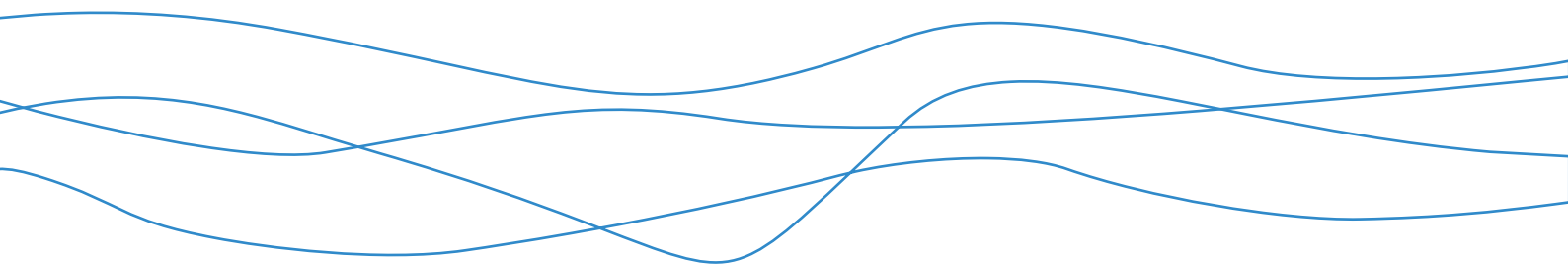




Bowdun Offshore Wind Farm, Onshore EIA Report

Contents, Glossary, Acronyms and Units

TWP-BOW-JCB-ENV-RPT-00014 | November 2025



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Glossary

Defined Term	Definition
400 kV Cable Corridor	The 400 kV Cable Corridor will house the cabling required for the onward transmission from the Substation to the proposed SSEN-T Hurlie Substation.
400 kV Cables	Cables that will connect the Substation to the Grid Connection Point (GCP) which is a new substation proposed by SSEN-T known as the Hurlie Substation.
Abnormal Load (AL)	Any vehicle exceeding: <ul style="list-style-type: none"> • a weight of 44 tonnes; • an axle load of 10 tonnes for a single non-driving axle and 11.5 tonnes for a single driving axle; • a width of 2.9 metres; and • a length of 18.65 metres.
Abnormal Indivisible Load (AIL)	Loads or vehicles that exceed maximum vehicle weight, axle weight or dimensions as set out in the Road Vehicles (Construction and Use) Regulations 1986 as amended.
Access	The means by which to approach or enter land, property and assets.
Additional Mitigation	Also referred to as secondary mitigation which is defined by Institute of Environmental Management and Assessment (IEMA) as: Actions that will require further activity in order to achieve the anticipated outcome. These may be imposed as part of the planning consent, or through inclusion in the Onshore EIA Report (sic).
Agricultural Land Holdings	Land and associated infrastructure for the purpose of agricultural production, e.g. arable farming, dairy farming etc.
Air Quality Management Areas	Places where national air quality objectives are not likely to be achieved.
Alluvial	Describes sediments deposited by running water.
AM (Morning Peak)	Time period between 7am and 10am.
Ambient sound	Totally encompassing sound in a given situation at a given time, usually composed of sound from many sources near and far.
Ambient Sound Level, $L_{Aeq,T}$	The steady sound level which, over a period of time T , contains the same amount of A-weighted sound energy as the time varying sound over the same period. Also known as the equivalent continuous sound pressure level.
Ancient tree	An ancient tree is exceptionally valuable tree attributed with great age/size/cultural heritage/biodiversity value as a result of significant wood decay and the habitat created from the aging process. All ancient trees are veteran trees with very few trees of any species reaching the ancient life-stage.
Annex I	Habitats of community interest (in danger of disappearance in their natural range and/or for which there is a particular responsibility to conserve) as identified in Annex 1 of the Habitats Directive (Council Directive 92/43/EEC).

Defined Term	Definition
Annex II	Species of community interest whose conservation requires the designation of Special Areas of Conservation (SACs) under the Habitats Directive (Council Directive 92/43/EEC).
Annex IV	Species of community interest in need of strict protection under the Habitats Directive (Council Directive 92/43/EEC).
Annoyance (dust)	Loss of amenity due to dust deposition or visible dust plumes, often related to people making complaints, but not necessarily sufficient to be a legal nuisance, as defined by the Institute of Air Quality Management.
Applicant (the)	Thistle Wind Partners Limited
Appropriate Assessment (AA)	An assessment to determine the implications of a plan or project for a European site in view of that site's conservation objectives. An Appropriate Assessment forms part of the Habitats Regulations Appraisal (HRA) and is required when a plan or project (either alone or in combination with other plans or projects) is likely to have a significant adverse effect on a European site.
Arable Farm	A farm that is suitable for growing crops and can be cultivated.
Arboriculture	Arboriculture is the cultivation, management, and study of individual trees, shrubs, vines, and other perennial woody plants.
Array Area	The Array Area is the area in which the Offshore Generation Assets will be located.
Attenuation	The reduction in magnitude of sound energy.
Ash Die Back (ADB)	A chronic fungal disease of ash trees caused by <i>Hymenoscyphus fraxineus</i> . Affected trees experience shoot dieback, bark lesions, cankers, extensive deadwood and eventual death.
Aquifer	A body of permeable rock which can contain or transmit groundwater.
A-weighting	A frequency weighting devised to attempt to account for the fact that human response to sound is not equally sensitive to all frequencies. It consists of an electronic filter in a sound level meter which attempts to build this variability into the indicative sound level reading so that it will correlate, approximately, with the human response.
Background Sound Level, $L_{A90,T}$	The A-weighted sound pressure level that is exceeded by the residual sound at the assessment location for 90% of a given time interval, T , measured using fast time-weighting, F , and quoted to the nearest whole number of decibels.
Background maps	Maps of modelled background air pollution concentrations at 1x1km resolution for oxides of nitrogen (NO _x), nitrogen dioxide (NO ₂) and particulate matter (PM ₁₀ and PM _{2.5}).
Baseline	The status of the environment without the Proposed Development in place.
Basic Noise Level (BNL)	A measure of traffic source noise prior to development. It is calculated from traffic flows, road speed, and Heavy Goods Vehicle percentage.
Bark	A term usually applied to all the tissues of a woody plant lying outside the vascular cambium.
Bark lesions	A small area of dead, damaged or discoloured bark. Typically affected by a pathogen.

Defined Term	Definition
Barrow	A hemispherical artificial mound of earth, turf and/or stone surrounded by a ditch, often accompanied by an external bank, normally constructed to contain or conceal burials.
Benthic	Living on or in the seabed.
Best Practicable Means (BPM)	Adopting the best available methods to reasonably control noise and vibration.
Bivallate	An enclosure bounded by a double line of ramparts.
Blue Carbon	Carbon captured by the world's ocean and coastal ecosystems. Typically includes carbon stored within ocean sediments and ocean vegetation such as seagrasses or kelp.
Bowdun Offshore Wind Farm Limited (BOWFL)	A Special-Purpose Vehicle (SPV) (legal entity) for the purpose of developing the Project.
Broadband	A sound with energy distributed across a wide range of frequencies. Used to describe a single-figure sound level.
Bronze Age	Period dating from 2500-800 BC.
Brown earth	A soil grouping which is free draining and brown due to iron oxides present in the soil. These are often associated with deciduous forests.
Buttress zone	The region at the base of a tree where the major lateral roots join the stem, with buttress-like formations on the upper side of their junction.
Cable Corridors	The 220/275 kV and the 400 kV Cable Corridors.
Canker	A lesion formed by the death of bark and cambium often due to fungal or bacterial infection.
Canopy drip line	The outermost circumference of a tree's canopy, from which water drips to the ground.
CAR Licence	In accordance with the Water Environment (Controlled Activities) (Scotland) Regulations 2011, CAR Licences authorised by the SEPA are required for activities that could have a potential impact on the water environment.
Carbon	Used interchangeably with greenhouse gas (see Greenhouse gas).
Carbon Balance	The difference between carbon emissions and carbon sequestration in a specific system.
Carbon Budget	The maximum amount of carbon emissions that can be released into the atmosphere over a set period of time. The goal of Carbon Budgets is to limit global warming to a specific level.
Cereals	Growing of grain used for food, typically barley and wheat.
Collison Cluster	Four collisions within a 50-metre radius of each other within a consecutive five-year period.
Compaction	The process where soil particles are pressed together, reducing pore space and creating a dense soil structure. This can lead to restricted root growth, reduced water/nutrient uptake and increased susceptibility to tree stress and disease.
Competent Authority	Competent Authority means the decision-maker on the application for consent to which the HRA relates. For the purposes of this Report, the competent authority is the Highland Council.

