

Waste Less, Recycle More Initiative Community benchmark study

Social research report

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Summary

At a glance

The NSW Government's *Waste Less, Recycle More* initiative aims to improve waste and recycling behaviours in the community.

This study

The NSW Environment Protection Authority (EPA) is responsible for improving household waste and recycling practices. To help us do this, we commissioned a study of 1200 NSW residents to uncover their knowledge, attitudes and behaviour around waste and recycling.

Survey findings

Respondents fit into five segments. Segments 1 (Champions), 2 (Diligents) and 3 (Captives) will recycle even if it takes more effort, and most are at least somewhat concerned about environmental problems. Segments 4 (Good intentions) and 5 (Hard-to-reach) don't recycle, or won't recycle with effort, and have varying degrees of concern about the environment.

Most people interviewed (82%) were in segments 1, 2 and 3. They had the desired knowledge and attitudes, and felt that they disposed of waste and recycled properly much of the time. Only 18% held misconceptions and didn't often recycle or dispose of waste properly.

Yet, perceived knowledge tended to be greater than actual knowledge. While most claimed concern for the environment and knowledge of proper recycling and waste disposal methods, their behaviour often showed otherwise.

Avoiding food waste, disposing of problem waste correctly, and preventing illegal dumping emerged as the most problematic areas.

Conclusions and recommendations

This report recommends that the EPA's communications and education programs focus on:

- reinforcing correct attitudes and increasing correct behaviour for most householders
- correcting misconceptions and changing behaviour among the remaining 18%.

1. This study

The five-year *Waste Less, Recycle More* initiative is a holistic approach to improving waste and recycling behaviours in NSW households. It includes several program areas and sub-initiatives to help residents manage and recycle household waste.

The EPA commissioned TNS Australia to complete this community benchmark study. We will use the findings to frame and tailor our programs, and to monitor their impact.

Researchers interviewed 1200 NSW residents aged 16+ to investigate current knowledge, attitudes and behaviours toward household waste management and recycling, both generally and across four EPA program areas: **general recycling**, **organics**, **problem waste**, and **illegal dumping**.

🕒 See pages 1–10

2. Survey findings

Overall, NSW residents have the desired attitudes and are adopting desirable behaviours towards household waste disposal and recycling. Of those sampled, 82% stated that they will recycle even if it takes more effort (segments 1 to 3, explained below).

Our challenge is to reinforce positive attitudes and behaviours within this large group, while correcting misconceptions and improving behaviour among the remaining 18% (segments 4 and 5).

NSW householders fit into five segments

Researchers identified five core segments of the NSW population, based on respondents' behavioural traits and attitudes. These segments, and standard demographic information, were used in the overall data analysis and appear throughout this report.

- | | |
|------------------------------------|---|
| 1. Champions
(26%) | Recycle a range of household waste even if it takes more effort, and are concerned a great deal about environmental problems. |
| 2. Diligents
(39%) | Recycle even if it takes more effort and are fairly concerned about environmental problems. |
| 3. Captives
(17%) | Recycle even if it takes more effort but are not concerned, or only a little concerned, about environmental problems. |
| 4. Good intentions
(10%) | Don't recycle, or recycle only if it doesn't take any more effort, but are concerned (to a large or fair extent) about environmental problems. |
| 5. Hard-to-reach
(8%) | Don't recycle, or recycle only if it doesn't take any more effort, and are not concerned, or only a little concerned, about environmental problems. |

➤ See pages 4–6

Most people are concerned about the environment




- Most respondents (85%) expressed concern about environmental problems. Of these, 30% were concerned 'a great deal' (driven by those aged 30+, those with a university education, and segment 1, Champions) and 55% were concerned 'a fair amount'.
- People were most concerned about future generations (38%), followed by the health effects of pollution (16%) and maintaining ecosystems (13%).

➤ See pages 11–14

Knowledge and attitudes are positive but behaviour can improve




Researchers investigated respondents' knowledge, attitudes and behaviours towards household waste and recycling, and, in more detail, the EPA's four program areas.

Household waste and recycling management

-  **Knowledge**
 - Awareness of council waste disposal and recycling services was high (i.e. garbage collection service, 96%; recycling service, 93%; council pick-up services, 84%; garden waste bins, 71%).
 - The lower percentages for pick-up services and garden waste bins may reflect less awareness of services or variations in service provision.
-  **Attitudes**
 - Nearly all respondents (89%) were concerned by the amount of waste society produces. 34% were strongly concerned.
 - Those most concerned were segment 1 (Champions), women, and people aged 50–69.
-  **Behaviours**
 - Concern didn't always translate into action through correct waste disposal and recycling. This was most apparent when handling less common forms of household waste (like batteries and chemicals).




 See pages 15–20

Program area: General recycling

-  **Knowledge**
 - Perceived knowledge was high: 86% of respondents claimed to be confident about which items should go into which bins and 96% claimed to fully understand the environmental benefits of recycling.
 - But actual knowledge fell short: only 41% correctly believed that recycling helps to save natural resources, while 20% believed that mixing incorrect items into recycling waste doesn't matter.
-  **Attitudes**
 - Respondents' attitudes were mostly positive: 62% agreed that recycling household waste is very important and 'the right thing to do'.
 - Barriers to recycling included hassle (perceiving it to be 'too difficult'), time (perceiving it to be labour-intensive, and therefore time-intensive) and not believing in its benefits (including perceiving it to be 'over-rated' as an issue).
-  **Behaviours**
 - 97% stated that they recycle common household waste. While 78% of these do so even it takes more effort, 20% only do so if no extra effort is needed.
 - Reluctance to recycle with effort was more common among young people (aged 16–29), those living in single and group households, and those from culturally and linguistically diverse (CALD) backgrounds.




 See pages 21–31

Program area: Organics

-  **Knowledge**
 - There was a knowledge gap around food waste: 24% didn't know that it is the largest type of waste in the average NSW household garbage bin (by weight).
 - Knowledge of composting was strong: 91% agreed that composting can improve the structure, fertility and health of the soil.
-  **Attitudes**
 - Many showed positive attitudes and concern about food waste. The study did not directly explore attitudes to garden waste.
 - 72% expressed concern about the amount of food they throw away.
 - 40% agreed that a busy lifestyle makes it hard to avoid wasting food.
-  **Behaviours**
 - Only 12% stated that they throw away more food than they should; 60% claimed to throw away 'very little'.
 - Those with garden waste generally used a council kerbside collection service (59%) or a compost heap or worm farm (43%) to dispose of it.
 - In the last year, 22% had placed garden waste in a red-lidded garbage bin, citing a lack of facilities or collection services (43%), convenience, or that it was only a small amount.
 - Men are mainly responsible for household garden waste disposal.




 See pages 32–40

Program area: Problem waste

-  **Knowledge**
 - There were low or conflicting levels of knowledge in this program area. For example, while 94% agreed that some common household items can harm the environment and need special disposal, only 54% believed that problem waste can be recycled if disposed of correctly.
 - Older people and segment 5 (Hard-to-reach) knew less about disposing of problem waste correctly.
-  **Attitudes**
 - Most expressed positive attitudes and intentions.
 - 81% would travel to a special location to dispose of an item correctly. People aged 16–29, and segments 4 (Good Intentions) and 5 (Hard-to-reach) were less willing.
-  **Behaviours**
 - Positive attitudes (and intentions) were not being converted into action.
 - Infrequent experience with problem waste means that many people don't know how and where to dispose of it correctly. For example, of the 7% of respondents who had disposed of household chemical waste in the past year, 31% placed it in the red-lidded garbage bin.

 See pages 41–48

Program area: Illegal dumping

-  **Knowledge**
 - Knowledge was high: 79% agreed that leaving items next to a charity bin or outside a shop is illegal dumping.
 - Positively, 91% knew that asbestos can't be placed in the red-lidded garbage bin.
-  **Attitudes**
 - 27% incorrectly believed that charities can recycle all unwanted items regardless of condition.
 - People were uncertain about the legality versus social acceptability of some kerbside dumping: 21% disagreed that leaving goods next to charity bins or outside shops is illegal dumping; 27% had left unwanted goods outside a charity shop or bin or on the kerb for passers-by or neighbours.
 - 88% found it convenient to dispose of unwanted goods correctly. Those who were more likely to find it inconvenient included people living in apartments and segment 4 (Good intentions).
-  **Behaviours**
 - Few admitted to leaving items outside a charity shop (14%) or leaving items on the kerbside for others to collect (13%).

 See pages 49–56

Different age groups have different information needs

- Most respondents used local council websites (55%) or other websites (11%) for information on waste management and recycling. Younger people preferred online information, while older people were likely to prefer more traditional channels like council newsletters and meetings.
- Younger people most often wanted more information, while older people requested more services and bins.

 See pages 57–63

3. Conclusions and recommendations

Our future waste and recycling communications and community education programs will be guided by this study's results and recommendations.

Develop programs that reinforce or improve behaviour

Program area: General recycling

- Reinforce and reward existing positive behaviours, then focus on correcting misconceptions.
- Provide a strong (or stronger) reason to act to encourage and convince those who are either sceptical or misinformed of the benefits.
- Use a 'persuasion'-based social marketing campaign to influence attitudes and reinforce positive behaviours to ensure they continue.

Program area: Organics

- Focus on eliminating perceived barriers by providing more services or facilities.
- Raise awareness of food waste and its consequences, and the facilities for correctly disposing of organic waste.

Program area: Problem waste

- Highlight the existing facilities and services for correctly disposing of less common household, renovation and chemical waste.
- Consider that many people dispose of these materials infrequently, so information must be available when needed.

Program area: Illegal dumping

- Counter entrenched beliefs and 'normalised' incorrect behaviours. For example, show that it is not legal or socially acceptable to give unusable items to charities or leave goods next to charity bins or shops.

Communication and information

- Explain how to dispose of special items correctly and give locations for existing facilities.
- ➡ See pages 64–65

Target specific segments or demographic sub-groups

Segments

People in segment 1 (Champions) already show positive attitudes and behaviours towards recycling, while people in segment 5 (Hard-to-reach) are unlikely to change. Therefore, initial marketing efforts should focus on the remaining two-thirds of the community.

These segments – 2 (Diligents, 39%), 3 (Captives, 17%) and 4 (Good intentions, 10%) – hold either positive or neutral attitudes, but could improve their behaviours. Many already recycle some items but could recycle more material types.

Support and communications strategies should:

- give occasional recyclers stronger reasons to believe in the outcomes of action, and reinforce their good behaviour through education and motivation
- help people with positive attitudes who do not yet recycle to act (e.g. give practical information on recycling, as well as strong reasons to believe).

Demographic sub-groups

The groups with the least desirable behaviours and attitudes, who may benefit most from targeted marketing, were:

- younger people (aged 16–29)
- renters
- apartment dwellers
- people from a CALD background.

Or, a population-level communications strategy could be used, testing educational material on groups that are only marginally lagging.

➡ See pages 65–71

1. This study

1.1 Background to the research

The NSW Environment Protection Authority (EPA) is responsible for raising awareness of regulatory requirements, delivering strong compliance and enforcement programs, and driving improved waste and recycling practices to achieve the targets in the NSW Government's 'NSW 2021' plan. For more information on NSW 2021 please visit: <http://www.nsw.gov.au/2021>

NSW 2021 sets the goal of increasing opportunities for people to look after their own neighbourhoods and environments to meet the 2021 NSW waste recycling target of 70% recovery of materials from the waste stream. To achieve the targets in the plan, the NSW Government is supporting enhanced resource recovery opportunities.

In keeping with these targets, new programs and program enhancements are currently being developed and implemented as part of the NSW Government's *Waste Less, Recycle More* initiative.

The *Waste Less, Recycle More* Waste initiative is a 5-year \$465.7 million waste and recycling agenda for NSW that will deliver economic, employment and environmental benefits for local communities and will transform waste and recycling in NSW. For more information on the *Waste Less Recycle More* initiative please visit: <http://www.epa.nsw.gov.au/waste/WasteLess.htm>

Under the *Waste Less, Recycle More* initiative, the following program areas are relevant to this research:

- kerbside recycling
- organics
- problem wastes
- illegal dumping.

Brief descriptions of the key program areas are provided below.

EPA program areas

Program area: Kerbside recycling

The Local Government Waste and Resource Recovery program will help local councils to undertake projects that improve recycling, reduce waste generation, and tackle litter and illegal dumping. In particular, the program aims to drive better use of recycling systems through education and community engagement. This will be helped by improved understanding of community knowledge, attitudes and behaviour relating to kerbside recycling. Recent audit data reveal that 22% of materials in the red-lidded garbage bin could be recycled and 7% of materials in the yellow-lidded recycling bin are not recyclable.

Program area: Organics

The Organics Infrastructure Fund aims to make the avoidance, reuse and recycling of organics a new social norm for NSW householders by supporting a number of programs. Programs focus on how households manage their food and garden waste and include *Love Food Hate Waste* and local government organics collection system grants.

[Love Food Hate Waste](#) is a food waste avoidance community education program. Delivered through partnerships across NSW, the program focuses on the actions that households and businesses can take to avoid food waste. The target behaviours include meal planning, writing a shopping list, measuring serving sizes, storing food correctly and remembering to use leftovers.

[Local government collection system grants](#) will help local councils to introduce new or enhanced kerbside organics bin services, including food, garden and combined food and garden services. Funding for bins, kitchen caddies, education and audits will be available via contestable grants administered by the NSW Environmental Trust. Education and communication will be critical to the successful implementation of these new systems.

Program area: Problem wastes

The EPA has two programs to address the collection of problem waste namely the [Community Recycling Centre Program](#) and the [Household Chemical CleanOut](#) program. Combined, these two programs aim to make it easier for households to safely and correctly dispose of their household problem wastes including paints, gas bottles, motor oils and fuels, acids and alkalis, hobby chemicals, smoke detectors, florescent globes and tubes, batteries, poisons, pesticides and herbicides.

Program area: Illegal dumping

Charitable recyclers collect and reuse or recycle unwanted clothing, household goods and furniture as part of their services to disadvantaged people. The National Association of Charitable Recycling Organisations (NACRO) has reported that its member charitable recyclers experience illegal dumping around their bins and shops. This includes dumping of unusable items and dumping of items outside the bins or shops, so that they become weather damaged or otherwise unusable. These actions reduce the amount of stock that can be used by the organisations, and they also place a burden on organisations to dispose of the resultant waste. The EPA is working with NACRO on a program that will deliver education (on the impacts of dumping on charities and on lawful disposal options), infrastructure (such as fences, lighting and well-placed bins) and enforcement (e.g. cameras and fines) to tackle this dumping issue.

All of the above programs support the NSW 2021 plan target to increase recycling by providing householders with an integrated approach that includes information, education and awareness of the new systems, infrastructure and services that are available to make it easier for them to manage their waste and recycling. Each of these elements supports and complements the others. Local councils will be supported to help householders to use the services correctly.

The research need

The key purpose of the research was to develop and undertake a benchmark survey of NSW households to determine the current levels of knowledge, attitudes and behaviours around waste and recycling management at the household level.

This research will provide the foundation for several planned communications and education programs that will focus on improving the community's active and informed participation in correctly managing and recycling waste. This piece of research will also help evaluate the effectiveness of these programs via subsequent follow-up studies.

Research objectives

Specifically, the objectives of the research (Table 1) were to:

- develop a set of key indicators that can be used to both benchmark and measure or track changes in community knowledge, attitudes and behaviour relating to the management of household waste and recycling
- develop a segmentation of the NSW community based on knowledge, attitudes and behaviours to identify the key target audiences for various programs
- provide robust information to guide the development of the programs' education and engagement activities
- provide robust information to support decision-making with regard to an appropriate media mix for campaign interventions, including implications for the most cost-effective communication modes for the key target audiences (e.g. where the community sources its information about waste disposal and recycling).

Table 1. Research objectives

Knowledge and awareness	Attitudes and beliefs	Behaviour	Behaviour change
How much does the community know about managing household waste and recycling?	What are the current attitudes and perceived benefits around waste management and recycling?	How does the community currently behave in relation to waste management and recycling?	Do the different programs have the potential to change the community's behaviour?
What does the community know about how to correctly manage and recycle waste?	What are the community's attitudes towards managing and recycling waste? What are their 'core beliefs'?	How does the community currently manage their household waste?	Do the EPA's programs inspire behaviour change or cause behaviour to evolve?
What are the knowledge gaps?	Does the community understand the benefit of managing and recycling waste?	Have they thought about or self-assessed their current recycling behaviour?	Are the programs positively influencing awareness, importance and beliefs around waste management?
How does the level of knowledge influence behaviour around recycling waste?	Among their friends, and society generally, how 'normal' is it for people manage and recycle waste?	What influences their decision-making to take up/ ensure correct management of waste?	When monitored over time, did the community positively change its behaviour?
Is the community aware of the potential harm of not correctly managing and recycling waste?	What are the attitudinal barriers and motivators to adopting correct behaviour?	What are the lead indicators to behavioural change?	Have the programs reduced incorrect behaviour or encouraged new habits and norms of behaviour?
Is the importance of managing waste and recycling understood?	Does the community believe that the benefits of recycling outweigh the effort to do so?	What are the behavioural barriers to managing waste correctly?	What, if any, behaviour did the community change as a result of the programs?
Is the community aware of the personal and societal costs?	What attitudinal/ behavioural segments exist within the community with regards to recycling and waste management, and which segments need to be targeted?		Have the programs increased commitment to the desired behaviour?
Is the community aware of where to get information around	What are the attitudes and behaviours that need to change in order to correctly manage household waste?		

TNS Australia aligned the EPA's objectives with an extended knowledge, attitudes, behaviours (KAB) model (section 1.4) that had been adapted for use in social marketing campaigns that seek voluntary, sustained behaviour change. The research was framed to identify the knowledge gaps, beliefs and attitudes (known in behavioural theory as 'psychological' or 'reflective' influences) as well as the environmental and situational influences (known in behavioural economics as 'automatic' influences) that facilitate recycling behaviour.

Segmentation: the 'KAB' model of behaviour change

The ultimate goal and critical success indicator for the *Waste Less, Recycle More* initiative will be positive behaviour change resulting in an increase in the proportion of households correctly managing and recycling household waste.

Achieving this goal requires an understanding of the classic KAB (knowledge, attitudes, behaviours) behaviour change model and of how the model can be applied in the context of waste management and recycling behaviour. Importantly for these behaviours, a holistic approach to understanding behaviour change is required; it's important to get the right balance between identifying and measuring knowledge, attitudes, beliefs and values (internal influences) and identifying the relative influences of habit, mental shortcuts (heuristics) and situational factors (external and automatic influences).

KAB (knowledge, attitudes, behaviours) model of behaviour change

There is no consensus in the environmental and recycling behaviour literature about the linear relationship between recycling attitudes or beliefs and recycling behaviours. Ideally this should be a linear progression, with behaviour change starting from a firm knowledge base and moving along from there (at different rates depending on the behaviour) to eventual action. However, in reality it is non-linear (especially in the case of complex behaviours). Individuals can enter the model at different stages, forming attitudes before they have knowledge, forming subconscious behaviours before they have knowledge or attitudes, and having good intentions but not implementing the behaviours.

Indeed, the correlation between recycling attitudes and behaviours is now thought to have been overestimated and the influence of knowledge about recycling specifics, and situational and external influences underestimated. Attitudes, in isolation, are no longer thought to reliably predict recycling and waste management behaviours.

To set realistic strategies or goals for each of the programs it is important to know exactly where the target audience sits on this model. TNS adapted the classic KAB behaviour change model to provide a framework for developing the question concepts and measures to be included in the survey, and for subsequent analysis.

Segmentation analysis

The segmentation identified and profiled those community segments who are both targets for behavioural change and most likely to respond to programs and communication activities. It provided a systematic procedure not only for describing various target segments in terms of attitude, behaviour and demographics, but also for achieving behaviour change within each of the defined segments.

Framework

The Sheth-Frazier model (Table 2) provides a foundational framework for encouraging behaviour change. In turn, this should enable the EPA to develop communications and activities to encourage improved and more consistent behaviour with regard to household waste management and recycling. By identifying the cognitive dissonance (or resonance) between behaviour and attitude, the EPA can tailor communications to either make a call to action (for when behaviour lags behind attitude) or establish the case for beliefs (for when attitudes fall short of the ideal).

Table 2. The Sheth-Frazier model

All respondents		Behaviours undertaken (e.g. frequency)		
		Always/regularly	Occasionally	Never
Attitudes to behaviour (e.g. ease)	Positive (i.e. agree it's easy)	Segment 1	Segment 4	Segment 7
	Neutral or ambivalent	Segment 2	Segment 5	Segment 8
	Negative (i.e. disagree it's easy)	Segment 3	Segment 6	Segment 9

In the example above, Segments 1 and 2 are already exhibiting positive attitudes and adopting the correct behaviours, whereas Segments 4, 5, 7 and 8 and are less engaged, and according to social marketing theory, more likely to be influenced by communications.

Method

The basic Sheth-Frazier framework was enhanced by cross-checking questions from across the survey regarding attitude, with questions representing claimed behavioural action. This resulted in 12 segments. These 12 segments represented discrimination on general attitudes to environmental causes and stated behaviours in recycling (top panel, Table 3).

To improve on this, TNS recognised the need to a) reduce the number of segments to make them more manageable, and b) ensure discrimination in terms of attitudes and behaviours with regard to more specific recycling areas. After testing a variety of possible reductions, TNS adopted the framework in the bottom panel in Table 3, which retains the majority of the differentiation but reduces the number of segments, thus providing sufficient within-group sample sizes for robust profiling.

Table 3. Basis of the segmentation used

All respondents (n = 1200)		Attitude to recycling common household waste		
		Recycle even if it requires additional effort	Recycle only if it does not require additional effort	Do not recycle
Attitude towards environment	Concerned a great deal	n = 311	n = 29	n = 2
	Concerned a fair amount	n = 470	n = 71	n = 12
	Concerned a little	n = 100	n = 29	n = 6
	Not concerned	n = 104	n = 46	n = 14
↓				
Champions n = 311 26%	Diligents n = 470 39%	Captives n = 204 17%	Good intentions n = 114 10%	Hard-to-reach n = 95 8%

Essentially this translated to 82% of the sample (i.e. Champions, Diligents and Captives) stating desirable behaviour, versus 18% stating less desirable behaviour (Good intentions and Hard-to-reach). These segments can be defined as follows:

- **1. Champions:** Those who recycle even if it requires additional effort and who are concerned a great deal about environmental problems
- **2. Diligents:** Those who recycle even if it requires additional effort and who are concerned a fair amount about environmental problems
- **3. Captives:** Those who recycle even if it requires additional effort, although they are not, or just a little, concerned about environmental problems
- **4. Good intentions:** Those who do not recycle or who recycle only if it does not require any additional effort, but are concerned (a great deal or a fair amount) about environmental problems
- **5: Hard-to-reach:** Those who do not recycle or recycle only if it does not require any additional effort and are also not, or just a little, concerned about environmental problems.

The five segments outlined above are referred throughout this report wherever relevant, including alongside commentary on demographic or other subgroup differences. A further summary of each segment is provided in Appendix 1.

Testing

Statistical tests (F-tests and chi-squared tests) were used to examine whether the 12 segments discriminated in terms of specific recycling areas (organics, problem wastes, illegal dumping, kerbside recycling, asbestos) and whether our reduction of the segments to five would retain the majority of that discrimination. (Questions included in the development of the segmentation were E1, E2, E7aa, E7ab, E7ac, E9AB, E9AC, E9AD, E9AE, F1a, F1b, F1c, E9AA, G1a, G1c, G1d, G1e, G1g, G1h, G1i, H1B, H1C, H1D, H1E, H1F, H1G, H1I, H1J, H2A, H2C, H2D, H2F, H2G, H2H, H2J, H2K, H2L, H2N, H2O; see the questionnaire in Appendix 2 for full question details). This statistical testing revealed that most of the discrimination was retained across all recycling areas; therefore, the Diligents, for example, had similar attitudes and behaviours in each of the areas of organics, illegal dumping and problem waste.

1.2 Method and sample

Research method

Approach

A quantitative computer assisted telephone interview (CATI) methodology was used. This was considered the best way to achieve a representative sample of the target audience. The CATI fieldwork was conducted by using a random-digit dialling technique wherein telephone numbers were generated at random by a computer program.

Sample size

To monitor changes over time on a sub-group level, it was important to achieve a sufficiently robust sample size for the benchmark study as well as for all subsequent follow-up measurements. A sample size of $n = 1200$ was used.

This sample size provided a high degree of confidence in the results, with a maximum margin of error of +2.4% at the 95% confidence interval.

Sample selection process

The sample was drawn randomly to ensure that it was representative of the NSW population. Soft quotas on age, gender and location were imposed during fieldwork to help ensure that the sample reflected NSW population averages (Table 4).

Questionnaire length

The final CATI survey was approximately 25 minutes long and included open and closed-ended questions. A total of seven open-ended questions were included and then coded. The questionnaire was scripted and logic checked according to strict protocols to ensure elimination of errors.

Further, a two-phase pilot phase of $n = 50$ interviews was used as a full 'dress rehearsal' to test the entire surveying process and logic of the questionnaire before the survey started. The questionnaire was revised slightly after both stages to reduce its length. This pilot phase was preceded by a cognitive testing exercise in the weeks prior, to test the respondents' comprehension of the terminology used and the questions asked.

Interviews were done on weekdays and weekends and at different times of the day. This gave the opportunity for a more diverse range of respondents to participate in the survey (e.g. those in full-time work or study, who may otherwise not have been at home during the day). In accordance with ISO 20252 *Standard for market, social and opinion research*, 10% of all interviews were audited to ensure that the field work was of high quality and resulted in high levels of completion of the questionnaire.

The majority of the fieldwork was completed between 22 April and 25 May 2014.

Respondent profiles

Table 4 gives the demographic profile of the sample respondents compared with that of the NSW population.

Table 4. Respondent profiles compared with NSW population data from the Australian Bureau of Statistics' 2011 census

Item	NSW population (%)	2014 Benchmark survey (%) (n = 1200)
Location		
Sydney	64	55
Newcastle		11
Wollongong		6
Large country town (population 15,000+)	36	11
Small country town (population 3000–15,000)		9
Country rural area		8
Gender		
Male	49	41
Female	51	59
Age		
16–19	6	3
20–29	16	8
30–39	16	14
40–49	18	20
50–59	16	21
60+	26	34

For the 2014 benchmark survey 24% of the sample was CALD, 76% mainstream, 77% homeowners, 19% renters and 4% other (living with family).

1.3 Research notes

Weighting

Although the respondent profile closely was aligned with the NSW 2011 census data, the survey responses have been weighted to represent the NSW population according to age, gender and location.

Rounding

Results are provided as percentages to the nearest whole number. In some charts and tables, this may result in totals adding up to slightly more or less than 100%. This also means that the combined figures reported in the text may differ slightly from the sums of the rounded figures shown in charts or tables.

Significant differences

Significance testing has been applied to the results, and statistically significant differences (at a 95% confidence interval) are indicated throughout the report where relevant.

This includes a subgroup analysis highlighting differences within demographic profile subgroups as well as across the five segments discussed in the previous section (i.e. 1, Champions; 2, Diligents; 3, Captives; 4, Good intentions; and 5, Hard-to-reach).

The key subgroups commented on include:

- Age: Younger (16–29 years of age) vs Median (30–49 years of age) vs older (50–69 and 70+ years of age)
- Gender: Male vs Female
- Household income: Low (Up to \$59k a year) vs Mid (\$60–99k a year) vs High (\$100+k a year)
- Household structure: Family vs Lone vs Group
- Preceding awareness of EPA programs: Yes vs No
- Tenure: Home-owner vs Renter
- CALD: CALD vs non-CALD background
- Location: Metropolitan/Sydney vs. Regional/rest of NSW

Significant differences between subgroups have been illustrated by means of green and blue shaded ovals. Green shading represents a subgroup that is significantly more likely to agree or give a specific response (versus other subgroups individually), whereas blue shading highlights those that are significantly less likely to agree or give a specific response (versus other subgroups).

