

# **Jargon Buster**

**INFRASTRUCTURE, WASTE,  
ENERGY AND MINERALS**

**A – Z**

# INFRASTRUCTURE, WASTE, ENERGY & MINERALS

*In a sector where there is constant development, arrival of new technologies and concepts we have compiled a glossary of waste, energy and mineral terms to help you distinguish your MRF's from your MBT's, gasification from pyrolysis and hydrology from hydrogeology.*

For expert advice on the acquisition, disposal and valuation of these niche assets, please contact our dedicated Infrastructure, Waste, Energy and Minerals specialists.



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### Who we are

We are a dedicated specialist Infrastructure, Waste, Energy and Minerals team offering expert advice to operators, developers and investors on the sale, acquisition, disposal and valuation of their niche IWEM assets.

### What we do

- Valuation
- Agency
- Site search
- Investment (including sale & leaseback, asset income strips and funding opportunities)
- Rent & royalty reviews
- Business rates
- Due diligence
- Wayleaves & access rights
- Compulsory Purchase and Compensation
- Trading Entity Reviews

### Why choose us

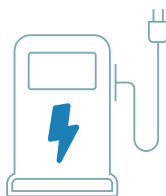
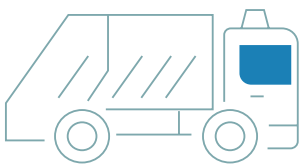
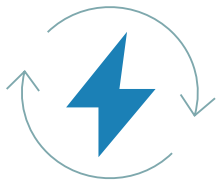
Our valuation expertise has been developed over more than 25 years of industry experience undertaking valuations on behalf of Local Authorities, Banks, Investors, Developers and Operators together with agency instructions that provide the best and most up to date evidence.

In the last 12 months we have undertaken over £500 million worth of valuation instructions across the IWEM sectors and sold over £40 million of IWEM assets.

### Asset Types

The below provides a full but not exhaustive list of the typical types of assets we value:

- Anaerobic Digestion (AD) Plants
- Brickworks
- Cement Works
- Civic Amenity Sites
- Composting Facilities
- Concrete Blanching Plants
- Dimension Stone Operations
- Gasification Operations
- Hard Rock Quarries
- Hydro
- Industrial Minerals
- Landfill
- Landfill Gas to Energy
- Mass Burn Waste-to-Energy
- Material Recycling Facilities (MRF)
- Mechanical Biological Treatment Plants
- Power Plants
- Pyrolysis
- Sand and gravel pits
- Scrap and Metal Recycling Facilities
- Secondary Aggregates
- Solar
- Standby Power
- Tarmac Coating Plants
- Waste Transfer Stations (WTS)
- Wharves
- Wind





# INFRASTRUCTURE, WASTE & ENERGY

## Anaerobic Digestion (AD)

Collection of processes whereby microorganisms break down biodegradable material in the absence of oxygen. The process produces a biogas, which can be used directly as fuel, in combined heat and power gas engines or upgraded to natural gas-quality biomethane. The nutrient-rich digestate also produced can be used as a fertiliser.

## Biodiversity

Biodiversity is the name given to the variety of all life on Earth. All living things exist within their own communities, or ecosystems - oceans, forests, deserts, ice caps and even cities. All this put together is biodiversity: the volume of life on Earth as well as how different species interact with each other and with the physical world around them.

## Biomass

Biological material derived from living, or recently living organisms. In the context of biomass for energy this is commonly plant based material, but can equally apply to both animal and vegetable derived material. This is classed as a 'carbon neutral' process.

## Carbon trading

A market used to manage greenhouse gas emissions; instead of cutting their own emissions to meet mandatory targets, companies can pay someone else to cut theirs, or to sequester carbon.

## Circular Economy

A circular economy is part of the solution to our global climate in which products, services and systems are designed to maximise their value and minimise waste. It's an all-encompassing approach to life and business, where instead of taking resources from the earth, using them once, and disposing of them in landfill, we keep them in use for as long as possible. We make sure that we gain the maximum benefit from them while reducing negative environmental impacts. It is underpinned by a transition to renewable energy and materials. It is a resilient system that is good for business, people and the environment.

## Combined Heat and Power (CHP)

Integrates the production of usable heat and power (electricity) in one single, highly efficient process designed to recover most of the waste heat.

## Commercial and Industrial Waste (C&I)

Waste generated by shops, offices, factories and other businesses and industry.