Defined Term	Definition
Community Land and Assets	Land, buildings and infrastructure providing a service/resource to a community, e.g. open spaces, village greens, village halls, healthcare and education facilities etc.
Condition	An indication of the physiological vitality of the tree. Where the term 'condition' is used in a report, it should not be taken as an indication of the stability of the tree.
Construction	Any activity involved with the provision of a new structure (or structures), its modification or refurbishment.
Construction Environmental Management Plan (CEMP)	A document detailing the overarching management principles for construction, which includes construction-related environmental management measures, pollution prevention measures, the selection of appropriate construction techniques and monitoring processes.
Construction exclusion zone	Area based on the Root Protection Area (in square metres) to be protected during development, using barriers and/or ground protection.
Construction Traffic Management Plan (CTMP)	A document which details the construction traffic routes of Heavy Goods Vehicles (HGVs) and personnel travel, protocols for the delivery of Abnormal Indivisible Loads to site, measures for road cleaning and sustainable site travel measures.
Contractor	A contractor is anyone who directly employs or engages construction workers or manages construction work. Contractors include sub-contractors, any individual self-employed worker or business that carries out, manages or controls construction work.
Controlled Activities Regulations	Scottish regulations that control engineering, abstraction and disposal activities which can affect Scotland's water environment.
Contracts for Difference (CfD)	The UK Government's main mechanism for supporting low-carbon electricity generation.
Cropmark	Patterns or variations in the colour or growth rates of crops that are visible from the air, usually caused by the differential effects on plant ecology of below-ground disturbances or soil enrichment. Often these relate to archaeological features and provide a proxy indicator of what lies within or beneath the ground.
Crown/Canopy	The main foliage bearing section of the tree.
Crown lifting	A term used to describe the removal of limbs and small branches to a specified height above ground level.
Crown Estate Scotland (CES)	Public corporation accountable to Scottish Government, responsible for the management of land and property in Scotland owned by the monarch.
Cultural Heritage	<p>Cultural heritage is an expression of the ways of living developed by a community and passed on from generation to generation. It can include customs, practices, places, objects, artistic expressions and values, aesthetic, historic, scientific, social or spiritual aspects (HES, 2019).</p> <p>Cultural heritage includes the historic environment which is defined by National Planning Framework 4 (NPF 4) as "<i>the physical evidence for human activity that connects people with place, linked with the associations we can see, feel and understand</i>" (Scottish Government 2023).</p>

Defined Term	Definition
Cultural Significance	Cultural significance means aesthetic, historic, scientific or social value for past, present or future generations. Cultural significance can be embodied in a place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.
Cumulative Effects	The effects of the Proposed Development assessed together with effects from one or more different projects on the same receptor/resource.
Dairy Farm	A farm that raises and manages domesticated animals (cows and cattle) for milk and meat.
dB(A)	The unit used to define a weighted sound pressure level, which correlates well with the subjective response to sound. The 'A' weighting follows the frequency response of the human ear, which is less sensitive to low and very high frequencies than it is to those in the range 500 Hz to 4 kHz.
Deadwood	Branch or stem wood bearing no live tissues. Retention of deadwood provides valuable habitat for a wide range of species and seldom represents a threat to the health of the tree. Removal of deadwood can result in the ingress of decay to otherwise sound tissues and climbing operations to access deadwood can cause significant damage to a tree. Removal of deadwood is generally recommended only where it represents an unacceptable level of hazard.
Debitage	Waste flakes and cores produced in the manufacture of stone implements.
Decibel (dB)	A unit used to measure or compare the intensity of a sound by comparing it with a given reference level on a logarithmic scale.
Deposited Dust	Dust that has settled out onto a surface after having been suspended in air.
Desiccation	The process of drying out or losing moisture.
Designated Heritage Assets of National Importance	Scheduled Monuments, Category A Listed Buildings, Inventory Gardens and Designed Landscapes, Inventory Battlefields, and historic marine protected areas.
Diamicton	Unconsolidated and poorly sorted sediment that contains a wide range of particle sizes (from clay to boulders) supported in a fine-grained matrix.
Diameter at Breast Height (DBH)	Stem diameter measured at a height of 1.5 metres (UK) or the nearest measurable point. Where measurement at a height of 1.5 metres is not possible, another height may be specified.
Dieback	The death of parts of a woody plant, starting at shoot-tips or root-tips.
Digital Aerial Surveys (DAS)	A method for undertaking baseline ornithological and marine mammal data collection surveys. Usually undertaken over a period of 24 months.
Dimensionless	A pure number having no units attached and having a numerical value that is independent of whatever system of units may be used to derive it.
Discount Rate	Socio-economic impacts that occur sooner are valued higher than impacts that occur in the future.

Defined Term	Definition
Displacement	An impact that occurs when a bird is forced away from an area of habitual usage. This can be temporary (i.e. a ship moving) or permanent (i.e. the placement of offshore infrastructure).
Drinking Water Protected Area	Designated regions that safeguard water sources used for drinking water supply, ensuring their quality and sustainability.
Dust	Solid particles suspended in air or settled out onto a surface after having been suspended in air.
Early Medieval	AD 400 – 1100
Earthworks	Covers the processes of soil-stripping, ground-leveling, excavation, and landscaping, as defined by the Institute of Air Quality Management.
Ecological Potential	Ecological potential in artificial and heavily modified water bodies is determined by an assessment of whether measures are properly in place to mitigate the impacts of any modification on the ecology of the water body.
Ecological Status	An expression of the structure and functioning of aquatic ecosystems associated with surface waters. Such waters are classified as being of Good Ecological Status (GES) when they meet the requirements of the Water Framework Directive (WFD).
Effect	Term used to express the consequence of an impact i.e. the result of change or changes on specific environmental resources or receptors. The significance of an effect is determined by correlating the magnitude of the impact with the importance, or sensitivity of the receptor or resource in accordance with defined significance criteria.
Embedded Mitigation	Measures that are adopted as part of the Proposed Development and therefore assessed within the Environmental Impact Assessment (EIA). The proposed approach for the EIA for the Proposed Development is that embedded mitigation includes both primary mitigation and tertiary mitigation. These are defined by the Institute of Environmental Management and Assessment (IEMA) as follows: Primary: Modifications to the location or design of the development made during the pre-application phase that are an inherent part of the project, and do not require additional action to be taken. Tertiary: Actions that would occur with or without input from the EIA feeding into the design process. These include actions that will be undertaken to meet other existing legislative requirements, or actions that are considered to be standard practices used to manage commonly occurring environmental effects.
Embodied Carbon	Embodied carbon refers to the total greenhouse gas emissions associated with the extraction/production, transportation, installation, maintenance, and end-of-life profile of materials used for the Project.
Environmental Impact Assessment (EIA)	Assessment of the potential likely significant effects of the Proposed Development on the physical, biological, and human environment during construction, operations and maintenance and decommissioning.
Environmental Impact Assessment (EIA) Report	Document prepared to comply with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 in order to provide information on:

Defined Term	Definition
	<ul style="list-style-type: none"> the baseline environment; project description for the Proposed Development; a systematic assessment of the Proposed Development's likely significant environmental effects; measures to avoid, prevent, reduce or offset likely significant adverse environmental effects; a description of the reasonable alternatives studied by the Applicant; and a non-technical summary.
Environmental Impact Assessment Regulations	Terminology used in the Onshore EIA Report to refer to The Town and County Planning (Environmental Impact Assessment) (Scotland) Regulations 2017.
Equivalent continuous sound level	An index for assessment for overall noise exposure is the equivalent continuous sound level, L_{peq} . This is a notional steady level which would, over a given period of time, deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating levels can be described in terms of a single figure level.
European Sites	This term recognises Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) which protect species and habitats shared across Europe and were originally designated under European legislation.
Eutrophic	Waters that have become enriched by nutrients (principally phosphorus and nitrogen). The nutrients accelerate plant growth, disturbing the balance of aquatic plants and animals affecting water quality.
Exclusive Economic Zone (EEZ)	An area from the outer limit of the territorial sea up to 200 nm from the coastal baseline, over which a sovereign state has rights regarding marine resources.
Facilitation pruning	The pruning of trees to allow for safe access and operation of machinery during construction or demolition.
Flood Risk	The combination of the probability of a flood event and its potential adverse consequences.
Fragmentation	The extent to which fields or land parcels are divided into smaller parts.
Frequency	Frequency is the rate of repetition of a sound wave. The subjective equivalent in music is pitch. The unit of frequency is the hertz (Hz), which is identical to cycles per second. A 1000 Hz is often denoted as 1 kHz, e.g. 2 kHz = 2000 Hz. Human hearing ranges approximately from 20 Hz to 20 kHz. For design purposes the octave bands between 63 Hz to 8 kHz are generally used. The most commonly used frequency bands are octave bands, in which the mid frequency of each band is twice that of the band below it. For more detailed analysis, each octave band may be split into three one-third octave bands or narrow frequency bands.
Freefield	An external sound field in which no significant sound reflections occur (apart from the ground).