Research limitation: the presence of social desirability bias

Data collection methods involving an interviewer may be subject to social desirability bias, which means that respondents may be more likely to reply in a manner that will be viewed favourably by the interviewer.

In this instance, when the survey was measuring various behaviours that are potentially 'frowned upon' (e.g. illegal kerbside dumping) or 'lauded' (e.g. recycling with effort) by the

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community, respondents may have, in some cases, over-claimed positive/correct behaviours and under-reported some negative/ incorrect behaviours. This is indicated in the findings by high claims of knowledge in one area that failed to translate into follow-on behaviours (or to match existing statistics on NSW residents' behaviours).

2. Survey findings

2.1 General attitudes towards the environment

The survey started with questions addressing broad attitudes towards the environment.

Section snapshot

Attitudinally, the majority (85%) of respondents expressed some level of concern about environmental problems, with 1 in 3 expressing a 'great deal' of concern. Issues of primary concern included the impact on future generations (38%), followed by the health effects of pollution (16%).

Detailed findings

Concern about environmental problems

Question

B1. In general, are you concerned about environmental problems?

Response options: Yes, No.

The majority (85%) of respondents expressed concern about environmental problems (Fig. 1).

Significant differences across subgroups

Segment analysis revealed that segment 1 (Champions, 100%), segment 2 (Diligents, 100%) segment 4 (Good intentions, 77%) were also significantly more likely to be concerned about environmental problems.

Low income households (up to \$59k) were significantly less likely to be concerned about environmental problems.

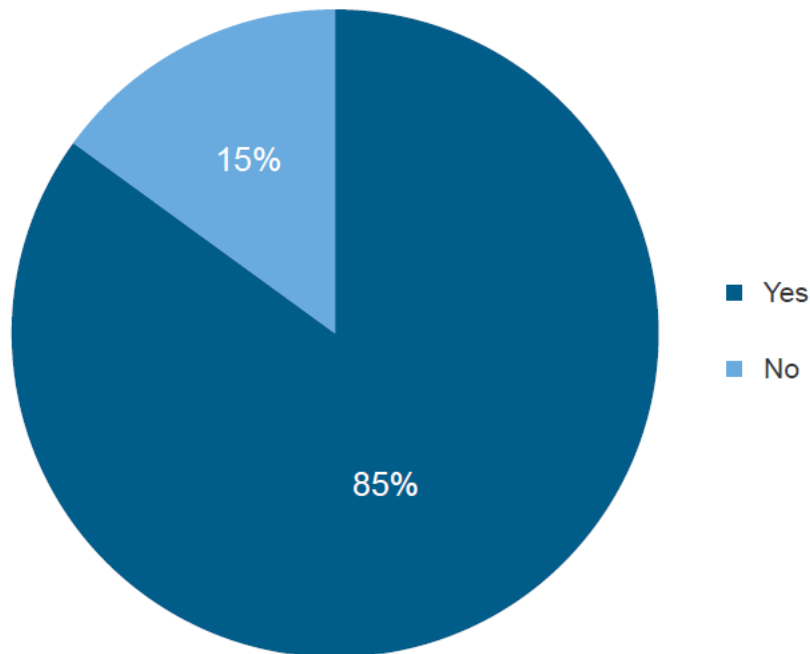


Figure 1. Concern about environmental problems: responses to the question 'In general, are you concerned about environmental problems? Base: All respondents (n = 1200)

Extent of concern about environmental problems

Question

B3. Would you say that you are concerned a great deal, a fair amount or a little?

Response options: A great deal, a fair amount, a little.

Of those who expressed concern (85%), 1 in 3 (30%) respondents expressed a 'great deal' of concern and more than 1 in 2 (56%) expressed a 'fair amount' of concern (Fig. 2); 1 in 6 (14%) respondents indicated that they were only a 'little' concerned about environmental problems.

Significant differences across subgroups

Those concerned a 'great deal' were significantly more likely to be:

- aged 30+ years (39% of 30–39-year-olds; 35% of 40–49-year-olds; 32% of 50–64-year-olds; vs. only 17% of 16–29-year-olds)
- educated to university level (35% vs 24% others)
- from segment 1 (Champions, 100%).

Those concerned a 'fair amount' were most likely to be:

- younger (66% of 16–29-year-olds vs. 50–54% of all respondents)
- in segment 2 (Diligents, 100%)
- in segment 4 (Good intentions, 77%).

Those least likely to be concerned were significantly more likely to:

- live in rural areas (22% vs 13% metropolitan areas)
- fall into segment 3 (Captives, 100%) and segment 5 (Hard-to-reach, 100%).

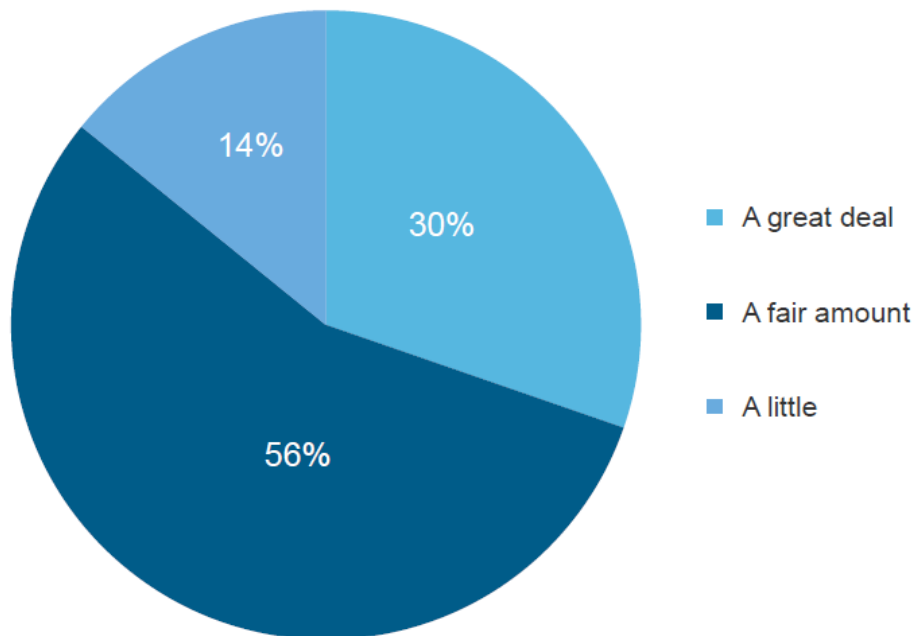


Figure 2. Extent of concern about environmental problems: responses to the question ‘Would you say that you are concerned a great deal, a fair amount or a little?’ Base: Those concerned about environmental problems (n = 1020, i.e. 85% of 1200 said Yes)

Areas of environmental concern

Question

B4. Regarding your concern about environmental problems, which of the following best describes what you are concerned about?

Response options: Health effects of pollution, quality of life, concern for future generations, long-term economic sustainability, maintaining ecosystems, availability of resources, other.

Those who indicated some level of concern about environmental problems (85%) were asked to select the issue or area they were most concerned about. The most common response was concern for future generations (38%) (Fig. 3), followed by health effects of pollution (16%), maintaining ecosystems (13%) and quality of life (11%). One in 10 respondents cited economic sustainability and resource availability (both 10%). Only 2% were most concerned about other issues.

Significant differences across subgroups

There were some significant differences regarding the health effects of pollution, with respondents living in metropolitan areas (17% vs Rural 12%) as well as CALD respondents (in NSW generally) being more concerned about the health effects of pollution (22% vs 13% non-CALD).

Maintaining ecosystems was mentioned most by segment 1 (Champions, 22%). Older respondents were the least likely to express concern (6% vs 13%–17% aged 16–64 years) about maintaining ecosystems.

Concern for quality of life was greatest among single households (19% vs Family 10%), non-graduates (i.e. 19% without a university degree vs 8% with a university degree) and those aware of the EPA’s programs (14% vs 10% not aware). Further, segments 3 (Captives) and 4 (Good intentions) were more likely to be concerned about quality of life (16% and 18%, respectively).

Resource availability was of particular concern to segments 3 and 5 (Captives, 19%; Hard-to-reach, 18%) and those aware of the EPA's programs (14% vs 9% not aware).

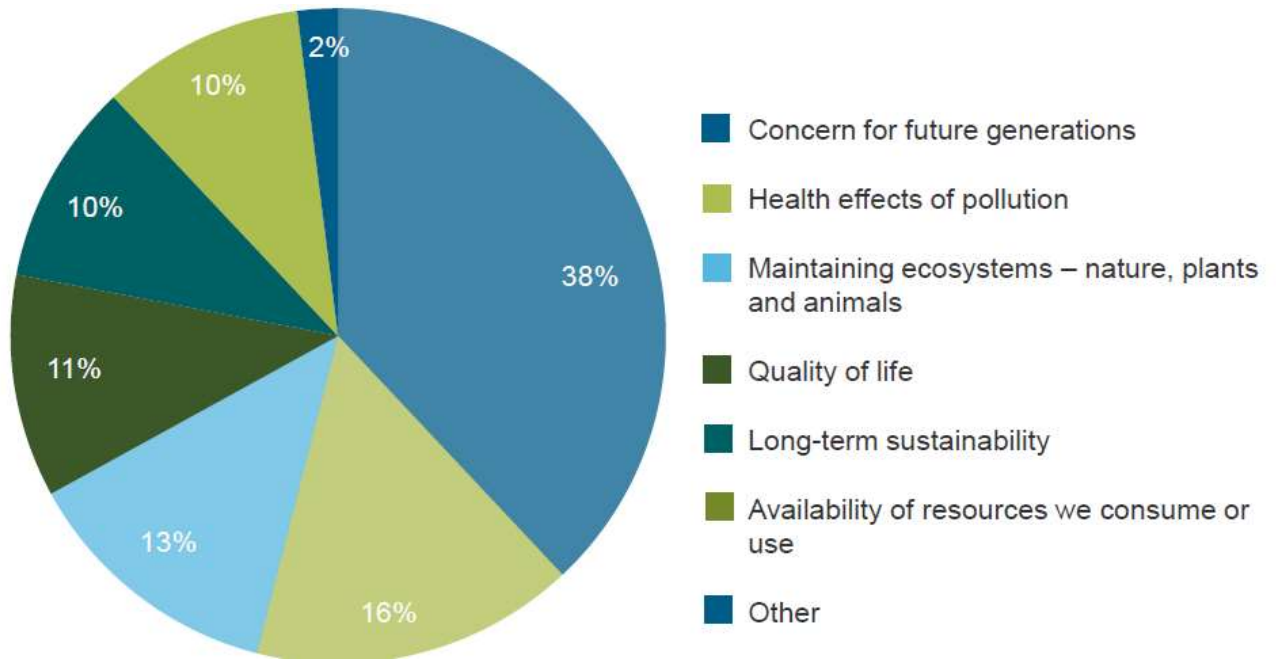


Figure 3. Areas of environmental concern: responses to the question 'Regarding your concern about environmental problems, which of the following best describes what you are concerned about?' Base: Those concerned about environmental problems (n = 1020)

2.2 Household waste and recycling management

Section snapshot

Almost all (89%) agreed with the statement that they are 'concerned by the amount of waste society produces', with more than one-third (34%) strongly agreeing with this statement.

Nearly all respondents stated provision of common council waste and recycling services (96% mentioned a general waste collection service and 93% a recycling service). This was followed by mentions of council pick-up (84%) and garden waste bins (71%). On a total level, the average number of services identified by participants was 5.

Detailed findings

Provision of household waste and recycling services by council

Question

C1. Which of the following services are provided by your local council?

Response options: General household garbage bin, garden waste bin, recyclable materials bins, kerbside pickup or council clean-up service, Household Chemical CleanOut event, Community Recycling Centre/ Recycling drop-off centre, e-waste drop-off centre or event (e.g. for TVs and computers), Other (e.g. Garage Sale Trail, Second Hand Saturday) (multiple responses allowed).

Almost all respondents (9 in 10) indicated that they had a general household red-lidded garbage bin and recyclable material bins (96% and 93%, respectively) followed by council pick-up services (84%) and garden waste bin facilities (71%) (Fig. 4).

Indications of central services were low, with approximately half of respondents or less stating that recycling and e-waste drop-off centres (50% and 45% respectively) or Household Chemical CleanOut events (40%) were provided.

Significant differences across subgroups

Older respondents as well as home-owners were more likely to know of Household Chemical CleanOut events (56% of those aged 50–69 years vs 23% of those aged 16–29 years, 37% of those aged 30–44 years and 44% of those aged 70+, and home-owners 44% vs renters 22%).

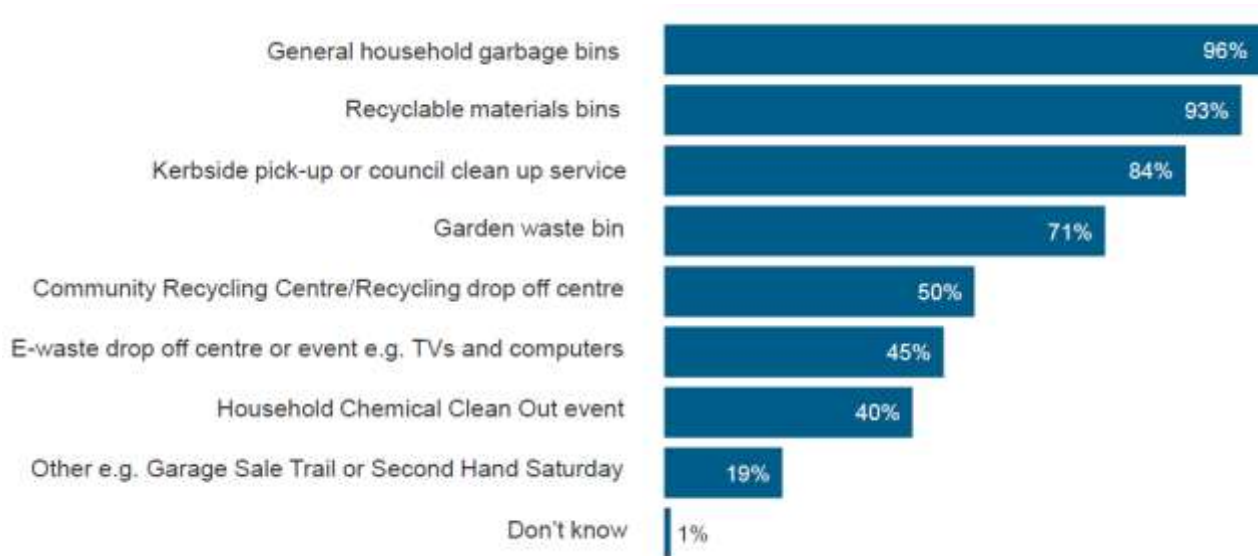


Figure 4. Awareness of provision of household waste disposal and recycling services by councils: responses to the question ‘Which of the following services are provided by your local council?’ Base: All respondents (n = 1200)

Level of concern about the amount of waste produced

Question

H2 (1). To what extent do you agree or disagree with the following statement? ‘I am concerned about the amount of waste our society produces’.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

Almost 9 in 10 respondents agreed that they are concerned about the amount of waste society produces (net agreement of 89% (34% agree strongly and 55% agree) (Fig. 5).

Significant differences across subgroups

Females (net agree, 92%), respondents aged 50–69 years (net agree, 94%) and segment 1 (Champions, net agree, 98%) were significantly more likely to agree with this statement regarding concern about the amount of waste produced by society. Furthermore, those who were aware of the EPA’s programs were more likely to agree with this statement (83%/75%).

Segment 5 (Hard-to-reach) respondents were least likely to be concerned about the amount of waste society produces (net 20% disagree/strongly disagree), and were the only segment to express strong disagreement (2%).

Significant differences within subgroup and segments have been illustrated by using green- and blue-shaded boxes. Blue = significantly higher/most positive responses and green = significantly lower/most negative responses.

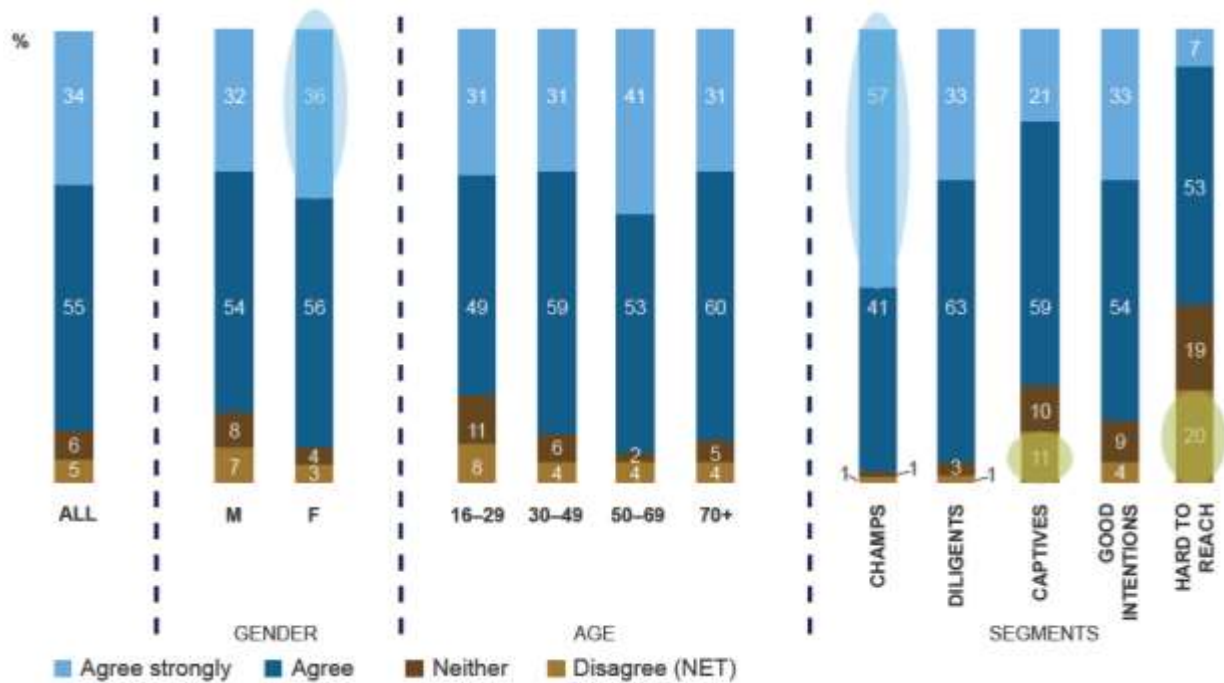


Figure 5. Levels of concern about the amount of waste produced: responses to the statement 'I am concerned about the amount of waste our society produces'. Base: All respondents (n = 1200)

Primary methods of disposing of various waste materials

Question

C2. How do you or your members of your household usually dispose of the following types of household waste?

Waste types: Household batteries (e.g. AA), Asbestos, Pool chemicals, Fluorescent light globes and tubes, Food waste, Motor oils and fuels, Furniture, Garden pesticides/ herbicides, Gas bottles, Garden waste/plant cuttings, Paint and paint-related products, Plastic wrapping, Smoke alarms, Old clothing.

Response options: Garage bin, recycling bin, council pick-up, household chemical cleanout, tip, drop off/community recycling centre, charity shop, drain/sink/toilet, kerbside, don't know, don't have this waste.

Respondents were presented with a range of waste materials and asked to identify how they usually disposed of each item. Many had not dealt with some of the less common forms of waste (e.g. asbestos, pool chemicals, smoke alarms). Materials encountered more often within the list included household batteries, light globes, food waste, garden pesticides, garden waste, paint and plastic wrapping (Table 5).

Table 5. Types of household waste handled

Type of waste	Have encountered this type of waste %	Have not encountered this type of waste %
Food waste	99	1
Plastic wrapping	98	2
Old clothing	98	2
Household batteries	93	7
Garden waste/plant cuttings	92	8
Furniture	85	15
Fluorescent light globes/tubes	67	33
Paint and paint-related products	59	41
Motor oils and fuels	42	58
Garden pesticides/herbicides	39	61
Gas bottles	38	62
Smoke alarms	25	75
Asbestos	16	84
Pool chemicals	13	87

Council-delivered out of home services (i.e. council pick-up, Household Chemical CleanOut, tips, drop-off/ Community Recycling Centres) were mostly utilised by respondents to dispose of furniture, motor oils and fuels, gas bottles and paints.

Compost bins or worm farms were used for food waste by just over one-quarter of respondents; 28% of all respondents (of the overall sample) used compost bins or worm farms for food waste. This was significantly higher among certain subgroups: 54% of those living in detached terraces and 34% of those with large gardens, as well as 41% of those on acreages, are significantly more likely than the overall sample (28%) to use compost bins or worm farms.

Those who lived in apartments and had only a balcony, or no garden, were least likely to set up a compost bin or worm farm for the disposal of food waste. Garden waste was disposed of via an organics bin by nearly 1 in 2 respondents (48%; this is slightly but not significantly driven by those living in houses. There was no difference apparent between those respondents with balconies and those with no outdoor areas available.) Furthermore, the majority of those who composted garden or food waste were provided with a green waste bin (71%). In addition, those who composted garden waste were largely the same as those who also composted food waste (82%). Old clothing was mostly dropped off at charity shops (81%) (Table 6).

The information in Tables 6 and 7 is shown in further detail in Appendix 3.

Table 6. Primary methods of disposing of various waste materials. Base: All respondents (n = 1200). Note: Only 11 of the 15 response categories per waste type are shown in the table; therefore, rows do not sum to 100%.

Type of waste	Garbage bin %	Recycling bin %	Council pick-up %	Household Chemical CleanOut %	Tip %	Drop-off/Community Recycling Centre %	Charity shop %	Drain/sink/toilet %	Kerbside %	Don't know %	Don't have this waste %
Household batteries	59	6	3	2	4	8	*	0	0	3	7
Asbestos	1	*	2	*	2	1	0	0	0	4	84
Pool chemicals	3	1	1	1	1	2	0	*	0	4	87
Fluorescent light globes/tubes	43	9	1	1	3	2	*	0	*	6	33
Food waste*	55	3	*	*	*	*	0	*	0	0	1
Motor oils and fuels	5	1	3	2	6	7	0	*	0	9	58
Furniture	1	1	37	*	7	4	20	0	5	2	15
Garden pesticides/herbicides	9	2	3	5	4	4	*	1	0	7	61
Gas bottles	1	6	3	1	2	7	*	0	*	6	62
Garden waste/plant cuttings*	10	5	4	0	2	1	*	0	*	1	8
Paint and paint-related products	12	2	7	6	9	11	0	*	0	7	41
Plastic wrapping	58	33	*	0	2	1	*	0	0	1	2
Smoke alarm	9	2	1	1	1	2	0	0	0	9	75
Old clothing	6	2	1	0	*	3	81	0	0	0	2

* indicates less than 1% but not zero.

Significant differences across subgroups

All segments (i.e. Champions, Diligents, Captives, Good intentions and Hard-to-reach) were significantly more likely than the overall sample to respond in particular ways in regard to some of the waste types (Table 7).

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Table 7. Disposing of various wastes: primary method by segment. Base: All respondents (n = 1200)

Type of waste	Garbage bin	Recycling bin	Council pick-up	Household Chemical CleanOut	Tip	Drop-off/Community Recycling Centre	Charity shop	Compost bin/worm farm/organics bin	Other
Household batteries	Good intentions Hard-to-reach	Diligents Champions				Champions Diligents			Champions
Asbestos	Good intentions		Champions						
Pool chemicals	Captives								
Fluorescent light globes/ tubes	Captives								
Food waste*	Captives/ Hard-to-reach							Champions Diligents	
Motor oils and fuels	Hard-to-reach			Champions Diligents		Champions Captives			
Furniture					Good intentions Hard-to-reach		Champions		
Garden pesticides or herbicides	Good Intentions Hard-to-reach			Diligents					
Gas bottles					Champions				
Garden waste/ plant cuttings*	Good Intentions				Captives			Champions Diligents	
Paint and paint-related products				Champions Diligents	Champions	Champions Diligents			
Plastic wrapping		Diligents							
Smoke alarms		Champions							
Old clothing	Hard-to-reach								

2.3 General household recycling: knowledge, attitudes and behaviours

Respondents were asked a series of questions to determine their knowledge, attitudes and behaviours about general household recycling. The questions consisted of a combination of rating scales, attribute association and agreement with true/false statements.

Section snapshot

Knowledge

Almost nine in 10 respondents (88%) agreed that they were confident about which items go into which bins, although only three in 10 (27%) emerged as strongly confident. Nearly all (96%) understood the environmental benefits of recycling, but just 4 in 10 (37%) agreed strongly with the statement 'I understand the environmental benefits of recycling'. Four in 10 (41%) correctly believed that recycling does help save water, energy and fuel, and 2 in 10 (20%) incorrectly believed that mixing incorrect items into the recycling bin does not matter. This indicates that although self-claimed knowledge is high, there are some gaps apparent in this knowledge.

Attitudes

Six in 10 (62%) believed that recycling household waste is very important, mostly because they believed that it is 'the right thing to do' and that 'it is important to re-use resources'. Those who didn't believe that recycling household waste is important suggested a number of barriers to adopting the behaviour, including it is too difficult, time is a barrier, or they believed that the issue is 'over-rated'. In line with this, 20% agreed with a subsequent statement that 'it is too much effort to dispose of items correctly'.

Behaviour

In terms of behaviour regarding general household recycling:

- the substantial majority (97%) claimed that they did recycle common household waste
- only 3% did not recycle at all
- 8 in 10 (78%) claimed to recycle with effort
- 1 in 5 (18%) admitted that they recycled only if it could be done without any additional effort
- 3 in 10 (30%) admitted they recycled only 'because the council tells them to'.

In summary, there are high levels of claimed knowledge regarding general recycling. Respondents exhibit mostly positive attitudes towards general recycling, and most claim to follow through with behaviours. On further cross-analysis, however, it is apparent that many are placing items in the wrong bin, raising the question of whether their perceived knowledge is greater than their actual behaviours. Knowledge levels, attitudes and behaviours do vary according to certain demographic groups and identified segments. There is therefore potential to increase knowledge, improve perception and correct some misconceptions (e.g. that recycling doesn't help with saving water, energy and fuel) in order to improve or reinforce behaviours.

Detailed findings: knowledge and beliefs around recycling

Level of confidence about what items can be placed in which kerbside bins

Question

H2 (3). To what extent do you agree or disagree with the following statement?

'I am confident about what items can be placed in which kerbside bins'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

The vast majority (88% net of Agree and Agree strongly) were confident about their knowledge levels regarding what items can be placed in the various kerbside bins. Just over a quarter of all respondents were very confident of their abilities and agreed strongly with this statement (27% Agree strongly).

Although householders emerged as confident in their knowledge of which items to dispose of where, it is apparent from the preceding section on '**Primary methods of disposing of various waste materials**' that this knowledge is not always translating into correct disposal. This may be due to lack of knowledge or lack of convenience. For example, 88% agreed that they were confident or very confident about where to place what, yet 59% were disposing of household batteries in the red-lidded garbage bin and 43% were disposing of fluorescent light tubes in the red-lidded garbage bin.

Significant differences across subgroups

Those with high household incomes, those aged 50–69 years, and those falling into segments 1 (Champions) and 2 (Diligents) were significantly more likely to be confident in their knowledge levels than those in other subgroups (Fig. 6).

Segments 4 (Good intentions) and 5 (Hard-to-reach) were least likely to be confident about where to place items and disagreed more frequently with this statement (14% and 19% disagreed, respectively). These two segments represent around 17% of the NSW population and are likely to benefit most from communications regarding recycling.

