

## **Glossary**

The following provides a partial glossary of terms used in this statement. The definitions therein are not to be taken as comprehensive but solely as an aid to the non-technical reader.

### **Types of Impact**

#### **Positive Impact**

A change which improves the quality of the environment.

#### **Neutral Impact**

A change which does not affect the quality of the environment.

#### **Negative Impact**

A change which reduces the quality of the environment - for example, by lessening species diversity and the reproductive capacity of the ecosystem, by damaging health, property or by causing nuisance.

#### **Imperceptible Impact**

An impact capable of measurement but without noticeable consequences.

#### **Slight Impact**

An impact which causes changes in the character of the environment which are not significant or profound.

#### **Significant Impact**

An impact which, by its magnitude, duration or intensity alters an important aspect of the environment.

#### **Profound Impact**

An impact which significantly alters the environment or which obliterates all previous characteristics.

#### **Temporary Impact**

Impact lasting for one year or less.

### **Short-term Impact**

Impact lasting one to seven years.

### **Medium-term Impact**

Impact lasting seven to fifteen years.

### **Long-term Impact**

Impact lasting fifteen to sixty years.

### **Permanent Impact**

Impact lasting over sixty years.

### **Residual Impact**

The degree of environmental change that will occur after the proposed mitigation measures have taken place.

### **Other**

#### **Above Ground Installation (AGI)**

Refers to the section of plant where the Bord Gais network connects to the site.

#### **Air Cooled Condenser (ACC)**

Forced draft cooling plant, used in the water/steam cycle of the Combined Cycle Gas Turbine unit. Low temperature, low pressure steam from the steam turbine is cooled in the condenser to turn it back into the liquid phase for return to the boiler feedwater tank.

#### **Aquifer**

A geological unit that stores and transmits significant quantities of groundwater under normal hydraulic conditions

#### **Assimilative Capacity**

The amount of contaminant load that can be discharged to a water body without exceeding water quality standards appropriate to that water body.

### **Attenuation Tank**

A tank used to collect surface runoff water from a site in order to control the rate of discharge to the receiving environment

### **Base Load**

An electric power plant, or generating unit within a power plant, that is normally operated continuously throughout the day to meet the base load electricity demand.

### **Bund**

A bund refers to a structure surrounding chemical/hydrocarbon storage tanks which is designed to contain spillages or leaks.

### **Capacity Credit**

An estimate of the contribution that wind power, as a variable and intermittent source of electricity generation, makes to generation adequacy, expressed as a percentage of its installed capacity. Generation adequacy is defined below

### **Combined Cycle Gas Turbine (CCGT)**

A power plant that uses two different thermal cycles for producing electricity. The first cycle burns a fuel inside a gas turbine, and the gas turbine drives an electric generator. The hot exhaust gases coming out of the gas turbine are used to turn water into steam, and this is used in a steam turbine to drive a second electric generator.

### **Conventional thermal generation**

Refers to electricity generation which burns conventional fuels such as gas, coal and oil to generate electricity.

### **dB (A)**

Decibel(s) (A-weighted), a unit used to measure noise levels that are adjusted by an electronic filter to approximate the response of a human ear.

### **Distillate**

A general classification for one of the petroleum fractions produced in conventional distillation operations

### **Electro De-ionisation (EDI)**

Treatment process for the removal of contaminants and impurities in water

### **Fauna**

Fauna is a collective term for animal life of any particular region.

## **Fill**

Material used for raising the level of the ground

## **Flora**

Plant life occurring in an area.

## **Gas Turbine Generator**

A Gas Turbine is an engine which converts thermal energy from the combustion of a gaseous or liquid fuel into mechanical energy in the rotating turbine shaft. This in turn is used to drive a generator, where the mechanical energy is converted to electricity.

## **Generation Adequacy**

The ability of all the generating units connected to the electrical power system to meet the total demand imposed on them at all times. The demand includes transmission and distribution losses in addition to customer demand.

## **Greenhouse Gas**

A gas in Earth's atmosphere that traps heat and can contribute to global warming. Carbon dioxide and nitrous oxide are two of the most important.

## **Groundwater**

Water located beneath the ground surface.

## **Habitat**

The dwelling place of a plant or animal species, or a community, which provides a particular set of environmental conditions.

## **Hardstanding**

A paved or stabilized area where vehicles are parked

## **Heat Recovery Steam Generator**

The CCGT unit will utilise a heat recovery steam generator (HRSG) to recover heat from the hot gases steam produced by a gas turbine. The heat is used to generate steam which will drive the steam turbine to generate further electricity.

## **Impervious**

Refers to a surface which does not let water or liquids infiltrate.