Defined Term	Definition
Hurlie Substation	This is the proposed Scottish and Southern Electricity Networks Transmission (SSEN-T) substation into which the Project would ultimately connect to the National Grid.
General Binding Rules	A set of mandatory rules under CAR that cover low-risk activities affecting the water environment, which do not require formal authorization from SEPA.
Gley	Bluish-grey, waterlogged, and poorly drained soil found in humid regions.
Good Status	A collective term used to refer to the status achieved by a surface water body when both its ecological status and its chemical status are at least good or, for groundwater, when both its quantitative status and chemical status are at least good.
Greenfield runoff rate	Rates of surface water runoff from a site that is undeveloped (greenfield).
Greenfield site	An undeveloped site.
Greenhouse gas	A gas that absorbs and emits radiant energy within the thermal infrared range, causing the greenhouse effect. Examples include carbon dioxide and methane.
Gross Disposable Household Income (GDHI)	Measures the total amount of money households have available to spend or save after paying direct taxes and receiving benefits or welfare payments.
Gross Value Added	A measure of economic activity expressed as the difference between an organisation's turnover and its non-staff operational expenditure.
Gross Value Added per Hours Worked (GVA/h)	Measures output in an industry or economy per number of hours worked by employees. This is the official and headline measure of labour productivity in the UK.
Ground factor, G	A dimensionless parameter which allows for the consideration of the acoustic properties of the ground surface between a sound source and the receptor.
Groundwater	All water which is below the surface of the ground in the saturated zone and in direct contact with the ground or subsoil.
Groundwater Dependent Terrestrial Ecosystem	Ecosystems that rely on groundwater to maintain their structure and function.
Habit	The overall growth characteristics, shape of the tree and branch structure.
Habitats Directive	Council Directive 92/43/EEC (the 'Habitats Directive') together with the 'Birds Directive', provide the EU's legal framework for the protection of wild fauna and flora and established a network of internationally important sites, designated for their ecological status.
Habitats Regulations	A term that refers to the collective legislation that translates the Habitats Directive into specific legal obligations in Scotland, namely: the Conservation (Natural Habitats, &c.) Regulations 1994; the Conservation of Habitats and Species Regulations 2017; and the Conservation of Offshore Marine Habitats and Species Regulations 2017 (in each case as amended).
Habitats Regulations Appraisal (HRA)	An assessment carried out under the Habitats Regulations to determine if a plan or project could adversely affect the integrity of a European site.

Defined Term	Definition
Hazard beam	An upwardly curved part of a tree in which strong internal stresses may occur without being reduced by adaptive growth; prone to longitudinal splitting.
Heavy Goods Vehicle (HGV)	Any vehicle exceeding 3.5 tonnes gross weight.
Heritage Asset	A physical element of the historic environment – a building, monument, site, place, area or landscape identified as having cultural significance.
High Voltage Alternating Current (HVAC)	A system of power transmission and distribution that utilises alternating current at voltages typically exceeding 1000 volts, as defined by the International Electrotechnical Commission (2015). HVAC systems are designed to efficiently deliver electricity over long distances with minimal losses, leveraging transformers to modify voltage levels.
Historic Environment	The historic environment is ‘the physical evidence for human activity that connects people with place, linked with the associations we can see, feel and understand’.
Historic Landscape Types (HLT)	A distinctive and repeated combination of components [that] define a generic historic landscape character (Rippon 2004, pp. 19). To facilitate the assessment of potential effects on the historic landscape it was divided into HLTs.
Horizontal Directional Drilling (HDD)	Horizontal Directional Drilling (HDD) is a method of installing underground pipelines, cables and service conduit or ducts through trenchless methods to avoid obstacles and sensitive features such as roads, watercourses and woodlands. The term HDD is used here interchangeably with other similar trenchless techniques but excluding micro tunnelling or direct pipe methods.
House Platform	An area of ground on which a house was built.
Humus	The dark, stable product of decomposed organic matter in soil, formed from dead plants and animals.
Humus-iron podzol	An acidic soil type found in cool, wet, and well-drained conditions, characterized by a bleached, ash-grey, leached layer above a lower layer enriched with deposited iron, aluminium, and organic matter.
Hut Circle	Indicated by the presence of low, roughly circular banks of turf, earth or stone, forming the base of the walls.
Hydrological catchment	An area of land where precipitation collects and drains off into a common outlet, such as a river or reservoir.
Impact	A change caused by an action that occurs during a project’s lifetime.
Impulsive Sound	Sound which is broadband, very brief with a high rise time and high peak level compared to the energy averaged sound level.
Impulsivity	A measure of the sharpness of sudden nature of a sound which is short in duration such as a gunshot or a blast.
Interconnector Cables	Cables which will connect individual OSPs to each other to provide redundancy against cable failure elsewhere.
Intermittency	A measure of the ‘on/off’ nature of a sound source.
Inter-Array Cables (IAC)	Cables which link the wind turbines to each other and with the Offshore Substation Platforms (OSPs).

Defined Term	Definition
Inter-related Effects	The potential effects of multiple impacts from the construction, O&M and decommissioning of the Project, affecting one receptor.
Intertidal Area	The area between Mean High Water Springs (MHWS) and Mean Low Water Springs (MLWS).
Invasive Non-Native Species (INNS)	Non-native plants or animals that successfully establish themselves in aquatic and fringing habitats and damage natural flora and fauna.
IP (Inter-Peak)	Time period between 10am and 4pm.
Iron Age	800 BC – AD 400
Journey Length	Physical length of a journey.
Key characteristics	Those combinations of elements which are particularly important to the current character of the landscape and help to give an area its particularly distinctive sense of place.
Landfall	The area in which the offshore export cables make landfall and is also the transitional area between the Offshore Transmission Assets and the Onshore Transmission Assets. Located in the intertidal area (see definition above) at Benholm Bay.
L_{Aeq}	An index for assessment for overall noise exposure is the equivalent continuous sound level, L_{peq} . This is a notional steady level which would, over a given period of time, deliver the same sound energy as the actual time-varying sound over the same period. Hence fluctuating levels can be described in terms of a single figure level.
L_{AMax}	The maximum noise level identified during a measurement period. Experimental data has shown that the human ear does not generally register the full loudness of transient sound events of less than 125ms duration and fast time weighting (F) has an exponential time constant of 125ms which reflects the ear's response. Slow time weighting (S) has an exponential time constant of 1s and is used to allow more accurate estimation of the average sound level on a visual display.
L_{AMin}	The minimum noise level identified during a measurement period. Experimental data has shown that the human ear does not generally register the full loudness of transient sound events of less than 125 ms duration and fast time weighting (F) has an exponential time constant of 125 ms which reflects the ear's response. Slow time weighting (S) has an exponential time constant of 1s and is used to allow more accurate estimation of the average sound level on a visual display.
L_{A90}	Indicates the underlying background noise level in an area, excluding short-term events. This parameter, often used in planning and environmental noise assessments, provides a measure of the ambient or residual sound that remains when specific noise sources are absent.
L_{A10}	Indicates the statistical noise metric representing the A-weighted sound pressure level (dB(A)) that is exceeded for 10% of a given measurement period, with the 'A' indicating that it's been weighted to reflect human hearing perception. Commonly used in the UK, LA10 is a key index for assessing road traffic noise.
L_{WA}	This is the acronym for Sound Power Level. The Sound Power Level is a measure of the total acoustic energy emitted by a sound