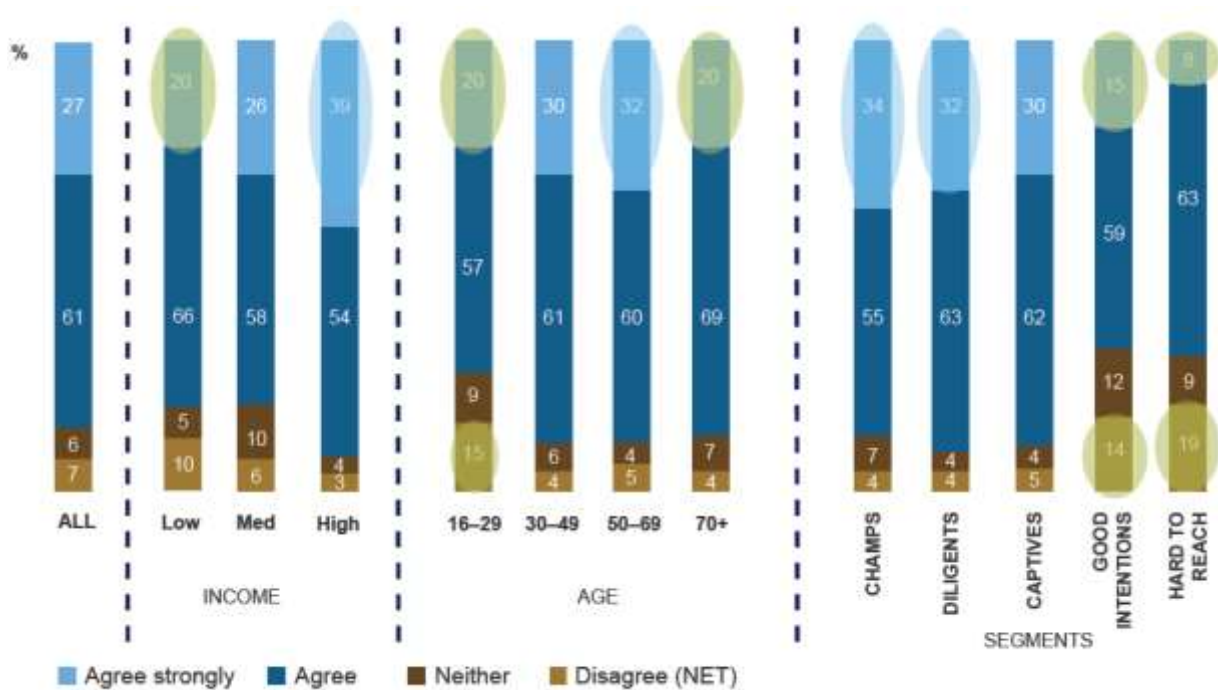


Figure 6. Levels of confidence about what items can be placed in which kerbside bins: response to the statement 'I am confident about what items can be placed in which kerbside bins'. Base: All respondents (n = 1200)

Perceived understanding of the benefits of recycling

Question

H2 (3). To what extent do you agree or disagree with the following statement? 'I understand the environmental benefits of recycling'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

In terms of respondents' understanding around the perceived benefits of recycling, 4 in 10 (37%) claimed to fully understand the environmental benefits of recycling, as expressed by agreeing strongly with the statement, versus 6 in 10 (59%) agreeing with it (Fig. 7). Only a minority disagreed or adopted a neutral stance (6%). This claimed understanding is not, however, strongly reinforced by the monitoring of correct responses to subsequent true/false statements posed to test the respondents' knowledge (e.g. 'Recycling paper, cardboard and glass saves on materials but doesn't help with saving water, energy and fuel' or 'It doesn't matter if I put few wrong things in my recycling bin as they will be sorted out').

Significant differences across subgroups

Agreement was driven by high-income households (48% strongly agree vs. medium-income households 36% and low-income households 29%) and older respondents (43% of those aged 50–60 years).

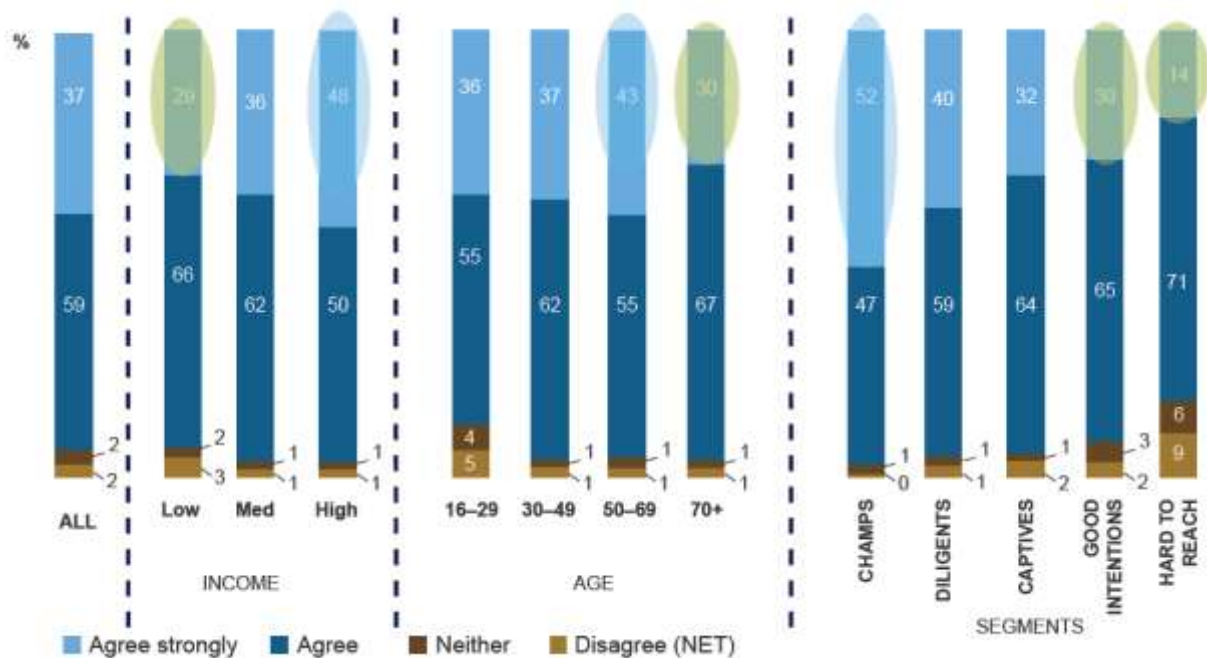


Figure 7. Perceived understanding of the benefits of recycling: responses to the statement 'I understand the environmental benefits of recycling'. Base: All respondents (n = 1200), Income (n = 341, 244, 326), Age (n = 128, 413, 448, 211), Segment (n = 311, 470, 204, 114, 95)

Impact of recycling on saving water, energy and fuel

Question

H1(b). Please tell me whether you think each of the following statements is true or false? 'Recycling paper, cardboard and glass saves on materials but doesn't help with saving water, energy and fuel'.

Response options: True, False, Don't know.

Respondents' general recycling knowledge was tested by presenting them with eight True/False statements about various waste and recycling scenarios.

With regard to saving resources, by correctly identifying the statement to be false, 4 in 10 (41%) believed (correctly) that recycling helps with saving water, energy and fuel (Fig. 8). The flip side of this is, however, that 6 in 10 do not believe it, i.e. the majority do not know that recycling can help save water, energy and fuel.

Again, this serves to highlight the apparent disconnect between respondents' perceived high level of knowledge versus their actual knowledge. For example, although 96% agreed that they understood the benefits of recycling only 41% were aware that recycling helps with saving water, energy and fuel.

Significant differences across subgroups

Those who were significantly more likely to state the correct answer were non-CALD audiences (52% vs 45% CALD), younger respondents (16-49 years 46%/47%), those from a large country town (48% vs 24% small country town) and those from family households (42% vs. 33% lone households). Conversely, general knowledge was significantly lower among older respondents, those living in small country towns and those within single person households.

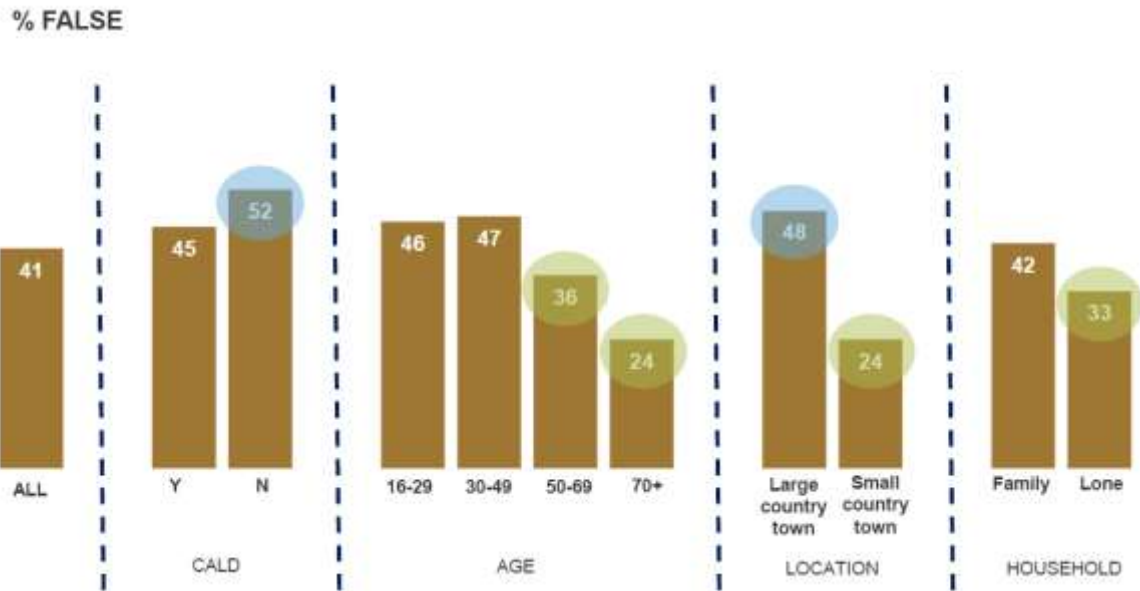


Figure 8. Impact of recycling on saving water, energy and fuel: responses to the statement 'Recycling paper, cardboard and glass saves on materials but doesn't help with saving water, energy and fuel'. Base: All respondents (n = 1200), CALD (n = 229, 971), Age (n = 128, 413, 448, 211), Location (n = 263, 697), Aware of EPA programs (n = 126, 113), Household (n = 979, 221)

Impact of placing incorrect items in the recycling bin

Question

H1(c). Please tell me whether you think each of the following statements is true or false? 'It doesn't matter if I put a few wrong items in my recycling bin as they will be sorted anyway'. Response options: True, False, Don't know

Positively, by attributing the statement as false, the vast majority (80%) believed that it did matter if they put the wrong items in the recycling bin. Again, the flip side of this was that 2 in 10 believed that it doesn't matter if they mix non-recyclables with recyclables.

Significant differences across subgroups

The aforementioned 2 in 10 (i.e. those who were least likely to recognise the statement to be false and were therefore less informed) were from lone households (69% vs 81% other households), aged 70+ years (70% vs 81% averaging across other age groups), living in apartments (71% vs houses 84%) and without access to a car (55% vs 82% with a car) (Fig. 9).

Those falling into segment 5 (Hard-to-reach) were significantly less likely to recognise the statement to be false (54% vs 75%–86% for other segments).

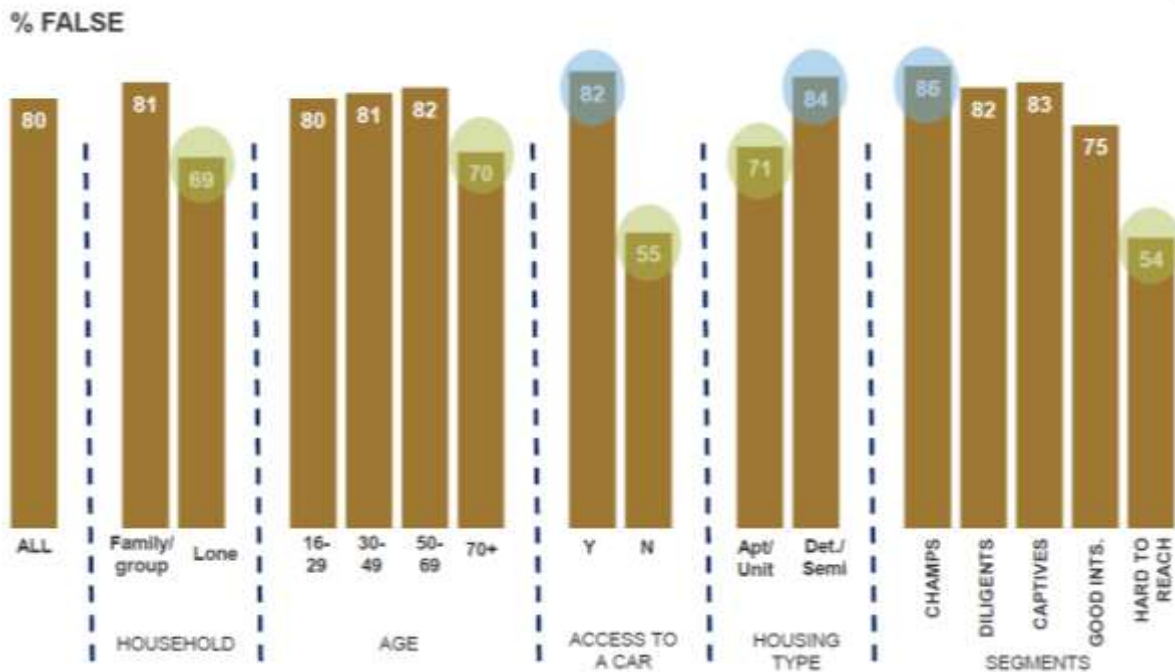


Figure 9. Impact of placing wrong items in the recycling bin: responses to the statement 'It doesn't matter if I put a few wrong items in my recycling bin as they will be sorted anyway'. Base: All respondents (n =1200), Household (n = 979, 221), Age (n = 128, 413, 448, 211), Access to car (n = 1,105, 83), Housing type (n = 183, 991), Segment (n = 311, 470, 204, 114, 95)

The remaining True/False questions related to specific waste types; the responses are therefore analysed within the relevant sections.

Detailed findings: attitudes towards recycling

Perceived importance of recycling common household waste

Question

D4a. How important is recycling your common household waste (e.g. Packaging, newspaper, glass to you)?

Response options: Very important, Fairly important, Not very important Not at all important, Don't know.

Question

D4b. Why is it important / not important?

Response option: (Open-ended)

Respondents were asked to rate the perceived importance of recycling their common household waste. Attitudinally, responses were positive, with over 9 in 10 respondents rating household recycling as important (62% saw it as very important and 31% as fairly important). Only 4% believed that it was not important to recycle common household waste.

Significant differences across subgroups

Females, families, home-owners, those living in houses, those with higher education and those with car access were all significantly more likely to rate recycling common household waste as important.

Those falling into segments 1 and 2 (Champions and Diligents) were most likely to rate it as important, whereas segment 5 (Hard-to-reach) were least likely to think recycling was important (Fig. 10). The reasons provided for low or no importance included the perception that recycling was inconvenient, was too hard to do, or was not a current priority. Typical responses supporting Not important were:

- 'I haven't got a way of easily recycling them, as I have no recycling and general waste bin.'
- 'I hadn't really thought about it before now.'
- 'The council didn't provide me with a bin, just a container, and it's too far for me to carry it to where they pick it up from. If it had wheels I'd do it.'

Typical responses supporting Important were:

- '[It is] the right thing to do. [I am] teaching children what to do, so I have to make sure I do the right things so they can learn.'
- 'It's important to recycle things and re-use them. I don't want things going to landfill if they don't need to.'

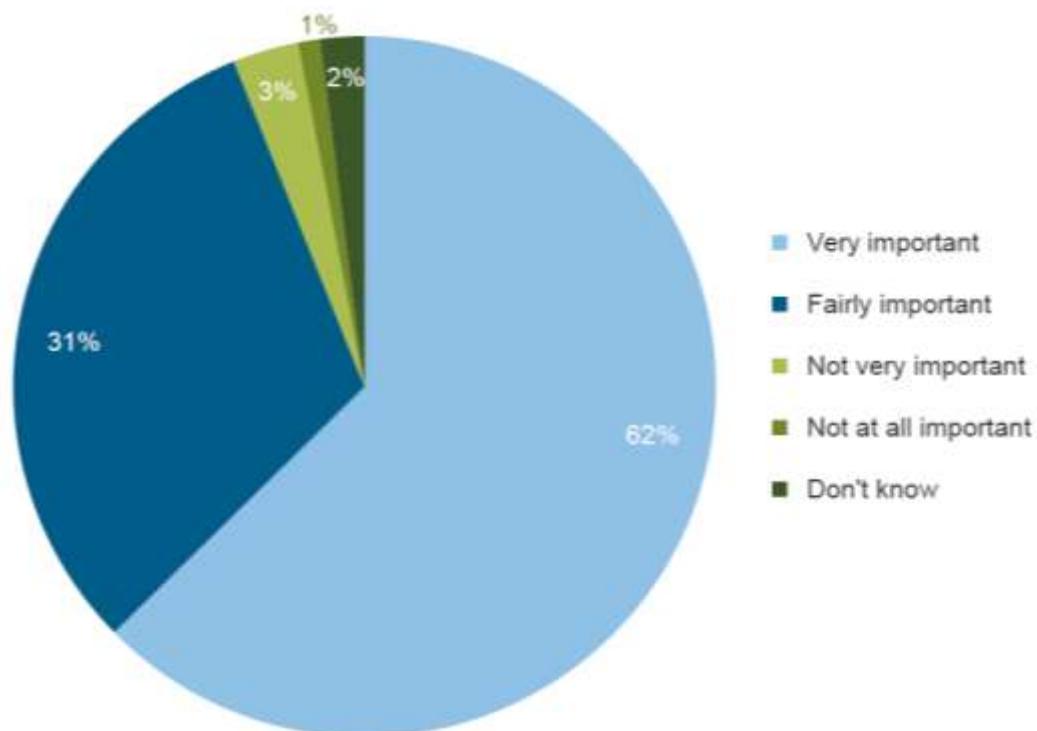


Figure 10. Perceived importance of recycling common household waste; responses to the statement 'How important is recycling your common household waste (e.g. Packaging, newspaper, glass etc. to you)?' Base: All respondents (n = 1200)

Effort to dispose of items correctly

Question

H2 (4). To what extent do you agree or disagree with the following statement? 'It is too much effort to dispose of things properly'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

The findings regarding the perceived importance of recycling common household items were reaffirmed, with high levels of disagreement with the statement that 'recycling correctly is too

much of an effort' (78% disagreed) (Fig. 11). Only 1 in 7 respondents believed it was too much effort to dispose of things properly, as indicated by 20% agreeing with this statement.

Significant differences across subgroups

Renters and those from the youngest age bracket were much more likely to agree that 'recycling correctly is too much of an effort'. In line with this, segment 4 (Good intentions, 21% agreeing strongly) and segment 5 (Hard-to-reach, 40% agreeing strongly) were most likely to consider recycling a burden, as did those living in rural locations (86% vs 67% in small country towns, 77% in large country towns, and 79% in metropolitan areas, i.e. Sydney, Newcastle and Wollongong).

Conversely, relative to segment 3 (Captives), segment 4 (Good intentions) and segment 5 (Hard-to-reach), segment 1 (Champions) were significantly more likely to disagree strongly that disposing of things correctly was a burden.

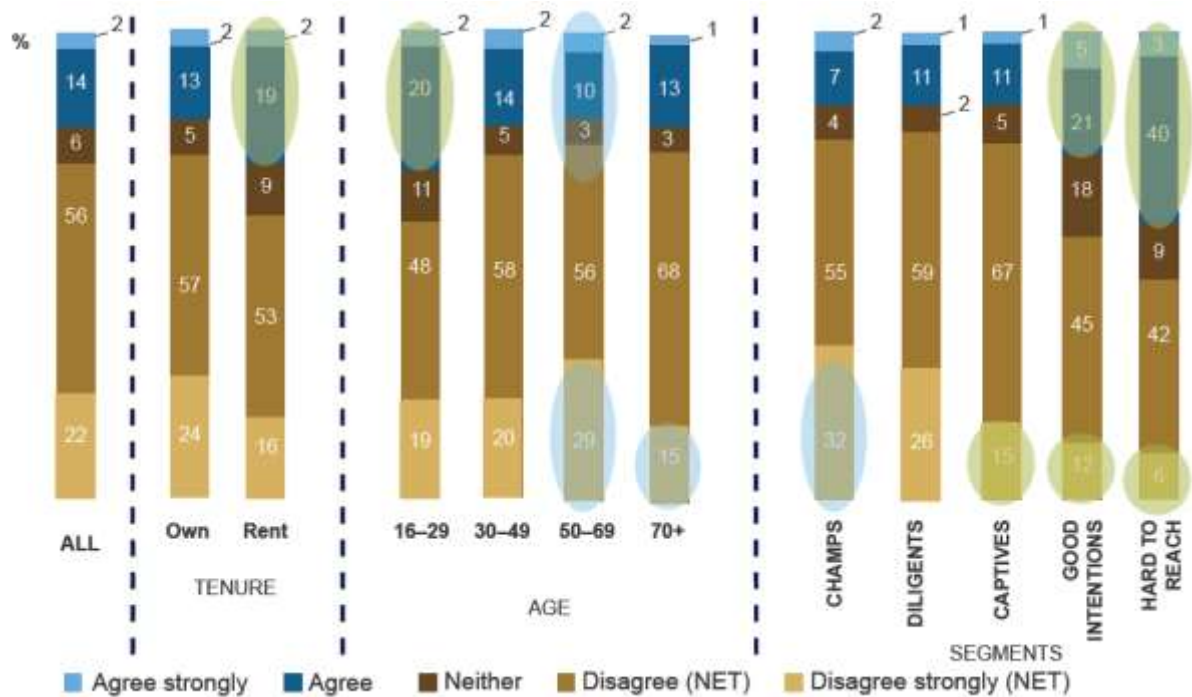


Figure 11. Efforts to dispose of items correctly: responses to the statement 'It is too much effort to dispose of things properly'. Base: All respondents (n = 1200), Gender (n = 496, 704), Age (n = 128, 413, 448, 211), Segment (n = 311, 470, 204, 114, 95)

Environmental responsibility

Question

H2 (7). To what extent do you agree or disagree with the following statement? 'Recycling makes me feel like I am doing my part to help the environment'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

Nine in 10 respondents agreed that recycling made them feel that they were doing their part to help the environment (32% strongly agreed; 58% agreed).

Significant differences across subgroups

Agreement was driven by females (strongly agree: 35% vs 28% for males), those aged 50–60 years (40% vs. 27%–29% across other age groups), those aware of the EPA’s programs (37% vs 29%) and the Champions segment (43% vs 13%–25% for segments 3, 4 and 5) (Fig. 12).

Those without a car (19%), aged 16–29 years (28%), or in segments 3 (25%), 4 (23%) and 5 (13%) were less likely to agree strongly (versus a total of 32%).

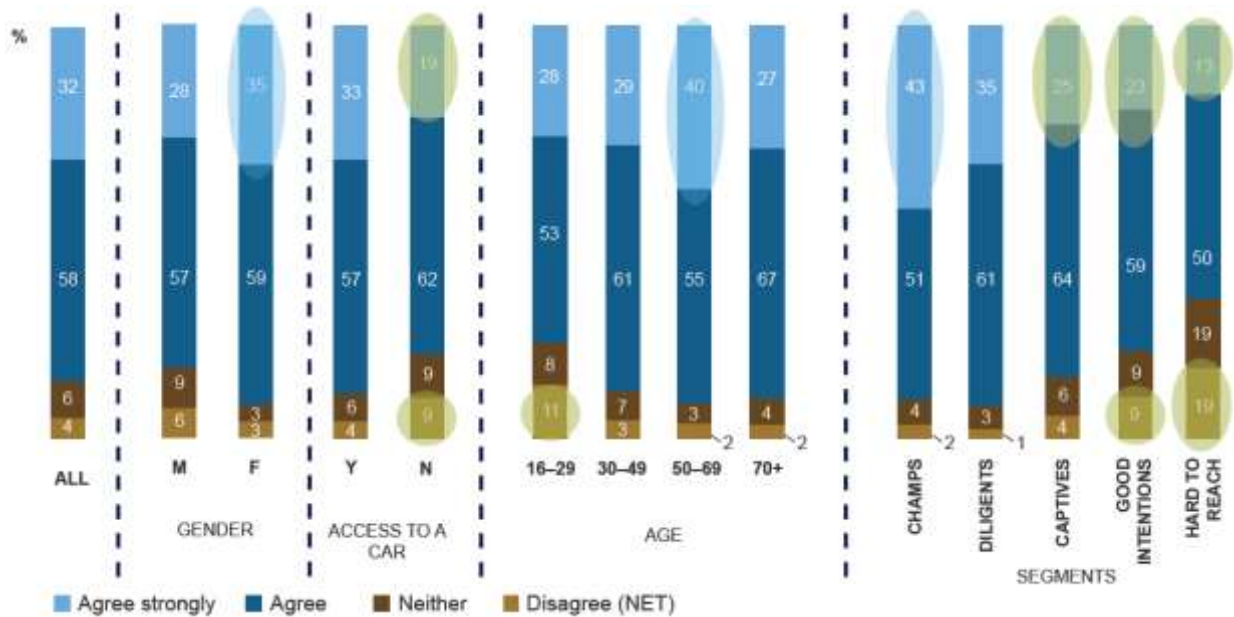


Figure 12. Environmental responsibility: responses to the statement ‘Recycling makes me feel like I’m doing my part to help the environment’. Base: All respondents (n = 1200), Gender (n = 496, 704), Age (n = 128, 413, 448, 211), Segment (n = 311, 470, 204, 114, 95)

Council influence

Question

H2 (8). To what extent do you agree or disagree with the following statement? ‘I recycle because the council tells me to do it’.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

Three in 10 respondents agreed that they recycled only because it was council policy and they were told to comply.

Significant differences across subgroups

Females, older respondents (aged 70+ years) and the Hard-to-reach segment admitted that they were more likely to recycle in response to council instructions (31%, 42% and 39%, respectively) (Fig. 13).

Conversely, those living in rural areas and small country towns were significantly more likely to strongly disagree with the statement (22%/21% vs 11% in metro areas and 12% in large country towns).

