previous demand and generation growth, this Low Carbon Technology (LCT) growth is driven by legislation – both absolute greenhouse gas emissions targets and sector-specific legislation such as banning the sale of new internal combustion engine vehicles.

Continuing the current approach, within some DNOs, of not accounting for future growth in small-scale demand and generation when assessing larger[7] customer connection applications is likely to adversely impact GB customers – there is high confidence this demand and generation growth will materialise, and not 'reserving' some network capacity to accommodate it could delay the transition to deploying LCTs and inhibit achieving legislated decarbonisation targets. This is especially pertinent given that over 70% of GB GSPs are now contractually constrained due to transmission constraints and there are many distribution network constraints.

Given this, and the desire to treat connecting customers consistently across DNOs, the BSC workgroup developed Tactical Solution 3:

> **Tactical Solution 3:** When DNOs assess connection applications, in addition to existing and contracted demand and generation, DNOs are encouraged to incorporate up to ten years of projected LCT demand and generation growth that typically connects via an LV supply. This would have the effect of 'reserving' some of the existing spare capacity across the distribution network to cater for up to ten years of forecast LV LCT growth associated with societal decarbonisation.
>
> This solution applies to all connection applications and applications to modify existing connections for all customer types (i.e. demand, generation, electricity storage, and hybrid sites) received on or after 30 September 2023 where the connection application would result in a customer being connected at HV or above, or via a dedicated connection to an HV/LV substation.

This solution benefits society as it helps safeguard sufficient capacity for legislated, near-term decarbonisation by enabling domestic and small-business customers to transition to LCTs and use them at their full capacity. This solution also benefits connecting customers as it gives a more common experience across DNOs.

The demand and generation growth associated with LCTs is expected to dominate growth on the LV networks, but DNO LV forecasts might include other types of LV growth. This guidance note does not preclude DNOs from accounting for other types of LV demand and generation growth in their forecasts, provided their connection application processes can avoid double counting this growth with the capacity being sought by the connection. However, other types of LV demand and generation growth are outside of the scope of this guidance note.

---

[5] Including contracted but yet-to-connect customers.
[6] The use of LV LCT demand and generation growth forecast data is currently not consistently applied by DNOs in their assessment of new or modified connections, which may mean that customer application may get treated differently in different regions.
[7] The differences in the connections processes for larger customers and smaller customers is explained in Section.0.

This guidance note outlines a common set of principles for applying Tactical Solution 3 and provides detail of the composition of LV LCT growth forecast and how they should be used in the connection assessment process, to support consistency across the DNOs.

3. Document governance

This guidance note does not supersede or override the requirements of any legislation, licence, or Core Industry Document. While this guidance note is not subject to code governance, Tactical Solution 3 has Ofgem's support. As such this guidance note is considered to be an "accepted industry standard" for the purpose of determining a Minimum Scheme in accordance with DCUSA Schedule 22 (CCCM) paragraph 1.1.

4. Application of Tactical Solution 3

This section outlines a common approach and set of principles for the application of Tactical Solution 3. DNOs will need develop their own methodologies for applying these principles within their existing connections procedures.

4.1. Which connection assessments should incorporate LV LCT growth projections?

As described above, this solution encourages DNOs to incorporate up to ten years of forecast LV LCT demand and growth when assessing designs for all connection applications and applications to modify existing connections for all customer types (i.e. demand, generation, electricity storage, and hybrid sites) received on or after 30 September 2023 where the connection application would result in a customer being connected at HV or above, or via a dedicated connection to an HV/LV substation.

Tactical Solution 3 is intended to ensure there is sufficient capacity for this customer growth at HV and above, since network capacity at this level takes more time to plan and install.

