

# Market Insights Report



## Glossary of terms and abbreviations

Term	Description
Beneficiation (of glass)	An optical sorting process used to separate different colours of container glass to produce cullet for reprocessing and mixed fines.
Bleached softwood kraft (BSK)	Bleached softwood kraft.
Bleached hardwood kraft (BHK)	Bleached hardwood kraft.
Chemical (feedstock) recycling	The use of chemical processes such as hydrothermal liquefaction (HTL), gasification, pyrolysis and solvolysis to convert scrap plastics into a hydrocarbon gas or liquid that is usable as a fuel or as an input for manufacturing chemicals, including plastics. Also called advanced recycling or feedstock recycling.
Circular economy	<p>A systems level approach to economic development that continually reduces the environmental impacts of production and consumption, while enabling economic growth through more productive use of natural resources. It avoids waste with good design and effective recovery of materials that can be reused. It promotes more efficient business models that encourage intense and efficient product use, such as sharing products between multiple users, or supplying a product service that includes maintenance, repair and disposal. The value people obtain from the resources used to create goods and services increases. The Circular Economy concept is built on and applies three key principles:</p> <ul style="list-style-type: none"><li>• design out waste and pollution</li><li>• keep products and material in use</li><li>• regenerate natural systems.</li></ul>
Closed-loop recycling	Material from a product system is recycled in the same product system and is of the same quality and functionality as the original material. Also see 'open-loop recycling' and 'downcycling'.
Commercial and industrial (C&I) waste	Solid inert waste generated from trade, commercial and industrial activities including the government sector. It includes waste from offices, manufacturing, factories, schools, universities, state and government operations and small to medium enterprises.
Composting	The process whereby organic materials are microbiologically transformed under controlled aerobic conditions to create a pasteurised and stabilised organic product for application to land.
Construction and demolition (C&D) waste	Solid inert waste generated from residential and commercial construction and demolition activities such as bricks and concrete.
Container deposit scheme (CDS)	<p>Container deposit scheme. The Victorian Government is introducing a container deposit scheme that will reward Victorians with a 10-cent refund for every eligible can, carton and bottle they return. The scheme will provide shared benefits to the community, environment and economy by delivering:</p> <ul style="list-style-type: none"><li>• more and better recycling</li><li>• less waste - old containers become new ones</li></ul>

	<ul style="list-style-type: none"> <li>• less litter - cut by up to half</li> <li>• hundreds of new jobs and economic opportunities across Victoria.</li> </ul>
Contaminants – out throws	Recyclable materials that are unsuitable for inclusion in the sorted grade (product) in which they are present, but can be sorted, separated and/ or removed easily during the recycling process. Out throws generally have significantly higher allowable contamination thresholds, compared with prohibited materials, in bale specifications for sorted recycled material commodities. Also see 'contaminants – prohibited materials'.
Contaminants – prohibited materials	Unrecyclable materials that are unsuitable for inclusion in the sorted grade (product) in which they are present, and cannot be sorted, separated and/or removed during the recycling process. Prohibited materials cause adverse impacts on end products and may damage the recycling facilities. Prohibited materials generally have significantly lower allowable contamination thresholds, compared with out throws, in bale specifications for sorted recycled material commodities. Also see 'contaminants – out throws'.
Ceramic, stone and porcelain (CSP)	A type of glass fines that are contaminated with ceramic, stone and porcelain materials and so are unsuitable for recycling back into glass packaging.
Cullet	Sorted glass feedstock resulting from the beneficiation process of mixed container glass. Generally, consists of sorted streams of amber, flint and green glass of particle size greater than 5-10 mm depending on the capacity of the beneficiation plant.
Delamination	The process of splitting a composite material, such as laminated glass, into its component parts.
Deinked pulp (DIP)	Paper pulp that has undergone an industrial process to remove printing ink from paper fibres of recycled paper.
Downcycling	Recycled material that is of lower quality and functionality than the original material. Also see 'closed-loop recycling' and 'open-loop recycling'.
Drop off centre/site	A facility where households can drop off selected materials and household items for recycling and reuse. Also called drop off facilities.
EXW/ExWorks	International commercial term defining the sale of goods at the gate of the seller. The buyer must carry out all tasks of export and import clearance. Carriage and insurance are arranged by the buyer.
End user (of recycled content raw materials)	A user of raw materials that have a recycled content. Examples of end users include plastic product manufacturers that use recycled polymer in their products, or agricultural producers that purchased composted organics as a soil conditioner/fertiliser.
E-waste	E-waste comprises electronic equipment with a plug or battery that requires a current to operate and that has reached end of life. It includes televisions, computers, monitors and whitegoods such as fridges and washing machines.
FAS/free alongside ship	International commercial term defining the sale of goods once placed alongside the vessel at the named port of shipment by seller. The seller is required to clear the goods for export. This term can be used for sea transport only.
Feedstock	Raw material used to manufacture products. Material varies depending on what is being produced.
Fines (glass)	Unsorted sub 5-10 mm glass material left over from the glass beneficiation process. It can contain contamination including plastics and small pieces of metals. These fines can be further processed to produce a glass sand product that has good markets.