## Composting

Biological process which takes place in the presence of oxygen where organic wastes are converted into a nutrient rich soil conditioner. Typically open windrow composting is used for processing garden waste and In Vessel Composting (IVC) for mixed garden and food wastes.

## Connection Agreement

Document which states the Agreed Capacity for a property with the local Distribution Network Operator (DNO).

## Construction and Demolition Waste (C&D)

Waste generated during the construction, renovation, and demolition of buildings, roads and bridges. C&D materials often contain bulky, heavy materials, such as concrete, wood, metals, glass and salvaged building components.



**Distribution Network Operators (DNO)**

Companies responsible for operating the networks that connect electricity consumers to the national transmission system. There are 14 regional distributors who maintain the electrical network.

**Landfill Cap**

Containment technology that forms a barrier between the landfilled waste and the surface to ensure environmental protection and allow restoration. Commonly, the final impermeable layer followed by layers of subsoil and topsoil.

**Energy from Waste (EFW)**

Conversion of waste into a useable form of energy, often electricity or heat.

**End of Life Vehicle (ELV)**

Directive of the European Union addressing the end of life of a vehicle when it is classed as waste.

**Environmental Permit**

Granted by the Environment Agency to regulate waste management operations and facilities to protect the environment and ensure compliance with current legislation. Formerly waste management licenses.

**EV Charging Point**

Electric vehicle (EV) charging points provide the electricity required to power an EV. Charging an EV can be anything between 30-60 minutes and 8-10 hours.

**ESG**

Environmental, Social, and Governance (ESG) is an evaluation of a firm's collective conscientiousness for social and environmental factors. It is typically a score that is compiled from data collected surrounding specific metrics related to intangible assets within the enterprise. It could be considered a form of corporate social credit score. These three broad categories are terms used to define "socially responsible investors", i.e. the investors who consider it important to incorporate their values and concerns (such as environmental, governance, or community concerns) and then form investment decision rather than just potential profitability.

**Feed-In Tariffs (FIT's)**

Introduced in April 2010 and replaced UK government grants as the main financial incentive to encourage uptake of renewable electricity generating technologies.

**Gasification**

Conversion of hydrocarbons into a syngas by carefully controlling the amount of oxygen present during heating without combustion.

**Hazardous Waste**

Waste streams where the material produced is hazardous and requires specialist treatment. Classified in accordance with the Waste Framework Directive.

**Hydroelectricity**

Electricity production through the use of the gravitational force of falling or flowing water driving a turbine and generator.

**Interconnector**

Electricity interconnectors are high-voltage cables that connect the electricity systems of neighbouring countries. They enable excess power, such as that generated from wind and solar farms, to be traded and shared between countries. This ensures renewable energy isn't wasted and makes for a greener, more efficient power system.

**Incinerator Bottom Ash (IBA)**

Residue from waste burnt in an incinerator. IBA can be processed into a secondary aggregate and used in road sub base, bulk filler for construction and in cement bound materials.

**Inert Waste**

Waste that does not undergo significant physical, chemical or biological changes following disposal and does not adversely affect other matters that it may come into contact with.



**Landfill Cap**

Containment technology that forms a barrier between the landfilled waste and the surface to ensure environmental protection and allow restoration. Commonly, the final impermeable layer followed by layers of subsoil and topsoil.

**Landfill Cell**

Section of a landfill engineered to hold waste, separated from other areas by an engineered bund or internal separation system.

**Landfill Gas**

Gases emitted from a landfill including carbon dioxide and methane resulting from the decomposition of putrescible materials in the landfill. Rate of production is affected by waste composition and landfill design. Most sites control and collect the gas, using it to generate electricity.

**Landfill Tax**

Tax on the disposal of waste to reduce the volume of waste sent to landfill and promote the recovery of waste material. Increases each year on the 1st April.

**Leachate**

Liquid that in passing through matter, extracts solutes, suspended solids or any other component of the material through which it has passed. Landfills give rise to leachates and therefore require appropriate management.

**Materials Recycling Facility (MRF)**

A specialised facility that receives, separates and sorts waste materials using manual and mechanical processes.

**Mechanical Biological Treatment (MBT)**

Combination of different technologies brought together in an integrated facility, comprising mechanical processes to separate out the dry recyclables and biological processes to drive out moisture and handle the organic fraction. MBT plants can be designed to produce a refuse derived fuel (RDF), an organic material that is suitable for composting or anaerobic digestion; or a biologically treated material with low biodegradable content for landfill.