### **Interconnector**

The tie line, facilities and equipment that connect the electricity transmission system of one independently supplied transmission network to that of another.

### **in-situ**

in its original place, for archaeology it refers to the preservation of archaeological sites/features without disturbance

### **LAeq**

Equivalent sound pressure level

### **LAr,T**

Equivalent to LAeq,T below with the addition of a penalty for tonal and impulsive elements in the noise spectrum. Used as a measurement for noise levels during the nighttime.

### **LAeq,T**

The equivalent continuous A-weighted sound pressure level having the same energy as a fluctuating sound over a specified time period T. Used as a measurement for noise levels during the nighttime.

### **LAFmax**

Maximum sound level

### **Licence to Generate**

A licence required of all electricity generators by the Electricity Regulation Act, 1999, issued by the Commission for Energy Regulation (CER).

### **Limit value**

Highest acceptable concentrations of a substance.

### **Made Ground**

An area of land which has been modified by the activities of man.

### **Methodology**

An organised, documented set of procedures.

### **Mid Merit**

A generic term used to describe generators which typically operate during the day and evening, and are off at night, or for longer periods at weekends. A 'Mid Merit' plant will have an annual load factor in the range of 20% - 70%

### **Mineral Island**

A small area of mineral type soils completely surrounded by peat soils.

### **Mitigation Measures**

To mitigate means to ease or soothe the effect of. Mitigation measures suggest ways to avoid or lessen the negative effects of a project on the environment.

### **Open Cycle Gas Turbine (OCGT)**

A Gas Turbine Generator that uses one thermal cycle for producing electricity, and does not capture any of the additional thermal energy available in the exhaust gases. The single cycle burns a fuel inside a gas turbine, and the gas turbine drives an electric generator.

### **Radon**

Radon gas is a naturally occurring radioactive gas, originating from the decay of uranium in rocks and soils.

### **Renewable Energy**

A generic term which describes an energy source which can be deemed to be sustainable and/or replacable within a timeframe of human lifecycles. The term covers sources such as wind, wave, tidal, biomass, hydroelectric, geo-thermal and solar energy.

### **Reverse Osmosis**

Treatment process for the removal of contaminants and impurities in water

### **Road Capacity**

The ability of a road to accommodate traffic. It is expressed in passenger car units per hour.

### **Road Network**

Description (often in diagrammatic form) of a system of roadways.

### **Secondary Fuel Obligation**

A condition of a generator's Licence to Generate, issued by the Commission for Energy Regulation, (CER) which requires certain generators to maintain a minimum quantity of their primary, or an alternative fuel, on their site, to mitigate the effects of a significant interruption of gas supply to the country on the electricity system.

## **Source Protection Area**

Source protection areas are areas delineated by the GSI, where the groundwater resource requires protection by placing tighter controls on activities within all or part of the zone of contribution (ZOC) of the source.

## **Steam Turbine Generator**

A steam turbine converts the potential energy in high pressure, high temperature steam by expanding the steam through a number of stages of turbine blades, where it is converted to mechanical energy in the rotating turbine shaft. This in turn is used to drive a generator, where the mechanical energy is converted to electricity.

## **Thermodynamic cycle**

A thermodynamic cycle is a representation of a continuous process by which thermal energy is converted to mechanical energy. Such a cycle requires the addition of thermal energy to a working fluid at a high temperature and pressure, the generation of mechanical energy through the expansion of the high pressure fluid, and the rejection of heat from the low pressure fluid to a heat sink.

## **Toponyms**

Place names

## **Total Transfer Capability**

The total electrical capacity available on cross-border circuits between the Republic of Ireland and Northern Ireland.

## **Transformer**

An item of equipment connecting connection points at different nominal voltages.

## **Transmission Losses**

A collective term for the loss of electrical energy through the transmission and distribution electricity networks from the point of generation to the point of consumption. These losses occur due to inherent small levels of resistance in all electrical circuits which convert electrical energy into heat.

## **Two Shift Operation**

A typical operating mode for a 'Mid Merit' generating plant during a 24 hour period. A plant operating in this mode will operate for 12 – 16 hours to cover periods of high demand during the day and evening period, and is switched off when demand drops off during the night.