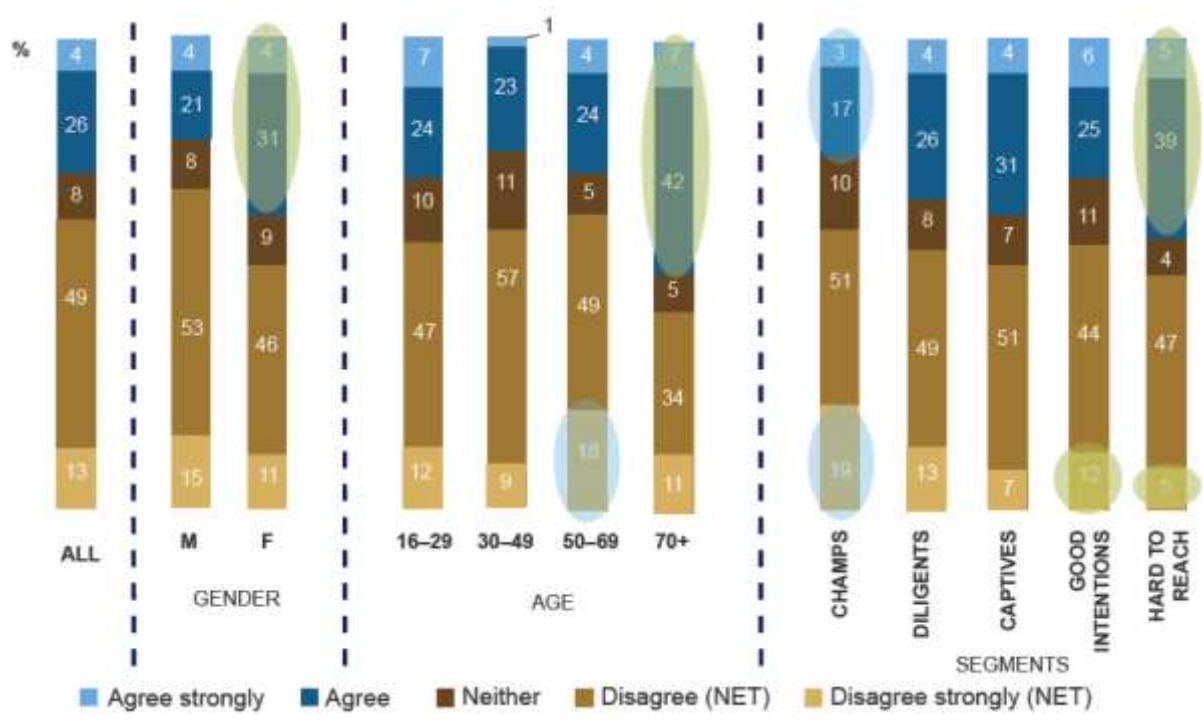


Figure 13. Council influence: responses to the statement: 'I recycle because the council tells me to do it'. Base: All respondents (n = 1200), Gender (n = 496, 704), Age (n =128, 413, 448, 211), Segment (n = 311, 470, 204, 114, 95)

Detailed findings: Recycling behaviours

Likelihood of recycling with or without additional effort

Question

D3. Which of the following statements about recycling common household waste (e.g. packaging, newspaper and glass) best describes you?

Response options: I recycle even if it requires additional effort, I only recycle if it does not require additional effort, I do not recycle, Don't know.

Although the vast majority (97%) stated that they recycled common household waste (e.g. packaging, newspaper and glass) 1 in 5 (18%) admitted that they recycled only if it could be done without any additional effort (Fig. 14).

Significant differences across subgroups

Females were significantly more likely to recycle common household waste regardless of any additional effort. Conversely, single and group households, CALD respondents and those aged 16–29 years were all significantly less likely to recycle if it required additional effort.

Home ownership and property type also affected recycling behaviour, with home-owners more likely to recycle even though it may mean additional effort (81% home-owners vs 71% renters recycle with effort). Those living in detached houses or semi-detached dwellings were also more likely to recycle even with effort (79% and 88% respectively vs. 66% for apartments.)

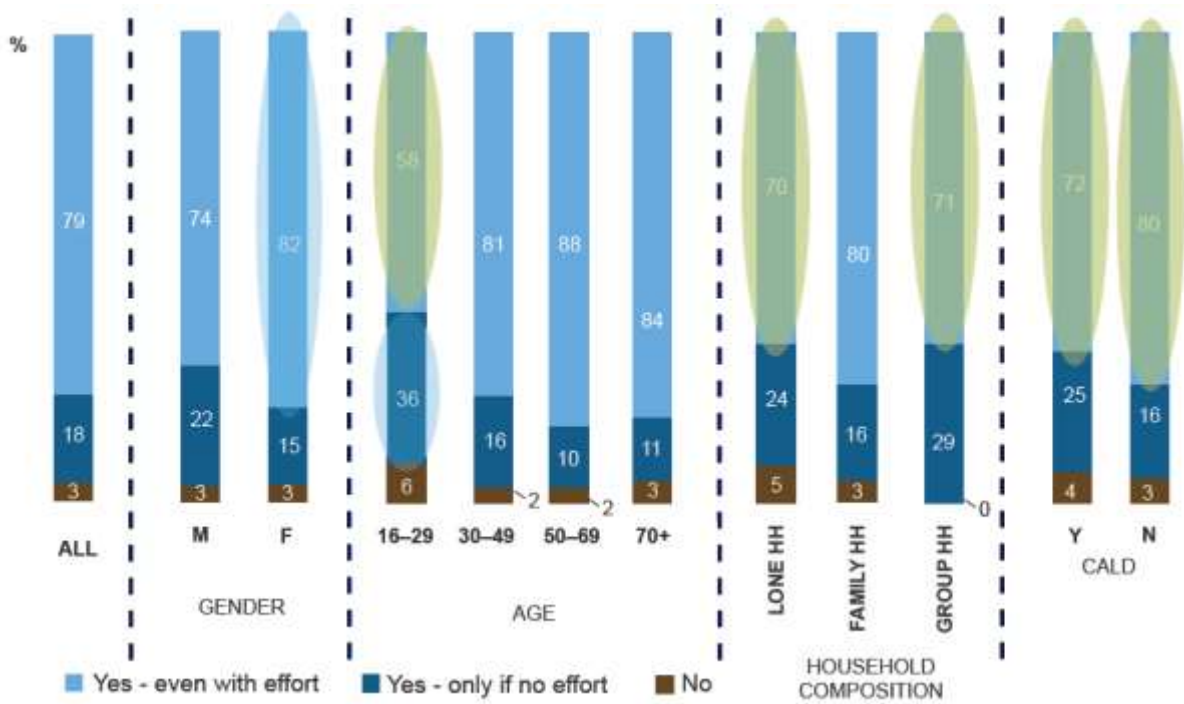


Figure 14. Likelihood of recycling with or without effort: responses to the statements 'I recycle even if it requires additional effort, I only recycle if it does not require additional effort, I do not recycle, Don't know'. Base: All respondents (n = 1200)

2.4 Organics: knowledge, attitudes, behaviours

Respondents were exposed to a mix of questions exploring their experiences of food and garden waste.

Section snapshot

Knowledge

Food waste: A quarter of all respondents (24%) did not know that food waste is the largest waste component in the average NSW red-lidded garbage bin.

Garden waste: Most (91%) agreed that the use of compost in gardening, landscaping and agriculture can improve the structure, fertility and health of soil.

Attitudes

Food waste: Seven in 10 (72%) were concerned by the amount of food they throw away. One in four (40%) agreed that a busy lifestyle makes it hard to avoid wasting food.

Food and garden waste: Nine in ten (88%) agreed that having an on-site food waste and/or garden waste recycling bin would be good.

Behaviour

Food waste: Over 1 in 10 (12%) admitted throwing away more food than they should; 2 in 10 (19%) stated that they threw away only a reasonable amount.

Garden waste: In the past year, 43% had composted garden waste or used a worm farm, 25% had taken garden waste to a recycling centre or tip, and 13% had used a commercial garden service that removed garden waste. Only 2 in 10 (22%) admitted to placing garden waste in a red-lidded garbage bin. The primary reasons cited for doing so included the lack of available facilities or collection services (43%) and the small amount of garden waste being disposed of (24%). The main person responsible for disposing of garden waste was the male of the household.

Detailed findings: knowledge and beliefs around food waste

Belief that composting can improve soil quality

Question

H1(e). Please tell me whether you think each of the following statements is true or false? 'The use of compost in gardening, landscaping and agriculture can improve the structure, fertility and health of our soils'.

Response options: True, False, Don't know.

The vast majority (91%) understood that composting could improve the structure, fertility and health of soils.

Significant differences across subgroups

This understanding was highest among family and group households (92% vs 84%), those aged 50–59 years (95% vs 87% for those aged 16–29 years and 70+ years) and those with access to a car (92% vs 84%) (Fig. 15).

Those living in metropolitan areas were also more likely to know that the statement was true (93% vs 85/86% for those in large or small country towns). They were also more likely to live in detached properties (93% vs 89% in apartments and 85% in unit block).

Champions, together with Diligents, were most likely to know that the statement was true (95% and 94%, respectively) whereas those belonging to the Hard-to-Reach segment were least likely to respond correctly, with only 74% believing the statement was true.

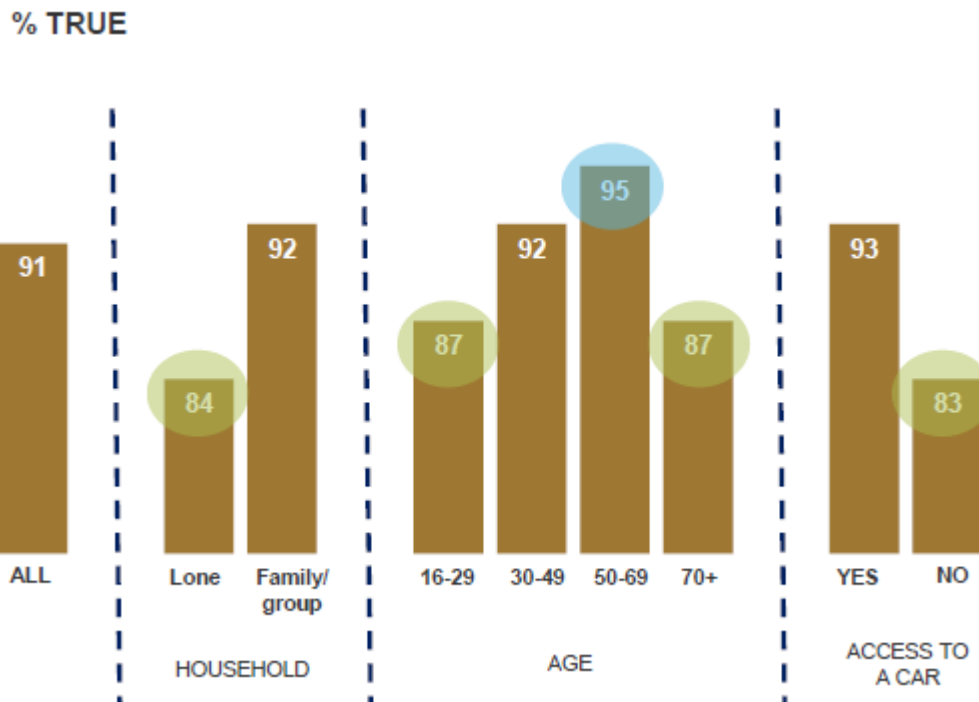


Figure 15. Relationship between composting and soil quality: responses to the statement 'The use of compost in gardening, landscaping and agriculture can improve the structure, fertility and health of our soils'. Base: All respondents (n = 1200), Household (n = 979, 221), Age (n = 128, 413, 448, 211)

Food waste knowledge

Question

H1 (d). Please tell me whether you think each of the following statements is true or false? Food waste is the largest type of waste in the average NSW household bin'.

Response options: True, False, Don't know.

Two-thirds of all respondents believed that food waste was the largest type of waste in the average NSW household bin, with 64% stating the statement to be true. However, 24% answered False and 12% answered Don't know (Fig. 16).

Significant differences across subgroups

Females (70% vs 57% of males) and young adults (69% vs 57% of those 50–69 years old and 59% of those 70+ years old) were most likely to believe food waste was the largest type of waste in the average NSW household bin.

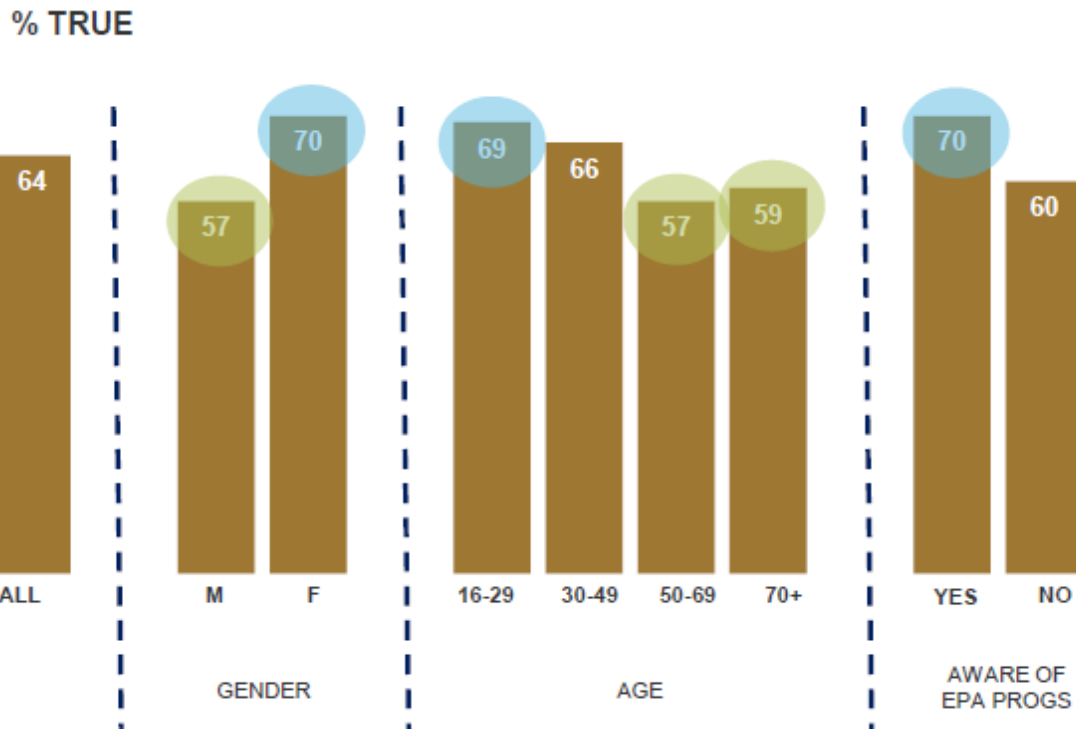


Figure 16. Knowledge about the quantity of food waste: responses to the statement 'Food waste is the largest type of waste in the average NSW household bin'. Base: All respondents (n = 1200), Gender (n = 496, 704), Age (n = 128, 413, 448, 211), Aware of EPA programs (n = 429, 771)

Detailed findings: attitudes towards food waste

Quantity of food thrown away and level of concern

Question

E1. How much uneaten food would you say that your household usually throws away?

Response options: Much more than you should, More than you should, A reasonable amount, Very little, None.

Question

E2. How concerned are you about the amount of food that gets thrown away before being eaten in your household?

Response options: A great deal, A fair amount, A little, Not at all.

Just over 1 in 10 (12%) admitted throwing away more food than they should (Fig. 17), and 4 in 10 (39%) were concerned a great deal or a fair amount by the amount they threw away (Fig. 18). However, 65% of those who admitted throwing away more than they should said that they were concerned a great deal or a fair amount, followed by another fifth being 'a little concerned' (22%). Another third of the total was 'a little' concerned about the amount of food being thrown out (33%). Positively, the majority stated that they threw away 'very little' (60%) or no (9%) food; the level of concern was correlated with the amount of food being thrown out (the less food households threw out, the less they were concerned about the amount of food that gets thrown away).

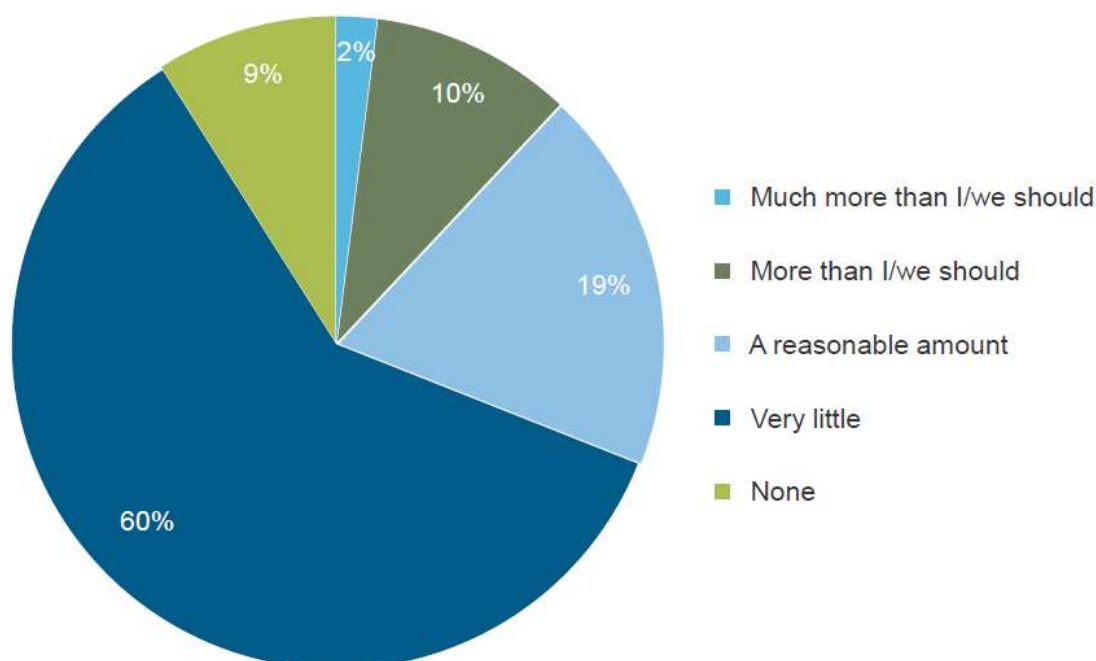


Figure 17. Quantity of food thrown away: responses to the question ‘How much uneaten food would you say that your household usually throws away?’ Base: All respondents (n = 1200)

Significant differences across subgroups (amount of food thrown out)

The following groups were significantly more likely to throw out more food than they should:

- younger people (16% vs 3% of 70+ year-olds)
- those living in country towns (17% vs 9% in metropolitan areas and 9% rural), families (11% vs 5% in lone households and 7% in group households)
- those on high incomes \$100k+ (14% vs 6% on the lowest incomes, i.e. <\$60k)
- those who were not aware of EPA programs (12% vs 7%)
- those falling into segment 4 (Good intentions, 19%) and segment 5 (Hard-to-reach, 16%) compared with segments 1 and 2 (8% and 9%, respectively).

In contrast, those aged 70+ years (73%) and those falling into segments 1 and 2 (between 60% and 65%) and segments 4 and 5 (48% and 49% respectively) were significantly more likely to throw out very little food.

Significant differences across subgroups (level of concern)

Those aged 70+ years (28% vs 20% of all respondents), from segment 1 and 2 (Champions, 30% and Diligents, 21% vs segment 5, 3%) and CALD respondents (26% vs 18% non-CALD) were significantly more likely to express ‘a great deal’ of concern compared with those aged 16–29 years (34% compared with 28% of all respondents), those in segment 5 (Hard-to-reach, 46%) and non-CALD respondents (30% vs 21% CALD).

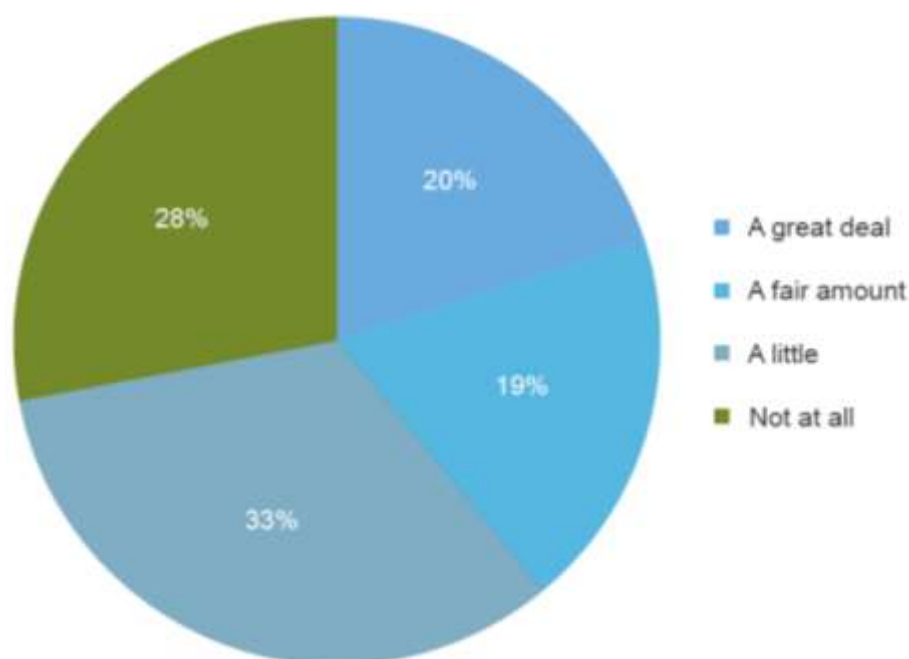


Figure 18. Levels of concern about the amount of food thrown away: responses to the question 'How concerned are you about the amount of food that gets thrown away before being eaten in your household?' Base: All respondents (n = 1200)

Organics recycling bin is a good idea

Question

H2 (11). To what extent do you agree or disagree with the following statement? 'A recycling bin for food and garden waste is a good idea'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly

Overall, 9 in 10 agreed that a recycling bin for organic waste (i.e. food and garden waste) was a good idea (88%) and just under one-third (31%) strongly agreed that was is a good idea (Fig. 19). Interestingly, those that admitted to use the red-lidded bin for garden waste were more likely to agree (35% vs 31% for total) as well as disagree (10% vs 6% for total) with the statement that a recycling bin would be a good idea. Among those who agreed, there were no significant differences or correlations between those who had been provided with a garden bin and those that didn't home compost.

Significant differences across subgroups

The highest levels of agreement with this statement were found among those aged 50–69 years (35% strongly agreed) and in segment 1 (Champions, 40% strongly agreed).

Low levels of agreement were seen in males (9% disagreed), the youngest (12% disagreed) and the most disengaged segment (Hard-to-reach, 15% disagreed).

There were no significant differences observed by home ownership (home-owners vs renters) or dwelling type (detached vs apartment vs semi-detached vs unit blocks), indicating that all were equally in favour of the suggestion of a recycling bin for food and/or garden waste.

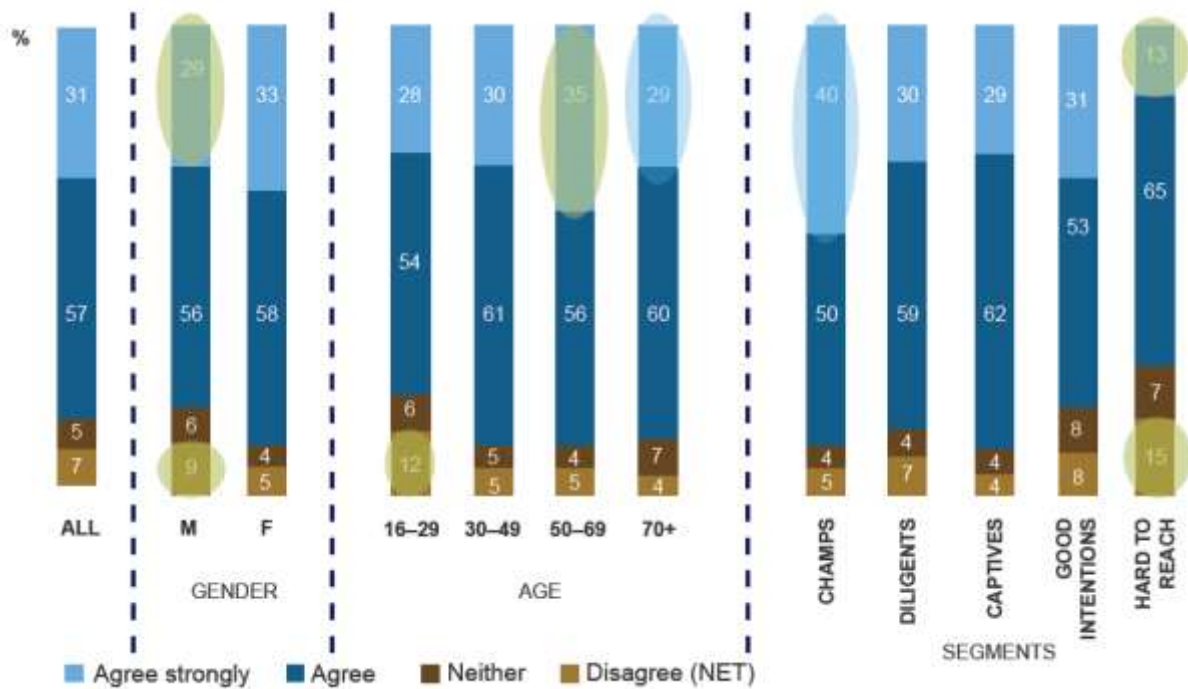


Figure 19. Organics recycling bin: responses to the statement 'A recycling bin for food and garden waste is a good idea'. Base: All respondents (n = 1200), Gender (n =496, 704), Age (n =128, 413, 448, 211), Segment (n =311, 470, 204, 114, 95)

Detailed findings: food and garden waste behaviours

Question

E7a. Have you or someone else in your household done any of the following in the past 12 months?

Actions: Composted food waste or used a worm farm, used a kerbside food-waste collection service, fed food waste to animals (e.g. chickens/ dogs), composted garden waste or used a worm farm, used a kerbside garden-waste collection service (green bin, chipping or pick-up) provided by council, taken garden waste to a recycling centre or tip, used a commercial garden service that removes garden waste, placed garden waste in the garbage bin?

Response options: Yes, No, Don't know (for each line)

Question

E9b. Who are the main people in your household responsible for disposing of and/or recycling your garden waste?

Response options: Myself, husband/wife/partner, grandparent/s, parent (mother/father), sibling (brother/sister), child (son/daughter), flatmate/housemate, other

Question

E9c. Why did you place your garden waste in the garbage bin?

Response option: (Open)

Food and garden waste recycling behaviours

Respondents were asked how they had recycled food and/or garden waste in the past 12 months.

For those disposing of food waste, almost half (49%) had fed items to animals (such as chickens and dogs); 43% had composted or used a worm farm; and 18% had used a kerbside food-waste collection service (Fig. 20).

For garden waste, many (59%) had utilised a council garden waste collection service, followed by composting (43%). More than one-fifth (22%) had, however, placed garden waste in the red-lidded garbage bin.

The person responsible for garden waste disposal was generally the male of the household.



Figure 20. Food and garden waste recycling behaviours: responses to the question ‘Have you or someone else in your household done any of the following in the past 12 months?’ Base: All respondents (n = 1200)

When probed as to why they had disposed of garden waste in the garbage bin, 43% cited that no green-lidded garden bin collection services were provided by the council in their area, and one-fifth (20%) mentioned that the red-lidded garbage bin had simply been the most convenient option (Fig. 21). The latter option was more likely to be cited by CALD (35% vs 14%) and those who had undertaken renovations in the past 2 years (30% vs 14% not). ‘Other’ mentions (of 26%) comprised a wide mix of responses. These included ‘it was only a small amount of garden waste; therefore it’s OK to place it in the red-lidded garbage bin’; bin capacity (‘my other bin was full at the time’), or the claim that someone else had placed it in the red-lidded garbage bin (‘not me, the gardener’). Perceived cost was also a reason why garden waste had been placed into the red-lidded garbage bin (‘it costs me money to take it all to the dump’).

