

Appendix 1:

Waste Management – Glossary of Terms

Term	Abbreviation	What it Means
Advanced Thermal Treatment	ATT	A generic term to describe energy from waste technologies (primarily those that use Gasification or Pyrolysis) which are more efficient at recovering energy than conventional methods. See separate definitions of Gasification, Pyrolysis and Thermal Treatment for further details.
Anaerobic Digestion	AD	A method of biological treatment for organic wastes such as food and green garden/ horticultural waste, where plant and animal materials (biomass) are broken down by micro-organisms in the absence of oxygen, using an enclosed system, under controlled conditions. The main end products are “biogas” which can be used to generate heat or power, and “biodigestate” (a compost-like material that can be used as a fertiliser). As the process is enclosed in a building, AD does not require a large site, but must be an appropriate distance away from “sensitive receptors” such as housing and community facilities, because of potential health risks – see Environment Agency guidance (2012) for details: https://www.gov.uk/government/publications/developments-requiring-planning-permission-and-environmental-permits
Biological Treatment	N/A	A method of treating waste that uses biological processes, involving micro-organisms, to break down the waste. Examples of this form of treatment include Anaerobic Digestion and Composting. Treatment of waste water and sewage, and some specialised methods of contaminated soil treatment, also involve biological treatments.
Biomass	N/A	Biological materials (i.e. derived from plants or animal sources) which are used as a source of fuel to generate energy. Biomass energy generating plants do not all use waste as feedstock: some generate energy from energy crops grown specifically for the purpose, whereas others may use a combination of biomass crops and pre-treated waste wood and/ or Refuse Derived Fuel (RDF). See separate definition of Refuse Derived Fuel.
By-Product	N/A	The term “by-product” is defined in Article 5 of the Waste Framework Directive (2008/98/EC) as a “substance or object, resulting from a production process, the primary aim of which is not the production of that item,” where the following conditions are met:

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By-product (continued)	N/A	<p>(a) Further use of the substance or object is certain;</p> <p>(b) The substance or object can be used directly without any further processing other than normal industrial practice;</p> <p>(c) The substance or object is produced as an integral part of a production process; and</p> <p>(d) Further use is lawful, i.e. the substance or object fulfils all relevant product, environmental and health protection requirements for the specific use and will not lead to overall adverse environmental or human health impacts.</p> <p>Such a product is not regarded as “waste” if these conditions are met. It is implicit that if these conditions are not met, the product is likely to be a “waste.”</p> <p>Quality Protocols have been developed by the Environment Agency in association with the Waste and Resources Action Programme (WRAP) for various products, to establish the conditions that must be met for them to qualify as a product rather than as a “waste”:</p> <p>https://www.gov.uk/government/collections/quality-protocols-end-of-waste-frameworks-for-waste-derived-products</p>
Chemical Treatment	N/A	A method of treating waste that uses chemicals to treat waste to neutralise or reduce its harmfulness, prior to further treatment, recovery or disposal. These methods are often used to treat Hazardous Wastes (see separate definition) but chemical treatments are also applied in waste water treatment.
Civic Amenity Site	CA	See Household Waste Recycling Centre.
Combined Mechanical and Biological Treatment	MBT	Use of a combination of techniques to extract as much value as possible from mixed wastes. This involves two or three stages of treatment on the same site. There is often an initial mechanical sorting and separation stage to recover materials suitable for recycling, followed by processing and/ or treatment of the residue, to prepare it for a final treatment stage, when any remaining residual waste is used to recover energy and/ or prepared for disposal. In this combination the final stage involves some form of biological treatment – see separate definition of Biological Treatment for details.