Incorporating LV LCT growth forecasts when assessing connections into the LV network could, in some DNOs, lead to a risk of double counting[8]. To avoid this, Tactical Solution 3 should be applied to connection voltages of HV and above. To ensure consistent treatment of connections that could be made into either the HV or LV network, Tactical Solution 3 should also apply to connections made directly to HV/LV substations, where it is reasonable to do so. DNOs will need to establish their own processes to ensure there is no double counting, and the specifics of how to do this will depend on how each DNO builds their demand and generation forecasts. Section 4.2 provides guidance on the types of forecast demand and generation growth that is recommended to be included, and guidance on the avoidance of double counting.

Given the complexity of implementing this approach (for example the need to develop steps to safeguard against double counting at lower voltage levels), DNOs may need to take a phase approach to implementing Tactical Solution 3 across their forecasting and connection teams. If this is the case, it is recommended to start implementing the solution for the largest capacity connection applications initially as these will deliver greater benefit on a per application basis.

[8] Double counting would occur if some or all of the capacity being sought by the connection application were also included within the LV LCT growth forecast.

4.1.1. Rationale for including LV LCT growth forecasts when assessing larger customer connections

All DNOs must maintain a safe, secure, and reliable network by efficiently providing the capacity customers need to decarbonise, in the timescales they need it.

For larger demand and generation customer connections, available network capacity is offered on a first-come first-served basis. When designing a new connection to the network, DNOs must account for any queue of connections that have been accepted but not yet connected, hence ensuring that there is sufficient capacity available for all connecting customers.

By contrast, DNOs have far less control over, and limited advanced notice of, LCT demand and generation connections by domestic and small-business customers, which predominantly connect at LV. Examples of the connection processes these connections are as follows:

- For single-premises, small generation customers there is no need to apply for a connection; the installer provides the DNO with all necessary information on the installation after the generator has been commissioned in line with ENA Engineering Recommendation G98[9].
- Subject to a series of checks made by the installer in line with the ENA Electric Vehicle Charge Point and Heat Pump Connections Process[10], many single-premises EV charge point and heat pump installations do not require a connection application; the installer provides the DNO with all necessary information on the installation via the 'Connect and Notify' process[11].

Tactical Solution 3, in effect, includes this forecast LV LCT growth in the connections queue for larger customer connections. Whilst DNOs often do not get notice of this LV LCT growth, this growth is predictable and therefore can be to forecast with reasonable confidence – this is done in each DNO's Distribution Future Energy Scenarios (DFES).

Further guidance on the types of LV LCT growth that DNOs are encouraged to include under Tactical Solution 3 is provided in Section 4.2.

4.1.2. Rationale for including up to ten years

This proposed solution reserves network capacity to cater for up to ten years of projected LV LCT demand and generation growth in addition to that required to cater for the existing and contracted demand and generation. If the proposal was to cater only for the forecast growth out to the connection applicant's target energisation date (e.g. in a couple of years), then this may not be sufficient to cater for timescales required to reinforce the network (e.g. five-eight years for major 132kV interventions, or significantly longer for reinforcement at a Grid Supply Point substation). Reserving capacity for up to ten years of growth strikes a reasonable balance to cater for the timescales required to reinforce the network whilst not trying to reserve longer term capacity to accommodate the 2050 Net Zero targets.

Further guidance on how many years of forecast growth to include is provided in Section 4.5.

---

[9] ENA_EREC_template_v1.0 (dcode.org.uk)

[10] Electric Vehicle Charge Points and Heat Pumps Combined Installation Process Flow Chart – Energy Networks Association (ENA)

[11] Even for Apply to Connect, many DNOs are taking the approach to allow connection without delay and follow up with the required interventions or network reinforcements e.g., as close to 'at the time of need' as possible. This is manageable with current volumes of connections, but as volumes are set to increase rapidly in future years, this approach may no longer be sustainable. This could lead to customers that may be able to connect easily today, having to wait much longer in future as the network becomes more constrained.

4.2. What LV LCT growth should be incorporated?

4.2.1. Types of forecast LV LCT demand and generation growth covered by Tactical Solution 3

The purpose of Tactical Solution 3 is to safeguard network capacity for the near-term legislated decarbonisation of domestic and small business customers to enable them to transition to LCTs and use them at their full capacity.