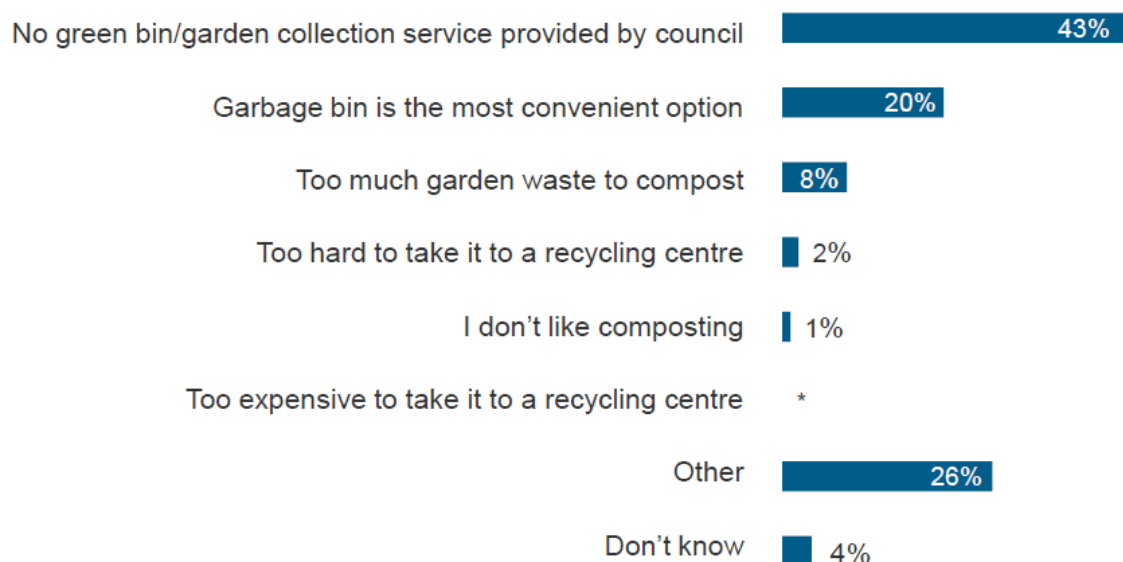


Figure 21. Reasons for disposing of garden waste in the garbage bin: responses to the question 'Why did you place your garden waste in the garbage bin?' Base: All respondents who place garden waste in the red-lidded garbage bin (n = 255)

Significant differences across subgroups

Among respondents, 22% (264 people) had placed garden waste into the red-lidded garbage bin in the last year. Those placing garden waste into the red-lidded garbage bin were more likely to live in group households. There were no other significant differences between subgroups. Those who use compost bins were significantly more likely to agree that the use of compost could improve soil health (96% vs 91% for the total).

Those who used compost bins were significantly more likely to agree that the use of compost can improve soil health (96% vs 91% for the total).

Food shopping and meal planning behaviours

Questions

E3. Before you or a member of the household does your main food shopping, how regularly do you or they do the following?

Response options: Never, Rarely, Sometimes, Most times, Always

E4. How regularly do you or a member of your household do the following when doing the grocery shopping?

Response options: Never, Rarely, Sometimes, Most times, Always

E5. How regularly do you or a member of your household do the following when preparing a main meal?

Response options: Never, Rarely, Sometimes, Most times, Always

On the basis of a range of specific questions regarding food shopping and preparation (adopted from previous waves of the *Love Food Hate Waste* surveys), it was apparent that many did try to prepare for shopping:

- 81% (sum of always and most times) checked what food was already in the house (Fig. 22)
- 63% (sum of always + most times) planned their meals
- 63% (sum of always + most times) wrote out a shopping list.

Once in the process of shopping, a range of behaviours were adopted:

- 71% (sum of always + most times) checked the use-by dates on products
- 45% (sum of always + most times) managed to stick to their planned budget
- 40% (sum of always + most times) bought specials
- 15% (sum of always + most times) bought in bulk.

In terms of subsequent food preparation:

- 66% (sum of always + most times) prepared only what was required
- 43% (sum of always + most times) made extra for their next meal
- 22% (sum of always + most times) made extra just in case.

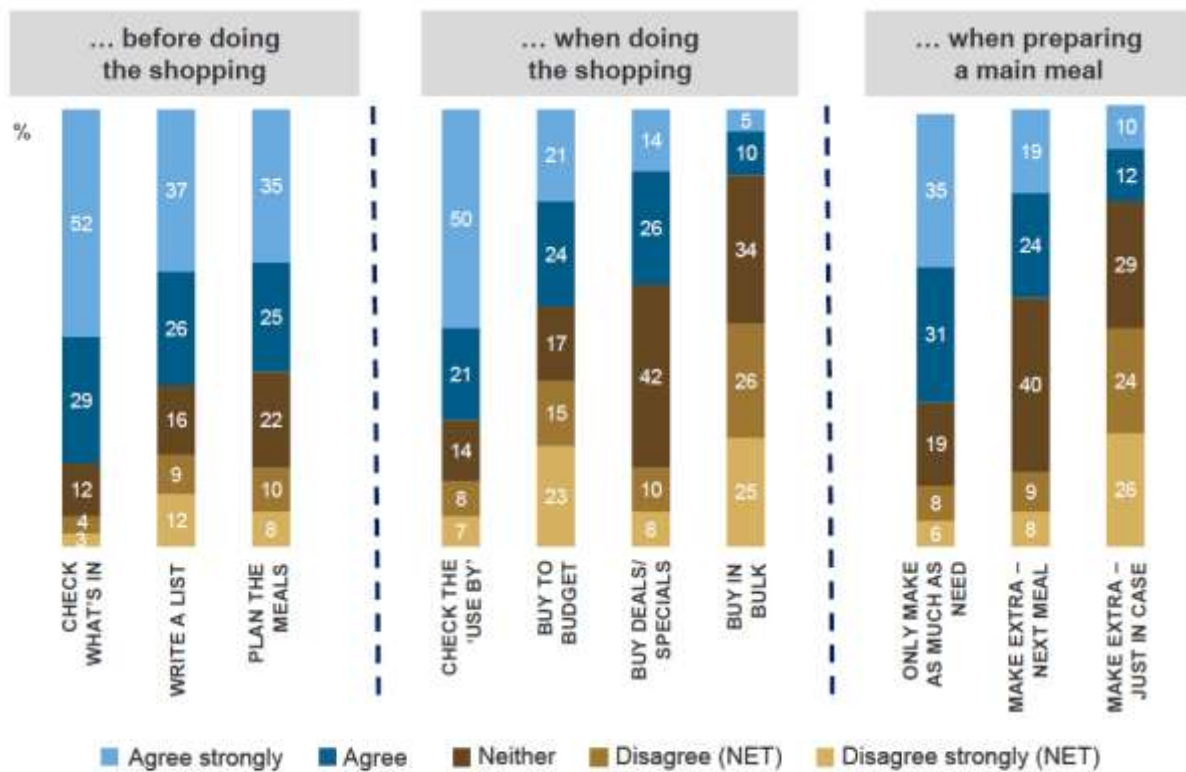


Figure 22. Food shopping and meal planning behaviours. Base: All respondents (n = 1200)

2.5 Problem waste: knowledge, attitudes and behaviours

Section snapshot

Knowledge

Nearly all respondents (94%) agreed that some waste items are harmful to the environment and need special disposal. Just over half of the respondents (54%) believed that problem waste (e.g. paint, gas bottles and florescent globes and tubes) can be recycled if disposed of correctly.

Attitudes

Eight in 10 respondents (81%) agreed that they would travel to dispose of an item correctly, with 2 in 10 (22%) agreeing strongly. Over a third (36%) did not find it convenient to dispose of less common waste correctly (e.g. gas bottles, batteries, and fluorescent globes and tubes). Most cited distance as the reason for this or lack of council services.

Behaviour

Problem waste, including paint, gas bottles and oils, is not something everyone encounters. Only one-third (37%) had disposed of less common waste (e.g. gas bottles, batteries) in the last year, and only 1 in 20 (7%) had disposed of chemical waste (e.g. household chemicals and garden chemicals). Most people disposed of it themselves, albeit incorrectly by putting it in the red-lidded garbage bin.

Attitudes are positive, yet there are discrepancies between knowledge and behaviour. Although most respondents acknowledge that some common household items require special disposal, and more than half know that problem waste can be recycled (indicating correct knowledge), this is not being followed up with the correct behaviour: problem waste items are still being disposed of in the red-lidded garbage bin.

Detailed findings: knowledge and beliefs around problem waste

Recycling of problem waste

Question

H1 (F) Please tell me whether you think each of the following statements is true or false? 'If disposed of correctly, gas bottles, fluoro globes and tubes and paint tins can be recycled'.

Response options: True, False, Don't know.

Although just over half of respondents were aware that problem waste can be recycled (as illustrated by the 54% who selected True in response to an associated statement) (Fig. 23), almost the same percentage were not aware of this fact or were unsure (False 25%, Don't know 21%).

Significant differences across subgroups

Males, those who had undertaken renovations in the past two years, and those who were aware of the EPA's programs were significantly more likely to (correctly) believe the statement to be true, whereas females and those aged 70+ years and those in segment 5 (Hard-to-reach) were least likely to know that gas bottles, compact fluorescent lamps and paint tins can be recycled.

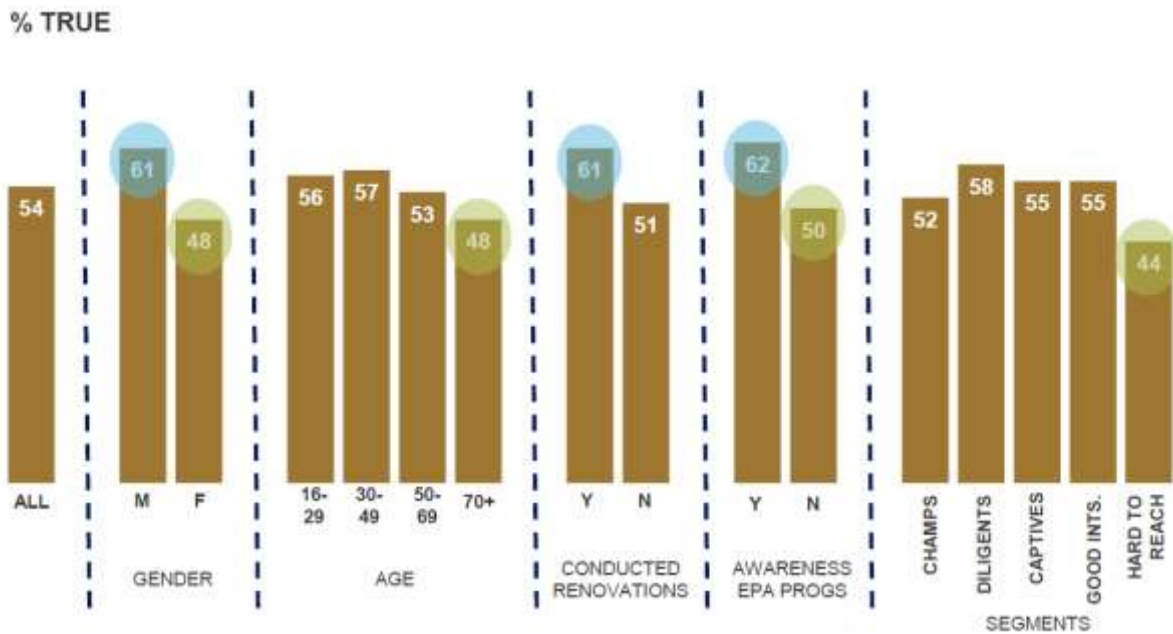


Figure 23. Belief that problem waste can be recycled: responses to the statement ‘If disposed of correctly, gas bottles, fluoro globes and tubes and paint tins can be recycled’. Base: All respondents (n= 1200), Men vs Women (n = 496, 704), Age (n =128, 413, 448, 211), Have undertaken renovations in past 2 years (n =263, 697), Aware of EPA programs (n =429, 771), Segment (n =311, 470, 204, 114, 95)

Materials requiring special disposal

Question

H2 (L). To what extent do you agree or disagree with the following statement? ‘Some common household items can be harmful to the environment and require special disposal’.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

The vast majority agreed that some items require special disposal (94%), with one-third agreeing strongly (34%) (Fig. 24). There were no significant differences between those that answered True at question H1F and agreed (strongly agreed and agreed) at H2L (Please tell me whether you think each of the following statements are true or false: ‘If disposed of correctly, gas bottles, fluoro globes and tubes and paint tins can be recycled.’)

Significant differences across subgroups

Those who had attended university, aged 16–29 or 50–69 years, or were in the Champions segment were significantly more likely to strongly agree with the statement that some items require special disposal.

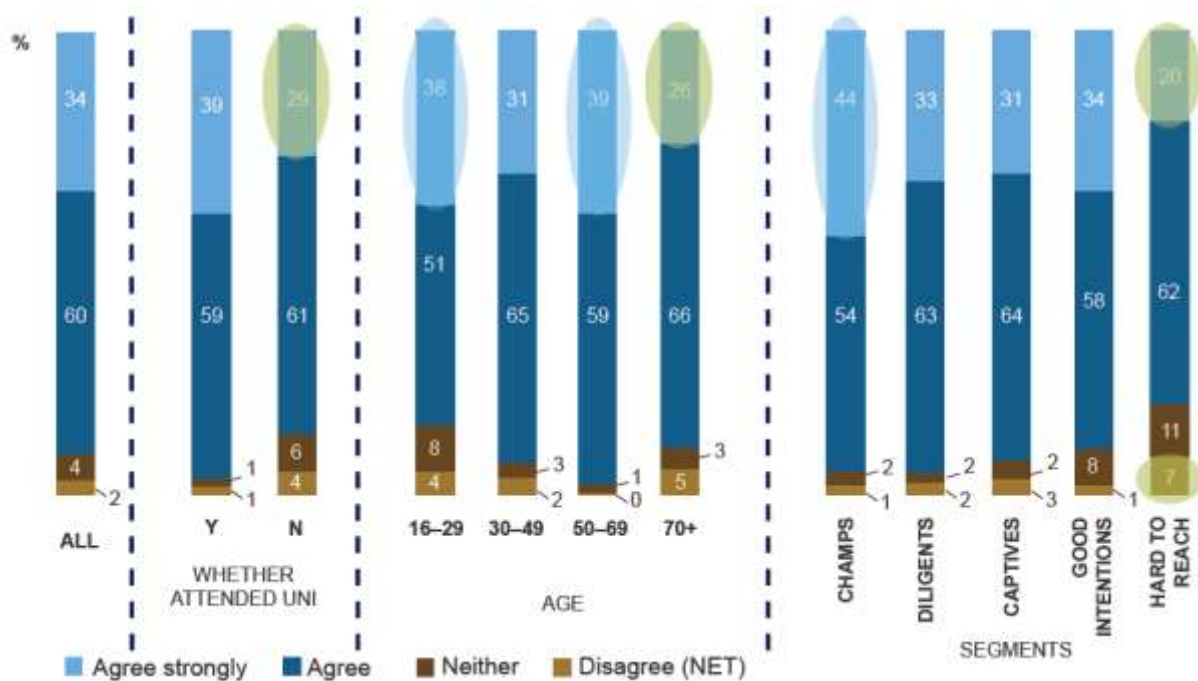


Figure 24. Agreement that some common household items require special disposal: responses to the statement ‘Some common household items can be harmful to the environment and require special disposal’. Base: All respondents (n = 1200), If attended university (n =613, 183), Age (n =128, 413, 448, 211), Segment (n =311, 470, 204, 114, 95)

Detailed findings: attitudes towards problem waste

Preparedness to travel to dispose of problem waste

Question

H2 (N). To what extent do you agree or disagree with the following statement? ‘I am prepared to travel to a special location to drop off materials that require special treatment so that they can be recycled’.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

Encouragingly, most respondents (81%) were prepared to travel to a special location for special disposals. Two in 10 strongly agreed with the statement (Fig. 25).

Significant differences across subgroups

Not surprisingly, having no access to a car seemed to be a major barrier to agreeing with this statement (35% disagreed). Those respondents with access to a car were much more likely to agree with the statement (23% vs 7% not having a car). Further, by disagreeing with the statement, those aged 16–29 years (18% disagreed) and those in segments 4 (Good intentions, 29% disagreed) and 5 (Hard-to-reach, 32% disagreed) were also least likely to be prepared to travel for special disposals.

In contrast, those aged 50–69 years (27%) were significantly more likely to agree with the statement. In addition, those who had undertaken renovations in the past 2 years (Strongly agree, 31% vs 21%) were also more likely to agree.

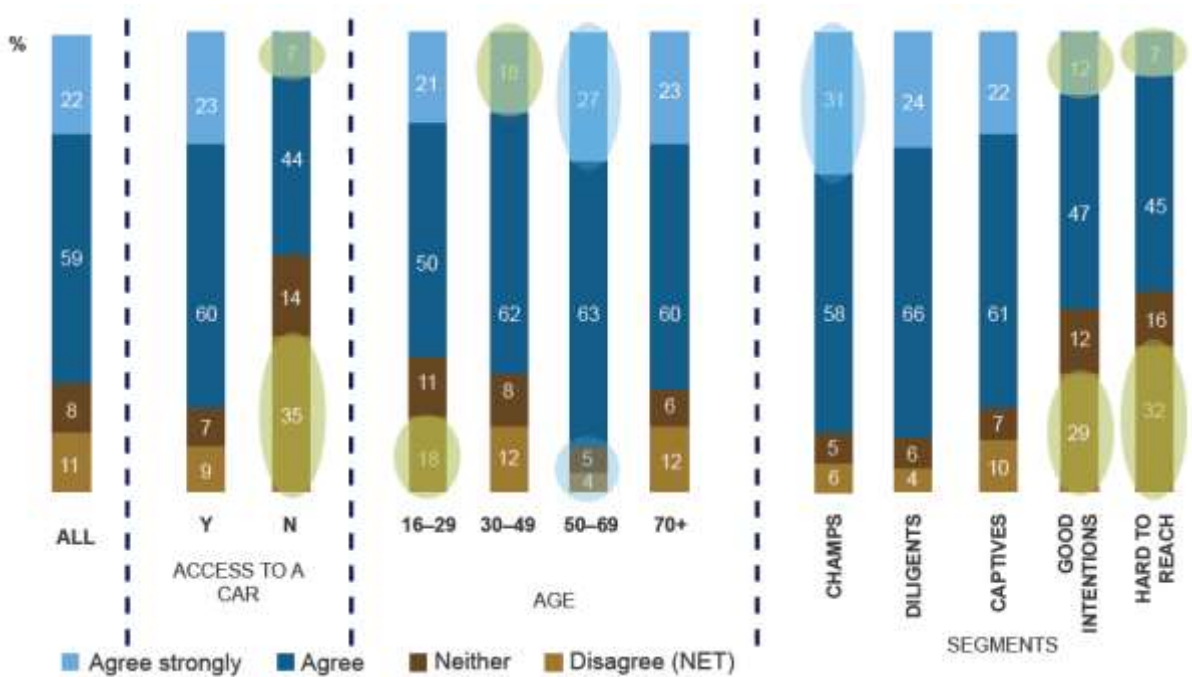


Figure 25. Preparedness to travel to dispose of certain materials: responses to the statement ‘I am prepared to travel to a special location to drop off materials that require special treatment so that they can be recycled’. Base: All respondents (n = 1200), Car vs no car (n =1105, 83), Age (n =128, 413, 448, 211), Segment (n =311, 470, 204, 114, 95)

Level of convenience in disposing of problem waste

Question

F3a. How convenient is it for you to dispose of less common household waste correctly (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors)?

Response options: Very convenient, Fairly convenient, Not very convenient, Not at all convenient, Don’t know.

Although more than half of all respondents (53%) found it convenient to dispose of less common waste, a third did not (36%), and 1 in 10 respondents responded with ‘Don’t know’ (Fig. 26).

Significant differences across subgroups

Those who found the disposal of less common household waste convenient were more likely to be homeowners (55% vs 45% renters) and from segments 2 (Diligents) and 3 (Captives), at 56% and 60%, respectively.

Those finding it not at all convenient were significantly more likely to live in regional areas (16% vs 10% metropolitan) and to be from segments 4 (Good intentions 21%), 5 (Hard-to-Reach 19%), and 1 (Champions 13%). This final point reinforces earlier findings that Champions are likely to recycle and/or dispose of problem waste even if it requires effort, not just because it’s convenient.

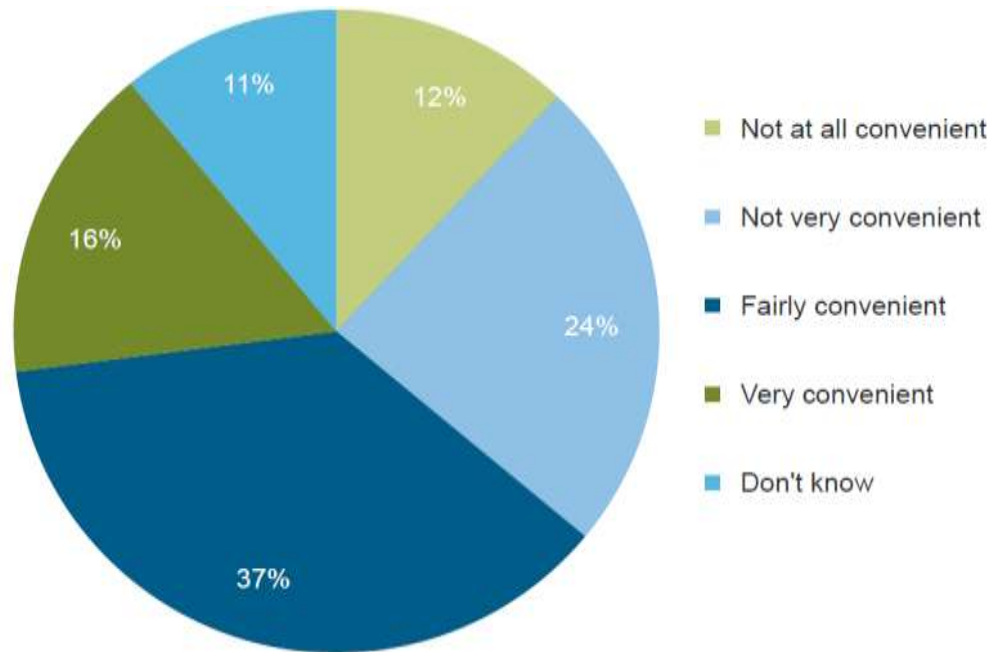


Figure 26. Levels of convenience of disposing of problem waste: responses to the question 'How convenient is it for you to dispose of less common household waste correctly (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors)?' Base: All respondents (n = 1200), All respondents who say it is not convenient for them (n = 451)

Barriers to disposing of less common household waste correctly

Question

F3b. Why is it not convenient for you to dispose of these items correctly?

Response option: (Open)

Respondents identified that it was inconvenient to dispose of materials because of the distance to the collection point (44%) and infrequent council pick-up (20%), followed by lack of knowledge about where and how to dispose of these types of material (17% and 16%, respectively) (Fig. 27).

(CODED – only responses of 5% or greater shown)

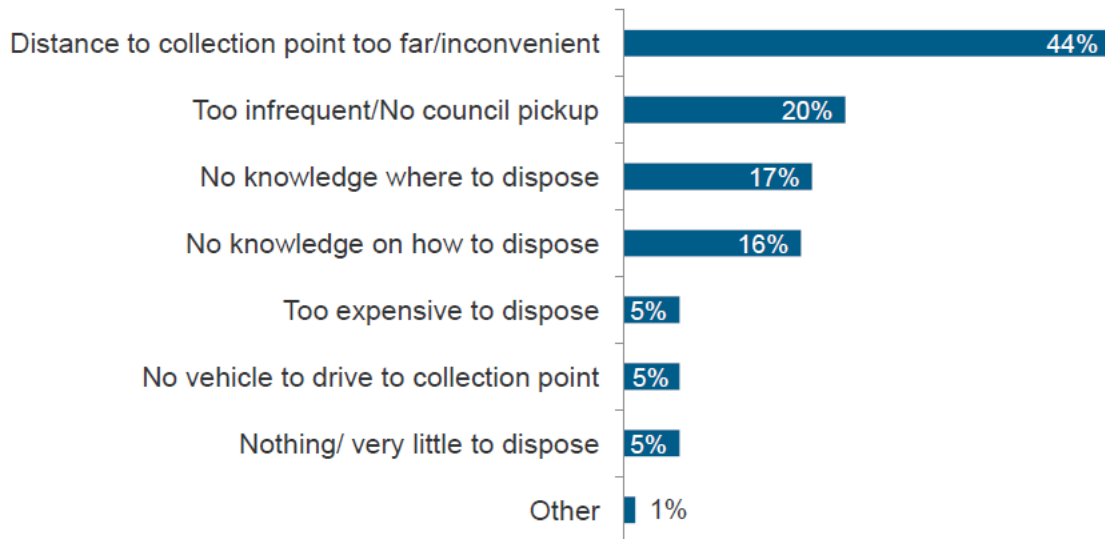


Figure 27. Convenience of disposing of problem waste: responses to the question ‘Why is it not convenient for you to dispose of these items correctly?’ Base: All respondents (n = 1200), All respondents who say it is not convenient for them (n =451)

Detailed findings: problem waste recycling behaviour

Rates of disposal of problem waste

Question

F1. Have you or someone else in the household done any of the following in the last 12 months?

Actions: Disposed of less common household waste (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors), disposed of renovation waste (e.g. paint, plaster, bricks, carpet, asbestos), disposed of household chemical waste (e.g. pool chemicals, herbicides and pesticides)?

Response options: Yes, No, Don't know

Respondents were asked about their disposal behaviour for various types of waste in the last 12 months.

- 4 in 10 respondents (37%) had disposed of less common household waste (73% batteries, 44% globes, 19% motor oil, 11% gas bottles)
- 1 in 8 respondents (17%) had disposed of renovation waste (50% paint, carpet 35%, plaster 30% and motor oil 17%)
- 1 in 20 respondents (7%) had disposed of chemical waste (pesticides 57%, herbicides 41% and pool chemicals 18%) (Fig. 28 and Table 8).

Significant differences across subgroups (less common household waste)

Those more commonly disposing of this type of waste were more likely to be younger (38%–40% for other ages vs 24% for those aged 70+ years), to live in family and group households (40%–42% family/group households vs 23% lone households), to be home-owners (40% vs 30% renters), to have renovated in the past 2 years (Yes 52% vs No 35%), and to be from segments 1 to 4 (37%–39% vs 26% for segment 5, Hard-to-reach).

Significant differences across subgroups (renovation waste)

Family households (19% vs 8% lone households), home-owners (20% vs 5% renters), and those who had renovated in past 2 years (Yes 42% vs No 12%) were significantly more likely to have disposed of renovation wastes.

Significant differences across subgroups (household chemical waste)

Chemical waste was more likely to have been disposed of by home-owners (8% vs 3% renters), those who had renovated in the past 2 years (Yes 13% vs No 7%), and the most engaged segment (10% for segment 1, Champions).



Figure 28. Incidences of disposal of the various types of problem waste in the past 12 months. Base: All respondents (n = 1200)

Responsibility for disposal of problem waste

Question

F2a1&2 For 'less common household waste', F2b1&2 'renovation waste', or F2c1&2 'household chemical waste':

- What was the item?
- Who was the person that disposed of it?
- How did they dispose of it?

Respondents were then asked who in their household disposed of the different types of waste. The majority stated that they disposed of it themselves (with 70% for less common waste, 51% for renovation waste and 56% for chemical waste), followed by their partner disposing of it (ranges between 20% and 24% for the different types of waste).

Across all three types of waste, it was the male of the household who was most likely to take responsibility for disposing of the waste i.e.:

- of the 70% who stated that they personally disposed of the less common waste, 88% were males and 51% were females
- of the 51% who stated that they personally disposed of renovation waste, 79% were males and 26% were females
- of the 56% who stated that they personally disposed of chemical waste, 85% were males and 27% were females.

Significant differences across subgroups (who disposed of the waste)

Those who had disposed of the waste themselves were more likely to be male (88% vs 51% female), aged 30+ years (79%–86% vs 39% of those aged 16–29 years old) and in lone households (97% vs 67%/69% of those in family or group households). Those stating their partner disposed of the waste were significantly more likely to be females (37% vs 11% males) and aged 30+ (35% of those aged 30–49 years and 24% of those aged 50–69 years vs 10% of those aged 16–29 years).