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Combined Mechanical and Heat Treatment	MHT	Use of a combination of techniques to extract as much value as possible from mixed wastes. This involves two or three stages of treatment on the same site. There is often an initial mechanical sorting and separation stage to recover materials suitable for recycling, followed by processing and/ or treatment of the residue, to prepare it for a final treatment stage, when any remaining residual waste is used to recover energy and/ or prepared for disposal. In this combination the final stage involves some form of thermal or heat treatment – see separate definition of Thermal Treatment for details.
Commercial and Industrial Waste	C&IW	Waste generated by industry and by businesses. The fraction of C&IW that is similar in nature to household waste (for example, food, green waste, paper, card, cans, glass and plastics) is “municipal” waste according to the definition in Article 2 (b) of the Landfill Directive – see definition of Municipal Waste below for details.
Composting	N/A	A method of biological treatment that involves breaking down organic waste into a soil-like substance, using various micro-organisms in the presence of oxygen. Can be done in “open windrows” or “in-vessel” (see separate definitions). The end-product is compost which has various horticultural and agricultural uses. As there are potential risks to health from “bio-aerosols” and in some cases, animal by-products, composting is normally only allowed on sites that are an appropriate distance away from “sensitive receptors” such as housing and community facilities. The Environment Agency has issued guidance on developments that require both planning permission and environmental permits (2012), which explains the risks: https://www.gov.uk/government/publications/developments-requiring-planning-permission-and-environmental-permits
Construction and Demolition Waste	C&D CDW	Waste generated by the construction and demolition process. This waste stream therefore includes various building materials, including concrete, bricks, gypsum, wood, glass, metals, plastic, solvents, asbestos and excavated soil, many of which can be recycled.
Construction, Demolition and Excavation Waste	CD&EW	See Construction and Demolition Waste.

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Combined Heat and Power	CHP	A term used to describe the process of capturing and using heat that is a by-product of the electricity generation process (for example, heat generated by energy from waste facilities). It involves putting into place infrastructure (e.g. pipework) to supply the surplus heat to developments nearby (such as an industrial estate or housing estate), that have a demand for it, which otherwise have to be met by a conventional boiler or energy generating system.
Disposal	N/A	Defined in Article 3 (19) of the Waste Framework Directive (2008/98/EC) as “...any operation which is not recovery even where the operation has as a secondary consequence the reclamation of substances or energy.” A detailed (but non-exhaustive) list of the operations that fall under the definition of “recovery” is set out in Annex I of the Directive. In other words, it means any waste management operation whose main purpose is to get rid of the waste, even if some value is recovered in the process. Therefore, incineration may be disposal if the main purpose is not energy recovery. The deposit of excavation waste onto or into land (landfill or land-raising) is also usually regarded as waste disposal although there are “grey areas” where material is being used for land remediation or landscaping purposes.
Energy from Waste	EfW	See Energy Recovery.
Energy Recovery	N/A	Use of residual waste as a fuel to generate energy (see below for definition of Residual Waste). There are various types of facility for generating energy from waste or from “refuse derived fuel” (see below for definition). These include municipal energy from waste facilities for incineration of waste with energy recovery, and more advanced technologies which are more efficient at recovering energy, for example, by generating energy from gas produced by other waste treatment processes such as pyrolysis, gasification and anaerobic digestion (AD). Defra has produced guidance (2014) on the issues around energy from waste and the options available: https://www.gov.uk/government/publications/energy-from-waste-a-guide-to-the-debate

