

National Waste Reporting 2013

Factsheet – Australian context

Australia has changed substantially over the last 30 years. Australians are living longer, and levels of educational attainment have improved¹. The strong economy has brought low unemployment and increasing incomes². However, inequality has increased and the health of our natural environment has declined on a number of measures.³

A number of trends are set to have a major impact on the next generation of Australians. As emerging economies drive global growth and create new markets for resources, food and goods, constraints in water, energy, food and extraction systems will become increasingly apparent. At the same time, resource-based innovation and shifting consumer and societal demands will see an acceleration of the 'green economy'. Growth in population size will bring with it expansion of cities⁴.

Waste disposed to landfill has high costs for our society, from pollution and infrastructure expenses to the need to find replacement resources. By reducing waste and increasing recycling rates, we can lessen our impact on the environment while saving money and conserving resources.

In this context, sustainable waste management has the potential to contribute to the future wellbeing of Australians.

At over 7.66 million square kilometres and with a coastline of over 57 million kilometres⁵, Australia is the world's sixth largest country measured by landmass area, after Russia, Canada, China, the USA and Brazil. Australia's population, at just 23 million in March 2013⁶, is much smaller than the populations of those countries.

Each state and territory has different geographic, spatial and demographic profiles which contribute to unique patterns of consumption of goods and services, patterns of waste generation, and challenges for waste management. Demands for products and services, and the waste they generate, are strongly linked to population factors such as growth, density and distribution, and demographic and lifestyle factors.

Population

Australia's population grew by almost 35 per cent between 1990 and 2012. Figure 1 shows that Australia has one of the highest international population growth rates. This trend is expected to continue into the future. Australia's annual population growth rate for the year ended 31 March 2013 was 1.8 per cent⁷.

The Australian Bureau of Statistics (ABS) estimates that the population will increase to between 36.8 million and 48.3 million in 2061⁸. Assuming consumption levels per person remain constant, this will place increasing demands within Australia for waste management services.

¹ National Sustainability Council, *Sustainable Australia Report 2013, Conversations with the future*. Canberra: DSEWPac, 2013, p116; p34.

² National Sustainability Council, *Sustainable Australia Report 2013, Conversations with the future*. Canberra: DSEWPac, 2013, p140; p208.

³ National Sustainability Council, *Sustainable Australia Report 2013, Conversations with the future*. Canberra: DSEWPac, 2013, p98; p80.

⁴ National Sustainability Council, *Sustainable Australia Report 2013, Conversations with the future*. Canberra: DSEWPac, 2013, p24.

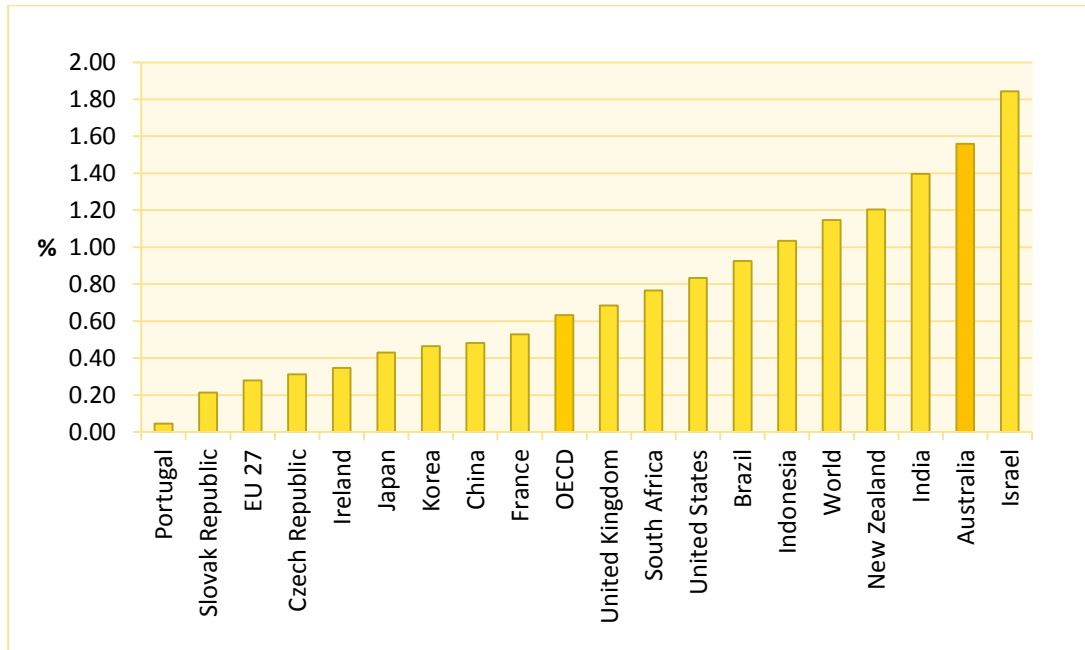
⁵ Geoscience Australia, <<http://www.ga.gov.au/education/geoscience-basics/dimensions/index.jsp>>, accessed 21 July 2009.

