



Glossary

RIIO-ED2 Business Plan Commitments Report



**Electricity
Distribution**

nationalgrid

Glossary

A

Application Programming Interface (API)

An Application Programming Interface (API) is a set of rules, protocols and tools that allows different software applications to communicate and exchange data or services. An API provides a standard way to make requests for data and to receive responses, offering a seamless mechanism for data exchange.

Area of Outstanding Natural Beauty (AONBs)

AONBs are now known as National Landscapes. National Landscapes are legally protected landscapes, designated as such to conserve and enhance their special natural beauty, wildlife, cultural heritage and the communities within them.

Automation

Computer controlled decision making linked to remotely controlled devices which allows electricity supplies to be quickly rerouted without the need to send a person to the site.

B

Behavioural Safety

An approach to safety which goes beyond setting rules and enforcing compliance. It focusses on changing attitudes so that staff take responsibility for their own safety and the safety of others by acting on training, following instructions and challenging others when they see safety rules about to be broken.

Biodiversity

The total range of the variety of life on earth and how they fit together. It means having as wide a range of different species in an ecosystem as it can support, recognising the environmental benefits this can achieve.

Broad Measure of Customer Satisfaction (BMCS)

An incentive scheme made up of a customer satisfaction survey, an assessment of how complaints are dealt with and a review of stakeholder engagement. It is designed to drive improvements in the quality of the overall customer experience by capturing and measuring customers' experiences of contact with their DNO across the range of services and activities the DNOs provide.

Business Carbon Footprint (BCF)

A calculation which represents the effect our work has on the environment. BCF is measured and reported using equivalent tonnes of carbon dioxide to express the impact of energy usage in offices, emissions from vehicles and the release of greenhouse gases. BCF is used to encourage DNOs to consider the direct carbon impact of conducting their operations and to be proactive in the reduction of emissions.

C

Capacity

The amount of power that can be distributed through an asset or the network.

Capital Expenditure (Capex)

Expenditure on investment in long-lived distribution assets, such as underground cables, overhead electricity lines and substations.

Centre for Sustainable Energy (CSE)

An independent national charity that helps people and organisations from the public, private and voluntary sectors meet the twin challenges of rising energy costs and climate change.

Clean Power

Clean Power refers to electricity generated with minimal to zero greenhouse gas emissions. Clean Power 2030 is a UK government action plan to rapidly transition the nation's electricity system to a low carbon model by 2030.

Connections Reform

Connections Reform is a National Energy Systems Operator (NESO) led reform of the electricity network connections process in Great Britain. Approved by Ofgem Connections Reform is focused on changing the order of projects in the connections queue with the aim of clearing a backlog of unviable developments.

Community Energy Groups

Community energy refers to the delivery of community-led renewable energy, energy demand reduction and energy supply projects, whether wholly owned and /or controlled by communities or through a partnership with commercial or public sector partners. A variety of groups represent the views of the sector and those involved in the delivery of community-led projects and services.

Competition in Connections

Historically, the incumbent DNO would have provided new connections. Over recent price controls, Ofgem has promoted greater involvement of third parties in both the design of connections and on-site delivery of connections work. This means that third party connection providers compete for the business of providing new connections in a competitive market.

Critical National Infrastructure (CNI)

National assets that are essential for the functioning of society, such as those associated with energy supply, water supply, transportation, health and telecommunications.

Customer Interruptions (CIs)

The number of customers whose supplies have been interrupted per 100 customers per year over all incidents, where an interruption of supply lasts for three minutes or longer, excluding re-interruptions to the supply of customers previously interrupted during the same incident.

Customer Minutes Lost (CMLs)

The average duration of interruptions to supply per year per customer, where an interruption of supply to customer(s) lasts for three minutes or longer.

Cyber Assessment Framework (CAF)

A tool which provides a systematic and comprehensive approach to assessing the extent to which cyber risks to essential functions are being appropriately managed by the organisation responsible.

D

DESNZ

Department for Energy Security and Net Zero.

Demand Turn Up

A service where large energy users or generators are paid to increase their electricity consumption or decrease their power generation when there is excess energy on the system – typically overnight and weekend afternoons.

Dispatch Events –

A dispatch event is when procured flexibility services are activated.

Distributed Energy Resources (DER)

Smaller power sources embedded in the distribution network that can be used to provide the power to meet demand.

Distribution Future Energy Scenarios (DFES)

Distributed Generation (DG)

Electricity generation connected to the distribution network. It includes wind turbines, domestic solar panels, large scale photo-voltaic farms, hydro-electric power and biomass generators. Sometimes referred to as embedded generation.

Distribution Network Operators (DNOs)

A DNO is a holder of an electricity distribution licence. There are 14 DNOs which are owned by six different ownership groups. NGED holds licences for four DNOs.