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Gasification	N/A	A type of Advanced Thermal Treatment/ Energy Recovery technology, which under strictly controlled temperature conditions, converts biomass and/ or pre-treated wastes into gas, which can then be either used as a source of energy or converted into electricity. The other main product is a solid ash residue. This method of treatment is only suitable for pre-treated wastes, such as Refuse Derived Fuel (RDF), which may be generated on-site from residual waste, or be imported from another facility which processes residual waste into RDF. See also separate definitions of Advanced Thermal Treatment, Biomass, Energy Recovery, Refuse Derived Fuel, Residual Waste and Thermal Treatment.
Hazardous Waste	N/A	Defined in Article 2 (2) of the Waste Framework Directive (2008/98/EC) as "...waste which displays one or more of the hazardous properties listed in Annex III." In other words, waste whose properties are likely to cause risks to health, the environment or water quality. Annex III of the Directive provides a (non-definitive) list of properties that render waste "hazardous," and the Environment Agency has produced guidance on the types of waste that are likely to be hazardous.
Household Waste	N/A	There is no standard definition of household waste but in general it means waste generated by households. Most of this waste is collected from local councils from households through kerbside collections or household waste recycling centres (HWRCs), although some household waste is also dealt with by the commercial waste sector (e.g. skip hire).
Household Waste Recycling Centre	HWRC	Facility operated by or on behalf of a local council, where local residents can bring waste (sometimes referred to as a Civic Amenity Site or a "tip"). Walsall Council has two of these sites, at Fryers Road in Bloxwich and at Merchants Way in Aldridge.
Incineration	N/A	The combustion of waste, either with or without energy recovery. Municipal energy from waste plants tend to be referred to as "incinerators" although they normally recover some energy, and the most recently developed plants (such as the "W2R" facility at Four Ashes in Staffordshire, which is used by Walsall Council) are efficient enough to qualify as a waste "recovery" operation (see separate definition of Recovery). These types of facilities :

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Inert Waste	N/A	Waste that does not undergo any significant physical, biological or chemical changes likely to cause risks to health or to the environment or to affect water quality – the legal definition of “inert waste” can be found in Article 2 of the Landfill Directive (1991/31/EC). This type of waste can be disposed of at any permitted Landfill site. Certain types of inert waste such as clean waste soils may also be disposed of onto land for the legitimate purpose of restoration, land remediation or landscaping.
In-Vessel Composting	IVC	See separate definition of Composting. This method involves composting in an enclosed environment, allowing greater control over the process than “open windrow” composting. The waste is usually shredded before processing. There are various systems available using containers, silos, bays or tunnels, rotating drums, or an enclosed hall. The end-product is compost which has various horticultural and agricultural uses. This method can be used to compost food and green garden/ horticultural waste mixtures, because composting takes place in an enclosed environment, with accurate temperature control and monitoring. The end-product is compost which can be used by farmers and gardeners to improve soil. There are various systems depending on the type of container or building used. It does not require such a large site as Open Windrow Composting but must still be an appropriate distance away from “sensitive receptors” such as housing and community facilities, because of potential health risks from “bio-aerosols” and animal by-products. For further information see WRAP website: http://www.wrap.org.uk/content/vessel-composting-ivc
Landfill	N/A	Defined in Article 2 (g) of the Landfill Directive (1991/31/EC) as: “A waste disposal site for the deposit of the waste onto or into land (i.e. underground), including: <ul style="list-style-type: none"> • Internal waste disposal sites (i.e. landfill where a producer of waste is carrying out its own waste disposal at the place of production), and • A permanent site (i.e. more than one year) which is used for temporary storage of waste but excluding: <ul style="list-style-type: none"> • Facilities where waste is unloaded in order to permit its preparation for further transport for recovery, treatment or disposal elsewhere; • Storage of waste prior to recovery or treatment for a period less than three years as a general rule, or

Term	Abbreviation	What it Means
Landfill (continued)	N/A	Storage of waste prior to disposal for a period less than one year.”
Landfill Diversion	N/A	Ways of recovering value from waste instead of disposing of it to landfill – see separate definition of Landfill.
Land-raising	N/A	See Landfill.
Local Authority Collected Waste	LACW	Waste collected and managed by or on behalf of local authorities, including waste collected from households and small businesses. This waste stream often used to be referred to as “municipal” waste, but this is incorrect, as the definition of “municipal” waste in the Landfill Directive covers a wider range of wastes (see separate definition of Municipal Waste for further details).
Material Recycling Facility	MRF	See Materials Recovery Facility below.
Materials Recovery Facility	MRF	Facility that uses mechanical techniques to sort, separate and recover raw materials from mixed household wastes, such as paper, card, cans, glass and plastics, which can then be re-used by industry, or recycled into new products. It therefore fits into either the “Preparing for Re-use” or “Recycling” steps of the “waste hierarchy.” Other more specialised materials recovery techniques can also be used to recover value from other types of waste generated by households and businesses, such as waste electrical and electronic equipment (WEEE).
Municipal Waste	N/A	Defined in Article 2 (b) of the Landfill Directive 1991/31/EC as “...waste from households, as well as other waste which, because of its nature or composition, is similar to waste from household.”
Non- Hazardous Waste	N/A	Waste that is neither inert nor hazardous (see separate definitions), which can include pre-treated organic wastes and stabilised residues from waste treatment. This type of waste can only be disposed of at a permitted Non-Hazardous Landfill site or another facility permitted to accept it.

