

Glossary

Waste & Sustainability Terms

Definitions of some words relating to Waste and Sustainability

[A](#) [B](#) [C](#) [D](#) [E](#) [F](#) [G](#) [H](#) [I](#) [J](#) [K](#) [L](#) [M](#) [N](#) [O](#) [P](#) [Q](#) [R](#) [S](#) [T](#) [U](#) [V](#) [W](#) [X](#) [Y](#) [Z](#)

A

Aerobic	Requiring air or oxygen, used in reference to decomposition processes that occur with the inclusion of oxygen
Alloy	<ul style="list-style-type: none"> ▪ Composite material made by blending materials under selected conditions. ▪ a substance composed of two or more metals or of a metal and a nonmetal intimately united usually by being fused together and dissolving in each other when molten ▪ Plastic polymers or co-polymers can be blended with other polymers or elastomers to produce a plastic alloy, e.g. Polycarbonate with ABS
Alternative fuels	<ul style="list-style-type: none"> ▪ Fuels which are generally less greenhouse intensive. Some well known alternative fuels include biodiesel, bioalcohol (methanol, ethanol, butanol), chemically stored electricity (batteries and fuel cells), hydrogen, non-fossil methane, non-fossil natural gas, and vegetable oil. ▪ Also known as non-conventional fuels - any materials or substances that can be used as a fuel, other than conventional fuels. Conventional fuels include: fossil fuels (petroleum (oil), coal, propane, and natural gas), and nuclear materials such as uranium.
Aluminium Cans	<ul style="list-style-type: none"> ▪ Aluminium cans are completely recyclable. Aluminium does not degrade during the recycling process which means that they can be recycled over and over again. ▪ Approximately 70% of aluminium cans produced in Australia are collected for recycling.
Anaerobic	Not requiring air or oxygen, used in reference to decomposition processes that occur in the absence of oxygen
Anaerobic digestion	A process of biologically degrading organic materials in the absence of oxygen, yielding methane gas (that may be combusted to produce energy) and stabilised organic residues (that may be used as a soil additive)
Asbestos	<ul style="list-style-type: none"> ▪ Asbestos is a fibrous cement (blue asbestos – crocidolite) that was used in building materials before the 1970's and further variations up until 1986. There is still a lot of this material in buildings or developments during these eras. A large number of products made from asbestos cement

include flat, corrugated or compressed asbestos cement sheeting, asbestos cement pipes such as water, drainage and flue pipes, roofing shingles and guttering. It is important to be aware of the dangers of asbestos, in order to act responsibly and avoid damaging your health.

- If you are unsure of the type of asbestos you have, all asbestos cement sheeting must be treated as though it contains amosite or crocidolite forms of asbestos as well as chrysotile.
- If asbestos cement products are left undisturbed and in good condition, they present no significant health risks, however safety precautions must be taken when renovating or demolishing a building that contains asbestos cement materials.

Avoidance

The first step in the waste hierarchy and indicates practices whereby waste generation is circumvented and eliminated (avoided)

B[Top](#)

Best practice

A process, technique or innovative use of technology, equipment or resources that has a proven record of success in providing significant improvement in cost, schedule, quality or other measurable factors which impact an organisation

Biodegradable

Capable of breaking down through the action of bacteria

Bioenergy

Bioenergy refers to the conversion of biomass to energy ie electricity, gas or biofuel

Biofuel

Biofuel is the fuel produced by the chemical and/or biological processing of biomass. Biofuel will either be a solid (ie. charcoal), liquid (ie ethanol) or gas (ie methane)

Biomass

Biomass is a natural resource. It refers to materials derived from photosynthesis which are not fossilised such as forest and mill residues, agricultural crops and wastes etc.

Biosolids

Nutrient rich organic materials derived from wastewater solids (sewage sludge) that have been stabilised through processing

C[Top](#)

Cleaner production (CP)

Effort to prevent pollution, reduce the use of energy, water and material resources and minimise waste, all without reducing production capacity.