**Municipal Waste**

Historically a term for waste collected by Local Authorities but now includes household waste and waste from other sources similar in nature and composition, including a significant proportion generated by businesses not collected by the Local Authority.

**(MWh)**

Mega Watt hour, one thousand kWh.

**Net Zero**

Put simply, net zero refers to the balance between the amount of greenhouse gas produced and the amount removed from the atmosphere. We reach net zero when the amount we add is no more than the amount taken away. Net zero is important as it's the best way we can tackle climate change by reducing global warming.

**Peak Power**

Peak power plants generally run only when there is a high demand, known as peak demand, for electricity. Because they supply power only occasionally, the power supplied commands a much higher price per kilowatt hour than base load power. Peak load power plants are dispatched in combination with base load power plants, which supply a dependable and consistent amount of electricity, to meet the minimum demand.

**Photovoltaics (PV)**

Conversion of solar radiation into electricity by the interaction of light with the electrons in a semiconductor device or cell.



**Pulverised Fuel Ash (PFA)**

Produced from the flue gases of modern coal-burning power stations and can be processed into a secondary aggregate, used as engineering fill and as a component for concrete.

**Pyrolysis**

Thermochemical decomposition of organic material at elevated temperatures in the absence of oxygen resulting in the L-P production of a syngas.

**Refuse Derived Fuel (RDF)**

Made from domestic waste which includes biodegradable material as well as plastics, and has a lower calorific value than solid recovered fuel. RDF is used in combined heat and power facilities.

**Renewable Energy**

The energy produced using naturally replenishing resources, this includes solar, wind, wave, tide and hydro. Wood, straw and waste are often called solid renewable energy, while landfill gas and sewerage gas can be described as gaseous renewables.

**Renewable Obligations Certificates (ROC's)**

Green certificates issued to operators of accredited renewable generating stations for the eligible renewable electricity they generate, introduced in 2002.

**Soil carbon**

Also soil organic carbon (SOC) is carbon stored in organic matter in the soil. It comes from decomposing plant material and is vital for soil health.

**Solid Recovered Fuel (SRF)**

Produced from commercial waste including paper, card, wood, textiles and plastic. With a moisture content of less than 15 per cent, SRF has a high calorific value and is used in facilities such as cement kilns.

**Sustainability**

Simply put, operating within the planet's limits. Development that meets the needs of the present without compromising the ability of future generations to meet their own needs.

**Waste Transfer Station (WTS)**

Facility for receiving and bulking up waste before its onward journey for treatment, recycling or disposal.

**Waste Electrical and Electronic Equipment (WEEE)**

A waste stream comprising end-of-life or discarded electrical appliances.

**Wind Power**

Conversion of wind energy into electrical power. Wind farms can be sited on land or offshore where they are able to take advantage of the stronger and more consistent winds.

**Waste Hierarchy**

A system for ranking methods of managing waste in order of preference, with waste prevention at the top (preferred option), and waste disposal at the bottom (least preferred option).

**Waste Management Facilities**

Term used for a site that stores, sorts, recycles or disposes of waste material. Waste Residue – portion of the waste stream which cannot be recovered or recycled.

**Waste Management Licence**

Licence previously granted by the Environment Agency to regulate waste management operations and facilities to protect the environment and ensure compliance with current legislation. Superseded under the Environmental Permitting (England and Wales) Regulations 2010 and now all facilities operate under Environmental Permits.





# MINERALS

## Aftercare

Operations necessary to maintain restored land to an agreed condition for after use to continue.

## After Use

The use that land, used for minerals working, is put to after restoration.

## Aggregates

Sand and gravel, crushed rock and other bulk materials used in the construction industry primarily for concrete, mortar, asphalt, roadstone, drainage or bulk filling.

## Aggregate Wharf

Wharf for the handling and distribution of land, marine dredged or sea borne aggregates.

## Aggregate Working Parties

Provide technical advice about the supply demand for aggregates to the Secretary of State for Communities and Local Government and mineral planning authorities.

## Aquifer

Permeable water bearing stratum which is capable of storing and yielding water when tapped by a well.

## Area Action Plan (AAP)

Provides a planning framework for areas of change and areas of conservation.

## Area of Outstanding Natural Beauty (AONB)

An area of countryside designated by Natural England for conservation due to its significant landscape value.