With regards to how respondents disposed of the waste, the most common place for disposing items was the red-lidded garbage bin. This mode was adopted for 63% of disposers of less common household waste, 27% of disposers of renovation waste and 31% of disposers of chemical waste (Table 8). This was followed by disposal at a recycling facility or community recycling centre (19% and 14%, respectively, for common waste; 25% and 18%, respectively, for renovation waste; and 24% and 12%, respectively, for chemical waste). Some respondents did admit that they had dumped renovation waste and chemicals on the kerb (1%) or down the drain (6%).

Significant differences across subgroups (how respondents disposed of the waste)

No significant differences across subgroups were noted in regard to those utilising the red-lidded garbage bins. However, males were significantly more likely to utilise the council's pick-up (4% vs 0% women) as well as drop-off centres and Community Recycling Centres (23% vs 14% women). CALD (16% vs non-CALD 6%), renters (renters 21% vs home-owners 6%) and those with car access (32% vs 7% no car access) were significantly more likely to put the waste into the recycling bin.

Those who admitted to disposing of renovation waste on the kerb and chemicals down the drain were significantly more likely to live by themselves (32% vs 3% of families), to live in regional areas (regional 9% vs 2% of metropolitan dwellers, for kerbside) or live in group households (75% vs 10% of lone households and 1% of family households).

Table 8. Disposal of the various types of problem waste. Base: Those who disposed of less common household waste (n = 439), Those who disposed of renovation waste (193), Those who disposed of household chemical waste (82)

	Who disposed of it?	What was disposed of?	How was it disposed of?
Less common household waste	70% – self 24% – partner 13% - parent	73% – batteries 44% – globes 19% – motor oil 11% – gas bottle	63% – garbage bin 19% – community recycling centre 14% – recycling facility 8% – recycling bin
Renovation waste	51% – self 23% – partner 16% – parent 14% – other	50%– paint 35% – carpet 30% – plaster 17% – motor oil	27% - garbage bin 25% – community recycling centre 18%/18% – recycling facility at work/at tip 4%/1% – kerbside/drain
Household chemical waste	56% – self 23% – parent 20% – partner 4% – other	57% – pesticides 41% – herbicides 18% – pool chemicals	31% – garbage bin 24% – community recycling centre 12%/10% - Chemical Clean Out/ council pick-up 6% – down drain

2.6 Illegal dumping: knowledge, attitudes and behaviours

A number of questions were asked to establish the respondents' knowledge, attitudes and behaviours regarding illegal dumping.

Section snapshot

Knowledge

One in 6 respondents (16%) did not know that leaving items next to a charity bin or outside a shop is considered a form of illegal dumping. Similarly, 2 in 10 (22%) believed incorrectly that charities can find a use for everything (regardless of condition). Reassuringly, however, for the more dangerous/hazardous material (asbestos), nearly all respondents (91%) knew that it cannot be disposed of in the kerbside bin.

Attitudes

Nearly all respondents (88%) to question G2a considered it convenient to dispose of unwanted household items (e.g. unwanted clothing or furniture) correctly, with every 1 in 2 classifying it as very convenient. Those who did not consider it convenient cited distance (to place of correct disposal) and lack of council provisions as reasons for this inconvenience.

Behaviour

Respondents were less likely to admit to any illegal dumping behaviours, such as leaving items outside a charity shop or on the kerbside (14% and 13%, respectively). Most responded that they placed waste inside allocated charity bins, got the charity to accept receipt, or participated in an organised council pick-up. Three-quarters of all respondents (76%) agreed that they would report someone for illegally dumping waste.

Detailed findings: knowledge and beliefs around illegal dumping

Belief that disposal of items outside charity shop equates to illegal dumping

Question

H1 (i). Please tell me whether you think each of the following statements is true or false? 'Leaving goods next to charity bins or the shop (e.g. on pavement or in car park) is illegal dumping'.

Response options: True, False, Don't know.

Eight in 10 (79%) believed that leaving goods next to a charity bin or outside the shop equates to illegal dumping (Fig. 29). Therefore, 2 in 10 are not aware that this behaviour is undesirable and is classed as illegal dumping.

Significant differences across subgroups

Among females, 83% correctly believed that leaving good next to charity bins or the shop is illegal dumping, compared with only 74% of males.

Those significantly less likely to hold the correct belief, besides males, included:

- younger respondents (72% correct among 16–29-year-olds vs 81%–83% for aged 30–69 years)
- renters (70% vs 81% of home-owners)
- those without car access (63% vs 80% of those with car access)

- those falling into the least engaged segments (58% of Hard-to-Reach vs. 87% of Champions).

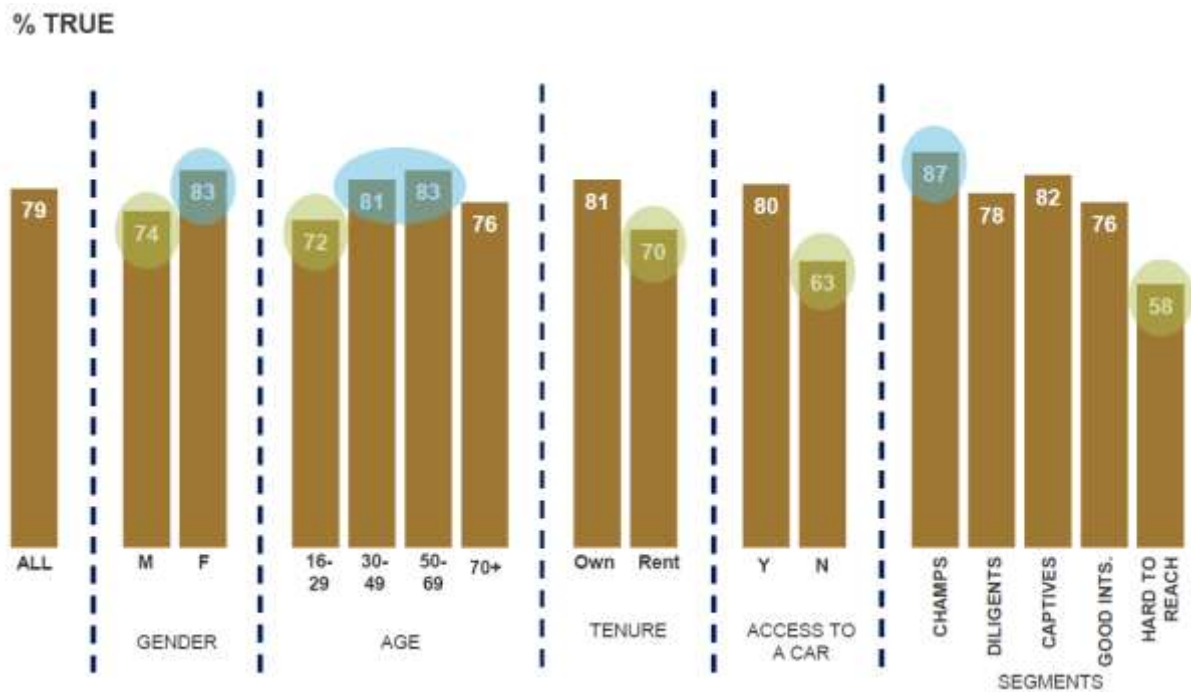


Figure 29. Belief that disposal of items outside charity shops is illegal dumping: responses to the statement ‘Leaving goods next to charity bins or the shop (e.g. on pavement or in car park) is illegal dumping’. Base: All respondents (n = 1200), Men vs Women (n =496, 704), Age (n =128, 413, 448, 211), Tenure (n = 961, 197), Access to car (n =1,105, 83), Segment (n =311, 470, 204, 114, 95)

Belief that all items donated to charities are usable

Question

H1 (j). Please tell me whether you think each of the following statements is true or false? ‘Charities can find a use for all donations, even things that have reached the end of their lives’.

Response options: True, False, Don’t know.

This was a false statement, and just under three-quarters of respondents correctly identified it as such, showing that most do know that charities cannot find a use for all donations/items delivered to, or dumped on, them (Fig. 30).

Significant differences across subgroups

Those least likely to know the correct answer were the elderly i.e. those aged 70+ years (65% vs 78% for those 50–69 years old), those in lone households (66% vs 73% for families and group households) and renters (65% vs 76% for home-owners).

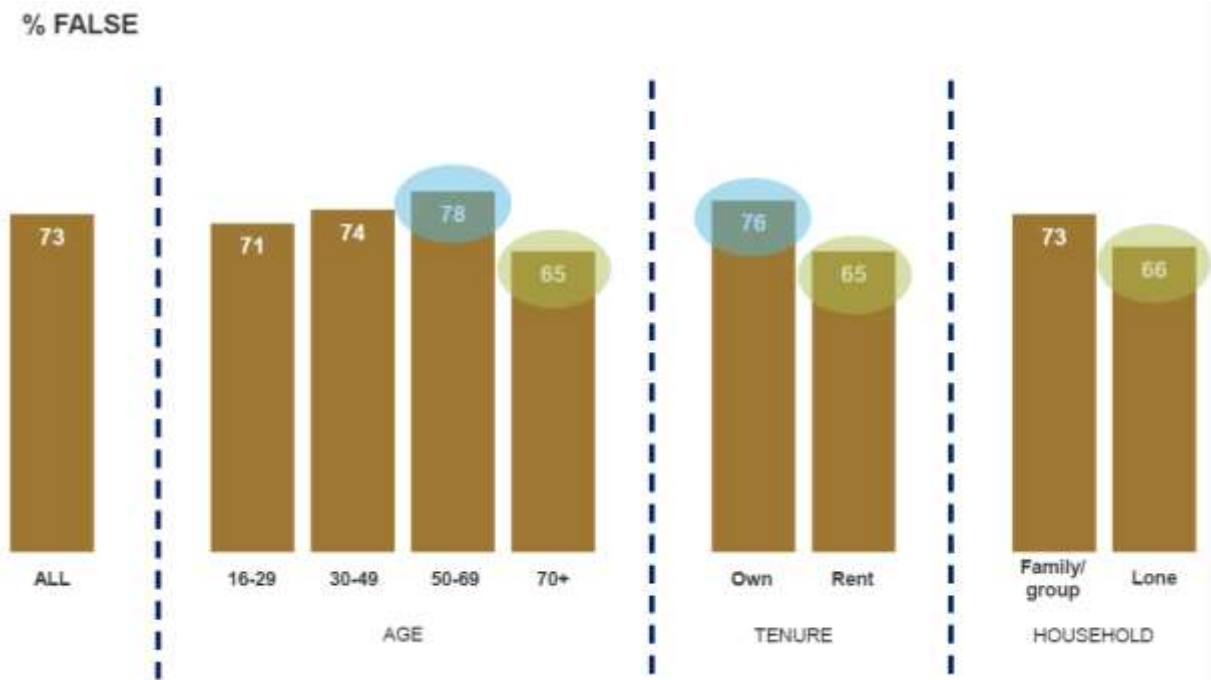


Figure 30. Belief that all items donated to charities are usable: responses to the statement ‘Charities can find a use for all donations, even things that have reached the end of their lives’. Base: All respondents (n = 1200), Age (n = 128, 413, 448, 211), Tenure (n = 961, 197), Household (n = 979, 221)

Detailed findings: asbestos

Belief that disposal of small amounts of asbestos in general waste is acceptable

Question

H1 (g). Please tell me whether you think each of the following statements is true or false? ‘It’s OK to dispose of small amounts of asbestos from your home in your ‘red’ or general household waste bin’.

Response options: True, False, Don’t know.

Knowledge of how to dispose of asbestos was high, with 91% correctly identifying the statement as false. Only 4% didn’t know, and 5% believed it OK to put small amounts of asbestos in their general waste bin (Fig. 31).

Significant differences across subgroups

Those lagging behind in their knowledge of this aspect were more likely to be male (with 6% of males thinking this statement was true versus 4% females), younger or older (i.e. those aged 16–29 years and 70+ years, at 8% and 7%, respectively), living in metropolitan areas (6% vs 3% rural), apartment or unit dwellers (10% and 11%, respectively) or from a CALD background (10% vs 3% non-CALD).

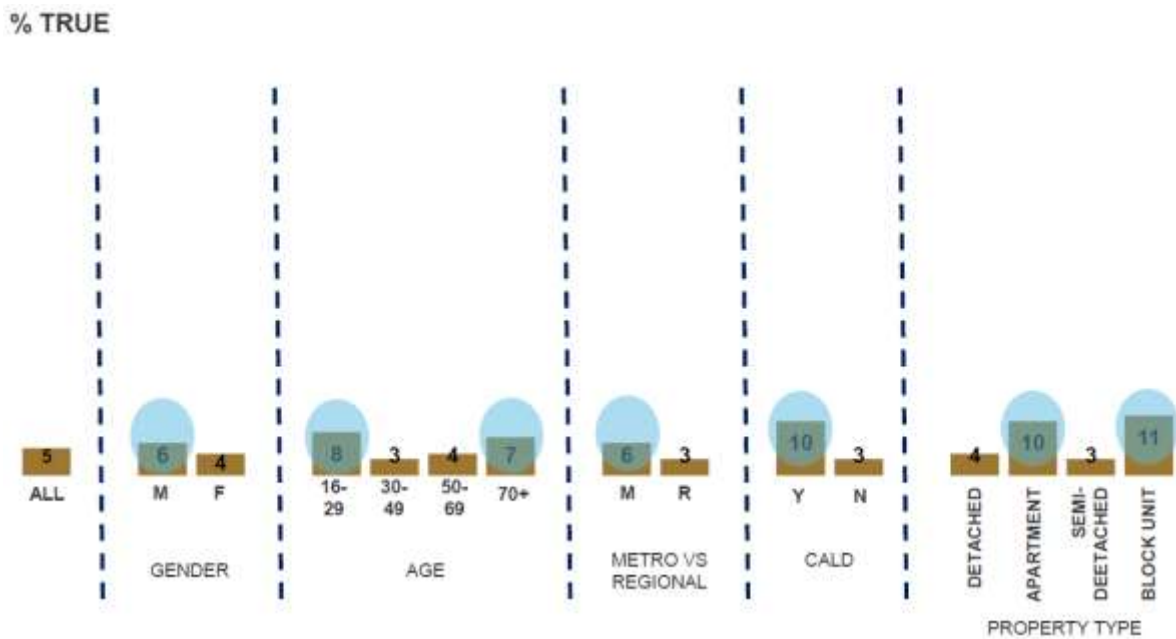


Figure 31. Belief that disposal of small amounts of asbestos in general waste is acceptable: responses to the statement 'It's OK to dispose of small amounts of asbestos from your home in your "red" or general household waste bin'. Base: All respondents (n = 1200), Men vs Women (n = 496, 704), Age (n = 128, 413, 448, 211), Metropolitan vs Regional (n = 679, 521), CALD (n = 229, 971), Segment (n = 311, 470, 204, 114, 95)

Detailed findings: attitudes towards disposing of unwanted goods

Perceived convenience of disposing of unwanted items

Question

G2a. How convenient is it for you to dispose of unwanted goods correctly?

Response options: Very convenient, Fairly convenient, Not very convenient, Not at all convenient, Don't know.

G2b. Why is it not convenient for you to dispose of items such as unwanted clothing household goods or furniture correctly?

Response option: (Open)

The vast majority of respondents (88%) found it convenient to dispose of unwanted goods correctly (49% finding it fairly, and 39% very, convenient) (Fig. 32). Only 1 in 10 respondents found it inconvenient. This was mainly due to lack of access, e.g. disposal facilities were considered too far away, especially in rural areas (26%) or they had no car access (16%) (Fig. 33). Some put it down to lack of council support, with infrequent, or no, council pick-ups (20%). The 'hassle factor' was further mentioned by 1 in 6 respondents (16%).

Significant differences across subgroups

Those more likely to find it very convenient were also more likely to be aware of the EPA's programs (44% vs 36% those not aware) or to be segment 1 or 2 (Champions and Diligents, 46% and 42%, respectively).

Those more likely to find it inconvenient were more likely to live in rural areas or large country towns (18% and 12% vs 9% of metropolitan dwellers), to live in an apartments (19% vs 8% in detached properties), to be unaware of the EPA's programs (12% vs 6%), and to fall into segment 4 (Good intentions, 16%).

Those more likely to be unsure and opting for 'Don't know' were more likely to fall into segment 5 (Hard-to-reach, 17% vs 3% of all respondents) and without a car (12% vs 2% with car access).

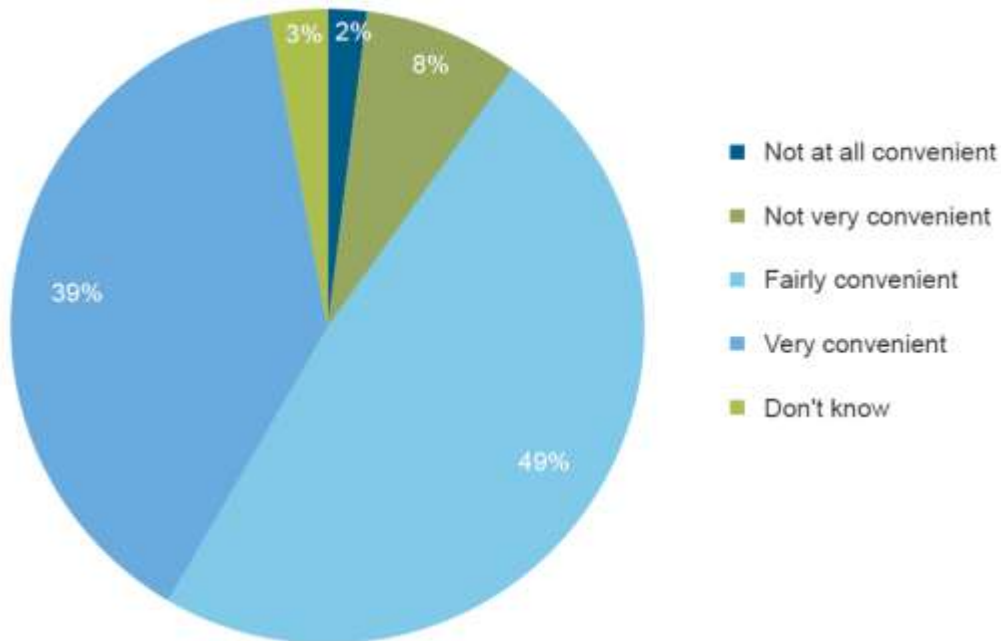


Figure 32. Perceived convenience of disposing of unwanted items correctly: responses to the question 'How convenient is it for you to dispose of unwanted goods correctly?' Base: All respondents (n = 1200)

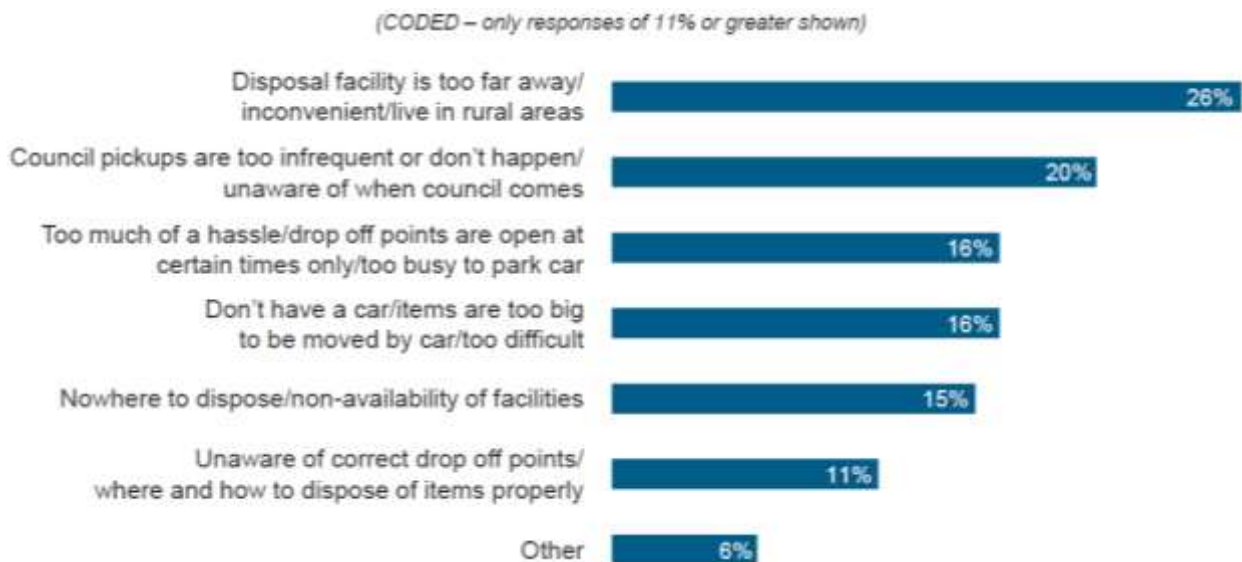


Figure 33. Reasons why it is inconvenient to dispose of unwanted items correctly: responses to the question 'Why is it not convenient for you to dispose of items such as unwanted clothing household goods or furniture correctly?' Base: All respondents who say it is not convenient for them (n = 129)

Detailed findings: unwanted goods disposal

Disposal of unwanted goods

Question

G1. Have you or someone else in your household done any of the following in the past 12 months?

Actions: Placed household goods or furniture on the kerbside for council collection after making a booking for an organised pick-up, taken unwanted clothing or household goods to a charity shop where a staff member accepted receipt, taken unwanted clothing or household goods to a charity bin and placed it inside the bin, left unwanted clothing or household goods outside a charity bin or shop, taken unwanted clothing, household goods or furniture to a recycling depot, left unwanted clothing, household goods or furniture in a public place, park or bushland area, left unwanted clothing, household goods or furniture on the kerbside for passers-by and neighbours to collect.

Response options: Yes, No, Don't know

Respondents were asked whether they had used any of a number of disposal methods for unwanted goods in the previous 12 months. Unsurprisingly, few admitted to engaging in unsociable and illegal dumping behaviours. However, 1 in 8 respondents (14%) did admit to either having left unwanted clothing or goods outside a charity bin or shop or having left unwanted goods on the kerbside for passers-by to collect (13%) (Fig. 34).

Seven in 10 respondents donated their unwanted goods to charity and placed them in the bin (71%) or handed them over for staff to take receipt of them (70%); this was followed by 4 in 10 respondents who stated that they had organised council pick-ups.

Significant differences across subgroups

Those dumping unwanted goods outside a charity bin or shop were more likely to be younger (25% of 16–29s vs 6% of those aged 70+ years 6%), from CALD communities (22% vs 11% non-CALD), living in a rural area (22% vs 13% of those in metropolitan areas), or from any segment other than segment 1 (Champions, 9%).

Those dumping unwanted goods on the kerbside were more likely to live in metropolitan areas (15% vs 6% in large country towns), to have undertaken renovations in the past 2 years (21% vs 10% no renovations), or to be younger. However, likelihood declined in line with age (almost the opposite to charity dumping), with those aged 70+ years least likely to dump goods on the kerbside, at 7% vs. 13% all respondents).



Figure 34. Methods of disposal of unwanted goods in the previous 12 months. Base: All respondents (n = 1200)

Reporting illegal dumping

Question

H2 (16). To what extent do you agree or disagree with the following statements? 'If I saw someone dumping waste illegally I would report it'.

Response options: Disagree strongly, Disagree, Neither agree nor disagree, Agree, Agree strongly.

Respondents were more likely to report others for illegal dumping than to admit their own illegal dumping behaviour, with three-quarters (76%) agreeing that they would report someone if they found them engaging in illegal dumping behaviour. Two in 10 agreed 'very strongly' with the statement (Fig. 35).

Significant differences across subgroups

Renters (19% vs 11% of home-owners), younger respondents (23% vs 13% of all respondents), and the least engaged segments (i.e. those who are more likely to carry out undesirable behaviours) were significantly less likely to report people's dumping behaviour (23% of those in the Good intentions segment and 28% of those in the Hard-to-teach segment), whereas those approaching retiree age, or retirees (26% of those aged 50–69 years) and those in segment 1 (Champions, 28%) were most likely to report this misbehaviour.

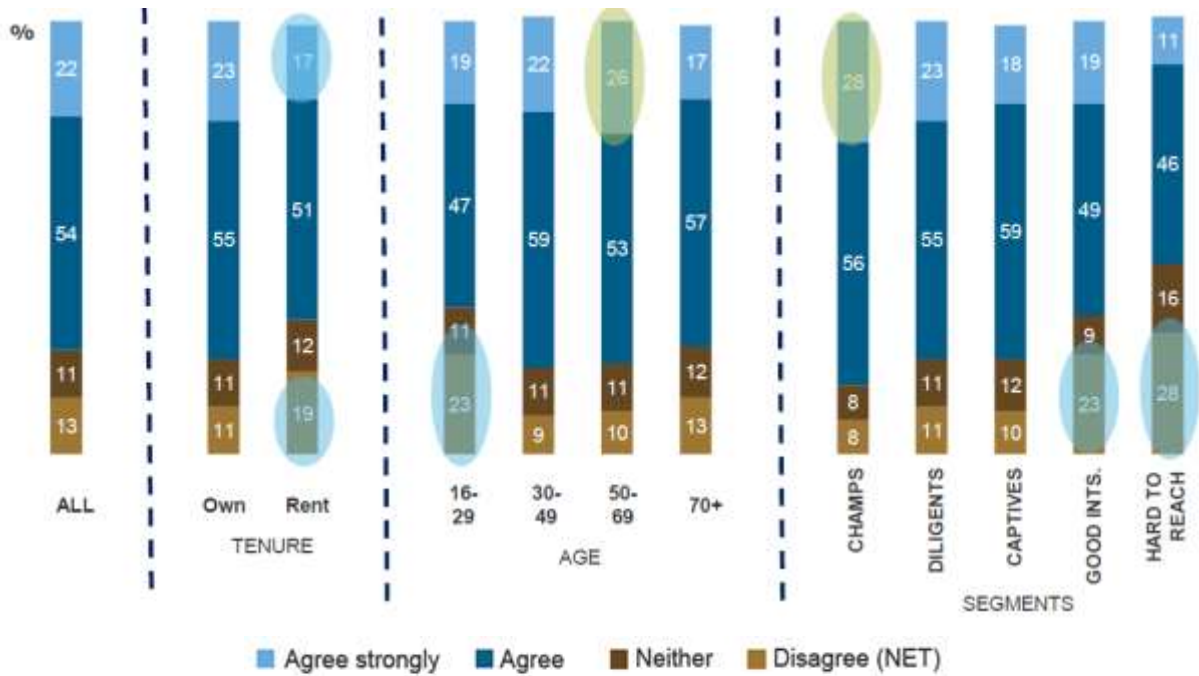


Figure 35: Likelihood of reporting illegal dumping: responses to the statement 'If I saw someone dumping waste illegally I would report it'. Base: All respondents (n = 1200), Tenure (n = 961, 197), Age (n = 128, 413, 448, 211), Segment (n = 311, 470, 204, 114, 95)

2.7 Communications and information sources

Respondents were asked a series of questions relating to communication sources and preferences for household waste management and recycling.

Section snapshot

Online resources emerged as the primary sources of information on waste management and recycling, regardless of program area; there was also some preference for more traditional media (e.g. council newsletters and meetings), especially in the case of older respondents. Priorities for future content of communications centred around requests for information on correct disposal and existing facilities (i.e. 'where to dispose of special items' and 'information on what to put into each bin').

Detailed findings

Sources accessed for information

Question

J7. If you ever needed information about each of the following five topics, where would you look for it/what sources would you use?

Response options:

- TV programs (news, current affairs program or other scheduled program)
- TV advertising
- Radio programs (news, current affairs program or other scheduled program)
- Radio advertising
- Newspaper articles or editorials
- Newspaper advertising
- Magazine articles
- Magazine advertising
- Internet forums/blogs
- Internet advertising
- Local Council website(s)
- Environment Protection Authority (EPA) website
- Other websites (specify)
- Facebook/Twitter/YouTube
- Council email/newsletter/meeting
- School email/newsletter/meeting
- Community group
- Family, friends, neighbours
- Workplace/colleagues
- Smart phone or tablet application

- Participation in program
- Other (specify)
- Don't know/can't remember
- None/nowhere.