This decarbonisation will predominantly be achieved through growth in the following LCT types:

- Domestic and small business-scale EV Charge Points (EVCPs),
- Heat pumps and district heat networks,
- Small-scale embedded electricity storage and generation.

DNOs should include demand and generation projections associated with the above technology types, as underpinned by their DFES. DNOs may have different ways of categorising these LCTs within their DFES. Therefore, for consistency across all parties, Tactical Solution 3 encourages DNOs to include the demand and generation capacity requirements of LCT types within their DFES that most closely align with the following agreed 'building blocks' for DFES-FES data exchanges:

- Lct_BB001: Pure electric vans, cars & motorbikes
- Lct_BB002: Plug-in-hybrid vans, cars & motorbikes
- Lct_BB005: Heat Pumps – domestic – non-hybrid
- Lct_BB006: Heat Pumps – domestic – hybrid
- Lct_BB009: District Heating
- Srg_BB002: Domestic Batteries[12]
- Gen_BB003: Micro CHP (domestic G98/G83)
- Gen_BB013: Small-scale solar generation

These LCT types would typically have an LV supply, and as such throughout this guidance note, demand and generation growth associated with these LCTs is referred to as 'LV LCT' growth. However, it is recognised that the customer's point of connection to the DNOs network may not always be at LV e.g. a housing scheme with its own secondary substation connecting to the HV network. The workgroup considered that the inclusion of these LCT types within Tactical Solution 3 provided the following benefits:

- This definition provides granular alignment with most DNOs' Distribution Future Energy Scenarios (DFES), simplifying Tactical Solution 3 implementation.
- It prevents inequitable reservation of capacity to certain geographic locations.

Another notable example is a district heat network, as they often require an HV supply, but are included as an LV LCT type they present an alternative technology to heat pumps in that they replace heating systems at the individual property level.

This guidance note does not preclude DNOs from accounting for other types of LV demand and generation growth in their forecasts, provided their connection application processes can avoid double counting this growth with the capacity being sought by the connection. It is not intended that DNOs should make efforts to remove the effects of energy efficiency from their LV forecasts, for example. However, other types of LV demand and generation growth are outside of the scope of this guidance note.

[12] Domestic batteries are expected to have a limited contribution to peak demand but are included for completeness and, as above, their treatment should be in line with companies' DFES assumptions.

4.2.2. Avoiding the risk of double counting

If there is a risk of double counting LV LCT growth, DNOs may exclude 'building blocks' on a case-by-case basis. This will avoid unnecessarily reserving capacity and reduce the risk of stranded assets.

An example is given as follows.

> ***Example:*** *A DNO is assessing the connection of a new district heating network that would be connected at HV. This heating network will supply hundreds of homes and some businesses with heating and hot water. As a result, these customers are much less likely to also adopt heat pumps.*
>
> *When applying Tactical Solution 3 when assessing the connection application, the DNO reduces the volume of heat pumps accounted for in their forecast of LV demand, corresponding to the customers that are now expected to connect to the district heating network[13].*
>
> *Furthermore, district heating / heat networks forecasts associated with those customers would not be included in the growth forecasts.*

4.2.3. Consideration of diversity

DNOs should consider what diversity assumptions are appropriate for demand and generation connected at HV and EHV. This is expected to be in line with diversity assumptions already considered in each DNO's DFES.

4.3. What forecast scenario should each DNO use?

Tactical Solution 3 encourages a common approach to forecasting LV LCT demand and generation across all DNOs. It is also important that the forecast approach can achieve the following:

- It must strike a reasonable balance between reserving capacity to facilitate the near-term, legislated decarbonisation in question whilst limiting the risk of unnecessarily reserving capacity, which could have been used by other, larger customers (ultimately, limiting the risk of creating 'too much' capacity or 'stranded assets').
- It is also important that Tactical Solution 3 aligns with assumptions made in each DNO's strategic planning processes.

