NATIONAL WASTE STREAM PROFILES

Overview

Key fact: In 2010–11, the Construction and Demolition (C&D) waste stream represented both the greatest amount of waste generated and, at 66 per cent, the highest recovery rate of the three main waste streams. The municipal solid waste (MSW) stream represented the lowest waste generation and recovery rate, at 51 per cent.

Waste may be categorised according to:

- its source e.g. municipal solid waste (MSW), commercial and industrial (C&I) and construction and demolition (C&D)
- its properties e.g. hazardous, solid or liquid
- its composition e.g. organic
- its context, including its final destination e.g. marine debris.

A waste may be classed under more than one category. For example, liquid waste may also be hazardous. A waste may also move between categories e.g. a hazardous waste may be treated so it is no longer considered hazardous.

Waste streams

Solid waste is categorised into three major streams:

Municipal solid waste (MSW)

Municipal solid waste (MSW) is primarily waste collected from households and councils, such as through kerbside waste and recycling collections. It includes biodegradable material, recyclable materials such as bottles, paper, cardboard and aluminium cans, and a wide range of non-degradable material including paint, appliances, old furniture and household lighting[1].

In 2010–11, about 14 Mt of MSW was generated nationally. About 51 per cent was recovered – the lowest resource recovery rate of the three main waste streams (see Figure 1). While some MSW waste is separated at its source for recycling (e.g. kerbside recyclables and garden wastes), the residual or landfill bin from households is a major part of MSW disposal tonnage. The contents of these bins are a complex mix of materials and can only be recovered using expensive and complex infrastructure that generally produces products of lower quality than those from source-separated wastes.

Commercial and industrial (C&I)

Commercial and industrial waste is waste that is produced by institutions and businesses; includes waste from schools, restaurants, offices, retail and wholesale businesses, and industries including manufacturing[2]. In 2010–11, around 15 Mt of C&I waste was generated, of which 59 per cent was recovered (see Figure 1). The C&I stream may present the greatest opportunities for improving recovery, especially for wastes that are delivered to landfill in homogenous loads (e.g. cardboard or food). Improving the performance of energy recovery at landfill would improve the resource recovery rates of both MSW and C&I.

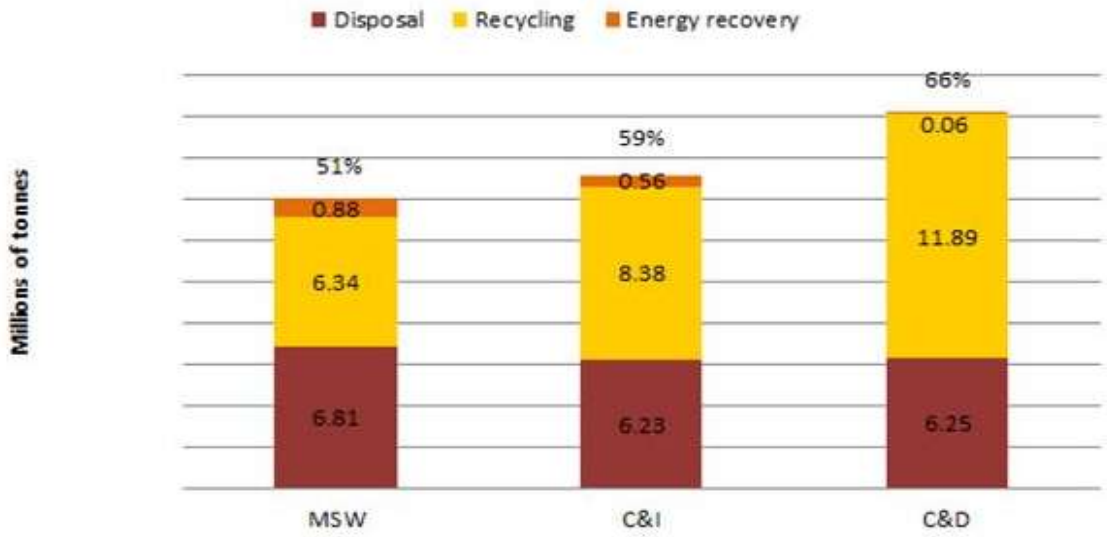
Construction and demolition (C&D)

Construction and demolition waste refers to waste produced by demolition and building activities, including road and rail construction and maintenance and excavation of land associated with construction activities. The C&D waste stream usually covers only some of the generation, disposal and recycling of C&D wastes, as these materials can also be found in the MSW and C&I streams, or as hazardous wastes [3].

In 2010–11, C&D waste generation was around 18 Mt (see Figure 1). At 66 per cent, the resource recovery rate was the highest of the three streams.

C&D recovery is well-established in most jurisdictions, but opportunities remain for recovering material from mixed C&D waste loads, which are often taken directly to landfill.

Figure 1 Australia total waste generation by stream and management (excluding ACT)*, 2010–11



**ACT tonnages are included because that jurisdiction does not collect data on the sources of recycled materials by stream*

Other wastes

Hazardous waste

Hazardous substances and wastes are defined and controlled by international agreements and domestic legislation. Hazardous waste is typically reported separately from MSW, C&I and C&D waste streams, even where these wastes are

produced by the same sites and activities that produce non-hazardous wastes. During 2010–2011, 6 463 743 tonnes of hazardous waste was generated in Australia.

Liquid waste

Liquid waste can be divided into three main streams: sewerage, trade waste and hazardous liquid waste. In 2009–10, the total reported volume of liquid waste collected by sewage treatment plants, excluding rural water service providers, was 1 900 641 mega litres (ML) which included 1 424 360 ML of sewage and 125 769 ML of trade waste.

For more information on liquid waste see the *Liquid waste assessment*.

Biosolids

Biosolids are a by-product of the sewage treatment process. When sewage sludge is treated to an acceptable standard, the resulting biosolids can be used for beneficial uses such as application to agricultural land, for landscaping and soil amendment after composting. Table 1 displays data on the amount of biosolids generated and their end use or treatment for 2009–10 and 2012–13.

Table 1 Biosolid generation and end use or treatment				
Measurement	**Generated**	**Beneficial use**	**Disposal**	**Other**
Dry tonnes (2012-13)	333 000	227 914	14 637	86 950
Dry tonnes (2009-10)	300 000	198 783	16 597	88 426
Percentage of total (2012-13)	n/a	69	4	26
Percentage of total (2009-10)	n/a	65	6	29

Source: https://www.environment.gov.au/topics/environment-protection/nwp/reporting/national-waste-stream