⁶ Australian Bureau of Statistics, *Australian Demographic Statistics, Mar 2013*. (cat. no. 3101.0)

⁷ Australian Bureau of Statistics, *Australian Demographic Statistics, Mar 2013* (cat. no. 3101.0)

⁸ Australian Bureau of Statistics, *Population Projections, Australia 2012 to 2101* (cat. no. 3222.0)

Figure 1 OECD annual population growth rates 2010 in percentage

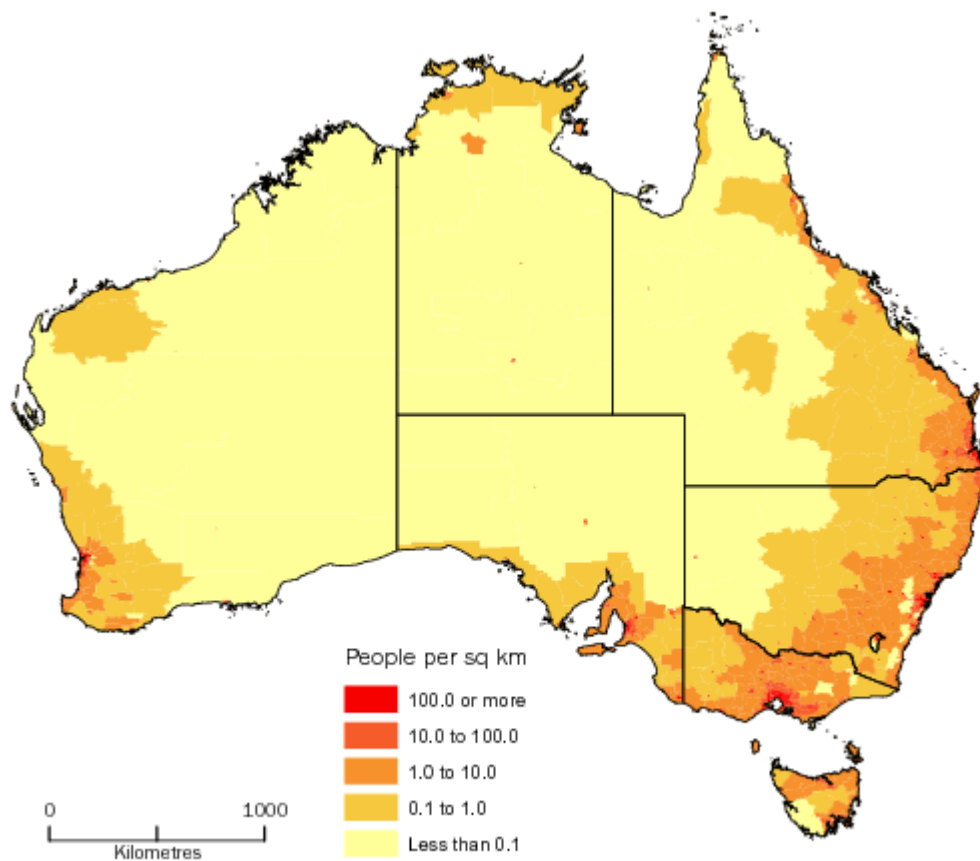


Source: OECD Factbook 2013: Economic, Environmental and Social statistics

Australia has one of the most distinctive population distributions of any nation. In 2011, 87 per cent of the population lived in urban areas of the continent, while 84 per cent of land area has population density of less than one person per 10 square kilometres⁹. Where waste is produced impacts the logistics and economics of resource recovery and waste management - in particular the introduction of modern alternative waste treatments and the production of energy from waste. Concentration of population in the south-west and east coast regions (Figure 2), with the rest of the landmass sparsely inhabited, creates particular patterns of waste generation and particular challenges for its management.