Cogeneration

Simultaneous production of electricity and useful heat from the combustion of the same fuel source

Commingled materials

Mixed together – ie plastic bottles, glass jars, aluminum cans, steel cans all mixed together. Commingled recyclable materials require sorting after collection before they can be recycled.

Composting

Biologically degrading organic materials in the presence of oxygen, yielding carbon dioxide, heat and stabilised organic residues that may be used as a soil additive

Construction and Demolition Waste (C&D)	Includes waste from residential, civil and commercial construction and demolition activities, such as fill material (ie soil), timber, asphalt, concrete, bricks and tile
Container Deposit Legislation (CDL)	<ul style="list-style-type: none"> ▪ Currently in South Australia Only. ▪ Beverage Container Act - a 5¢ deposit is imposed on certain aluminum, glass and plastic beverage containers, which is redeemable at collection or recycling depots. The Act specifies that all containers to which it refers be marked with the approved refund markings. The refundable deposit serves as an incentive for the public to retain the container and return it to collectors for refund, reprocessing or recycling
Covenants	Formal agreements or contracts, often between government and industry sectors. The national packaging covenant and sustainability covenants are examples of voluntary covenants with a regulatory underpinning
Cullet	Term used to describe crushed glass that is suitable for recycling by glass manufacturers

D

[Top](#)

Department of Environment and Climate Change (DECC) - NSW	<p>The Department of Environment and Climate Change was formed on 27 April 2007 to enable a more integrated response to the unprecedented challenges presented by climate change.</p> <p>Broadly, the Department of Environment and Climate Change:</p> <ul style="list-style-type: none"> ▪ works towards a healthy environment cared for and enjoyed by the whole NSW community ▪ manages the state's natural resources, including biodiversity, soils and natural vegetation ▪ manages natural and cultural heritage across the state's land and waters ▪ acts to minimise the impacts of climate change ▪ promotes sustainable consumption, resource use and waste management ▪ regulates activities to protect the environment ▪ conducts biodiversity, plant, environmental and cultural heritage research to improve decision making.
Dematerialisation	Decreasing the consumption of materials and energy while maintaining quality of life
Design for sustainability (DfS)	An integrated approach aiming to achieve both environmental quality and economic efficiency through the redesign of industrial systems
Diversion rate	The rate or percentage of a potentially recyclable material that has been diverted out of the waste disposal stream and therefore not put into landfill

Drop off centre

A location where discarded materials can be left for recycling ie Challenge Recycling at Forest Road Landfill

E[Top](#)

Electrical demand

Demand is the rate at which energy is consumed. Consumption = Demand x Time

Energy audit

An energy audit is a systematic gathering and analysis of energy use information and can be used to determine energy efficiency improvements of a building, plant/equipment or a specific process

Energy efficiency

Using less energy to perform the same function

Energy management

A program of well planned actions aimed at reducing energy use, recurrent energy costs and detrimental greenhouse gas emissions

F[Top](#)

FirstRate

A design tool that calculates the energy efficiency of residential house or unit designs using a 5 star scale

Fossil fuels

Coal, natural gas, liquefied petroleum gas, and fuels derived from crude oil (including petrol and diesel). They are called fossil fuels because they have been formed over long periods of time from ancient fossilised organic matter

G[Top](#)

Geothermal energy

Energy derived from the natural heat of the earth contained in hot rocks, hot water, hot brines or steam

Green Power

Electricity generated from clean, renewable energy sources (such as solar, wind, biomass and hydro power) and supplied through the grid network by your electricity supplier


Greenhouse gases

Gaseous constituents of the atmosphere, both natural and from human activity, that absorb and re-emit infrared radiation. Water vapor (H₂O) is the most abundant greenhouse gas. Greenhouse gases are a natural part of the atmosphere

H[Top](#)

Hard waste

Household garbage which is not normally accepted into rubbish bins by local councils, e.g. Old stoves, mattresses