## **Wind Penetration**

A term referencing the relative quantity of electricity generated by wind turbine generators relative to the total demand for electricity

**Abbreviations:**

<b>µg/m<sup>3</sup></b>	micrograms per cubic metre
<b>AADT</b>	Annual Average Daily Traffic
<b>AERMOD</b>	American Meteorology Society/ Environmental Protection Agency Regulatory Model (Modelling software for air dispersion modelling)
<b>ARCADY</b>	Assessment of Roundabout Capacity and Delay (Traffic assessment model used to predict traffic impact on roundabouts)
<b>Barg</b>	Bar Gauge
<b>Bq</b>	Becquerel's
<b>BOD</b>	Biological Oxygen Demand
<b>BGN</b>	Bord Gáis Network
<b>BNME</b>	Bord na Móna Energy Ltd.
<b>CEMP</b>	Construction Environmental Management Plan
<b>CER</b>	Commission for Energy Regulation
<b>CO</b>	Carbon Monoxide
<b>CO<sub>2</sub></b>	Carbon Dioxide
<b>COD</b>	Chemical Oxygen Demand
<b>DO</b>	Dissolved Oxygen
<b>DTM</b>	Digital Terrain Model
<b>DWF</b>	Dry Weather Flow
<b>ED</b>	Electoral Division
<b>ELV</b>	Emission Limit Value
<b>EPA</b>	Environment Protection Agency
<b>EIA</b>	Environmental Impact Assessment
<b>EIS</b>	Environmental Impact Statement
<b>ERFB</b>	Eastern Regional Fisheries Board
<b>ESB</b>	Electricity Supply Board

<b>EC</b>	European Community
<b>ETS</b>	Emissions Trading Scheme
<b>EU</b>	European Union
<b>GLC</b>	Ground Level Concentrations
<b>GSi</b>	Geological Survey of Ireland
<b>Ha</b>	Hectares (10 000 square metres)
<b>HCV/HGV</b>	Heavy Commercial Vehicle/Heavy Goods Vehicle
<b>HRSG</b>	Heat Recovery Steam Generator
<b>HSA</b>	Health and Safety Authority
<b>IAWU</b>	Irish Archaeological Wetland Unit
<b>IPPC</b>	Integrated Pollution Prevention and Control
<b>km</b>	kilometre
<b>kN</b>	kilo Newton
<b>kV</b>	kilo Volt
<b>LGV/LCV</b>	Light Goods Vehicle/Light Commercial Vehicle
<b>l/s</b>	litres per second
<b>m</b>	metre
<b>mbg</b>	metres below ground
<b>mm</b>	millimetre
<b>m<sup>3</sup>/s</b>	metres cubed per second
<b>m/s</b>	metres per second
<b>MW</b>	Megawatt = $1 \times 10^6$ W – a unit of power
<b>MWh</b>	Megawatt hour – the amount of energy delivered in 1 hour from a power source of 1 MW. = $1 \times 10^6$ W x $3.6 \times 10^3$ s = $3.6 \times 10^9$ Ws or 3.6 GJ
<b>MWe</b>	Megawatt Electrical - a unit of electrical power output from a generator
<b>NHA</b>	National Heritage Area

<b>NIAH</b>	National Inventory of Architectural Heritage
<b>NMI</b>	National Museum of Ireland
<b>NML</b>	Noise Monitoring Locations
<b>NSS</b>	National Spatial Strategy
<b>NO<sub>2</sub></b>	Nitrogen Dioxide
<b>NO<sub>x</sub></b>	Oxides of nitrogen
<b>NPWS</b>	National Parks and Wildlife Service
<b>NRA</b>	National Roads Authority
<b>NSR</b>	Noise Sensitive Receptors
<b>PICADY</b>	Priority Intersection Capacity and Delay (Traffic assessment model used to predict traffic impact on junctions)
<b>pNHA</b>	Proposed Natural Heritage Area
<b>PM<sub>2.5</sub></b>	Fine Particulates
<b>PM<sub>10</sub></b>	Particulate Matter
<b>LCA</b>	Landscape Character Area
<b>NTS</b>	Non-Technical Summary
<b>OD</b>	Ordnance Datum
<b>OPW</b>	Office of Public Works
<b>OS</b>	Ordnance Survey.
<b>OSI</b>	Ordnance Survey Ireland
<b>RMP</b>	Record of Monuments and Places
<b>RPS</b>	Record of Protected Structures
<b>RSA</b>	Road Safety Audit
<b>SAC (p)(c)</b>	Special Area of Conservation (proposed), (candidate).
<b>S.I.</b>	Statutory Instrument
<b>SO<sub>2</sub></b>	Sulphur Dioxide

<b>SUDS</b>	Sustainable Urban Drainage System (Best practice in terms of development of drainage systems)
<b>TIA</b>	Traffic Impact Assessment
<b>TSO</b>	Transmission System Operator
<b>TWh</b>	Terrawatt hour – 1 TWh = 10 <sup>6</sup> MWh
<b>USEPA</b>	United States Environmental Protection Agency
<b>WHO</b>	World Health Organisation
<b>ZVI</b>	Zone of Visual Influence