⁹ National Sustainability Council, *Sustainable Australia Report 2013, Conversations with the future*. 2013, p241.

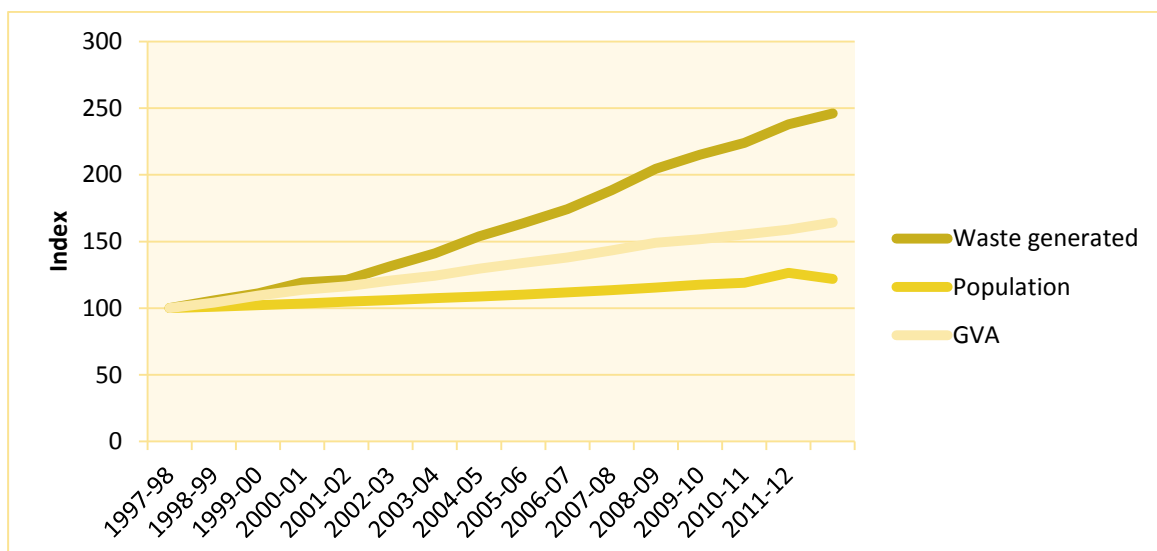
Figure 2 Population density, Australia – June 2012



Source: ABS, *Regional Population Growth, Australia, 2011-2012* (cat. no 3218.0)

In Australia, waste generation per capita increased from 1.2 tonnes in 1996–97 to an average of 2.2 tonnes in 2010-11, 60 per cent of which was recycled or recovered for embodied energy. Inclusion of fly ash from coal fired power stations increases average per capita waste generation to 2.8 tonnes, with a resource recovery rate of 56 per cent. In total, Australia generated around 48 million tonnes (Mt) of waste excluding fly ash, and 62 Mt including fly ash.

Figure 3 Waste generation, population and Gross Value Added, 1997–2012



Source: ABS Waste Account, Australia, Experimental Estimates, 2013 (cat. no 4602.0.55.005)

Growth in the amount of waste generated per person in Australia can be attributed to a number of economic and demographic factors, in particular the consequence of Australia's fast growing, materially intensive economy is the production of large quantities of waste.