High density polyethylene (HDPE) 	A member of the polyethylene family of plastics and is used to make products such as milk bottles, pipes and shopping bags. HDPE may be coloured or opaque
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House Energy Rating	An assessment of the energy efficiency of residential house or unit designs using a 5 star scale
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Hydrocarbons	Chemicals made up of carbon and hydrogen that are found in raw materials such as petroleum, coal and natural gas, and derived products such as plastics
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Hydroelectric power	The generation of electricity using falling water
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I

[Top](#) 

Incineration	Combustion (by chemical oxidation) of waste material to treat or dispose of that waste material
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ISO 14001	The international standard for companies seeking to certify their environmental management system
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J

[Top](#) 

Joule	The unit for the measurement of energy is the joule (J). As the joule is a rather small unit, a prefix is usually added to form a unit multiple of a more convenient magnitude. For example, kilo (1000 times) is combined to joule to form kilojoule (kJ)
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K

[Top](#) 


Kerbside collection	Collection of household garbage or recyclable materials (separated or co-mingled) that are left at the kerbside for collection by local council collection services
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L

[Top](#) 

Landfill	Sites that are for the purpose of the disposal of materials (both waste and potentially recyclable materials)
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Landfill capping	Once a landfill cell is filled with its maximum allowable content of waste matter it must be covered to eliminate odour, the introduction of litter and of course the introduction of further leachate. Leachate other than that present in the contents of the landfill itself is the result of rainfall. The ultimate cover for a landfill is that manufactured from flexible geomembrane with the capability to contain any hazardous methane gas production from the decomposition of the waste. This decomposition and resulting shift of waste material inside the landfill cell is the reason a flexible covering is the most efficient. A further layer of soil can then be placed over the capping or covering.
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Landfill levy	Levy applied at differential rates to municipal, commercial and industrial and prescribed wastes disposed to licensed landfills (generally applicable to metropolitan areas)
Landfill prohibition	The banning of a certain material or product type from disposal to landfills
Leachate	Liquid (mainly water) that percolates through a landfill and has picked up dissolved, suspended, and/or microbial contaminants from the waste. Leachate can be compared to coffee: water that has percolated down through the ground coffee.
Life cycle (of a product)	All stages of a product's development, from raw materials, manufacturing through to consumption and ultimate disposal
Life cycle assessment (LCA)	An objective process to evaluate the environmental burdens associated with a product, process, or activity by identifying energy and materials used and wastes released to the environment
Linear low density polyethylene (LLDPE)	A member of the polyolefin family of plastics. It is a strong and flexible plastic and usually used in film for packaging, bags and for industrial products such as pressure pipe
Low density polyethylene (LDPE) 	A member of the polyolefin family of plastics. It is a flexible material and usually used as film for packaging or as bags

M

[Top !\[\]\(5eb1325dfdc3f1cad8426726c0db51cd_img.jpg\)](#)

Material identification	Words, numbers or symbols used to designate composition of components of a product or packaging. Note: a material identification symbol does not indicate whether an item can be recycled
Materials efficient	'Achieving more with less' by supplying products and services using fewer resources, and generating less waste, to maintain quality of life
Materials recovery facility (MRF)	A centre for the reception and transfer of materials recovered from the waste stream (ie. Challenge Recycling) At a MRF, materials are also sorted by type and treated, which may include cleaning and compression.
Metropolitan regions	NSW metropolitan areas are best represented on this map (link to Metropolitan Map.gif)
Mobile garbage bin (MGB)	A wheeled kerbside container for the collection of garbage or other materials. Commonly known as a wheelie bin.
Mulch	Any composted or non-composted organic material, excluding plastic, that is suitable for placing on soil surfaces to restrict moisture loss from the soil and to provide a source of nutrients to the soil to aid plant growth
Municipal waste	Solid waste generated from domestic premises (garbage and hard waste) and council activities such as street sweeping, litter and street tree lopping