Respondents were asked where they would look for information around recycling and waste management and for information across the five program areas. Respondents could list multiple responses and were not prompted by types of information sources. The average number of mentions was 1.25.

Regardless of the program area, online sources (such as local council websites and other websites) emerged as the primary sources of information for waste inquiries and questions. Local council websites were most readily accessed across all the various programs (58% for common household waste and organics, 57% for problem waste, 52% for food waste, 50% for unwanted household goods and 58% for garden waste) (Table 9).

This was followed by websites in general (with 8%–15% of mentions across the different types of waste), and then council communications such as emails, newsletters and town hall meetings (ranging between 6% and 10%).

The EPA website was specifically mentioned by only a few respondents (ranging between 1% and 4%); among the five program areas its highest score was for those seeking information on food waste (4%).

Significant differences across subgroups

Some interesting differences were apparent across subgroups.

Older respondents were more likely to opt for more traditional channels such as council newsletters and meetings and least likely to use online sources such as websites. For younger respondents it was the opposite, with online channels more highly utilised (including greater mention of Internet forums and blogs as options). A similar pattern was evident among family households and higher income households, whose members were more likely to prefer online channels.

Other sources mentioned (ranging between 10% and 18%) included 'Google search', calling the council helpline, checking the yellow pages or contacting (in person, by phone or via website) their local charity shops to check which items they would accept.

Table 9. Sources accessed for information on household waste management and recycling. Base: Five questions rotated so that all respondents were asked only once: Common household waste n = 266, Household food waste n = 265, Garden waste n = 267, Less common household waste n = 265, Unwanted items n = 265

Top 15 (%)	Recycling	Organics		Problem waste	Illegal dumping
	Common household waste	Food waste	Garden waste	Less common household waste	Unwanted items
Local council website(s)	58	52	58	57	50
Other websites	10	15	10	8	12
Council email/newsletter/meeting	10	8	6	8	8
Internet forums/blogs	4	9	7	7	10
Internet advertising	6	5	6	8	7
EPA website	2	4	1	2	2
Community group	0	1	1	0	7
Family, friends, neighbours	1	3	1	1	0
Newspaper articles or editorials	3	1	1	0	1
Facebook/Twitter/YouTube	3	1	1		
Other	17	10	12	18	17

Suggested tools and materials

Question

K1. What, if anything, would help to improve the way you and your household manage your waste and recycling?

Response option: (Open)

Responses were coded directly into a pre-coded list. Among those providing a response, the average number of mentions was 3.4.

Spontaneous suggestions of what would help to improve management of household waste included primarily information on special item disposal and bin separation information, e.g. information about 'where to dispose of special items' (18%), 'what to put in each bin' (17%) and 'available services' (13%) (Fig. 36). Furthermore, the provision of more frequent collection services and bins was mentioned by at least 1 in 10 respondents. Over a third of respondents didn't provide any actionable input or did not think that any information on waste management would be helpful to them (don't know, 13%; nothing would help, 23%). This was driven by older respondents (aged 70+ years) and segments 2 and 3 (Diligents and Captives).

Significant differences across subgroups

The most responsive groups were:

- those aged 30–49 years (average number of responses = 3.7)
- rural residents (3.8)
- group households (4)
- renters (4.4)

- apartment dwellers (4.7)
- those with no car (3.8)
- those aware of the *Love Food Hate Waste* program (4.4), as well as the Champion segment (3.8) and the Good intentions segment (3.6).

The least responsive groups were those aged 70+ years (2.5) and those living in unit blocks (2.8). Interestingly, of those who mentioned wanting the provision of information, demand was greatest from the youngest age group (16–29-year-olds) and from CALD communities, renters and those living in apartments. In contrast, older groups were less likely to require information, but instead requested more collection services and bins as well as more frequent and free collection services. Those believing nothing would help were significantly more likely to be aged 70+ years, with low to medium household incomes (>\$100k) and without access to a car.

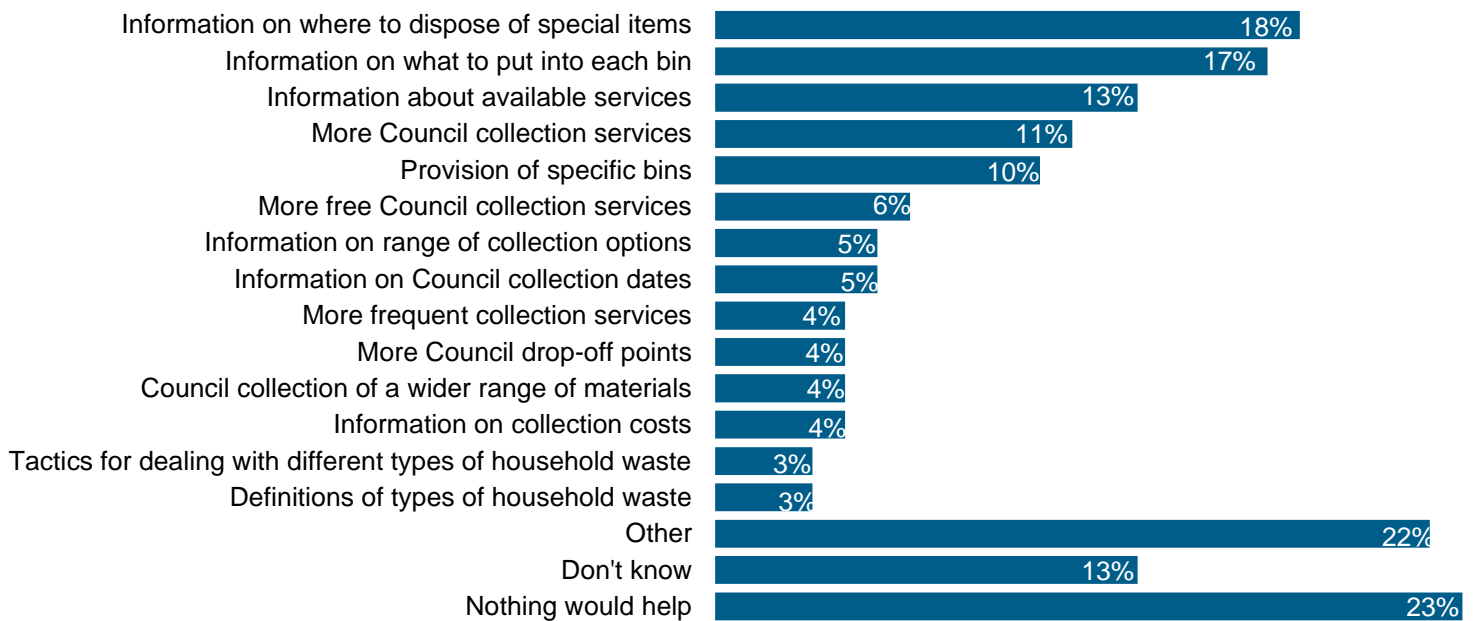


Figure 36. Other suggested tools and materials to help with waste management: responses to the question ‘What, if anything, would help to improve the way you and your household manage your waste and recycling?’ Base: All respondents (n = 1200). Only responses over 3% are shown.

Awareness of EPA programs

Question

J6. Are you aware the Environment Protection Authority has programs designed to help household and businesses to reduce waste and improve recycling?

Response options: Yes, No.

Question

J3a Have you seen or heard anything about ... (Love Food Hate Waste, Household Chemical CleanOut and Community Recycling Centres)?

J3b And where did you see or hear it (for each program the respondent is aware of)?

Only about one-third of respondents were aware of the EPA's programs (35%) designed to help householders and businesses to reduce waste and improve recycling (Fig. 38).

Significant differences across subgroups

Levels of awareness of EPA programs increased relative to age, with those aged 30–49 years less aware of EPA programs than were retirees. Those living in metropolitan areas were less aware of the programs than those living in regional areas.

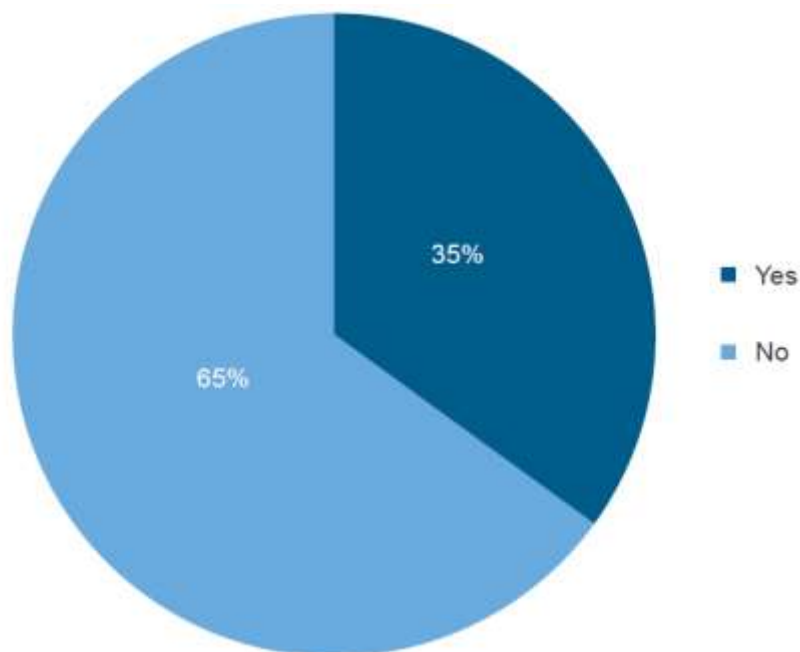


Figure 37. Awareness of EPA problems: responses to the question ‘Are you aware the Environment Protection Authority has programs designed to help household and businesses to reduce waste and improve recycling?’ Base: question J6. All respondents (n = 1200)

In terms of awareness across the three specific programs, prompted recall was highest for the Household Chemical CleanOut Program (40%) and the Community Recycling Centres (36%). Overall awareness of the *Love Food Hate Waste* program was at low levels, and at 7% (Table 10).

The Household Chemical CleanOut Program and Community Recycling Centres Program were most likely to have been seen via council-provided information/print material (33% and 15%, respectively), whereas the *Love Food Hate Waste* program was most likely to have been seen on TV (programs or ads) (13%).

Waste Less, Recycle More community benchmark study

Table 10. Awareness and sources of awareness across three EPA programs. Base: J3a. All respondents (n = 1200), J3b Household Chemical CleanOut n = 540, Love Food Hate Waste n = 88, Community Recycling Centres n = 459

Program type	Household Chemical CleanOut	Community Recycling Centres	Love Food Hate Waste
% aware of program	40	36	7
% source of awareness (top 15 mentions)			
Council email/newsletter/meeting	33	15	6
Newspaper advertising	23	15	9
Newspaper articles or editorials	16	16	12
Local council website(s)	11	10	8
TV advertising	7	6	13
Family, friends, neighbours	2	12	3
TV programs (news, current affairs program or other program)	4	6	19
Radio advertising	5	4	3
Community group	2	6	4
Radio programs (news, current affairs program)	3	3	5
Internet forums/blogs	1	2	7
Workplace/colleagues	0	2	3
Internet advertising	0	2	2
School email/newsletter/meeting	0	1	3
Magazine articles	1	0	2
Other	10	14	4
Don't know/can't remember	2	8	12

3. Conclusions and recommendations

3.1 Areas of opportunity, by program area

General recycling

In the area of general recycling, knowledge levels appear to be high, attitudes are positive and claimed behaviours are high. There is an element of incorrect knowledge or misconception for some (pointing to the need for an information-based communications strategy), whereas others still need a strong reason to act in terms of understanding the value or benefits of recycling and the impact or consequences of their behaviours.

Organics

Food waste

There is a lack of knowledge around the issue or problem of food waste being the largest waste item in NSW; this suggests that an opportunity for a broad-reach message exists. Food waste concern outweighs actual behaviour. This could indicate that there is an education gap, a lack of infrastructure and facilities, and a lack of time for planning waste avoidance actions such as meal planning.

Garden waste

Most are adopting good behaviours for disposal of garden waste, although some are using the red-lidded garbage bin instead. This is due to convenience and some justification that there is no organics bin service. The majority are aware that compost is good for the soil and believe that using a recycling bin for food and garden waste is a good idea.

Problem waste

Most agree that some items need special disposal, but there seems to be a lack of clarity around the detail, and confusion about the extent to which problem waste can be recycled. Again, demand for infrastructure or access is there: most claim that they would travel to dispose of items correctly but many do not know where to go, or do not find it convenient. Infrequency of behaviour means that a readily accessible information source is required, to prompt desired behaviour. This lack of clarity, coupled with a desire for convenience, suggests that there is a need for an education and communication strategy.

Illegal dumping

Some misguided beliefs are apparent around the role and/or remit of charities in terms of recycling unwanted items. There is lack of knowledge around what is 'illegal', and there is insufficient understanding of what charities can re-sell or use. There is potentially also some sense of respondents absolving themselves of responsibility and considering it acceptable to dump things on charities or third parties. This suggests the need for an education strategy together with increased infrastructure or services in order to minimise 'access' barriers for some (i.e. not knowing where to go, how far it is, too far).

Communications and information sources

Online resources (comprising local council websites, 55%, other websites, 10%) emerged as the primary sources for seeking information across any of the program areas and regarding associated waste items (i.e. common household waste, food waste, garden waste, less

common household waste and unwanted items). Preference for online information is driven by younger respondents, whereas older respondents prefer more traditional channels (such as council newsletters and meetings). Over a third of respondents either did not provide any input (don't know, 13%) or did not think that any information on waste management would be helpful to them (nothing would help, 23%). This was driven by older respondents (aged 70+ years) and segments 2 and 3 (Diligents and Captives)

Future communication and information requirements centre on requests for information on the correct disposal of special items and the locations of existing facilities. Demand for information is greatest among younger age groups (who possibly recognise their lagging knowledge levels), versus demand for services among older age groups (who possibly disregard their lagging knowledge levels).

3.2 Summary of opportunity, by segment

Essentially, certain segments of the community exhibit positive attitudes and adopt the correct behaviours, which filter down consistently across all program areas. It would therefore be optimal to target communications according to attitudes and behaviours, rather than simply by demographic profile (as summarised below).

We know from social marketing theory that people who are engaging in an undesired behaviour (e.g. illegal dumping or not recycling) but who at least have positive or neutral attitudes towards it are likely to be most influenced by communications aiming to bring about attitudinal or behavioural change. In the segmentation model below (Table 11), these people would fall into segments 2 (Diligents), 3 (Captives) and 4 (Good intentions). By contrast, people in segment 1 (Champions) are already largely in the desired position (both exhibiting positive attitudes and adopting desired behaviours), whereas those in segment 5 are likely to be too entrenched in negative behaviours or attitudes to be influenced by communications. The survey found that segment 5 was small. Therefore, this segment may not warrant the excessive resources needed to changed entrenched behaviours and negative attitudes.

Table 11. Segmentation basis

All respondents (n = 1200)		Attitudes to recycling common household waste (found to be similar across all waste types)		
		Recycle even if it requires additional effort	Recycle only if it does not require additional effort	Do not recycle
Attitude towards environment	Concerned a great deal	n = 311	n = 29	n = 2
	Concerned a fair amount	n = 470	n = 71	n = 12
	Concerned a little	n = 100	n = 29	n = 6
	Not concerned	n = 104	n = 46	n = 14
↓				
Champions n = 311 23%	Diligents n = 470 38%	Captives n = 204 17%	Good Intentions n = 114 12%	Hard-to-reach n = 95 10%

3.3 Summary of opportunity, by demographic profile

This section outlines a selection of specific demographic groups, highlighting and summarising any significant differences from the overall NSW population in terms of their attitudes, knowledge and behaviour towards waste management and recycling. Most differences were, however, noted in relation to dry recycling e.g. common household recyclables like paper, glass and plastic, attitudes and behaviours because the sample size of those engaging in behaviours across specific program areas did not facilitate significance testing. For example, only 7% disposed of household chemical waste.

Those who may benefit the most from an educational and persuasive communication strategy, owing to their less compliant behaviours and lagging attitudes, include:

- younger audiences (16–29 years of age)
- those living in rented accommodation
- apartment dwellers
- those from CALD backgrounds.

These groups should therefore be prioritised for communications targeting. Those most compliant tend to be females, of median age, families, home-owners and university graduates.

Men, although not significantly different in terms of knowledge, are the ones more likely to be undertaking behaviours concerning the disposal of less common waste and therefore could benefit from a targeted education and communication strategy.

Target sub-group: age (16–29-year-olds)

Demographics and awareness levels of EPA programs

This group made up 25% of the sample and were significantly more likely to be in segments 4 ‘Good intentions’ and 5 ‘Hard-to-reach’. They showed median awareness levels of the EPA’s programs.

Knowledge

Their awareness levels of council services (including specifically e-waste drop-off centres and Household Chemical CleanOut events) was much lower than that of other age groups. Furthermore, their personal confidence about ‘what items can be placed in which kerbside bins’ was significantly lower than that of their older counterparts. Conversely, the level of knowledge that recycling can help save water, energy and fuel was greatest in this age group.

Attitudes

In terms of attitudes towards recycling and waste management, 16–29-year-olds were least likely to be ‘concerned a great deal’ about the environment, but they were most likely to be ‘concerned a fair amount’. Levels of concern about ‘the amount of waste our society produces’ were slightly lower here than in other age groups. Perceived understanding of the environmental benefits of recycling was also lowest in this age group; this is not surprising, given the poor levels of knowledge and confidence regarding recycling among 16–29-year olds. If fully informed, this group would likely be more engaged.

Behaviour

These younger respondents were significantly less likely than all other age groups to recycle with effort, but they would do if no effort were involved. Attitudinally, this was reinforced by the fact that they were also significantly more likely to agree with the statement that 'it's too much effort to dispose of things properly'.

Overall, there is a greater need for education on available services and how to use them correctly, and for persuasion, in this younger age group, in order to instil positive attitudes and promote desired behaviours.

Target sub-group: CALD

Demographics and awareness levels of EPA programs

CALD communities represented 24% of the total sample. They were slightly, but not significantly more likely than the total sample to fall into segment 4 'Good intentions' and segment 5 'Hard-to-reach'. Their levels of awareness of the EPA's programs were on par with those of non-CALD audiences.

Knowledge

CALD respondents were more likely to believe that 'recycling doesn't save on water, energy and fuel' (pointing to some need for education on this matter). No difference was observed in their agreement with the knowledge statement 'I am confident about what items can be placed in which kerbside bins'.

Attitudes

CALD respondents were more likely than non-CALD respondents to care about the 'health effects of pollution' as a reason for their concern about environmental issues.

Behaviours

CALD respondents were less likely to recycle with effort (vs non-CALD). However, when probed regarding how they disposed of various forms of problem waste, those of CALD background were significantly more likely to put the waste into the kerbside recycling bin (16% vs 6% mainstream).

Overall, the differences between CALD and mainstream audiences were not as distinct as found for other demographic subgroups.

Target sub-group: household type (families)

Demographics and levels of awareness of the EPA programs

Seventy-nine percent of the sample was made up of family households (vs 16% lone households and 5% group households). (Note that the new Australian Bureau of Statistics definition of families includes couples with no children.) This group was most likely to be in the 'Diligents' segment. They showed median awareness levels of the EPA's programs.

Knowledge

Families were more likely to believe that recycling does save on resources, and that putting incorrect items into recycling (i.e. 'it gets sorted anyway') is not acceptable. They were more likely to believe that composting can improve soil quality, and they were also more likely to disagree that charities can find a use for all items 'donated'.

Attitudes

Among families, concerns for 'future generations' and the 'health effects of pollution' were cited as the primary concerns about the environment. Lone households were more concerned about 'quality of life'. Furthermore, families were more likely to regard household recycling as 'important' (sum of Very important + Important responses) than were lone households.

Behaviours

Families were significantly more likely to recycle with effort and were more likely to do proper food planning or food economy. Families were more likely to have disposed of less common waste and renovation waste, but they scored as low as lone and group households in dealing with chemical waste.

Target sub-group: household type (families with children under 16 years)

Demographics and levels of awareness of the EPA programs

Thirty-one percent of the sample was made up of family households with children aged less than 16 years (young families), and 23% of the sample was made up of family households with children aged over 16 years (older families). These groups were most likely to be in the 'Diligents' segment (41% representation among younger families and 39% among older families). They showed median levels of awareness of the EPA's programs.

Knowledge

A few significant differences were noted between families with younger/older children and other household types in terms of waste management. Overall, young families were significantly more likely to have received a garden waste bin (72% for younger families and 76% for older families, vs 67% for other households). Young families were also more aware of garage sales and second-hand Saturdays (87% vs 78% for the total sample).

Older families were more confident about which items can be placed in which kerbside bins: 60% agreed with the statement 'I am confident about which items can be placed in which kerbside bins', versus 53% for younger families agreeing with the statement. They also showed higher knowledge levels, as they were more likely to believe that recycling paper, cardboard and glass saves on materials and helps with saving water, energy and fuel (48% vs 41% younger) and that 'it does matter if I put a few wrong things in the recycling bin' (84% vs 78% younger).

Older families were more likely to think that food waste was the largest type of waste in the average NSW household bin than younger families (29% vs 21%, respectively). With regard to common household items, families with children were generally more likely to believe that 'some common household items can be harmful to the environment and require special disposal' (37% for younger families and 36% for older families, compared with 30% for other household types).

Attitudes

Overall, families with children were no more or less concerned about environmental problems than were other households. However, young families were significantly more likely to be 'concerned for future generations' (42% of young vs 38% of older families). They were also more likely to be concerned about the 'amount of waste that society produces' (61% younger vs 48% older).

With regard to attitudes around recycling common household waste, young families were more likely to strongly agree with the statement that 'they recycle because it makes them feel they are doing their part to help the environment' (36% younger families vs 31% older families), whereas older families were more likely to strongly agree that they did it because 'the council is telling them to do it' (7% older families vs 5% younger families).

With regard to organics (food waste), young families were more likely to state that they were 'a little concerned' about the amount of food that gets thrown away (40% of younger families vs 29% of older families) whereas older families were more likely to 'not be concerned at all' (29% of older families vs 21% of younger families).

Behaviours

A few significant differences were noted between families (younger and older) and other household types in regard to disposal behaviour. Among households encountering this type of waste, young families were significantly more likely to dispose of motor oil in the garbage bin (9% vs 3% of all other household types), whereas older families were more likely to dispose of motor oil at the tip (10% vs 4% of other household types). Furthermore, families with children were more likely to dispose of pool chemicals in the garbage bin (3% of younger families and 6% of older families vs 1% of all other households).

Both younger and older families were more likely to have left unwanted clothing or household goods outside a charity bin or shop in the past 12 months (16% of younger families and 17% of older families vs 11% of all other households).

Young families were more likely to throw away a 'reasonable amount' of uneaten food than were older families (24% compared with 19%, respectively).

Younger families were also more likely than older families to find it inconvenient to dispose of items such as unwanted clothing, household goods or furniture correctly (11% of younger families vs 4% of older families).

When families were asked what would help them to improve their management of household waste, younger families were more likely than older families to mention 'Information on where to dispose of special items' (21% vs 18% for older families), whereas older families would prefer some information about available services (18% vs 12% for younger families).

Target sub-group: gender (men)

Demographics and levels of awareness of the EPA programs

The sample was 49% male as per the overall NSW distribution. They were significantly less likely than females to be part of the 'Diligents' segment. They were more likely to be spread across the other segments and were slightly more represented in the 'Captives', 'Good intentions' and 'Hard-to-reach' segments. Their levels of awareness of the EPA's programs were however, on par with those of females.

Knowledge

No difference from females was noted in terms of men's 'confidence about what items can be placed in which kerbside bins' or their perceived 'understanding of the environmental benefits of recycling' and knowledge that recycling can help save water, energy and fuel.

Attitudes

Males were less likely to be concerned about the environment. They were also less likely to agree that 'a recycling bin for food and garden waste is a good idea', but they believed as strongly as females that it does matter when the wrong things go into the recycling bin.

Compared with females, no difference was observed in terms of agreement that 'it is too much effort to dispose of things properly'.

Behaviours

Compared with females, no significant differences were noted in terms of key behaviours, except in the frequency of being the person to dispose of garden waste, problem waste, renovation waste and chemical waste (i.e. men were more often involved in this form of waste disposal).

Overall, very few significant differences were noted by gender.

Target sub-group: tenure (renters)

Demographics and levels of awareness of the EPA programs

Seventy-seven percent of the sample was made up of home-owners; 19% were renters, and 4% were 'Other' (e.g. living at home with parents). Renters were spread across the 'Captives', 'Good Intentions' and 'Hard-to-reach' segments, whereas home-owners were more often represented in the 'Champions' and 'Diligents' segments. Higher awareness levels of the EPA's programs were observed among renters.

Knowledge

No significant differences were noted between renters and other groups in terms of awareness of council services or personal confidence 'about what items that can be placed in which kerbside bins'. Renters were less likely to believe that leaving goods next to charity bins or shops is illegal dumping, and they were also less likely to report illegal dumping. Renters were more likely to think that charities can find a use for all donations.

Attitudes

Renters were significantly more likely than owners to believe it is too much effort to dispose of things properly.

Behaviours

Renters were more likely to recycle if no effort was involved. Overall, renters were less likely to have disposed of less common waste, renovation waste and chemical waste, and they were more likely than home-owners to utilise recycling bins (rather than the general red-lidded garbage bin) for less common waste items.

Target sub-group: location (regional)

Demographics and levels of awareness of the EPA programs

In the sample, 64% of respondents lived in metropolitan areas (i.e. Sydney) and 36% lived in regional areas (i.e. non-Sydney). We found a fairly even split by metropolitan vs regional in terms of all five segments. Interestingly, regional respondents showed higher levels of awareness of the EPA's programs. The research also looked at differences by a further split, i.e. Sydney, Newcastle and Wollongong (74%) versus large country towns (11%), small country towns (9%) and rural (6%).

Knowledge

Among regional residents, levels of knowledge that recycling can help save water, energy and fuel were higher than in metropolitan residents. Regional respondents were also most likely to feed food waste to animals. Respondents from small and large towns (as opposed to

Sydney, Newcastle, Wollongong and rural areas) were least likely to believe that composting improves the quality of soil.

Attitudes

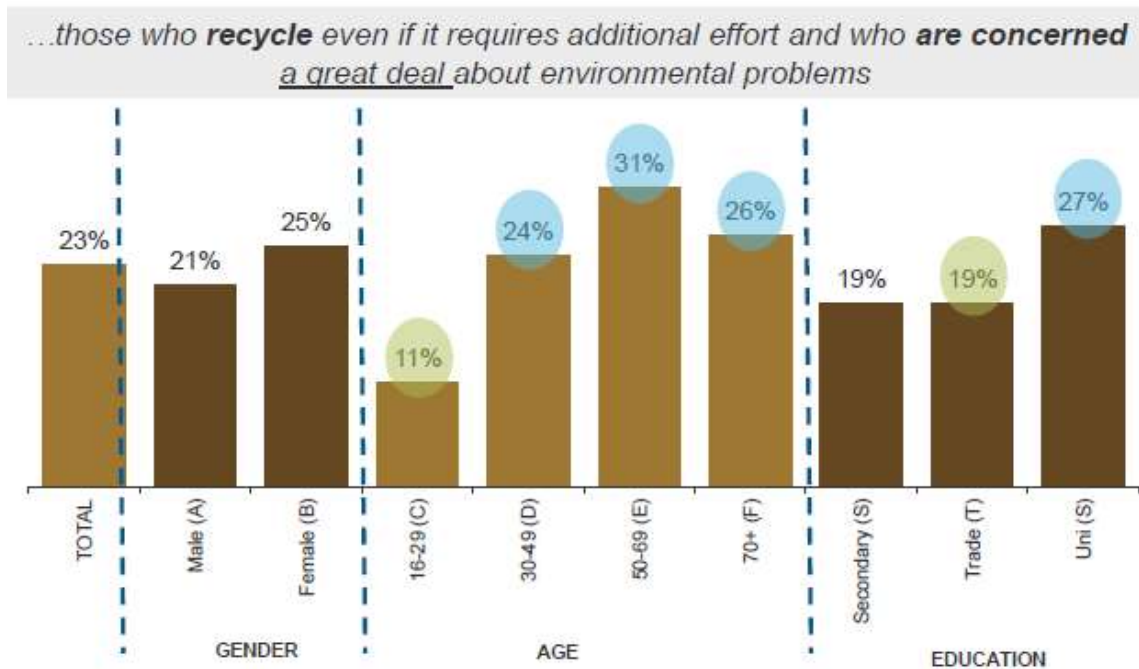
Those living in small country towns were significantly more likely (than those living in Sydney, Newcastle, Wollongong or rural areas) to agree with the statement 'it's too much effort to dispose of things properly', indicating that increased provision of facilities may be required. Regional, rather than metropolitan, respondents were significantly more likely to disagree that 'I recycle because the council tells me to do it', indicating that they are not likely to be persuaded to comply by adopting a legislative or 'telling-off' approach, but instead need to be given additional reasons or benefits for complying.