Defined Term	Definition
	source in Watts, independent of the environment or the listener's location. It's expressed in decibels (dB) and serves as an intrinsic property of the noise-emitting object, allowing for objective comparison of different sound sources without being affected by room acoustics or distance.
Landform	The shape and form of the land surface which has resulted from combinations of geology, geomorphology, slope, elevation and physical processes.
Landscape	An area, as perceived by people, the character of which is a result of the action and interaction of natural and/or human factors.
Landscape character	A distinct, recognisable and consistent pattern of elements in the landscape that makes one landscape different from another, rather than better or worse.
Land Capability for Agriculture (LCA)	The LCA classification system has been used rank land on the basis of its potential productivity and cropping flexibility. This is determined by the extent to which the physical characteristics of the land (soil, climate and relief) impose long term restrictions on its use.
Landscape Character Area (LCA)	These are single unique areas which are the discrete geographical areas of a particular landscape character type. Each has its own individual character and identity, even though it shares the same generic characteristics with other types. (Natural England, 2014).
Landscape Character Assessment	The process of identifying and describing variation in the character of the landscape and using this information to assist in managing change in the landscape. It seeks to identify and explain the unique combination of elements and features that make landscape distinctive.
Landscape Character Types (LCTs)	Distinct types of landscapes that are usually homogenous in character. They are generic in nature in that they may occur in different areas in different parts of the country, but wherever they occur they share broadly similar combinations of geology, topography, drainage patterns, vegetation and historical land use and settlement pattern, and perceptual and aesthetic attributes. (Topic Paper 6, Countryside Agency and SNH 2002).
Landscape effects	Effects on the landscape as a resource in its own right.
Landscape quality (condition)	A measure of the physical state of the landscape. It may include the extent to which typical character is represented in individual areas, the intactness of the landscape and the condition of individual elements.
Landscape receptors	Defined aspects of the landscape resource that have the potential to be affected by a proposal.
Landscape value	The relative value that is attached to different landscapes by society. A landscape may be valued by different stakeholders for a whole variety of reasons.
Landscape and Visual Impact Assessment	A chapter within the EIA Report to systematically identify, predict, assess and report on the likely significant landscape and visual effects of a proposed project or development.
Life Cycle Assessment	The systematic analysis of the potential environmental impacts of products or services during their entire life cycle.
Likely Significant Effect (LSE)	An effect that has the potential to occur as a result of the Proposed Development as determined by the AA.

Defined Term	Definition
Light Goods Vehicle (LGV)	Any vehicle with a maximum gross weight of 3.5 tonnes.
Lithic Scatter	A spatially discrete, though sometimes extensive, scatter of stone (usually flint) artefacts.
Livestock farm	A farm that raises and manages domesticated animals (typically cattle and sheep) for products such as meat, milk and wool.
Local Authority	Local Authority is a body empowered by law to exercise various statutory functions for a particular area of the United Kingdom. Functions will cover planning, roads/highways, environmental health, flood protection, environment/ecology, cultural heritage and waste. The relevant Local Authority for this Project and the associated onshore elements is Aberdeenshire Council. In the context of the Proposed Development, they will also be the relevant planning authority.
Logarithmic averaging	A method by which sound levels in decibels (dB) can be averaged. This allows us to account for the fact that higher levels of sound will always dominate in the presence of lower sound levels.
Lower Quartile Incomes	25% of individuals in the population have incomes below the figure indicated. The measure is used to understand and compare the economic standing of the bottom 25% of earners in a population.
Marine Application Boundary	The boundary within which all offshore elements of the Project will be located. The Marine Application Boundary comprises the Offshore Generation Assets and Offshore Transmission Assets which end at mean high water springs.
Marine Licence	A Marine Licence permits the undertaking of different activities in the marine environment, including construction, the deposition or removal of substances or objects, and dredging. The Marine (Scotland) Act 2010 requires Marine Licences to be obtained for licensable activities taking place within Scottish Territorial Seas (MHWS to 12 nm). The Marine and Coastal Access Act (MCAA) 2009 requires a Marine Licence to be obtained for licensable marine activities within the Scottish offshore region (12 nm – 200 nm).
Matters Specified in Conditions (MSC)	This would be a second stage application, following on from the grant of Planning Permission in Principle (PPP). The PPP would be granted with a number of conditions which would refer to detailed aspects of the proposed development which require approval from Aberdeenshire Council prior to the commencement of development. This stage is where aspects such as the design of the substation, precise cable route and provision/securing of mitigation would be set out.
Maximum Design Scenario (MDS)	The scenario within the design envelope likely to result in the greatest impact on a particular topic receptor, and therefore the one that should be assessed for that topic receptor.
Maximum Noise Level	The maximum noise level identified during a measurement period. Experimental data has shown that the human ear does not generally register the full loudness of transient sound events of less than 125 ms duration and fast time weighting (F) has an exponential time constant of 125 ms which reflects the ear's response. Slow time weighting (S) has an exponential time constant of 1s and is used to allow more accurate estimation of the average sound level on a visual display.

Defined Term	Definition
Mean High Water Springs (MHWS)	The average tidal height throughout the year of two successive high waters during those periods of 24 hours when the range of the tide is at its greatest.
Mean Low Water Springs (MLWS)	The average tidal height throughout the year of two successive low waters during those periods of 24 hours when the range of the tide is at its greatest.
Medieval	AD 1100 - 1560
Mesolithic	10,000 BC – 4000 BC
Metamorphosed	Rocks that have undergone metamorphosis whereby rocks undergo a change due to intense heat, pressure, or chemical reactions within the Earth's crust.
Microlith	A very small flint or other stone tool.
Midden	A refuse heap.
Minor deadwood	Dead wood of a diameter less than 25 mm and or unlikely to cause significant harm or damage upon impact with a target beneath the tree.
Mitigation	Measures to avoid, prevent, reduce or control effects on the environment. See also definitions for Embedded Mitigation and Additional Mitigation.
National Grid	The national electricity transmission network.
Neolithic	4,000 BC – 2,500 BC
Net zero	The legally binding target to reduce net greenhouse gas emissions to zero by 2050 (UK) and 2045 (Scotland), achieved by balancing the greenhouse gases emitted with the amount removed from the atmosphere.
Noise	An unwanted or unexpected sound.
Non-impulsive (or continuous) sound	Sound which is either continuous or intermittent but without the characteristics described above for impulsive sound.
Normal Use Vacancy Rates	The percentage of normal use stock (residential properties) in an area which are vacant or unoccupied at a particular point in time.
Notable	Notable trees are usually mature trees which may stand out in the local environment because they are large in comparison with other trees around them.
Offshore Environmental Impact Assessment (EIA) Report	Document prepared to report the findings of the EIA for the offshore elements of the Project.
Offshore Export Cable Corridor	The area seaward of Mean High Water Springs (MHWS), which connects the Array Area with the Landfall Area within which the Offshore Export Cables will be installed.
Offshore Export Cables	Subsea cables used to transmit electricity generated offshore by the Wind Turbines from the OSPs to shore. The Transition Joint Bay (TJB) is the location where the Offshore Export Cables terminate, and the onshore cabling begins.
Offshore Generation Assets	The infrastructure of the Project required to generate electricity comprising of the Wind Turbines, Wind Turbine foundations and associated infrastructure e.g. IACs.