Distribution System Operator (DSO)

It is anticipated that changes to the energy sector will require Distribution Network Operators to evolve from a traditional, passive role of network management to a Distribution System Operator with full operational responsibility for forecasting energy production and demand along with identifying which parts of the network require extra capacity and seeking the provision of that capacity through new flexibility services or traditional network reinforcement.

E

Energy Systems Catapult (ESC)

An independent research and technology organisation focussed on accelerating Net Zero energy innovation.

Electricity System Operator

Now known as the National Energy System Operator.

Employee Resource Groups (ERGs)

Voluntary, employee-led groups that develop programmes of activity to further our Diversity, Equity and Inclusion goals. Groups help build awareness and understanding of inclusion and diversity.

Exceptional events

Events beyond the control of the DNO that impact on network performance, this could include instances of severe weather or significant one off events. Exceptional events can be exempted from calculations of network performance when strict criteria are met and verified by Ofgem.

F

Flexible Connections

Standard connections allow customers to import or export up to the full rated capacity noted in their connection agreement at all times of normal network operation. The customer is free to use the capacity assigned at any level they choose without further involvement from the network operator. However, where there is insufficient capacity, and costly and/or time consuming reinforcement is required, NGED has developed

a range of 'flexible' connections which enable more active management of capacity to limit export and load at times of peak demand, which enables new connections to be made without the need for network reinforcement.

Flexibility Markets

A commercial platform where the ability to adjust electricity generation or consumption is traded.

Fluvial flooding

Flooding related to river or coastal sites.

Fuel poverty

Fuel poverty describes circumstances where customers struggle to afford electricity and to effectively heat their properties. Whilst NGED is not directly responsible for dealing with fuel poverty we refer customers to a network of expert partners for further advice and assistance.

G

Grid Supply Point (GSP)

A connection point at which the Transmission system is connected to a Distribution system. Voltage is stepped down from 400kV to 132kV.

H

Heat Pump

Systems which capture heat energy from the ground, bodies of water or air. They can be used for space heating, water heating, heat recovery and cooling in a range of buildings. A supply of electricity is required to power the heat pump system.

High Voltage (HV)

Voltages from 1kV up to, but not including, 22kV.

I

Independent Distribution Network Operator (IDNO)

A company that can construct new electricity networks, embedded within and connected to the DNOs network, retaining ownership of and being responsible for the operation of the new network.

Innovation projects

Projects that seek to find new and better ways of working. Projects can focus on network performance and efficiency, low carbon networks, smart grids and meters, reducing impact on the environment, developing customer service and helping vulnerable customers.

Inspections and Maintenance (I&M)

Inspections are activities carried out on a routine basis to establish the status and condition of network equipment. Maintenance is routine work which seeks to ensure that network equipment continues to perform as expected during its lifetime.

Interruption Incentive Scheme (IIS)

The Interruption Incentive Scheme is a financial incentive mechanism that provides annual rewards or penalties based on a DNO's performance against its targets for the number of customers interrupted per 100 customers (CI) and the number of customer minutes lost per customer (CML).

L

Load

The amount of power flowing through an asset or a network. This may also be referred to as demand. Maximum demand is compared to capacity to determine if the network needs to be reinforced.

Low Carbon Technology (LCT)

This is the collective term for devices that reduce the amount of carbon being used for heating, transport and generation. It includes electric vehicles, heat pumps and solar generation.

Low Voltage (LV)

This refers to voltages up to, but not including, 1kV.

M

Medically dependent customers

Customers who rely on electricity as a result of a health condition.

N

National Energy System Operator (NESO)

Formerly the Electricity System Operator. NESO is an independent, public corporation responsible for planning Great Britain's electricity and gas networks, operating the electricity system and creating insights and recommendations for the future whole energy system.

National Grid Electricity Distribution (NGED)

The name of the electricity distribution network operator that holds four distribution licences for West Midlands, East Midlands, South Wales and South West. NGED is the new name for the company formally known as Western Power Distribution (WPD).

Net zero

The UK's Climate Change Act (2008) sets out how the UK tackles climate change. The act says that by 2050 the UK Government must reduce greenhouse gas emissions by at least 100% compared with 1990 levels.

Network & Information Systems Regulations (NIS Regulations)

Provide legal measures to boost the level of security (both cyber and physical resilience) of network and information systems for the provision of essential services and digital services.

Nominal Prices

The nominal value of something is its current price.

O

Office of Gas and Electricity Markets (Ofgem)

Ofgem is responsible for regulating the gas and electricity markets and network monopolies in the UK to ensure customers' needs are protected.

P

Perfluorocarbon Tracer (PFT)

A chemical that is injected into fluid filled cables, used to speed up the location of leaks.

Pluvial flooding

Flooding related to excessive rainwater (flash flooding).

Power Up

Our referral service which arranges for a partner organisation to provide help for customers who are struggling to pay for energy.