N

[Top !\[\]\(950a62bbddad88d64435fd35607dfc42_img.jpg\)](#)

National packaging covenant	A self regulatory agreement between industries involved in the
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(NPC)	packaging chain and all spheres of government
Neighbourhood environment improvement plan (NEIP)	Plans developed in partnership by all parts of the community, including residents, special interest groups, local government, local industry and other agencies such as EPA and Department of Sustainability and Environment (DSE)
Nickel cadmium batteries	Batteries typically used in appliances such as power tools and mobile phones. Cadmium is a heavy metal that poses risk to human and eco-system health
Non-ferrous metals	Those metals that contain very little or no iron, e.g. Copper, brass and bronze
Non-government organisation (NGO)	A not-for-profit or community based organisation
Northern Inland Regional Waste Group (NIRW)	Voluntary Regional Waste Group in the New England and North West Region. Co-ordinates waste projects across the region to achieve efficiencies and reduced costs for 13 member councils.



O

[Top](#)

Organics	Plant or animal matter originating from domestic or industrial sources, e.g. Grass clippings, tree prunings, food waste
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P

[Top](#)

Pay-by-weight systems	Financial approaches to managing waste that charge prices according to the quantity of waste collected, rather than a price per pick-up or fixed annual charge, as typically applied to households for kerbside services
Permaculture	The word was formed from the words – <u>PERMANANCE</u> & <u>AGRICULTURE</u> Consciously designed landscapes which mimic the patterns and relationships found in nature, while yielding an abundance of food, fibre and energy for provision of local needs.
Photovoltaic (PV)	Pertaining to the direct conversion of light into elect
Plastic	One of many high-polymeric substances, including both natural and synthetic products, but excluding rubbers. At some stage in its manufacture every plastic is capable of flowing, under heat and pressure, if necessary, into the desired final shape
Polyethylene terephthalate (PET) 	A clear, tough, light and shatterproof type of plastic, used to make products such as soft drink bottles, film packaging and fabrics
Polypropylene (PP) 	A member of the polyelofin family of plastics. PP is light, rigid and glossy and is used to make products such as washing machine agitators, clear film packaging, carpet fibres and housewares
Polystyrene (PS)	A member of the styrene family of plastics. PS is easy to mould and is used to make refrigerator and washing machine components. It can be foamed to make single use packaging,

	such as cups, meat and produce trays
Polyvinyl chloride (PVC)	A member of the vinyl family of plastics. PVC can be clear, flexible or rigid and is used to make products such as fruit juice bottles, credit cards, pipes and hose
Post-consumer material	A member of the vinyl family of plastics. PVC can be clear, flexible or rigid and is used to make products such as fruit juice bottles, credit cards, pipes and hoses
Pre-consumer material	Material diverted from the waste stream during a manufacturing process. Excluded is reutilisation of materials such as rework, regrind or scrap generated in a process and capable of being reclaimed within the same process that generated it
Prescribed waste and prescribed industrial waste	Those wastes listed in the Environment Protection (Prescribed Waste) Regulations 1998 and being subject to requirements under the industrial waste management policy (prescribed Industrial Waste) 2000
Product stewardship	A concept of shared responsibility by all sectors involved in the manufacture, distribution, use and disposal of products
Pyrolysis	Advanced thermal technology involving the thermal decomposition of organic compounds in the complete absence of oxygen and under pressure and at elevated temperature

Q

[Top](#)

R

[Top](#)

Raw materials	Materials that are extracted from the ground and processed into material inputs. For example, bauxite is processed into aluminum
Recovered material	Material that would have otherwise been disposed of as waste or used for energy recovery, but has instead been collected and recovered (reclaimed) as a material input, in lieu of a new primary material, for a recycling or manufacturing process
Recovery rate	The recovery rate is the percentage of materials consumed that is recovered for recycling
Recyclables	While this term strictly applies to all materials that may be recycled, the term is generally used in the Towards Zero Waste Strategy and supporting documents in reference to the recyclable containers and paper/cardboard component of kerbside waste
Recycled content	Proportion, by mass, of recycled material in a product or packaging. Only pre-consumer and post-consumer materials shall be considered as recycled content, consistent with the following usage of terms
Recycled material	Material that has been reprocessed from recovered (reclaimed) material by means of a manufacturing process and made into a final product or into a component for incorporation into a product
Recycling	A term that may be used to cover a wide range of activities, including collection, sorting, reprocessing and manufacture into new products