Defined Term	Definition
Offshore Infrastructure	All of the Offshore Infrastructure associated with the Project that is located seaward of MHWS, comprising the Offshore Generation Assets and the Offshore Transmission Assets.
Offshore Scoping Report	The Report that presents the findings of the EIA scoping process undertaken for the Proposed Development with the purpose of obtaining a Scoping Opinion. The Report defines what is intended to be assessed and reported as part of the EIA.
Offshore Substation Platform(s) (OSPs)	OSPs comprise the support structure, topside and electrical components used for collecting and/or converting electricity generated by the Wind Turbines for transmission by the Offshore Export Cables.
Offshore Transmission Assets	The infrastructure of the Project required to transmit the generated electricity comprising of the OSPs, Offshore Export Cables and associated infrastructure up to MHWS.
On-time	In this instance 'on-time' is defined as the period of the assessment period that the equipment is operating at full operational power.
Onshore	Area landward of Mean Low Water Springs.
Onshore EIA Report	Document prepared to report the findings of the EIA for the Proposed Development and produced in accordance with the EIA Regulations. An Onshore EIA will be submitted to support the Onshore Application for the Proposed Development.
Onshore Export Cable	The cables (220/275 kV) that transfer electricity from Landfall to the Substation.
Onshore Export Cable Corridor	The area landward of MLWS to the Substation within which the Onshore Export Cables will be installed and forms part of the PPP Application Boundary.
Onshore Scoping Report	Document prepared to comply with The Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2017 in order to provide information on the potential impacts of the Onshore Transmission Assets.
Onshore Transmission Assets	The transmission infrastructure associated with the Project above MLWS which are covered in this Onshore EIA Report.
OP (Off-Peak)	Time period between 4 pm and 7 am.
Operation and Maintenance	The phase of the Proposed Development following completion of construction. This phase of development includes routine inspections, repairs and replacement of infrastructure and equipment and general upkeep of the Proposed Development through its operational lifespan.
Open Cut Trenching	A method of installing underground cables or pipes by excavating a trench, laying the infrastructure, and then backfilling.
Option to Lease Agreement (OLA)	An agreement between CES and a developer, permitting the future development of offshore wind within an agreed area.
Open Cut Trenching	A method of installing underground cables or pipes by excavating a trench, laying the infrastructure, and then backfilling.
Ordnance Survey	The national mapping agency for Great Britain, producing detailed maps and geographic data.

Defined Term	Definition
Oslo-Paris [Convention] (OSPAR)	A composite of the words ‘Oslo-Paris’, referring to the Convention for the Protection of the Marine Environment of the North-East Atlantic.
Pathway	Describes the means or route by which a receptor (such as the coast) can be affected by an identified impact source (such as Wind Turbine foundations in the water column).
Peak Particle Velocity (PPV)	An indicator of the magnitude of ground vibration which refers to the movement of molecular particles within the ground.
Photomontage	A sequence of photographs taken from representative viewpoints which illustrate the location, size, degree of visibility or appearance of a development.
Physical processes	The collective term for the following: hydrodynamics (water levels and currents); winds and waves; stratification and frontal systems; geology and seabed sediments (including sediment transport); seabed geomorphology; and coastal geomorphology.
Piling	The action of installing piles: installation can use various methodologies, the most common of which are impact piling (in which the piles are struck by a “hammer”) and drilling (during which a hole is drilled into the seafloor, the drilling tool is removed, and the pile is slotted into that hole).
Plan Option Area (POA)	A location identified in the Sectoral Marine Plan (SMP) as a preferred area for commercial scale offshore wind development.
Planning Permission in Principle (PPP)	An application for Planning Permission in Principle is a type of planning application that allows for a proposal to be assessed without the detailed design information being provided (for example the final layout, design or finish of any buildings). It is granted subject to a condition that certain matters have to be approved by the planning authority before development can commence. PPP does not allow for development to commence, but rather that the principle of that development is accepted by the planning authority.
PPP Application Boundary	The red line boundary representing the extent of the planning permission in principle application.
PM (Evening Peak)	Time period between 4 pm and 7 pm.
Podzol	A soil type formed under coniferous forests or heathland in humid, cool-temperature regions, characterized by an ash-grey subsurface layer bleached by acids, above a darker, accumulated layer of iron and humus.
Points	A stone tool with a sharp tapering end used for piercing materials or as a weapon point.
Polished Stone Axe	An axehead of flint or other stone.
Pollarding	The removal of the tree canopy, back to the stem or primary branches. Pollarding may involve the removal of the entire canopy in one operation or may be phased over several years. The period of safe retention of trees having been pollarded varies with species and individuals. It is usually necessary to re-pollard on a regular basis, annually in the case of some species.
Porosity	The ratio of space or holes and the total volume of a material. A means of defining the ability of a material to allow sound to transmit through it.

Defined Term	Definition
Post-Medieval	AD 1560 - 1745
Post-Medieval	AD 1560 - 1745
Pre-Application Consultation (PAC)	Statutory pre application consultation with communities and stakeholders with regard to the consent applications for the Project.
Prehistoric	Broad period comprising Palaeolithic, Mesolithic, Neolithic, Bronze and Iron Age.
Primary branch	A major branch, generally having a basal diameter greater than 0.25 x stem diameter.
Principal Contractor	The organisation or individual appointed by TWP responsible for managing the construction phase of the Proposed Development, potentially involving multiple contractors.
Private Property and Housing	Land, buildings and infrastructure for the purpose of residential use.
Private Water Supply	A water supply which is not provided by a water company but from a private source, such as a well, borehole or spring.
Project (the)	An overarching term for the Bowdun Offshore Wind Farm (Bowdun OWF) comprising the offshore and onshore infrastructure required to generate and transmit electricity from the Array Area to the onshore Grid Connection Point (GCP). The Project includes the Offshore Generation Assets, the Offshore Transmission Assets and the Onshore Transmission Assets.
Project Design Envelope (PDE)	A description of the range of possible elements that make up the design options for the Proposed Development under consideration when the exact engineering parameters are not yet known.
Propagation	The transmission of acoustic energy through a medium via a sound wave.
Proposed Development	Term used to define the onshore infrastructure associated with the Project landward of MLWS for which PPP is being sought. Further details of the parameters are included in the Onshore EIA Report Volume 1, Chapter 2: The Proposed Development.
Pruning	The removal or cutting back of twigs or branches, sometimes applied to twigs or small branches only, but often used to describe most activities involving the cutting of trees or shrubs.
QBAR	Peak rate of flow from a catchment for the mean annual flood.
Qualifying Features	The features for which a European site has been officially designated to protect.
Ramsar Site	Wetlands of international importance, designated under the Ramsar Convention on Wetlands of International Importance 1971.
Rating Level, $L_{A,r,T}$	The specific sound level plus any adjustment for the characteristic features of the sound.
Recorded Loss	Dataset entry of a maritime or aviation record that has no specific location attached to them but are given often arbitrary spatial attribution.
Receptor	The element of the receiving environment that is affected.
Renewable energy	Energy from a source that is not depleted when used, such as wind or solar power.

Defined Term	Definition
Report to Inform Appropriate Assessment (RIAA)	The RIAA provides detailed information to support the process of Appropriate Assessment (undertaken by the competent authority) as part of the HRA, which evaluates the potential impacts of a project or plan on European sites.
Residual sound	The ambient sound remaining at the assessment location when the specific sound source is suppressed to such a degree that it does not contribute to the ambient sound. The ambient sound level at a receptor in the absence of influence from the sound source under assessment.
Residual sound level, $L_r = L_{Aeq,T}$	The equivalent continuous A-weighted sound pressure level of the residual sound at the assessment location over a given time interval, T.
Retouched Stone Tool	A flake that has had small flakes removed to blunt, sharpen, refine the outline or prepare the edge of the tool.
Rhizosphere	A narrow zone of soil surrounding and influenced by the root of vascular plants.
Riparian vegetation buffer	A strip of vegetation along the banks of a watercourse that helps protect water quality and provides habitat for wildlife.
Risk	The likelihood of an adverse event occurring.
River Basin Management Plan	A plan for protecting and improving the water environment within a river basin district.
Rochdale Envelope (also known as Project Design Envelope)	Inter-changeable with PDE.
Root protection area (RPA)	An area of ground surrounding a tree that contains sufficient rooting volume to ensure the tree's survival, calculated with reference of BS5837.
Rough Grassland	Grassland that is often thick and tussocky with mix of native grass species and of lower nutritional value.
Salmonid protected watercourses	Water bodies that are designated for the protection of salmon and trout species, often subject to special environmental considerations.
Scoping Opinion	A document produced by Aberdeenshire Council, supported with feedback and advice from consultees, which details what is expected to be included in the Onshore EIA Report and what can be scoped out of the EIA process.
Scottish Environment Protection Agency (SEPA)	Scotland's principal environmental regulator, responsible for protecting and improving the environment.
Scottish Local Authority	A council constituted under Section 2 of the Local Government etc. (Scotland) Act 1994, providing public services, including planning, and is accountable to their local electorates.
Scottish Ministers (the)	The decision makers with regard to Marine Licence(s) and Section 36 Consent applications in Scottish Offshore Waters and Scottish Territorial Seas.
Scottish Offshore and Territorial Waters	These include territorial waters extending 12 nautical miles from the low water line along the coast, waters as defined in the Scottish Adjacent Waters Boundaries Order 1999, the Scottish Zone of the UK Exclusive Economic Zone, and waters included in the Scottish Offshore Marine Region.