Price Control

NGED is a regional monopoly – our customers are such because of where they live and work. NGED is therefore regulated by Ofgem to make sure that we provide a high level of service for the money we are allowed to charge. The money we can earn is set for a specific period of time and determined through a process that assesses proposed activities and associated costs. The process results in determining the financial mechanisms that determine what costs can be recovered from customers. The RIIO-ED1 price control covers the period from 1 April 2015 to 31 March 2023.

Priority Services Register (PSR)

A database that records details about customers in vulnerable circumstances so that we can provide additional support if needed.

R

Reinforcement

The provision of more network capacity by installing more assets or installing higher rated assets

Resilience

The ability of the network to withstand extreme events such as storms and flooding, and having the ability to recover quickly from widespread power black outs.

Revenue = Incentives + Innovation + Outputs (RIIO)

The current regulatory framework, introduced for electricity distribution in 2015/16. It places emphasis on incentives to drive the innovation needed to deliver a sustainable energy network at value for money to existing and future consumers.

RIIO Electricity Distribution 1 (RIIO-ED1)

The eight-year price control period that runs from 1 April 2015 to 31 March 2023. It is the first electricity distribution price control that uses the RIIO framework for setting allowances.

RIIO Electricity Distribution 2 (RIIO-ED2)

The five-year electricity distribution price control period that runs from 1 April 2023 to 31 March 2028. Ofgem has determined that the RIIO-ED2 price control will be five years in length.

Routine Tree Cutting

Tree cutting is undertaken on a cyclical basis to provide sufficient clearance from equipment. Tree cutting prevents faults and keeps the public safe. Clearance is carried out to standard industry specified distances from equipment.

S

Science-based targets (SBTs).

The Science Based Targets initiative (SBTi) is a corporate climate action organisation that provides standards, tools and guidance which allow companies to set greenhouse gas emissions reduction targets in line with what is needed to keep global heating below catastrophic levels and reach net zero by 2050 at the latest. Targets are considered 'science-based' if they are in line with what the latest climate science deems necessary to meet the goals of the Paris Agreement – limiting global warming to 1.5 °C above pre-industrial levels.

Solar Photovoltaic (Solar PV)

Technology that directly converts sunlight into electricity.

Smart Meters

Smart meters record the energy consumed within a property and are capable of being read remotely. The government originally mandated that by 2020 every home in Great Britain will be offered a smart electricity and gas meter, but the timescales have been extended to June 2025. Smart meters have the capability to allow NGED much greater visibility of the operational state of the low voltage network.

Substation

A part of the distribution network that transforms voltage and allows the re-routing of power by switching the configuration. It contains transformers, switchgear and equipment that protects the network components by interrupting supplies when there is a fault. Substations vary in size from bulk supply points that supply tens of thousands of customers to pole mounted substations that may supply a single rural property.

Sulphur Hexafluoride (SF₆)

A gas widely used as an insulating medium in transmission and distribution equipment. It has excellent insulating properties but is a potent greenhouse gas. It continues to be used because there are limited alternatives available.

Switches

Devices installed on the network that can be turned on or off and are used to alter the routing of electricity. Some can be operated remotely by central control engineers; others require manual operation on site by authorised staff.

T

Technical Network Losses

The amount of energy that enters an electricity network is more than the amount that is delivered to customers. Losses can occur in a number of ways, including the heating effect of energy passing through cables and wires. Technical network losses are the electricity units lost owing to the physical properties of the network.

Totex

The licensee's total expenditure (with limited exceptions) on regulated business activities. It includes both capital and operating expenditure items that the licensee has control over.

Transformer

Converts electricity from one voltage to another.

Transmission system

The transmission system is the 400kV and 275kV network used to transport electricity around the country from sources of large scale generation such as power stations and off-shore wind farms to substations that feed into DNO electricity networks. The NGED network is connected to the National Grid Electricity Transmission system at a number of grid supply points.

U

Unrestricted Domestic Tariff

The estimated annual cost of electricity distribution to the typical domestic customer, calculated under the Common Distribution Charging Methodology and assuming specific consumption of 3,100kWh. The tariff charge will vary for each licence area depending on customer numbers and the nature of the network.

V

Vulnerable Customers

Vulnerable customers include those customers who are medically dependent upon electricity, have special communication requirements, have other special needs with a dependence upon electricity (e.g. stair lift), are elderly, have a transient vulnerability to a power cut (e.g. such as those who have recently left hospital) or need assistance with energy affordability.

W

Whole system outcomes

Working with partners across the whole energy system (including Transmission system operators and other distribution network operators). Coordinating activities in order

ensure that networks as a whole are managed efficiently and in the best interest of consumers.

Worst Served Customers

Customers who experience 12 or more higher voltage interruptions over a three-year period, (with a minimum of two interruptions per year).

National Grid Electricity Distribution (East Midlands) plc, No2366923
National Grid Electricity Distribution (West Midlands) plc, No3600574
National Grid Electricity Distribution (South West) plc, No2366894
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