The workgroup agreed that, on balance, the preferred scenario is the 'Best View' scenario, as this provides more consistency of approach to growth forecasting across each DNO's business and is designed to forecast the highest certainty outcomes. Generally, this also provides more consistency with the forecasting approach used to underpin information exchanges at the transmission and distribution interface[14].

The Best View scenario does ensure a good degree of commonality; DNOs have been working together as part of the ENA Open Networks project[15] to standardise their DFES processes, which has outputted an agreed definition of the Best View scenario as the scenario that can demonstrate the highest certainty assumptions in a 1 to 10 years horizon. This high certainty in the Best View scenario is achieved through alignment with:

- Existing/announced Government policies,
- Regional and local strategic plans, and
- Stakeholder engagement inputs.

It should be also highlighted that all DNOs are accountable for the forecasting accuracy of their Best View scenarios, as this scenario is used for the reporting associated with DSO incentives[16].

---

[13] The DNO should seek to ensure that in the next DFES cycle, the number of heat pumps at that primary substation also reflect the new information about the district heating network. However, this is outside of the scope of this guidance note.
[14] The BSC workgroup has committed to ongoing work on the coordination and alignment of forecasting approaches at the transmission-distribution interface.
[15] Open Networks Programme Workstream 1B (WS1B) Whole Electricity System Planning & T-D Data Exchange – Product 2 (P2) Whole System Future Energy Scenarios
[16] Such as RRE 2, DSO metric on primary network forecasting accuracy, part of the RIIO-ED2 DSO Incentive Mechanism.

4.3.1. Consideration of alternative forecast scenarios

It is appropriate for DNOs to consider a range of scenarios on a case-by-case basis, in line with their Network Development Plan (NDP). In some instances, when examining the network in greater depth as a result of a connection request, an alternative scenario may transpire to be more appropriate[17]. An example is given below. As above, Tactical Solution 3 encourages all DNOs to minimise the risk of unnecessarily reserving capacity and any deviation from the DNO's Best View scenario should consider this requirement.

> ***Example:*** *A DNO's Best View scenario, which is generally aligned to the 'Consumer Transformation' DFES scenario, is the lowest scenario that still meets interim and 2050 Net Zero targets across the licence area. When applying Tactical Solution 3, this DNO uses their Best View scenario in line with the guidance above.*
>
> *However, when assessing a connection to a specific primary, a DNO is aware of strong, localised support for a hydrogen for heating trial in the locality. Therefore, the DNO choses to use LV LCT growth aligned to the 'System Transformation' scenario for this connection application. This is allowable as the 'System Transformation' scenario growth is lower.*

4.3.2. Flexibility

Solution 3 encourages DNOs to include appropriate assumptions about the impact of demand and generation flexibility on their LV LCT growth, which should already be built-into modelling of the Best View scenario; for example, including the prevalence of time-of-use tariffs in the forecasts.

Tactical Solution 3 also encourages DNOs to consider flexibility services contracts that provide additional system-level capacity in the same way as they do when assessing connections at present. More details on the impact of Tactical Solution 3 on the interaction between connections assessments and strategic planning is provided in Section 4.4.

4.4. Interactions with strategic planning

With unprecedented demand and generation growth forecast associated with societal decarbonisation, DNOs need to provide the right network capacity in the right place at the right time, and this must be done efficiently within their allowances. This will involve the proactive creation of new capacity in some areas.

Tactical Solution 3 is designed to reserve capacity required for up to ten years of forecast LV LCT growth. This could be either existing capacity, or capacity planned through strategic intervention. Tactical Solution 3 is not designed to provide new capacity required for LV LCT growth reactively via the connections process, instead it aims to prevent larger new connections from consuming all of the existing or planned capacity.

Nevertheless, while the introduction of Tactical Solution 3 should not preclude or detract from strategic planning, it is necessary to ensure that connections activities and strategic planning remain coordinated.