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Open Windrow Composting	N/A	See separate definition of Composting. This method of composting is carried out in the open air or in a large covered area, and is only suitable for green garden or horticultural waste, such as grass cuttings, tree and shrub prunings and leaves. The waste is shredded and laid out in long piles called “windrows,” which are mechanically turned from time to time to aid the process of breakdown of material. The end-product is compost, which has various horticultural and agricultural uses. This type of operation requires a large site that is an appropriate distance away from “sensitive receptors” such as housing and community facilities, because of potential health risks from “bio-aerosols.” For further information see WRAP website: http://www.wrap.org.uk/content/open-windrow-composting
Preparing for Re-Use	N/A	Defined in Article 3 (16) of the Waste Framework Directive (2008/98/EC) as “...checking, cleaning or repairing recovery operations, by which products or components of products that have become waste are prepared so that they can be re-used without any other pre-processing.”
Proximity	N/A	One of the principles to be applied to the disposal of residual waste and recovery of mixed municipal waste from households and other sources where collected as part of the same collection arrangements, under Article 16 of the Waste Framework Directive (2008/98/EC) – the other principle to be applied in parallel is “self-sufficiency” (see separate definition). The objective is to enable these wastes to be managed at “one of the nearest appropriate installations, by means of the most appropriate methods and technologies, in order to ensure a high level of protection for the environment and public health” – in other words, that waste facilities should be appropriately located in relation to the sources of waste, so that the impacts on the environment and health are minimised. However, national policy guidance advises that when planning for local requirements, economies of scale and the particular locational requirements of certain facilities also have to be taken into account, and will often determine where facilities are developed (NPP for waste, paras. 1, 4, 6 - 8).

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Pyrolysis	N/A	A type of Advanced Thermal Treatment/ Energy Recovery technology, which under strictly controlled temperature conditions, converts biomass and/ or pre-treated wastes into gas, which can then be either used as a source of energy or converted into electricity. Other by-products include liquid and solid residue (“char”) which can be used as fertiliser. This method of treatment is only suitable for pre-treated wastes, such as Refuse Derived Fuel (RDF), which may be generated on-site from residual waste, or be imported from another facility which processes residual waste into RDF. See also separate definitions of Advanced Thermal Treatment, Biomass, Energy Recovery, Refuse Derived Fuel, Residual Waste and Thermal Treatment.
Recovery	N/A	Defined in Article 3 (15) of the Waste Framework Directive (2008/98/EC) as “...any operation the principal result of which is waste serving a useful purpose by replacing other materials which would otherwise have been used to fulfil a particular function, or waste being prepared to fulfil that function, in the plant or in the wider economy.” A detailed (but non-exhaustive) list of the operations that fall under the definition of “recovery” is set out in Annex II of the Directive. Essentially, “recovery” of waste is the same as “Landfill Diversion” (see separate definition). The generation of energy from waste may qualify as “recovery,” but only where the technology achieves the levels of efficiency required by the Directive (see Annex II, R1).
Refuse Derived Fuel	RDF	Residual waste which has been pre-treated (for example by being screened and shredded) to produce a fuel which can then be used to generate energy at a Biomass, Energy from Waste or Advanced Thermal Treatment facility. Refuse Derived Fuel is still technically a “waste” and not a product. Operations that involve the processing of residual waste into RDF may qualify as “recovery” but do not fall within the definition of “recycling” (as is sometimes claimed). See separate definitions of Advanced Thermal Treatment, Biomass, Energy from Waste, Recycling, Recovery and Residual Waste.
Residual Waste	N/A	Waste left over from treatment or recovery processes, once the re-useable and recyclable waste has been removed.