Renewable energy	Renewable energy is any source of energy that can be used without depleting its reserves. These sources include sunlight or solar energy and other sources such as, wind, wave, biomass and hydro energy
Renewable energy certificates	Market trading mechanisms created through the Renewable Energy (Electricity) Act 2000 in connection with the commonwealth government's mandatory renewable energy target
Reprocessing	Changing the physical structure and properties of a waste material that would otherwise have been sent to landfill, in order to add financial value to the processed material
Residual waste	Waste that remains after any source separation of recyclable materials including green waste
Resource recovery	The process of obtaining matter or energy from discarded materials
Retrofitting	The application of conservation, efficiency, or renewable energy technologies to existing structures
Reuse	The second-highest option in the waste hierarchy - recovering value from a discarded resource without reprocessing or remanufacture e.g. Garments sold through opportunity shops strictly represent a form of re-use, rather than recycling
Road base	One or more layers of material constituting the main structural element of a pavement now described as basecourse.

S

[Top](#)

Sectors, industry sectors	Groupings of industry used to generalise patterns in waste generation and disposal. E.g. Construction and demolition; food services, food retail and food manufacturing; small and medium enterprises
SME	Small to medium-sized enterprise
Soil conditioner	Any composted or non-composted material of organic origin that is produced or distributed for adding to soils. This term also includes 'soil improver' and similar terms but excludes polymers that do not biodegrade, such as plastics, rubbers and coatings
Solar energy	The radiant energy of the sun, which can be converted into other forms of energy, such as heat or electricity
Solar power	Electricity generated from solar radiation
Solid industrial waste (SIW)	Solid waste generated from commercial, industrial or trade activities.
Solid inert waste	Hard waste and dry vegetative material and which as a negligible activity or effect on the environment, such as demolition material, concrete, bricks, plastic, glass, metals and shredded tyres
Solid waste	Non-hazardous, non-prescribed, solid waste materials ranging from municipal garbage to industrial waste
Source separation	Separation of recyclable material from other waste at the point and time the waste is generated. This includes separation of recyclable material into its component categories and may include further separation within each category

Stakeholders	Parties having an interest in a particular project or outcome
State of Environment Report (SoE)	Each year Council must prepare a State of the Environment Report (SoER) under the Local Government Act 1993 and the Local Government (General) Regulation 2005. The report provides information on features of the local environment to increase awareness of environmental issues, provide early warning signs of potential problems and report on the effectiveness of policies and programs.
Sustainability covenant	A sustainability covenant is an agreement which a person or body undertakes to increase the resource use efficiency and/or reduce ecological impacts of activities, products, services and production processes
Sustainable consumption, sustainable resource use	A change to society's historical patterns of consumption and behaviour that enables consumers to satisfy their needs with better performing products or services that use fewer resources, cause less pollution and contribute to social progress worldwide
Sustainable development	Development that meets the needs of the present without compromising the ability of future generations to meet their own needs
Sustainable energy	Sustainable energy is about meeting current energy needs without compromising the ability of future generations to meet their economic, social and environmental needs

T

[Top](#)

Take-back	A concept that places responsibility on brand-owners, retailers, manufacturers or other supply chain partners to accept returned products once they have reached the end of their useful life. Products may then be recycled, treated or disposed to landfill
Transfer station	A facility allowing drop-off and consolidation of garbage and a range of recyclable materials.
Triple bottom line (TBL)	Referring to the notion that organisations are responsible for social and environmental as well as financial outcomes.
Turbine	A machine for converting the heat energy in steam or high temperature gas into mechanical energy. In a turbine, a high velocity flow of steam or gas passes through successive rows of radial blades fastened to a central shaft