Defined Term	Definition
ScotWind Leasing Round	A seabed leasing round run by CES to grant property rights for the seabed in Scottish waters for new commercial scale offshore wind project development. ScotWind Leasing must be sited within POA of the Sectoral Marine Plan (SMP).
Scour Protection	Protective materials to avoid sediment being eroded away from the base of the foundations due to the flow of water.
Section 36 Consent	Scottish Ministers' consent under Section 36 of the Electricity Act 1989 required for the generating assets of the Proposed Development.
Sectoral Marine Plan (SMP)	A plan developed by the Scottish Government which provide the strategically planned spatial footprint for offshore wind development in Scotland.
Sectoral Marine Plan Iterative Plan Review (SMP IPR)	The iterative plan review process as new information becomes available (e.g. consented projects, environmental data, cumulative effects assessment, etc.).
Sensitivity	A term applied to specific receptors, combining judgements of the susceptibility of the receptor to the specific type of change or development proposed and the value related to that receptor.
Setting	Setting is more than the immediate surroundings of a site or building and may be related to the function or use of a place, or how it was intended to fit into the landscape or townscape, the view from it or how it is seen from areas round about, or areas that are important to the protection of the place, site or building. 'Setting' is the way the surroundings of a historic asset or place contribute to how it is understood, appreciated and experienced.
Severance	The extent to which land, property or assets are separated.
Significance	Effect factor that is determined by the magnitude of impact along with the sensitivity of the receptor.
Site of Special Scientific Interest (SSSI)	Site of Special Scientific Interest is a statutory designation made by NatureScot under the Nature Conservation (Scotland) Act 2004. These sites are of particular scientific interest due to important biological (e.g. a rare species of fauna or flora), geological or physiological features.
Snag/stub	In woody plants, a portion of a cut or broken stem, branch or root which extends beyond any growing-point or dormant bud; a snag usually tends to die back to the nearest growing point.
Sound	Fluctuations of pressure within a medium (gas, solid or fluid) within the audible range of loudness and frequencies which excite the sensation of hearing.
Sound Power Level, L_w	The total sound energy emitted by a source per unit time.
Sound Pressure Level, L_p	The amount of force a sound wave exerts on a surface area perpendicular to the direction of travel. A measure of the variation of sound level over a distance.
Special Areas of Conservation (SACs)	SACs are areas designated for the conservation of certain plant and animal species listed in the Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
Special Order	A legal document issued by the Department for Transport on behalf of Scottish Ministers to permit certain Abnormal Indivisible Loads to move along the road network.

Defined Term	Definition
Special Protection Areas (SPAs)	SPAs are sites that are designated to protect rare or vulnerable birds (as listed on Annex I of the Directive 2009/147/EC on the conservation of wild birds), as well as regularly occurring migratory species.
Specific sound level, L_s , = $L_{Aeq,Tr}$	The equivalent continuous A-weighted sound pressure level produced by the specific noise source at the assessment location over a given reference time interval, T_r . The equivalent continuous A-weighted sound pressure level produced by the specific noise source at the assessment location over a given reference time interval.
Specific sound source	The sound source being assessed.
Spectrum	The presentation of sound in terms of the amount of energy at different frequencies.
Statistical Noise Levels	For levels of noise that vary widely with time, for example road traffic noise, it is necessary to employ an index which allows for this variation. The L_{p10} , the level exceeded for 10% of the time period under consideration and can be used for the assessment of road traffic noise (note that L_{pAeq} is used in BS 8233 for assessing traffic noise). The L_{90} , the level exceeded for 90% of the time, has been adopted to represent the background noise level. The L_1 , the level exceeded for 1% of the time, is representative of the maximum levels recorded during the sample period.
Statutory Consultee	Organisations and bodies, defined by statute, who must be consulted on relevant planning applications. Of relevance to the Proposed Development this includes NatureScot; Scottish Environment Protection Agency (SEPA); Historic Environment Scotland, and any other public body which the planning authority (Aberdeenshire Council) considers is likely to have an interest in the Proposed Development by reason of that body's specific environmental responsibilities or local and regional competencies.
Stand	A contiguous community of trees within a forest that is relatively uniform in species, size, age and density.
Stem(s)	The main supporting structure(s), from ground level up to the first major division into branches.
Structure-borne Noise	Noise which propagates from source to receiver via a solid material.
Study Area	For each environmental topic, the baseline environment will be characterised, and the potential environmental impacts will be described within a topic-specific study area. Specific study areas are defined for each topic and are based on the maximum spatial extent across which potential impacts of the Proposed Development may be experienced by the relevant receptors (i.e. Zone of Influence).
Substation	The onshore Substation to be constructed as a component of the Proposed Development. The Substation would transform voltage from low to high by means of electrical transformers to ensure the electrical energy provided from the Offshore Generation Assets is at a voltage suitable for connection to the National Grid.
Substation Search Area	The area identified at scoping that the Proposed Development Substation would be located within in proximity to the grid connection point.

Defined Term	Definition
Substation Site	The total area proposed (~19 hectares) for construction of the Substation Switchyard.
Substation Switchyard	The area proposed (~10 hectares) where the Substation equipment will be housed that is required to transform voltage from low to high by means of electrical transformers.
Subtidal	Areas of the coastal marine environment that lie below the level of MLWS and are continuously submerged by seawater.
Surface Water	Waters on the land surface (such as reservoirs, lakes, rivers, transitional waters, coastal waters) within a river basin.
Susceptibility	The ability of a defined seascape, landscape or visual receptor to accommodate the specific offshore Project without undue negative consequences.
Sustainable Drainage Systems (SuDS)	Drainage systems designed to manage water systems in close alignment to natural hydrology processes.
The Convention on the International Regulations for Preventing Collisions at Sea (COLREGS)	A composite of 'Collision Regulations', referring to The Convention on the International Regulations for Preventing Collisions at Sea.
Thistle Wind Partners (TWP)	The Joint Venture (JV) of DEME Concessions, Qair Marine, and Aspiravi International that have partnered to develop the Proposed Development.
Tonality	A measure of sound quality that correlates to how humans perceive certain frequencies of sound. A sound is considered tonal if the frequency spectrum contains a lot of sound energy at a single frequency.
Topping	In arboriculture it is the removal of the crown of a tree, or of a major proportion of it.
Total Vacancy Rates	The percentage of all available units in an area which are vacant or unoccupied at a particular point in time.
Trackout	The transport of dust and dirt from the construction/demolition site onto the public road network, where it may be deposited and then re-suspended by vehicles using the network, as defined by the Institute of Air Quality Management.
Transition Joint Bay (TJB)	Used to connect the Offshore Export Cables with the Onshore Export Cables. These are typically concrete lined and are located above MHWS.
Tree Preservation Order (TPO)	An order made by the local authority and placed upon individual trees, groups of trees or areas of trees. The local authority must usually grant permission prior to any works undertaken to affected trees.
UK Biodiversity Action Plan (UKBAP)	The UKBAP was launched to conserve and enhance biological diversity in the UK by setting out detailed plans for the protection of the most threatened species and habitats.
Veteran tree	A term for an old specimen that is of interest biologically, culturally or aesthetically because of its age, size or condition and which has usually lived longer than the typical upper age range for the species concerned.
Visual Amenity	The overall pleasantness of the views people enjoy of their surroundings, which provides an attractive visual setting or