## Asphalt

Natural or artificial mixture in which bitumen is combined with a proportion of mineral compounds.

## Bed

Layer of rock or mineral.

## Bench

Horizontal step in a quarry face used for access, stability or rockfall protection.

## Borrow Pits

Pit in close proximity to and worked solely in conjunction with a large scale construction project. The working provides the development with bulk filling minerals and is restored with any surplus soils that may arise.

## Bund

Embankment formed from natural material, used either to screen a site from view or to reduce noise emissions.

## Conservation Areas

Defined in the Planning (Listed Building and Conservation Areas) Act 1990, as being of special architectural or historical interest and therefore protected from any alterations which would destroy its character.

## Crest

Upper edge of an excavation or bench.





**Crushed Rock**

Hard rock normally limestone and granite which has been quarried, fragmented, and graded for use as aggregate.

**Directional Drilling**

Non-vertical wells which begin with slanted but straight holes often used for mineral exploration and to avoid surface obstacles.

**Environmental Statement (ES)**

Document prepared following an Environmental Assessment which provides a systematic and objective account of the significant environmental effects to which the proposed project is likely to give rise.

**Environmental Impact Assessment (EIA)**

Process by which information detailing the environmental effects of a project are collected, and taken into account by the planning authority in determining an application.

**Greenbelt**

Policy and land use designation used to retain areas of largely undeveloped, wild, or agricultural land surrounding or neighbouring urban areas to reduce urban sprawl and protect the natural environment.

**Groundwater**

Located beneath the surface in soil pore spaces and in the fractures of rock formation. Typically thought of as liquid water flowing through shallow aquifers, but can also include soil moisture, permafrost, immobile water in very low permeability bedrock and deep geothermal water.

**Industrial Minerals**

Minerals which are necessary to support industrial and manufacturing processes and other nonaggregate uses.

**Interburden**

Material occurring within a body of mineral which is not required and thus removed, for example clay bands within sand and gravel deposits.

**Landbank**

Stock of planning permissions for the winning and working of minerals.

**Local Nature Reserve (LNR)**

Non-statutory designation of a site of local nature conservation significance, declared by local planning authorities.

**Low-Level Restoration**

Re-establishment of land following mineral extraction, without in-filling  
This restoration is usually associated with agricultural after use.

**Marine Dredged Aggregates**

Sand and gravel dredged from deposits on the seabed.

**Minerals**

Naturally occurring substances such as sand, gravel, chalk, clay, oil and gas extracted from the ground.

**Minerals and Waste Development Framework (MWDF)**

Collection of planning documents outlining the management of minerals and waste development.

**Minerals Planning Guidance (MPG)**

Guidance issued by the Government relating to minerals planning.

**Minerals Policy Statement (MPS)**

Will supersede MPG's following the reform of the planning system, and will set out national policy which will override local policy.

**National Nature Reserve (NNR)**

Site of national nature conservation importance, managed by English Nature.

**Overburden**

Also called waste or spoil, consists of uneconomic mineral material above minerals, typically comprising superficial deposits such as top soil, sub soil and fragmented rock.

**Permitted Reserves**

Mineral deposits with the benefit of planning permission for extraction.



**Railhead Aggregates Depot**

Reception point for aggregates moved in bulk by rail for onward distribution. Comprising a railway siding, offloading and storage facilities and will commonly incorporate mineral processing and other plant.

**Ramsar Site**

Wetland sites of international importance designated under the Ramsar Convention.

**Reserve**

Resources known to be economically feasible for extraction.

**Restoration**

Return of land following mineral extraction to an acceptable condition, whether for resumption of the former land use or for a new use.

**Recycled Aggregates**

Aggregates obtained from the treatment of materials formerly used for another purpose.

**Safeguarding**

Protecting mineral deposits, rail heads and wharfage from sterilisation by preventing alternative development.

**Scheduled Ancient Monument**

Nationally important archaeological site included in the Schedule of Ancient Monuments maintained by the Secretary of State for the Environment.

**Seaborne Aggregates**

Aggregates transported by sea whether marine won or not.

**Secondary Aggregates**

Aggregates other than sand, gravel and crushed rock (primary aggregates) produced as by-products of other processes. Includes boiler ashes, burned shale, burned clay, pulverised fuel ash, clay, chalk and shale.

**Sensitive Receptors**

Locations where residential dwellings or other fixed, developed sites of frequent human use occur.