U

[Top](#)

V

[Top](#)

Vermiculture	A method of composting using a special kind of earthworm known as a red wiggler (<i>Eisenia fetida</i>), which eats its weight in organic matter each day. Over time, the organic material is replaced with worm castings, a rich brown matter that is an excellent natural plant food
Vinyl	A type of plastic (usually PVC) used to make products such as fruit juice bottles, credit cards, pipes and hoses
Visual waste audit	Involves observing, estimating and recording data on waste streams and practices without physical weighing
Volt	The unit of potential difference between two points is the volt (V) (commonly called voltage). One thousand volts equals 1 kilovolt (kV)

W

[Top](#) 

Waste	This term usually refers to any material (liquid, solid or gaseous) that is produced by domestic households and commercial, institutional, municipal or industrial organisations, and which cannot be collected and recycled in any way for further use
Waste analysis	Is the quantifying of different waste streams, recording and detailing of it as a proportion of the total waste stream, determining its destination and recording details of waste practices
Waste assessment	Involves observing, measuring, recording data and collecting and analysing waste samples. Some practitioners consider an assessment to be one where observations are carried out visually, without sorting and measuring individual streams
Waste audit	Same as a waste assessment. Involves observing, measuring, recording data and collecting and analysing waste samples. Some practitioners consider an audit to be one where waste streams are sorted and measured manually
Waste avoidance	At the top of the waste hierarchy, avoidance works on the principle that the greatest gains result from efficiency-centred actions that remove or reduce the need to consume materials in the first place, but deliver the same outcome
Waste generation	Generation of unwanted materials including recyclables as well as garbage. Waste generation = materials recycled + waste to landfill
Waste hierarchy, waste management hierarchy	A concept promoting waste avoidance ahead of recycling and disposal, the waste hierarchy is recognised as promoting management of wastes in the order of preference: avoidance, reduce, reuse, recycle and disposal
Waste management	Practices and procedures that relate to how the waste is dealt with
Waste management industry	A term variously applied to collectors, sorters and reprocessors of waste/resources. The term may also be used to include landfill operators
Waste management infrastructure	The plant and equipment required to service the recovery and disposal of waste materials
Waste management policy (WMP)	A policy that provides the basis for the management of waste and can cover generation, use, transport, storage, treatment, handling, recovery, recycling, reuse and disposal of waste

Waste minimisation	Techniques to keep waste generation at a minimum level in order to divert materials from landfill. The term waste minimisation is also applied to recycling and other efforts to reduce the amount of waste going into the waste stream
Waste reduction	Measures to reduce the amount of waste generated by an individual, household or organisation
Waste reduction action plan	A plan of what actions a company is taking to ensure that waste levels are reduced, handled properly, disposed of correctly and staff are trained in all aspects of waste management. An inbuilt review process ensures that the plan is adhered to
Waste stream	A classification used to describe waste materials that are either of a particular type (e.g. 'timber waste stream') or produced a particular source (e.g. 'Commercial & Industrial waste stream')
Waste treatment	Where some additional processing is undertaken of a particular waste. This may be done to reduce its toxicity, or increase its degradability or compost ability
Watt	Power is the term used to describe the rate at which energy is used. It is measured in Watts (W), which are defined as the number of joules per second, i.e. $1\text{ W} = 1\text{ J/s}$
Weighbridge	a platform, flush with the roadway, having a mechanism for weighing vehicles etc
Whitegoods	Household goods and appliances such as refrigerators, washing machines, clothes dryers, dishwashers
Wind energy	Wind energy is the kinetic energy present in the motion of the wind. Wind energy can be converted to mechanical or electrical energy. A modern electrical wind turbine converts the force of the wind to electrical energy

X

[Top](#)

Y

[Top](#)

Z

[Top](#)