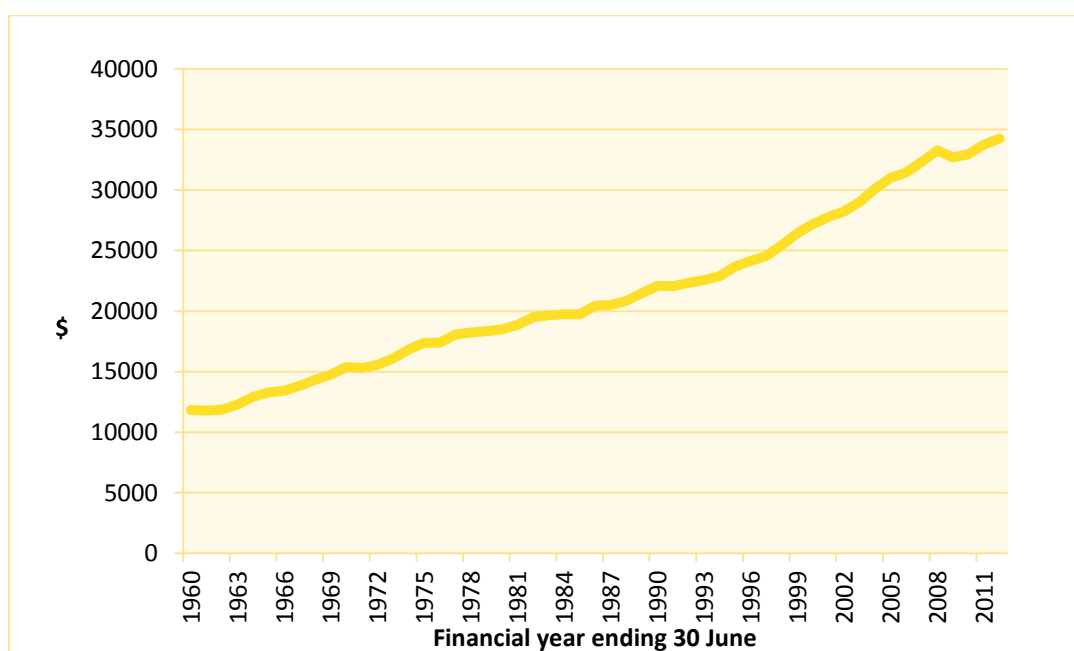
Demography/(Households)

While the average number of people in a household is falling, from 3.1 in 1975–76 to 2.6 in 2010-11, the size of dwellings has increased in the same period. In 2010-11, over a fifth (21 per cent) of the three-bedroom dwellings, and 8 per cent of four-bedroom dwellings, had only one person living in them¹⁰.

It is projected that by 2031 the average household size will continue to decrease to between 2.4 and 2.5 persons¹¹. Population increases combined with reduced average household size can be expected to lead to greater demand for housing and associated consumables, such as furnishings, whitegoods, electronic products and lighting.

Figure 4 presents a picture of real household final consumption expenditure in real terms (at 2004–05 prices) between 1960–61 and 2010–11. After rising by 1.9 per cent a year per capita between 1960–61 and 1992–93, expenditure began to increase by 2.6 per cent a year in the period to 2007–08 and increased by 3.1 per cent in the period 2009–10 to 2010–11.

Figure 4 Household consumption expenditure per person, 1960-2011



Sources: ABS Australian System of National Accounts, 2011-12 (cat. no. 5204.0), Australian Historical Population Statistics, 2008 (cat. no. 3105.0.65.001, Australian Demographic Statistics, Sep 2012 (cat. no. 3101.0)

Rising incomes/(National income and consumption expenditure)

National income is an indicator of Australians' capacity to purchase goods and services for consumption. It is determinant of material living standards and a rise in real income leads to a rise in current consumption and also an increased ability to accumulate wealth. Real net national disposable income is a key measure of Australia's economic wellbeing¹².

¹⁰ Australian Bureau of Statistics, *Census of Population: Basic Community Profile, 2011 Third Release* (cat. no. 2001.0)

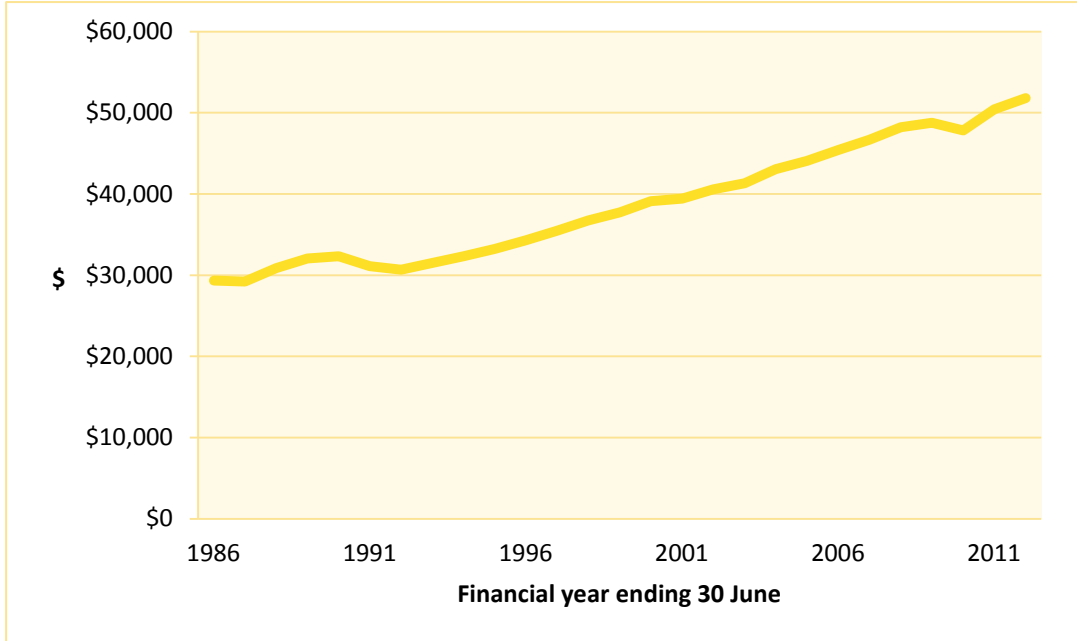
¹¹ Australian Bureau of Statistics, *Household and Family Projections, Australia, 2006 to 2031* ABS Catalogue No. 3236.0