**Sharp Sand**

Large grained and angular sand, usually found in association with gravel deposits and predominately used in the manufacture of concrete.

**Silt**

Fine grained sediment with a particle size between that of fine sand and clay.

**Site of Special Scientific Interest (SSSI)**

Area of special interest designated by Natural England for its flora, fauna or geological or physiographical features.

**Soft Sand / Building Sand**

Fine rounded sand, derived largely from solid sand deposits. Used for a variety of building operations such as the manufacture of mortar and the production of asphalt for road construction purposes.

**Stabilisation**

Support by artificial means of an excavated face including buttressing, rock bolting, netting etc.

**Sterilisation**

development which occurs on or near a mineral reserve, which will prevent future workings of the potential mineral workings.

**Super Quarry**

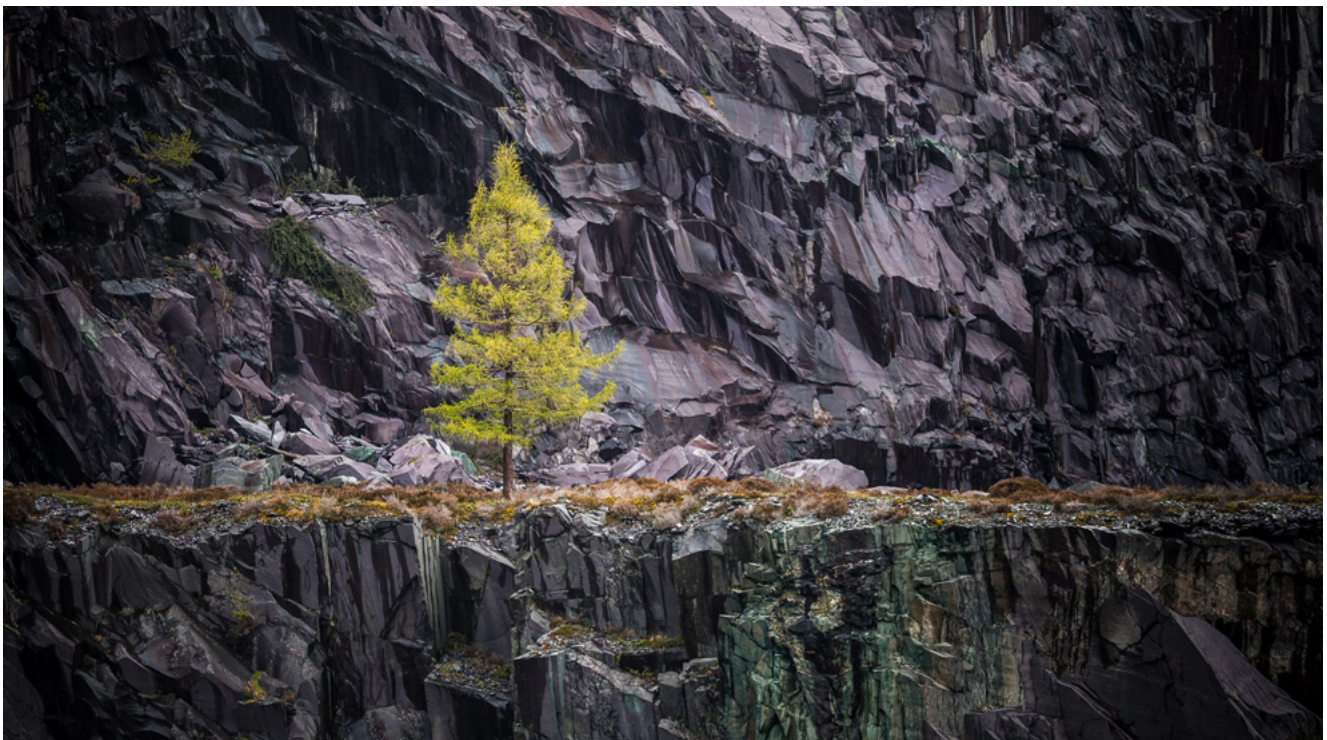
Quarry capable of producing at least five million tonnes of rock per annum and with reserves of at least 150 million tonnes.

**Water Table**

Top surface of the saturated zone within the aquifer, fluctuates seasonally and annually.

**Well Pad**

Location for siting the wellheads for a number of horizontal, directional or vertically drilled wells.



Your partners in property



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