FIS (free in store)	A pricing method in which the producer is responsible for all freight and delivery costs. The ordered goods are delivered freight free to the customer.
FOB (free on board)	International commercial term defining the sale of goods once they pass the ship's rail at the named port of shipment at the cost of the seller. The seller must clear the goods for export. This term can only be used for sea transport.
Food organics and garden organics (FOGO)	Combined food organics and garden organics collections.
Food organics (FO)	Food waste from households or industry, including food processing waste, out of date or off specification food, meat, fruit and vegetable scraps. Excludes liquid wastes.
Garden organics (GO)	Organics derived from garden sources such as grass clippings and tree prunings. Also known as green organics.
Generator (of waste materials)	A C&I or C&D generator of waste materials to either landfill or recovery fates.
Green organics	More accurately referred to as garden organics.
Greenhouse gases	Gases, including carbon dioxide and methane, that trap heat in the earth's atmosphere, affecting weather and climate patterns.
Hard waste	Household items that are not usually accepted in kerbside rubbish or mixed recycling bins by local councils, for example old mattresses, rugs and furniture.
Hazardous waste	See the 'Priority waste and reportable priority waste' entry.
HDPE	High-density polyethylene (PIC 2).
Incinerator	A site that facilitates the disposal of waste streams through incineration without producing another useful end product or capturing value from the waste material.
Incoterms®	Incoterms® are International commercial terms - a set of 11 individual rules issued by the International Chamber of Commerce which define the responsibilities of sellers and buyers for the sale of goods in international transactions.
In-vessel composting	Composting technology involving the use of a fully enclosed chamber or vessel in which the composting process is controlled by regulating the rate of mechanical aeration. Aeration assists in heat removal, temperature control and oxygenation of the mass. Aeration is provided to the chamber by a blower fan which can work in a positive (blowing) and/or negative (sucking) mode. Rate of aeration can be controlled with temperature, oxygen or carbon dioxide feedback signals.
Kerbside waste/collection	Waste collected by local councils from residential properties, including rubbish, mixed recyclables, food organics and garden organics, and glass, but excluding hard waste.
Landfill	A facility for the burial of solid waste. Modern landfills are designed with base and side wall liners, as well as leachate collection systems to minimise leakage of leachate to groundwater. Waste is deposited and compacted within the landfill, and once the landfill cell is full, it is capped with clay (at a minimum) and rehabilitated. As landfill designs and processes have evolved over time, some closed landfills may not have all the environmental controls listed above.
Waste levy	A levy applied at differential rates to municipal, industrial and prescribed wastes disposed of at licensed landfills in Victoria. Waste levies are used solely for the purposes of environment protection and fostering environmentally sustainable use of resources and best practice in waste management. They fund the activities of Recycling Victoria, Sustainability Victoria and the Victorian Environment Protection Authority, helping to

	establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls and enforcement regimes. Levies also provide an incentive to minimise the generation of waste, sending a signal to industry that the government supports efforts to develop alternatives to disposal to landfill. Prior to 1 July 2021 these were known as landfill levies.
Liquid paperboard (LPB)	Liquid paperboard (LPB) is a fibre-based packaging board that is designed to hold a liquid. There are 2 main types: <ul style="list-style-type: none"> <li>• gable-topped LPB (plastic polymer layer / paperboard layer / plastic polymer layer)</li> <li>• aseptic LPB (plastic polymer layer / paperboard layer / aluminium foil layer / plastic polymer layer).</li> </ul> Also see polymer-coated paperboard (PCPB).
Materials recovered	Materials diverted from landfill for use or reprocessing irrespective of where the recovery or reprocessing takes place.
Materials recovery facility (MRF)	A centre for the receipt, sorting and transfer of materials recovered from the waste stream prior to transport to another facility for recovery and management. At a MRF, materials may undergo mechanical treatment for sorting by characteristics such as weight, size, magnetism and optical density and may include cleaning and compression. Materials may be received as mixed streams such as mixed recyclables from households and businesses or single streams such as metals.
Mechanical and Biological Treatment facility (MBT)	Mechanical and Biological Treatment (MBT) facility, used to maximise the recovery of household waste.
Mixed paper	Post-consumer kerbside mix of fibre based packaging and non-packaging papers. Includes materials such as magazine, newspaper, marketing, some OCC and others fibre-based formats. Typically has high levels of contamination, of which broken glass is a particular issue.
Mixed plastics	Post-consumer kerbside mix of plastics based packaging and non-packaging plastic items. Includes materials such as bottles, containers and other packaging formats consisting of all the major polymer groups. Often undergoes a polymer sort at MRFs or post-MRFs to positively recover a limited range of polymer types, typically PET and HDPE. Often has moderate to high levels of contamination.
Mixed recyclables	Recyclable materials combined generally for the purposes of collection, mainly through municipal collection services. Includes plastic bottles, other plastics, paper, glass and metal containers. Mixed recyclable materials require sorting after collection before they can be reprocessed.
Municipal solid waste (MSW)	Solid waste generated from municipal and residential activities, and including waste collected by, or on behalf of, a municipal council. In this document, MSW does not refer to waste delivered to municipal disposal sites by commercial operators or waste from municipal demolition projects.
Newsprint	Paper used to print newspapers. Newsprint has traditionally been treated separately to other paper because of its once substantial volumes and distinct supply chain. Newsprint is manufactured from pulp, which has been produced using mechanical pulping techniques, rather than chemical pulping techniques. Post-consumer newsprint is extensively recovered and recycled into newsprint, packaging, industrial paper and paperboard, as well as insulation, soil stabilizer, moulded fibre products such as egg cartons and pet care products such as kitty litter.
OCC	Old corrugated cartons.

OMG	Old magazines.
ONP	Old newsprint.
Open-loop recycling	Material from one product system is recycled into a different product system and may be of lower quality and functionality than the original material. Also see 'closed-loop recycling' and 'downcycling'.
Optical sorting	Technologies used to sort glass by colour, type, and plastics by polymer type.
Organic material	Plant or animal matter such as grass clippings, tree prunings and food waste, originating from domestic or industrial sources.
Out the gate	Material leaving a facility following reprocessing; excludes most contamination.
Packaging	Material used for the containment, protection, marketing or handling of product. Includes primary, secondary and tertiary/freight packaging in both consumer and industrial packaging applications.
Packaging and industrial (fibre)	Packaging and industrial paper and paperboard grades used to manufacture bags (retail), sacks (industrial), wrapping papers and folding cartons such as cereal and pharmaceutical boxes. Predominantly used in the manufacture of corrugated paper cartons, almost entirely manufactured from fibre that was originally chemically pulped. Corrugated paper cartons can be manufactured from virgin fibre pulp or recycled fibre pulp, and often from a mix of the two. Recovery and post-consumer recycling of packaging and industrial grades of paper and paperboard is extensive and is generally deployed back into the manufacture of corrugated cartons.
PE-HD or HDPE	High density polyethylene (PIC 2). Typically referred to as HDPE.
PE-LD/LLD or LDPE/LLDPE	Both low density polyethylene and linear low-density polyethylene (PIC 4). Typically referred to as LDPE/LLDPE.
PE-LD or LDPE	Low density polyethylene (PIC 4). Typically referred to as LDPE.
PE-LLD or LLDPE	Linear low-density polyethylene (PIC 4). Typically referred to as LLDPE.
PET	Polyethylene terephthalate (PIC 1).
PIC	Plastic identification code.
PS-E or EPS	Expanded polystyrene (PIC 6). Typically referred to as EPS or styrofoam.
Polymer-coated paperboard (PCPB)	PCPB is a type of paperboard that has a primary fibre-based layer, that is laminated on one or both sides with a layer of plastic film. Also see liquid paperboard (LPB).
PP	Polypropylene (PIC 5).
Printing and communication papers	Printing and communication papers refer to those grades of paper used in printed applications (other than newsprint). This is an extensive range of products including directories, catalogues and inserts, magazines, brochures, forms, envelopes, posters, stationery, books and more, including printer paper. While consumption is in decline, this is still a substantial grade. Most recovery is through kerbside mixed recycling collections, passing through MRFs. Printing and communication papers are made from two virgin fibre inputs – chemical pulp and mechanical pulp. Post-consumer recovery volumes are used in recycled office products, including printer