¹² Australian Bureau of Statistics, *Measures of Australia's Progress: Summary Indicators, 2012* ABS Catalogue No. 1370.0.55.001

Figure 5 presents Australia’s real net national disposable income during the decade 2000–01 to 2010–11, which grew from \$38 500 per person to \$49 100 per capita in 2009–10 dollars. The growth rate of 2–3 per cent was consistent for most of the decade¹³.

While national income has increased, income distribution between households remains unequal. In 2010, high income households had an average disposable income of \$1797 per week, while the average disposable income of low income households was \$452 per week. In 2011-12, high income households had an average disposable income of \$1814 per week, while the average disposable income of low income households was \$475 per week¹⁴.

Figure 5 Real net national disposable income per capita



Source: ABS Australian System of National Accounts, 2011-12 (cat. no. 5204.0)

¹³ Australian Bureau of Statistics, *Australian System of National Accounts, 2011-12* ABS Catalogue No. 5204.0

¹⁴ Australian Bureau of Statistics, *Household Income and Income Distribution, Australia, 2011-12* (cat. no. 6523.0). *High income group*: Refers to the 20% of people in the 9th and 10th deciles after being ranked from lowest to highest, by their equivalised disposable household income. *Low income group*: Refers to the 20% of people in the second and third lowest income deciles after being ranked from lowest to highest, by their equivalised disposable household income.

Calculating the costs of waste in financial and wellbeing terms

Globally, there is growing consensus of the need to look beyond conventional economic measures to evaluate changes to wellbeing. Since the 1950s, Gross Domestic Product (GDP) has been commonly used as a summary measure to present the status and overall economic performance of a nation. GDP continues to be reported and used to rate and compare the progress of countries. However, a single measure such as GDP only tells a part of the story.

One method of gaining a more comprehensive picture of wellbeing, progress and sustainability is to present environmental, economic and social information together. The *Sustainable Australia Report 2013* draws on indicators of natural, social, human and financial capital (including waste disposed to landfill and recycling rates) to highlight trends that are set to have a significant impact on the next generation of Australians.

Another relevant initiative is the United Nations' System of Environmental-Economic Accounting (SEEA) which is intended to provide a better evaluation of the economic impacts of changes in the environment. The SEEA is a measurement framework being developed by the United Nations Statistics Division that provides a range of metrics on the economy and the environment. In early 2012 the SEEA Central Framework was adopted as an international statistical standard.

The SEEA is designed to present information on physical measures of the environment (such as kilograms of waste generated) with information on associated economic costs and benefits.

The Australian implementation of the SEEA is being led by the Australian Bureau of Statistics. The recently released *Waste Account Australia, Experimental Estimates, 2013* (cat. no 4602.0.55.005) provides a series of experimental tables showing information on the generation and disposal of waste to landfills or to recycling facilities, the supply of recycled materials in the economy and related financial flows.

This release is part of a set of integrated environmental-economic accounts currently being published by the ABS that uses the System of Environmental-Economic Accounting (SEEA). This experimental project complements the *National Waste Report 2013* by presenting data at sector level, which includes industries and households. One of the key differences is the presentation of financial information on the supply and use of waste goods and services. The production of these estimates in the SEEA framework also allows for international comparisons to be made and consistent data compilation over time. The financial data produced by the ABS is considered to be the first of its kind throughout the world.