In particular DNOs are encouraged to:

- consider, when undertaking connections assessments and identifying capacity shortfalls, the relative timings of:
    i. Forecast LV LCT growth;
    ii. Load growth due to connections; and
    iii. The capacity created by planned reinforcement work. This may affect the forecast years of LV LCT growth that are material to assess for individual connections (see Section 4.5).
- ensure that the strategic planning function makes suitable preparations to mitigate the risk of any individual connections withdrawing or not progressing in-line with existing ENA Queue Management milestones. For example, this could be by using a milestone-based mechanism for deciding whether to presume that a particular connection is going ahead when assessing the need for strategic intervention.

[17] As above, if an alternative scenario transpires to be the preferred scenario, the DNO should also seek to ensure that this is incorporated in the Best View in its next planning (including its DFES and NDP) cycle. However, this is outside of the scope of this guidance note.

Some examples are given as follows:

> ***Example (i):*** *An area of a DNO's network currently has sufficient capacity for forecasted LV LCT growth out to 2030, at which point the DNO's strategic plan is currently signposting that a new primary substation will be required.*
>
> *A large demand customer applies to connect to this area of the network before 2030, which would consume all remaining HV capacity. In the application of Tactical Solution 3 to this connection assessment, both the forecasted LV LCT growth and the planned intervention should be taken into account.*
>
> *This presents the connecting customer with two options:*
>
> *i. Connect after 2030, after which point there will be no additional reinforcement required.*
>
> *ii. Connect before 2030, in which case an element of reinforcement will be required as part of their Minimum Scheme. Their capacity would be made subject to the completion of this scheme, or a Curtailable Connection offered until the reinforcement is completed.*
>
> *In this example, the strategic plan should not rely on the connection process to provide capacity beyond 2030.*

> ***Example (ii):*** *(The same case (i) except that no reinforcement is planned).*
> *An area of a DNO's network currently has sufficient capacity, managed by flexibility, for forecasted LV LCT growth out to 2050.*
>
> *A large demand customer applies to connect to this area of the network in 2030, which would consume all remaining HV capacity.*
>
> *The application of Tactical Solution 3 to this connections assessment means that an element of reinforcement will be required as part of their minimum scheme.*

4.5. How many years of forecast LV LCT growth to include

As above, Tactical Solution 3 encourages DNOs to incorporate up to ten years of growth, which aligns with the horizon of their Network Development Plans. It will be at the DNO's discretion, on a case-by-case basis, to use any year within the ten years of growth if deemed more appropriate.

> ***Example (i):*** *A DNO is assessing the connection of a new solar PV farm at a substation that is increasingly fault-level constrained. This substation already supplies a non-renewable generation customer, which has a high fault current contribution, and which the DNO's DFES modelling indicates is likely to be decommissioned[18] within the next seven to ten years. As a result, the DNO chooses only to include seven years of LV generation growth in this connection assessment.*
>
> ***Example (ii):*** *A DNO is assessing a substation where the demand is forecast to fluctuate due to a combination of demand, generation, and customers' energy efficiency. The DNO chooses to select the highest demand requirement across the ten-year period when assessing new connection applications.*

[18] This connection might be replaced with a renewable, converter-based generation technology. It is expected that this would also have the effect of reducing fault levels.

5. Linkage with other industry documents

- The principle of accounting for forecast future growth when network planning is not new – when DNOs make network interventions to provide capacity (e.g., reinforcements), they scale those interventions to include future demand and generation growth. This is a core principle of planning and network investment, and ensures efficient decision-making. Tactical Solution 3 is in line with this existing core principle.
- This solution also more closely aligns with transmission connections, where forecast demand growth at the customer's date of connection is used in the connection offer assessment process.
- The Electricity Act 1989 and Distribution Standard Licence conditions do not detail how a DNO should assess connection applications or available network capacity. Tactical Solution 3 seeks to provide further guidance on this assessment and commonality across industry over how this is done.
- Paragraph 1.1 of the Common Connection Charging Methodology (CCCM) (Schedule 22 of DCUSA) says that a customer's Minimum Scheme "shall be consistent with our [the DNOs'] statutory and licence obligations including the requirement to develop, maintain and operate an efficient, co-ordinated and economical electricity Distribution System." Tactical Solution 3 helps DNOs better meet this requirement – better accounting of demand and generation growth enables more efficient and coordinated network planning and so more economical system development.
- Paragraph 1.7 of the CCCM says "the factors taken into account by us [the DNOs] to calculate the connection charge will include, but are not limited to: available capacity of the existing Distribution System." However, "available capacity" is not a defined term, and the CCCM does not specify how a DNO should assess available capacity or connection applications. Tactical Solution 3 seeks to provide further guidance on this assessment and commonality across industry over how this is done[19].

