

LAEP Extended Glossary of Terms

Anaerobic digestion processes biomass (plant material) into biogas (methane) that can be used for heating and generating electricity.

Batteries store electrical energy to be used at a later date.

Biomass boiler burns wood-based fuel (e.g. logs, pellets, chippings) to generate heat and/or electricity

Building retrofit is changes to a building after construction to improve energy efficiency or decrease energy demand.

Carbon, Capture & Storage (CCS) is the process of capturing and then storing carbon emissions before they enter the atmosphere.

CCR is the Cardiff Capital Region

Climate Adaptation is altering our behaviour and way of life to protect our families, our economies, and the environment in which we live from the impacts of climate change.

Climate Change includes global warming and the “side effects” of warming, e.g. melting glaciers, heavier rainstorms, more frequent drought.

A **climate emergency**: is a situation in which urgent action is required to reduce or halt climate change and avoid potentially irreversible environmental damage resulting from it.

Climate Mitigation means avoiding and reducing greenhouse gas emissions and increasing greenhouse gas capture and storage.

Decarbonisation: Is the reduction of carbon dioxide emissions through the use of low carbon power sources, achieving a lower output of greenhouse gases into the atmosphere.

Deep retrofit is a major or whole building retrofit to achieve a near net-zero energy building which could include external, loft and under floor insulation measures, smart metering, window sealing, external solar devices, triple glazing and air tightness.

District heat network is a distribution system of insulated pipes that takes heat from a central source and delivers it to a number of domestic or non-domestic buildings.

An **electrolyser** uses electricity to split water into hydrogen and oxygen

EV are electric vehicles

An **energy system** is a system designed to produce and supply energy and energy services to end-users.

Greenhouse gases are the thin layer of gases surrounding the Earth. These gases include both naturally occurring and human-derived greenhouse gas such as carbon dioxide, methane, water vapour and nitrous oxide.

Ground PV (Photovoltaics) are ground based solar panels that generate electricity using energy from the sun.

GW Gigawatt

GWh Gigawatt hours

Heat pumps use a heat exchange system to take heat from air or ground and increase the temperature to heat buildings

Hydroelectricity uses water falling between two reservoirs to turn turbines to generate electricity

Hydrogen is a flammable gas that can be burned, like natural gas, to generate heat or power vehicles. The by-product is water. Hydrogen can also be used in fuel cells to generate electricity.

ktCO₂ kilotons of carbon emissions

Landfill gas is produced from micro-organisms in a landfill site such as methane that can be used as a source of energy

LAEP is used interchangeably for “Local Area Energy Planning” and “Local Area Energy Plan.”

LDP Local Development Plan

Methane reformation is a process of producing hydrogen by heating methane from natural gas and steam, usually with a catalyst

Microgeneration is small-scale generation of heat and electricity by individuals, households, communities or small businesses for their own use.

MW Megawatts

The **National Grid** is the system operator of Great Britain’s electricity and gas supply. This includes England, Scotland and Wales. It is the

company that manages the network and distribution of electricity and gas that powers all our homes and businesses.

Net zero is achieving a balance between the amount of greenhouse gas emissions produced and the amount removed.

Ofgem (Office of Gas and Electricity Markets) is the government regulator for the electricity and downstream natural gas markets in Great Britain

Onshore renewable energy is energy collected from land-based resources which are naturally replenished, such as sunlight, wind, rain and geothermal heat. Renewable energy can be used for electricity generation, air and water heating / cooling, transportation, and rural energy services.

A **purchase power agreement (PPA)** is a contract between two parties where one produces and sells electricity and the other purchases electricity.

REGO The Renewable Energy Guarantees of Origin (REGO) scheme provides transparency to consumers about the proportion of electricity that suppliers source from renewable generation.

A **renewable energy guarantees of origin (REGO) agreement** is a scheme that tells consumers what proportion of their electricity comes from renewable sources.

Resistance heating generates heat by passing electrical currents through wires.

RIIO-ED (Revenue, Incentives, Innovation & Outputs: Electricity Distribution) is the price control for the electricity distribution network, where network companies take power from the transmission network and deliver it at safe, lower voltages to homes and businesses.

RIIO-ED1 is the price control which runs from 2015-23.

RIIO-ED2 is the price control which will run from 2023-28.

RIIO-ED3 is the price control which will run from 2028-33.

RIIO-GD is the price control for the gas distribution network companies.

RIIO-GD1 was the price control that ran from 2013-21.

RIIO-GD2 is the price control which runs from 2021-26.

RIIO-GD3 is the price control which will run from 2026-35.

Sewage gas is gas given off in the digestion of sewage consisting of approximately 66 per cent methane and 34 per cent carbon dioxide. This gas can be converted into heat and electricity using a reciprocating gas engine.

Solar PV (Solar Photovoltaics) is the generation of electricity using energy from the sun. Modern solar panels produce electricity from daylight and do not require direct sunlight, although more electricity is produced on bright sunny days.

SWIC South Wales Industrial Cluster

ULEV Ultra-low emission vehicles

Wind power harnesses wind to turn a turbine to generate electricity.

WWU (Wales and West Utilities) operates the gas distribution network across Wales and the South West England regions of the United Kingdom.

WPD (Western Power Distribution) is the trading identity of four electricity distribution companies in the United Kingdom: WPD South West (operating in South West England), WPD South Wales (in South Wales) and WPD Midlands (two companies, in the East Midlands and West Midlands).