	paper, tissue production and in some 'white recycled' packaging grades.
Priority waste and reportable priority waste	These wastes are defined in the <i>Environment Protection Regulations 2021</i> . EPA closely regulates these wastes because of their potential adverse impacts on human health and the environment. Priority wastes carry special handling, storage, transport and often permissioning requirements, and attract substantially higher disposal levies than non-priority solid wastes. Also known as hazardous waste. Prior to 1 July 2021 these were known as prescribed waste and prescribed industrial waste.
Process derived fuels	Also called process engineered fuel (PEF) or refuse derived fuel (RDF), is a fuel produced after basic processing in a MRF or MBT to increase the calorific value and remove recyclable materials and contaminants of municipal solid waste, commercial and industrial waste and construction and demolition waste.
Processing facilities	Facilities that receive materials directly from collection systems or from recovery facilities for further sorting and/or processing to provide material for use in the generation of new products.
Product stewardship	A concept of shared responsibility by all sectors involved in the manufacture, distribution, use and disposal of products, which seeks to ensure value is recovered from products at the end of life.
Public place recycling	Recycling facilities found in public areas, such as parks, reserves, transport hubs, shopping centres and sport and entertainment venues, that allow the community to recycle when away from home.
Pulp (paper)	Pulp is a soft, wet mass of wood, fibre, crops, waste paper or rags that is used to make paper or tissue. It is made by mixing the material with water or chemicals.
Putrescible waste	Waste that readily decomposes, including food waste and organic waste from gardens.
PVC	Polyvinyl chloride (PIC 3).
Pyrolysis	Thermal breakdown of waste in the absence of air, to produce char, pyrolysis oil and syngas e.g. the conversion of wood into charcoal.
RCP	Recovered paper.
Recover / recovery / resource recovery	The process of recovering resources from waste for reuse or reprocessing. This includes collection, sorting and aggregation of materials. To convert waste into a reusable material.
Recyclate	Scrap material before or after reprocessing.
Recycle/Recyclables/Recycling	In common practice the term is used to cover a wide range of activities, including collection, sorting, reprocessing and reuse.
Recycling Victoria	Recycling Victoria provides leadership and oversight of waste and resource recovery services to support the circular economy. Established under the <i>Circular Economy (Waste Reduction and Recycling) Act 2021</i> . Recycling Victoria is strengthening Victoria's waste and recycling sector, building resilience and creating markets for recycling products through monitoring, reporting and regulation of waste and recycling management.
Refuse derived fuels	Refer to process derived fuels.
Reprocess/reprocessing	To put a material that has been used through an industrial process to change it so that it can be used again.
Reprocessor/reprocessing facility/reprocessing infrastructure	Facility that uses an industrial process to change the physical structure and properties of a waste material so it can be used