Defined Term	Definition
	backdrop for the enjoyment of activities of people living, working, recreating, visiting or travelling through an area.
Visual Effect	Effects on specific views and on the general visual amenity experienced by people. (Landscape Institute and IEMA, 2013).
Visual Receptors	Individuals and/or defined groups of people who have the potential to be affected by a proposal.
Visual Sensitivity	The sensitivity of visual receptors such as residents, relative to their location and context/activity, to visual change proposed by development.
Visualisation	Computer visualisation, photomontage, or other technique to illustrate the appearance of the development from a known location.
Water Body	A coherent sub-unit in the river basin (district) to which the Environmental Objectives of the directive must apply. Hence, the main purpose of identifying “water bodies” is to enable the status to be accurately described and compared to Environmental Objectives.
Water Dependent Protected Areas	Water protected by European legislation including drinking waters, shellfish waters, bathing waters, urban wastewater nutrient sensitive areas or sites designated as SACs or SPAs.
Water Environment (Controlled Activities) (Scotland) Regulations 2021 (CAR)	Water Environment (Controlled Activities) (Scotland) Regulations 2021 (CAR): Regulations that control activities affecting Scotland's water environment, including rivers, lochs, and coastal waters.
Water Environment and Water Services (Scotland) Act 2003	Scottish legislation that transposes the Water Framework Directive into national law, governing water resource management in Scotland.
Water Framework Directive (WFD)	Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy. The WFD promotes water management through river basin planning. It covers inland surface waters, estuarine waters, coastal waters and groundwater.
Water Quality	The physical, chemical and biological characteristics of water.
Wellbeing-Adjusted-Life-Years (WELLBYs)	Calculates the wellbeing of the community. This involves multiplying the life expectancy of an area by its life satisfaction (0-10 scale) to quantify the social welfare of the population.
Wind Turbines	Structures comprising of a tubular tower, rotor blades, and a nacelle which houses the Wind Turbine generator.
Whole Life Carbon Assessment	Quantifying the total greenhouse gas emissions throughout a project's entire lifecycle, from material extraction and manufacturing to construction, use, maintenance, demolition and disposal. For the Project the assessment has considered the construction, operation and maintenance and decommissioning phases.
Windthrow	The uprooting or overturning of trees by strong winds.
With Development	The scenario that represents the situation that would occur with the Proposed Development.
Without Development	The scenario that represents the situation that would occur without the Proposed Development.

Defined Term	Definition
World Heritage Site (WHS) Buffer Zone	Area defined to comply with UNESCO guidance that buffer zones should include the immediate setting of the inscribed Site, important views, and other areas or attributes that are functionally important as a support to the Site and its protection. Within this area, development proposals will require careful consideration by developers and decisionmakers to determine whether they are likely to significantly impact the WHS, its Outstanding Universal Value (OUV), or its authenticity and integrity.
World Heritage Site Sensitive Area	Within this area, proposals for large scale or tall development will require careful consideration by developers and decision-makers to determine whether they are likely to significantly impact the WHS, its OUV, or its authenticity and integrity.
Zone of Influence	The area around the Proposed Development that may be impacted by the proposed works.
Zone of Theoretical Visibility (ZTV)	A computer-generated tool to identify the likely (or theoretical) extent of visibility of a development. The elevation (or a set of elevations) of the development is tested against a 3D terrain model.

Acronyms

Acronym	Definition
µg	Microgram
3D	Three-dimensional
AADT	Annual Average Daily Traffic
ArbCoW	Arboricultural Clerk of Works
ADB	Ash Die Back
ADLP	Aberdeenshire Local Development Plan
ADS	Archaeology Data Service
aFTE	Years of Employment
AL	Abnormal Loads
ALARP	As Low as Reasonably Practicable
ALC	Agricultural Land Classification
ALO	Agreement for Lease Option
AM	Morning Peak (07:00 – 10:00)
AMS	Arboricultural Method Statement
AOD	Above Ordnance Datum
APR	Annual Progress Report
AQO	Air Quality Objective
AQMA	Air Quality Management Area
ATCs	Automatic traffic Counts
ATI	Ancient Tree Inventory
AWI	Ancient Woodland Inventory
AWPR	Aberdeen Western Peripheral Route
BAP	Biodiversity Action Plan
BEIS	Department for Business Energy and Industrial Strategy
BESS	Battery Energy Storage System
BFI	Base Flow Index
BGS	British Geological Survey
BOWFL	Bowdun Offshore Wind Farm Limited
BPM	Best Practicable Means
BRAG	Black, Red, Amber, Green
BRES	Business Register and Employment Survey
BS	British Standard
BSI	British Standards Institution
BSSS	British Society of Soil Science
B&Bs	Bed and Breakfasts
C	Construction Phase
CA	Conservation Area

Acronym	Definition
CaCO ₃	Calcium carbonate
CAPEX	Capital Expenditure
CAR	Controlled Activities Regulations
CBRA	Cable Burial Risk Assessment
CC	Climate Change
CCC	Climate Change Committee
CCRA	Climate Change Risk Assessment
CCRA3	UK's third Climate Change Risk Assessment
CCS	Cellular Containment System
CCUS	Carbon Capture Utilisation and Storage
CEA	Cumulative Effects Assessment
CEMP	Construction Environmental Management Plan
CES	Crown Estate Scotland
CEZ	Construction Exclusion Zone
CH ₄	Methane
Cifa	Chartered Institute for Archaeologists
CIRIA	Construction Industry Research and Information Association
CLP	Construction Logistics Plan
CLVIA	Cumulative Landscape and Visual Impact Assessment
CMP	Carbon Management Plan
CROW	Catalogue of Rights of Way
CoPA	Control of Pollution Act
CO ₂	Carbon Dioxide
CO ₂ e	Carbon Dioxide Equivalent
CPS	Cable Protection System
CRTN	Calculation of Road Traffic Noise
CSIP	Cable Specification and Installation Plan
CTMP	Construction Traffic Management Plan
D	Decommissioning Phase
DBH	Diameter at Breast Height
DECEX	Decommissioning Costs
DEFRA	Department for Environment Food and Rural Affairs
DESNZ	Department for Energy Security and Net Zero
DfT	Department for Transport
DMRB	Design Manual for Roads and Bridges
DSM	Digital Surface Model
DUKES	Digest of UK Energy Statistics
DWPA	Drinking Water Protection Area

Acronym	Definition
EC	European Commission
ECoW	Ecological Clerk of Works
EEA	European Economic Area
EHO	Environmental Health Officer
EIA	Environmental Impact Assessment
EIAR	Environmental Impact Assessment Report
EMP	Environmental Management Plan
EPCI	Engineering, Procurement, Construction, and Installation
EPD	Environmental Product Declaration
EPUK	Environmental Protection UK
ES	Environmental Statement
ESO	Energy System Operator
ESRI	Environmental Systems Research Institute
EU	European Union
FEED	Front-End Engineering Design
FEH	Flood Estimation Handbook
FES	Future Energy Scenario
FLS	Forestry & Land Scotland
FPS	Forties Pipeline System
FRDA	Flood Risk and Drainage Assessment
FTE	Jobs
GB	Great Britain
GBP	Great British Pound
GBR	General Binding Rules
GCP	Grid Connection Point
GDHI	Gross Domestic Household Income
GDL	Garden and Designed Landscape
GHG	Greenhouse Gas
GI	Ground Investigations
GIS	Geographical Information System
GIS	Gas Insulated Switchgear
GLVIA	Guidelines for Landscape and Visual Impact Assessment
GP	General Practice Medicine
GPP	Guidance for Pollution Prevention
GVA	Gross Value Added
GVA (B)	Gross Value Added Balanced
GVA/h	Gross Value Added per Hours Worked
GW	Gigawatt

Acronym	Definition
GWDTE	Groundwater Dependent Terrestrial Ecosystem
GWP	Global Warming Potential
HAZID	Hazard Identification
HDD	Horizontal Directional Drilling
HDPE	High Density Polyethylene
HDV	Heavy Duty Vehicle
HEDBA	Historic Environment Desk-Based Assessment
HER	Historic Environment Record
HES	Historic Environment Scotland
HFC	Hydrofluorocarbon
HGV	Heavy Goods Vehicle
HIS	Hybrid Insulated Switchgear
HLT	Historic Landscape Types
HM	His Majesty's
HND	Holistic Network Design
HND-FUE	Holistic Network Design Follow Up Exercise
HRA	Habitats Regulations Assessment
HSE	Health and Safety Executive
HV	High Voltage
HVAC	High Voltage Alternating Current
IAC	Inter-Array Cable
IAQM	Institute of Air Quality Management
ICE	Inventory of Carbon and Energy
IEMA	Institute of Environmental Management and Assessment
IESP	Institute of Sustainability and Environmental Professionals
IHT	Institution of Highways and Transportation
INNS	Invasive Non-Native Species
IP	Inter-Peak (10:00- 16:00)
IPCC	Intergovernmental Panel on Climate Change
IQ	Institute of Quarrying
ITL	International Territorial Level
ITP	Interpreted Forestry Type
JV	Joint Venture
KM	Kilometres
LAQM	Local Air Quality Management
LCA	Landscape Character Area
LCA	Life Cycle Analysis
LCA	Land Capability for Agriculture