Term	Abbreviation	What it Means
Recycling	N/A	Defined in Article 3 (17) of the Waste Framework Directive (2008/98/EC) as "...any recovery operation by which waste materials are reprocessed into products, materials or substances whether for the original or other purposes. It includes the reprocessing of organic material but does not include energy recovery and the reprocessing into materials that are to be used as fuels or for backfilling operations."
Re-Use	N/A	Re-use is defined in Article 3 (13) of the Waste Framework Directive (2008/98/EC) as "...any operation by which products or components that are not waste are used again for the same purpose for which they were conceived."
Self-Sufficiency	N/A	One of the principles to be applied to the disposal of residual waste and recovery of mixed municipal waste from households and other sources where collected as part of the same collection arrangements, under Article 16 of the Waste Framework Directive (2008/98/EC) – the other principle to be applied in parallel is "proximity" (see separate definition). The objective is for Member States to "to establish an integrated and adequate network of waste disposal installations and of installations for the recovery of mixed municipal waste" taking into account "best available techniques" – in other words that within the UK an adequate network of facilities should be developed so that each area should have enough capacity to meet its requirements. Therefore, achieving "net self-sufficiency" means having in place (or having the capability to develop) the infrastructure needed to manage a tonnage of waste equivalent to the tonnage of waste expected to arise in the area over the period being planned for – if each area can achieve this, in theory the whole country will have enough capacity. However, there is no expectation that all of the municipal waste and residual waste arising in a particular area will necessarily be recovered or disposed of in the same area, or that every area should have every type of waste disposal or recovery facility, as this is not likely to be economically viable in every case (NPP for waste, paras. 1, 4, 6 - 8).

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Thermal Treatment	N/A	A method of treating waste that involves heating it. Examples of thermal treatment are Anaerobic Digestion, Energy Recovery and Incineration – see separate definitions of these technologies.
Treatment	N/A	Defined in Article 3 (14) of the Waste Framework Directive (2008/98/EC) as “...recovery or disposal operations, including preparation prior to recovery or disposal.” See separate definitions for the meaning of “recovery” and “disposal.”
Waste	N/A	Defined in Article 3 (1) of the Waste Framework Directive (2008/98/EC) as “any substance or object which the holder discards or intends or is required to discard.” As it is not always easy to determine whether material is a “waste” or a “by-product,” Defra has issued guidance (2012) on the legal definition of waste: https://www.gov.uk/government/publications/legal-definition-of-waste-guidance See also separate definition of “By- Product.”
Waste Hierarchy	N/A	The waste hierarchy is a system for ranking methods of managing waste by preference, according to how efficiently they make use of resources - see Figure 1 for details. The legal definition of the waste hierarchy can be found in Article 4 of the Waste Framework Directive (2008/98/EC), which states that it is to be applied as a priority order in waste prevention and management legislation and policy. Defra has issued guidance (2012) on applying the “waste hierarchy” when considering waste management options: https://www.gov.uk/government/publications/applying-the-waste-hierarchy-evidence-summary There is separate guidance (2011) on applying the “waste hierarchy” when considering options for hazardous waste: https://www.gov.uk/government/publications/guidance-on-applying-the-waste-hierarchy-to-hazardous-waste

Term	Abbreviation	What it Means
Waste Projections	N/A	Forecasts or predictions of the amounts of waste likely to arise over a given period. The estimates are usually calculated by “projecting” from estimated current arisings (the “baseline”), and applying assumptions about how waste is likely to grow or fall over time, which may relate to the amount of new development expected to take place and other factors such as economic trends.