	again. This can include facilities that dismantle products, such as tyres, e-waste and mattresses, and energy from waste facilities that use materials to generate energy.
Resale centre/resale shop	A centre/shop that sells good quality products and materials that were disposed of by their previous owner. Usually located at a transfer station.
Residual waste	Residual material that remains after any source separation or reprocessing activities of recyclable materials or garden organics. Waste that is left over after suitable materials have been recovered for reuse and recycling. This generally means the environmental or economic costs of further separating and cleaning the waste are greater than any potential benefit of doing so.
Resource recovery infrastructure	Facility or facilities that receive and manage materials to enable them to be reused or reprocessed. This includes drop off points, resale centres, resource recovery centres, transfer stations and materials recovery facilities.
Reuse	Recovering value from a discarded resource without processing or remanufacture, for example garments sold through opportunity shops are, strictly speaking, a form of reuse, rather than recycling.
Solid industrial waste (SIW)	Solid waste generated from commercial, industrial or trade activities, including waste from factories, offices, schools, universities, state and national government operations and commercial construction and demolition work. Excludes MSW, wastes that are prescribed under the Environment Protection Act 2017 and quarantine wastes.
Solid inert waste	Solid inert waste is hard waste that has a negligible activity or effect on the environment such as sand and concrete. The waste may be a municipal or industrial waste.
Solid waste	Non-hazardous, non-prescribed, solid waste materials, ranging from municipal rubbish to industrial waste.
Source separation	The practice of segregating materials into discrete material streams prior to collection by, or delivery to, processing facilities.
Sustainability Victoria (SV)	Sustainability Victoria is a statutory authority that facilitates and promotes environmental suitability in the use of resources.
Tissue	Dominated by toilet paper, the tissue grade includes facial tissues and hand towels. There is no post-consumer recovery or recycling.
Transfer station	Facility which receives materials from the waste stream for possible segregation, consolidation or compaction for bulk transport for resource recovery, treatment or disposal facilities.
Unprocessed material	Material that is unrefined and has not been through any process of recycling.
Virgin material	Material that has been sourced through primary resource extraction, (sometimes called primary materials) rather than sourced from recycled materials (sometimes called secondary materials). For example, virgin steel is manufactured from iron ore, and virgin paper is manufactured from plantation sourced wood fibre.
Waste	Waste includes any of the following, (a) matter, including solid, liquid, gaseous or radioactive matter, that is deposited, discharged, emitted or disposed of into the environment in a manner that alters the environment; (b) matter that is discarded, rejected, abandoned, unwanted or surplus, irrespective of any potential use or value;

	<p>(c) any component or element of diverted material, if the component or element is disposed of or discarded;</p> <p>(d) matter prescribed to be waste;</p> <p>(e) matter referred to in paragraph (a), (b), (c) or (d) that is intended for, or is undergoing, resource recovery but does not include any matter prescribed not to be waste.</p> <p>Definition: Circular Economy Act 2021</p>
Waste levy	<p>A levy applied at differential rates to municipal, industrial and prescribed wastes disposed of at licensed landfills in Victoria. Waste levies are used solely for the purposes of environment protection and fostering environmentally sustainable use of resources and best practice in waste management. They fund the activities of Recycling Victoria, Sustainability Victoria and the Victorian Environment Protection Authority, helping to establish waste management infrastructure, industry waste reduction programs, education programs, regulatory controls and enforcement regimes. Levies also provide an incentive to minimise the generation of waste, sending a signal to industry that the government supports efforts to develop alternatives to disposal to landfill. Prior to 1 July 2021 these were known as landfill levies.</p>
Waste minimisation	<p>The concept of, and strategies for, waste generation to be kept to a minimum level in order to reduce the requirement for waste collection, handling and disposal to landfill. Also referred to as waste avoidance.</p>
Waste to energy (WtE)	<p>The terms 'waste to energy,' 'energy recovery from waste,' or 'energy from waste' can be used interchangeably to describe treatment processes and technologies used to generate a usable form of energy from waste materials. Examples of usable forms of energy include electricity, heat and transport fuels</p>

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