Acronym	Definition
LCRM	Land Contamination Risk Management
LCT	Landscape Character Types
LDP	Local Development Plan
LDV	Light Duty Vehicles
LGV	Light Goods Vehicle
LiDAR	Light Detection and Ranging
LMP	Land Management Plan
LSE	Likely Significant Effects
LVIA	Landscape and Visual Impact Assessment
MADs	Major Accident and Disasters
MDS	Maximum Design Scenario
MD-LOT	Marine Directorate-Licensing Operations Team
MHWS	Mean High Water Spring
MLWS	Mean Low Water Spring
MOHC	Met Office Hadley Centre
MPA	Marine Protected Area
MPH	Miles Per Hour
MSC	Matters Specified in Conditions
MSL	Mean Sea Level
MW	Megawatt
NCAP	National Collection of Aerial Photographs
NCN	National Cycle Networks
NCR	National Cycle Routes
NDC	Nationwide Data Collection
NE	Natural England
NELPD	North East Local Plan District
NESO	National Electricity System Operator
NFIS	National Forestry Inventory Scotland
NGET	National Grid Electricity Transmission
NIC	National Infrastructure Commission
NJUG	National Joint Utilities Group
NHS	National Health Service
NIEA	Northern Ireland Environment Agency
NLS	National Library of Scotland
NM	Nautical Miles
NMP	National Marine Plans
NMU	Non-motorised User
NnG	Neart na Gaoithe

Acronym	Definition
NO ₂	Nitrogen dioxide
NO _x	Nitrogen oxides
NPF	National Planning Framework
NPF4	National Planning Framework 4
NPL	National Physical Laboratory
NRHE	National Record of the Historic Environment
NRW	Natural Resources Wales
NS	NatureScot
NSA	National Scenic Area
NSR	Noise Sensitive Receptor
NTM	National Tree Map
NF ₃	Nitrogen Trifluoride
N ₂ O	Nitrous Oxide
OEUK	Offshore Energies UK
OHL	Overhead Line
OLA	Option Lease Agreement
ONS	Office for National Statistics
OP	Off-Peak (19:00-07:00)
OPEX	Operational Expenditure
OS	Ordnance Survey
O.S.	Ordnance Survey
OSP	Offshore Substation Platform
OSR	Oilseed Rape
OWF	Offshore Wind Farm
OWPS	Onshore Wind Policy Statement
O&G	Oil and Gas
O&M	Operation and Maintenance
PA	Project Arboriculturist
PAC	Pre-Application Consultation
PAN	Planning Advice Note
PCN	Potato Cyst Nematode
PCM	Pollution Climate Mapping
PDE	Project Design Envelope
PFC	Perfluorocarbon
PM	Evening Peak (16:00-19:00)
PM _{2.5} / PM ₁₀	Particulate matter, where the number denotes the particulate size diameter in micrometres.
POA	Plan Option Area

Acronym	Definition
PPP	Planning Permission in Principle
PPV	Peak Particle Velocity
Pre-FEED	Preliminary Front-End Engineering and Design
PRoW	Public Rights of Way
PVA	Potentially Vulnerable Area
PWS	Private Water Supply
QBAR	Mean Annual Maximum Flow Rate
RAG	Red, Amber, Green
RBMP	River Basin Management Plan
RCP	Representative Concentration Pathway
RCR	Regional Cycle Routes
RIAA	Report to Inform Appropriate Assessment
RICS	Royal Institution of Chartered Surveyors
RLB	Red Line Boundary
RPA	Root Protection Area
RPS	RPS Group (consultants)
RQF4+	Regulated Qualifications Framework Level 4 and above
RSPB	Royal Society for the Protection of Birds
SAC	Special Area of Conservation
ScARF	Scottish Archaeology Research Framework
SCDS	Supply Chain Development Statement
SDP	Strategic Development Plan
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SF6	Sulphur hexafluoride
SHIP	Strategic Housing Investment Plans
SIC	Standard Industrial Classification
SIMD	Scottish Index of Multiple Deprivation
SLA	Special Landscape Area
SMP	Sectoral Marine Plan
SMP	Soil Management Plan
SNH	Scottish National Heritage
SNHI	Scottish National Heritage Information
SPA	Special Protection Area
SPR	Standard Percentage Runoff
SPV	Special Purpose Vehicle
SSE	Scottish and Southern Electricity
SSEN	Scottish and Southern Electricity Networks

Acronym	Definition
SSEN-T	Scottish and Southern Electricity Networks Transmission
SSSI	Site of Special Scientific Interest
STEM	Science, Technology, Engineering and Maths
SuDS	Sustainable Drainage System
SUTs	Supply and Use Tables
SWQMP	Surface Water Quality Management Plan
SY12	Summer Year 12 after opening
T	Trunk Road
TAN	Technical Advice Note
TAG	Transport Assessment Guidance
THC	The Highlands Council
TJB	Transition Joint Bay
TPO	Tree Preservation Order
TPP	Tree Preservation Plan
TTWAs	Travel to Work Areas
TWP	Thistle Wind Partners Limited
UK	United Kingdom
UKAS	United Kingdom Accreditation Service
UKCP18	United Kingdom Climate Projections 2018
UN	United Nations
UNFCCC	United Nations Framework Convention on Climate Change
UPVC	Unplasticized Polyvinyl Chloride
UXO	Unexploded Ordnance
WBCSD	World Business Council for Sustainable Development
WCH	Walkers, Cyclists and Horse-riders
WELLBY	Wellbeing-Adjusted-Life-Years
WEWSA	Water Environment and Water Services (Scotland) Act 2003
WFD	Water Framework Directive
WLCA	Whole Life Carbon Assessment
WRI	World Resources Institute
WYA	Winter Year of Opening
ZoI	Zone of Influence
ZTV	Zone of Theoretical Visibility

Table of Units

Units	Definition
cm	Centimetre

Units	Definition
CO ₂ e	Carbon Dioxide Equivalent
dB	Decibel
ft	Feet
gCO ₂ /kWh	Grams of Carbon Dioxide per Kilowatt-Hour
GW	Gigawatt
ha	Hectare
Hr	Hour
J	Joule
kg	Kilogram
kg/m ³	Kilograms per Cubic Metre
kgCO ₂ e	Kilograms of Carbon Dioxide Equivalent
kgCO ₂ e/kg	Kilograms of Carbon Dioxide Equivalent per Kilogram
kgCO ₂ e/km	Kilograms of Carbon Dioxide Equivalent per Kilometre
kgCO ₂ e/kWh	Kilograms of Carbon Dioxide Equivalent per Kilowatt-hour
kgCO ₂ e/MWh	Kilograms of Carbon Dioxide Equivalent per Megawatt-hour
Kg/hr	Kilograms per hour
kHz	Kilohertz
kJ	Kilojoule
km	Kilometre
km ²	Square kilometre
Kn	Knots
kts	knots
kV	Kilovolt
kVA	Kilovolt-Ampere
L	Litre
m	Metre
m ²	Square Metre
mAOD	Metres Above Ordnance Datum
mLAT	Metres above/below Lowest Astronomical Tide
mm	Millimetre
Mm/s	Millimetres per second
Mph	Miles per hour
m/s	Metre per second
MtCO ₂ e	Mega (million) tonnes of carbon dioxide equivalent
MW	Megawatt
MWh	Megawatt-hour
MVA	Megavolt – Amperes
nm	Nautical mile

Units	Definition
PPV	Peak Particle Velocity
t	tonnes
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent
tCO ₂ e	Tonnes of Carbon Dioxide Equivalent
tCO ₂ e/ha/year	Tonnes of Carbon Dioxide Equivalent per Hectare per Year
tCO ₂ e/t	Tonnes of Carbon Dioxide Equivalent per Tonne
tC	Tonnes of Carbon
tC/ha	Tonnes of Carbon per Hectare
tCO ₂ e/MWh	Tonnes of carbon dioxide equivalent per megawatt-hour
µg	Microgram
°	Degree
°C	Degree Celsius
£	GBP
‘	Minute
%	Percent