[19] We may subsequently propose a DCUSA code modification to clarify the interpretation.

6. Glossary

Term	Description
Access SCR	Access and Forward Looking Charges Significant Code Review; a package of reforms changing how some distribution customers access and pay to connect to the distribution network.[20]
BSC workgroup	Battery Storage Connections workgroup; the ENA workgroup responsible for developing the two Tactical Solutions which are the subject of this document.
CCCM	Common Connection Charging Methodology (Schedule 22 of DCUSA); the methodology used to set charges for connection to distribution networks in GB.
Core Industry Document	Is defined in the standard conditions of the Electricity Distribution Licence as: "*means any and all of the following:* *(a) the Balancing and Settlement Code,* *(b) the Connection and Use of System Code,* *(c) the Distribution Code,* *(d) the Distribution Connection and Use of System Agreement,* *(e) the Grid Code,* *(f) (Not used),* *(g) the Revenue Protection Code,* *(h) the System Operator Transmission Owner Code,* *(i) the Retail Energy Code, and* *(i) any other document designated by the Authority for the purposes of this condition following consultation with the licensee.*"
DCUSA	Distribution Connection and Use of System Agreement; a multi-party contract covering the use of electricity distribution networks in GB.
DFES	Distribution Future Energy Scenarios; forecast scenarios produced by each DNO showing how GB demand and generation metrics may change out to 2050 for their distribution licence area.
DNO	Distribution Network Operator; a company that owns, operates, and maintains the GB electricity distribution network. There are 14 licensed DNOs in GB, and each is responsible for a regional distribution services area.
EHV	Extra High Voltage; means any distribution network with a voltage greater than 22kV.
ENA	Energy Networks Association; the industry trade association for electricity and gas network companies.
EV	Electric Vehicle
EVCP	Electric Vehicle Charge Point
FES	Future Energy Scenarios; forecast scenarios produced by NGESO showing how GB demand and generation metrics may change out to 2050.
GB	Great Britain
GSP	Grid Supply Point; a point of delivery from or to the transmission network to a distribution system or to a non-embedded demand customer.
GW	Gigawatt; a unit of power.
HV	High Voltage; means any distribution network with a voltage greater than 1kV up to and including 22kV.
LCT	Low Carbon Technology
LV	Low Voltage; means any distribution network with a voltage up to and including 1kV.

[20] More information available at: https://www.ofgem.gov.uk/publications/access-and-forward-looking-charges-significant-code-review-decision-and-direction

Term	Description
Minimum Scheme	As defined in paragraphs 1.1 to 1.7 of Schedule 22 of DCUSA.
MW	Megawatt; a unit of power.
(NG)ESO	(National Grid) Electricity System Operator
PV	Photovoltaic (Solar Panels)
RRE	Regulatory Reporting Evidence (for DSO incentive)
SCG	Strategic Connections Group; the main ENA workgroup/forum for network companies, DESNZ, and Ofgem to discuss connection issues pertaining to the GB electricity network.
TO	Transmission Owner; a company that owns and maintains the GB electricity transmission network. There are 3 licensed onshore TOs in GB, and each is responsible for a regional transmission area.

Energy Networks Association
4 More London Riverside
London SE1 2AU
t. +44 (0)20 7706 5100
w. energynetworks.org
@EnergyNetworks

The voice of the networks