Behaviours

Although no distinct difference between regional vs metropolitan respondents was observed, metropolitan respondents emerged as slightly, but not significantly, more likely to leave unwanted clothing, household goods or furniture on the kerbside for passers-by and neighbours to collect.

Appendix 1: Segment summaries

Segment 1: Champions—a demographic profile

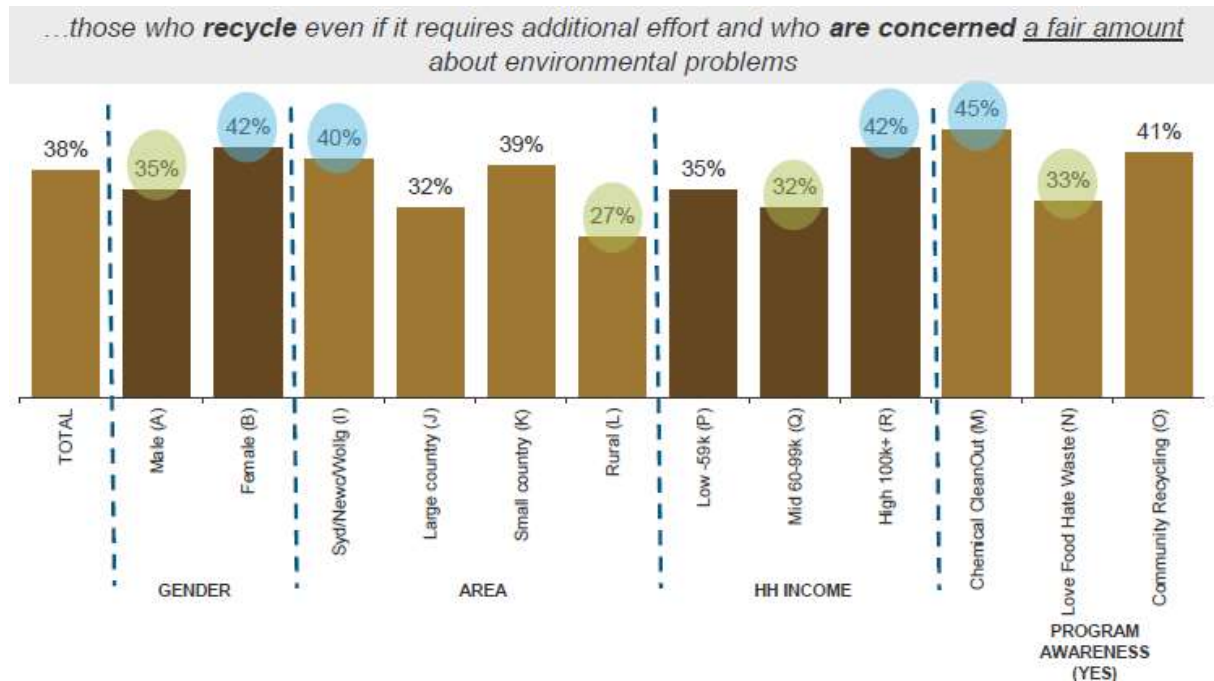


A quarter of the community surveyed fell into the Champions segment (23%) on the basis of their attitudinal perspectives and behavioural indicators. As the most 'environmentally friendly segment', they were more likely to be older and have a university education. Champions were defined as: *those who recycle even if it requires additional effort and who are concerned a great deal about environmental problems.*

Within this definition they are more likely to:

- have high levels of knowledge (understanding the benefits of recycling and the need for differentiation in the disposal of items, and being confident in understanding what may be placed in kerbside bins)
- hold strong concerns about the environment (believing recycling is very important and that it helps them feel they are playing their part in addressing environment issues, and holding the strongest concerns about the overall sustainability of the ecosystem)
- go out of their way to comply (agreeing that recycling in itself is not too much effort, finding it convenient to dispose of uncommon items, being willing to travel to special locations, and believing that a busy lifestyle is no excuse for food waste).

Segment 2: Diligents—a demographic profile



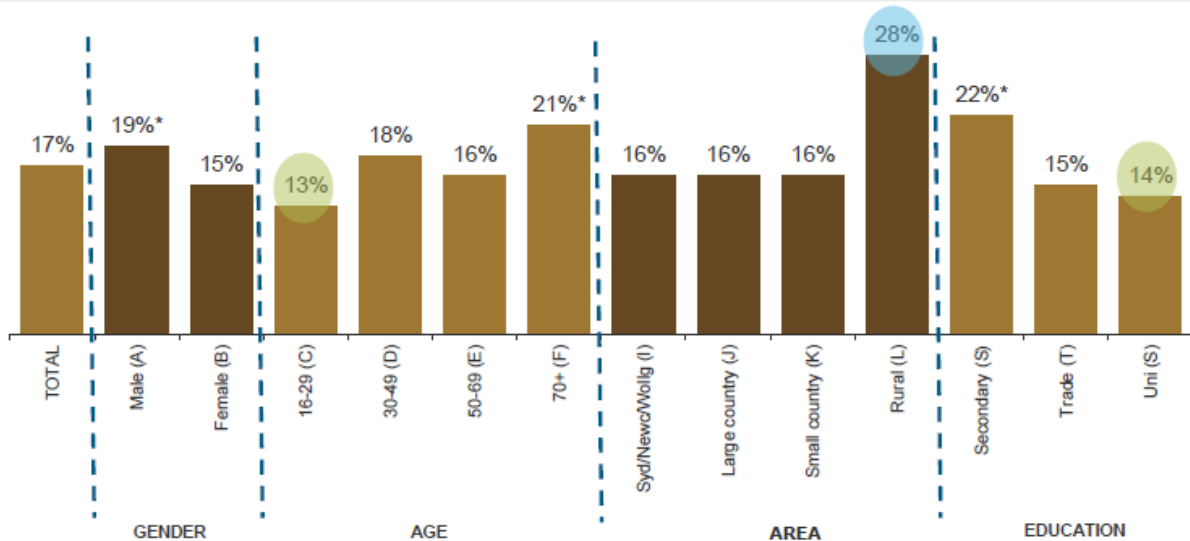
Four in ten of the community surveyed fell into the Diligents segment (38%) on the basis of their attitudinal perspectives and behavioural indicators. As the second-most 'environmentally friendly segment' they were more likely to be female, living in a metropolitan area, earning a high income and aware of EPA initiatives. Diligents were defined as: *those who recycle even if it requires additional effort and who are concerned a fair amount about environmental problems*

Within this definition they were also more likely to:

- have a high level of knowledge (in line with Champions, they understand the need for differentiation in the disposal of items and are confident in understanding what may be placed in kerbside bins)
- hold fairly strong concerns about the environment (believing that recycling is very to fairly important and that it helps them feel they are playing their part in addressing environment issues, and holding more practical concerns related to minimising landfill)
- find it convenient to dispose of uncommon items and be slightly more aware of throwing away more food than they should.

Segment 3: Captives—a demographic profile

...those who **recycle** even if it requires additional effort **ALTHOUGH** they are **NOT** or just a little **concerned** about environmental problems



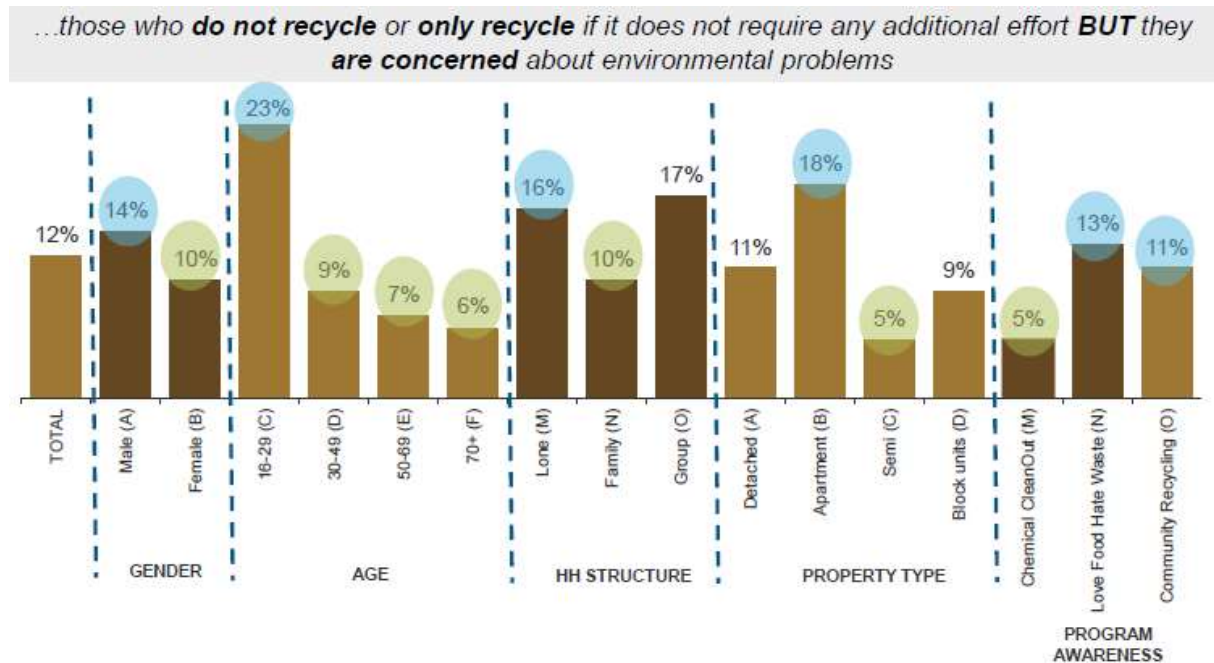
Just under two in 10 of the community surveyed fell into the Captives segment (17%) on the basis of their attitudinal perspectives and behavioural indicators. They are labelled ‘captives’ because they indicate that they carry out the desired behaviours, although they do not seem to care much about doing so: they are engaging half-heartedly in the ‘correct’ behaviour without motivational drive. This indicates that they are at risk of stopping at any time. Captives are slightly more likely to be male, older and living in a rural area and to have achieved a secondary level of education only.

Captives were defined as: *those who recycle even if it requires additional effort although they are not, or just a little, concerned about environmental problems*

Within this definition they are also more likely to:

- have high levels of knowledge (agreeing that some items need special disposal, and that problem waste can be recycled)
- hold fairly strong concerns about the environment, but more so because of self-preservation and being bound by social pressure to do so (believing that recycling is fairly important and that it is an expected or common good thing to do, and recycling because of force of habit). They are also most likely to care most about these issues because of worry about degradation of the quality of life, or a general lack of resources in the future.
- find it convenient to dispose of less common household waste items.

Segment 4: Good intentions—a demographic profile



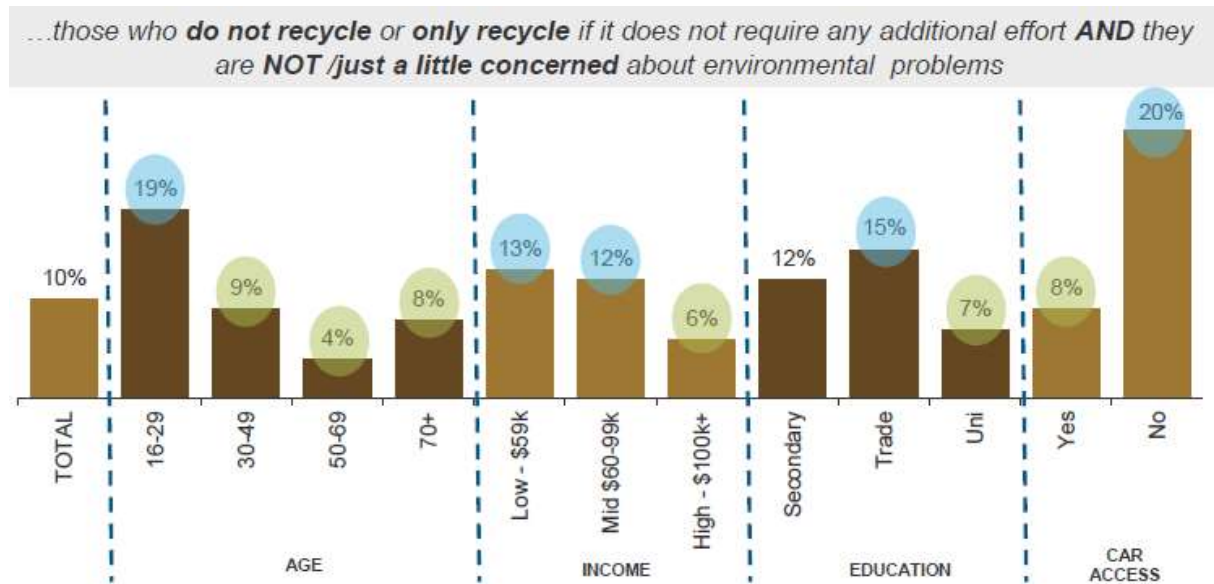
Just over one in 10 of the community surveyed fell into the Good intentions segment (12%) on the basis of their attitudinal perspectives and behavioural indicators. They are labelled as 'good intentions' because they indicate that they do care about the environment and recycling, but they do not carry out the desired behaviours; there are some barriers stopping them from translating goodwill into action. This leads them to being a risky segment, and one that will benefit from outreach work (to give a better understanding of their motivators, drivers and barriers). Those with good intentions are more likely to be male, aged 16–29 years, living by themselves or in a group scenario, and living in an apartment.

Those with Good intentions were defined as: *those who do not recycle or recycle only if it does not require any additional effort but are concerned about environmental problems.*

Within this definition they are also more likely to:

- have lower levels of knowledge (being least likely to have confidence in how to properly separate items for disposal, and least likely to understand the benefits of recycling; this indicates that there is a need for a dual-pronged education and motivational campaign for this segment)
- hold the weakest concerns about the environment (believing that recycling is fairly, to not very, important and that it is simply an expected or common good thing to do, but finding it a little too much effort. They are also most likely to say that they care about these issues because of worry about degradation of their quality of life; this indicates a level of self-preservation similar to that seen in the Captives segment.
- find that their busy lifestyles makes it hard to avoid food wastage and means they are less likely to go out of their way to dispose of things correctly (finding it inconvenient to do so, and believing that the council should be coming to them more frequently). They are also more likely to agree that they would really recycle only under duress (i.e. if the council told them to do it).

Segment 5: Hard-to-reach—a demographic profile



One in 10 of the community surveyed fell into the Hard-to-reach segment (10%) on the basis of their attitudinal perspectives and behavioural indicators. Those in this segment are labelled as 'hard-to-reach', because they indicate that, to a certain extent, they are switched off to waste issues. That is, they indicate that they do not care about the environment and recycling and equally do not carry out the desired behaviours. Those who are 'hard-to-reach' are more likely to be younger (aged 16–29 years), on lower incomes, working in a trade-based profession, and without access to a car.

Those who were 'Hard-to-reach' were defined as: *those who do not recycle or recycle only if it does not require any additional effort and are not, or only just a little, concerned about environmental problems.*

Within this definition they are also more likely to:

- have the lowest levels of knowledge (being least likely to have confidence in how to properly separate items for disposal and to understand the benefits of recycling, and believing that it actually doesn't matter whether items are mixed up or that leaving goods next to shopfronts is illegal dumping)
- hold the most negative attitudes towards, or have a lack of concern about, the environment (believing that recycling is not very, to not at all, important, not giving it much thought or care, and finding it too time-consuming to bother about). They are also least concerned about the amount of waste produced on a societal level.
- find that their busy lifestyle makes it hard to avoid food wastage and inconvenient to dispose of waste in general, especially if they have to travel. Like those in the Good intentions segment, they are also more likely to agree that they would really recycle only under duress (i.e. if the council told them to do it).

Appendix 2: The questionnaire

Introduction

Good morning/afternoon/evening, my name is _____ from AFS, a social research company calling on behalf of a NSW Government Department.

We are carrying out a research survey that will involve questions **about waste and recycling in your home**. Your opinion is very valuable and your participation would be greatly appreciated.

The survey should only take about **20 minutes** to complete. If you choose to do the survey, your responses are entirely confidential and you will not be identified in any way.

11. Are you willing to help us with the survey?

1. Yes, can do it now → *begin survey*
2. Yes, can do it later → *ask for best day, time and phone number to call back. Record information.*
99. No → *thank and terminate*

If necessary:

- We are bound by a strict code of ethics and national privacy principles, which means your individual response will be kept strictly confidential, and only aggregated data will be reported back to our client.
- The study is being undertaken by TNS Social Research, an independent research company, who are working with AFS to complete the survey.
- Participation is voluntary; however, we would appreciate the valuable input you can provide to the study.

Section S: Screener

In order to better direct our questions, we would like to start with a few questions about you and your household.

ASK ALL

S1. Into which of the following age categories do you fall? **[READ OUT. SR]**

Less than 16 years	97	TERMINATE
16–19	1	TRACK ACCORDING TO SOFT QUOTAS
20–29	2	
30–39	3	
40–49	4	
50–59	5	
60–69	6	
70–74	7	
75+	8	
Don't know	98	DNRO. TERMINATE
Prefer not to answer	99	DNRO. TERMINATE

DNRO = DO NOT READ OUT; SR = single response; TRACK ACCORDING TO SOFT QUOTAS = keep a record of how many people have been surveyed within each quota (e.g. regional, metropolitan, age group, gender)

ASK ALL

S2a. What is the postcode of where you live? **[ALLOW FOUR DIGITS]**

ASK ALL

S2b. Which of the following best describes the area in which you live? **[READ OUT. SR]**

Sydney	1	TRACK ACCORDING TO SOFT QUOTAS
Newcastle	2	
Wollongong	3	
Large country town (population over 15,000)	4	
Small country town (population between 3000 and 15,000)	5	
Country rural area	6	
Don't know	98	DNRO. TERMINATE
Prefer not to answer	99	DNRO. TERMINATE

ASK ALL

S3. Interviewer to establish gender. **[SR]**

Male	1	TRACK ACCORDING TO SOFT QUOTAS
Female	2	

Termination script

IF TERMINATED OR QUOTA FULL. We would like to thank you for taking the time to participate in our survey. Your opinions and responses are gratefully received and extremely important to us. The survey is now closed due to overwhelming responses from people like yourself. Once again thank you for your interest.

Section A: Initial demographics

ASK ALL

A1. Which of the following best describes your household composition? **[READ OUT. SR]**

Single person household	1	Classify as ABS Lone-person HH
Family or single parent with children (all or most under 16 years)	2	Classify as ABS Family HH
Family or single parent with children 16+ years	3	Classify as ABS Family HH
Couple with no children	4	Classify as ABS Family HH
Shared/ group household of non-related adults	5	Classify as ABS Group HH

HH = Household

ONLY ASK IF A1 = 2–5 (i.e. 1+ HH)

A2. How many people in your household are in each of the following age bands? **[READ OUT AGE BANDS. SR PER ROW. ALLOW 2 DIGITS]**

0–6 years	1
7–12 years	1
13–16 years	1
17–19 years	1
20–29 years	1
30–39 years	1
40–49 years	1
50–59 years	1
60–69 years	1
70–74 years	1
75+ years	1

Section B: General environmental stance

ASK ALL

B1. In general, are you concerned about environmental problems? **[SR]**

Yes	1
No	2

ONLY ASK IF B1 = 2 ('No')

B2. For what particular reasons would you say you are not concerned about environmental problems? VERBATIM

--

ONLY ASK IF B1 = 1 ('Yes')

B3. Would you say you are concerned a great deal, a fair amount, or a little? **[SR]**

A great deal	1	
A fair amount	2	
A little	3	

ONLY ASK IF B1 = 1 ('Yes')

B4. Regarding your concern about environmental problems, which of the following best describes what you are concerned about? **[READ OUT. SR]**

Health effects of pollution	1	
Quality of life	2	
Concern for future generations	3	
Long-term economic sustainability	4	
Maintaining eco-systems – nature, plants and animals	5	
Availability of resources we consume or use	6	
Other	96	DNRO

Section C: Household waste management

We are now going to talk about what your household does with your waste and recycling. Please be completely honest in your answers so that the information we collect is accurate. Remember, this isn't a test and there are no right or wrong answers—it's your opinion that counts.

ASK ALL

C1. Which of the following services are provided by your local council? **[READ OUT. MR UNLESS 97]**

General household garbage bin	1	
Garden waste bin	2	
Recyclable materials bins	3	
Kerbside pickup or council clean up service	4	
Household Chemical CleanOut event	5	
Community Recycling Centre/ recycling drop-off centre	6	
E-waste drop-off centre or event e.g. TVs and computers	7	
Other e.g. garage sale trail, second-hand Saturday	96	
None/ Don't know	97	DNRO

Interviewers to be provided with factsheet and briefing to understand how to classify anyone who responds with the colour of the bin e.g. red-lidded bin rather than the materials collected in the bin.

MR = multiple response

ASK ALL

C2. How do you or members of your household usually dispose of the following types of household waste? **[ONLY READ OUT TYPE OF WASTE CODES 1–21. ROTATE. CODE ANSWERS DIRECTLY INTO PROVIDED LIST BELOW 1–12, 97, and 98 OR TYPE INTO OTHER SPECIFY. SR PER ROW]**

	Type of waste	Garbage bin	Recycling bin	Organics bin	Compost or worm farm	Council pick-up	Store at home/ shed	Household Chemical CleanOut	Tip	Charity shop	Drop-off centre/ Community Recycling Centre	Drain/ sink/ toilet	Place kerb-side	Don't know	Don't have this type of waste	Other (specify)
3	Household batteries (e.g. AA)	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
4	Asbestos	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
6	Pool chemicals	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
7	Fluorescent light globes and tubes	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
8	Food waste	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
9	Motor oils and fuels	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
10	Furniture	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
11	Garden pesticides/ herbicides	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
12	Gas bottles	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
14	Garden waste/ plant cuttings	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
17	Paint and paint related products	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
18	Plastic wrapping	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
19	Smoke alarm	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96
21	Old clothing	1	2	3	4	5	6	7	8	9	10	11	12	97	98	96

ROTATE = rotate the order of items to avoid fatigue.

Section D: Recycling in general

Now thinking specifically about recycling.

ASK ALL

D3. Which of the following statements best describes your attitude to recycling common household waste e.g. packaging, newspaper, and glass? **[READ OUT. SR]**

I recycle even if it requires additional effort	1	
I only recycle if it does not require additional effort	2	
I do not recycle	3	
Don't know	97	DNRO

ASK ALL

D4a. How important is recycling your common household waste e.g. packaging, newspaper, glass to you? **[READ OUT. SR]**

Very important	1	
Fairly important	2	
Not very important	3	
Not at all important	4	
Don't know	97	DNRO

ONLY ASK IF D4a = 1–4

D4b. Why is recycling (insert statement from D4a here) to you ? **VERBATIM (NO NEED TO PROBE, JUST PRIMARY REASON THINK IT IS OR ISN'T IMPORTANT)**

Section E: Organics

I'd now like to ask you a few questions about how your household disposes of food and garden waste.

ASK ALL

E1. How much uneaten food would you say that your household usually throws away?
[READ OUT. SR]

Much more than you should	1	
More than you should	2	
A reasonable amount	3	
Very little	4	
None	98	

ASK ALL

E2. How concerned are you about the amount of food that gets thrown away before being eaten in your household? [READ OUT. SR]

A great deal	1	
A fair amount	2	
A little	3	
Not at all	4	

ASK ALL

E3. Before you or a member of your household does your main food shopping, how regularly do you or they do the following? [READ OUT. SR PER ROW]

	Task	Never	Rarely	Some-times	Most times	Always
a	Check what food is already in the house	1	2	3	4	5
b	Plan the meals to be cooked in the next few days	1	2	3	4	5
c	Write a list and stick to it as much as possible	1	2	3	4	5

ASK ALL

E4. How regularly do you or a member of your household do the following when doing the grocery shopping? [READ OUT. SR PER ROW]

	Task	Never	Rarely	Some-times	Most times	Always
a	Buy food according to a set budget	1	2	3	4	5

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b	Buy food based on what is on special (including 2 for 1 deals)	1	2	3	4	5
c	Buy items 'in bulk'	1	2	3	4	5
d	Check the 'use by' or 'best before' dates before purchasing food items	1	2	3	4	5

ASK ALL

E5. How regularly do you or a member of your household do the following when preparing a main meal? **[READ OUT. SR PER ROW]**

	Task	Never	Rarely	Some-times	Most times	Always
a	Consider portion sizes and only make as much as you need	1	2	3	4	5
b	Make extra for a future planned meal (e.g. lunch or dinner the next day)	1	2	3	4	5
c	Make extra just in case it is needed	1	2	3	4	5

ASK ALL

E7a. Have you or someone else in your household done any of the following in the past 12 months? **[READ OUT TASK. SR PER ROW]**

	Task	Yes	No	Don't know (DNRO)
a	Composted food waste or used a worm farm	1	2	97
b	Used a kerbside food waste collection service	1	2	97
c	Fed food waste to animals (e.g. chickens/ dogs)	1	2	97
d	Composted garden waste or used a worm farm	1	2	97
e	Used a kerbside garden waste collection service (green bin, chipping or pick up) provided by council	1	2	97
f	Taken garden waste to a recycling centre or tip	1	2	97
g	Used a commercial garden service that removes garden waste	1	2	97
h	Placed garden waste in the garbage bin	1	2	97

ONLY ASK IF E7a = 2 ('No') to ALL tasks a–c

E7b. Why don't you or members of your household recycle food waste (i.e. compost, worm farm, collection service, fed to animals)? **VERBATIM**

--

E9b. Who are the main people in your household responsible for disposing and/or recycling your garden waste (e.g. garden clippings, lawn clippings)? **[READ OUT CODES if necessary. MR]**

Myself	1
Husband/ wife/ partner	2

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Grandparent/s	3
Parent (mother/ father)	4
Sibling (brother/ sister)	5
Child (son/ daughter)	6
Flatmate/ housemate	7
Other	96

ONLY ASK IF E9a row e = Code 1 ('Yes')

E9c. And why did you place your garden waste in the garbage bin? **[DNRO. MR 1–96 INTO PRE-CODES BELOW]**

No green bin/garden collection service provided by council	1	
Garbage bin is the most convenient option	2	
Too hard to take it to a recycling centre	3	
Too expensive to have it collected	4	
Don't like composting	5	
Too much garden waste to compost	6	
Other (specify)	96	
Don't know	97	

Section F: Problem waste

ASK ALL

F1. Have you or someone else in your household done any of the following in the past 12 months? **[READ OUT TASK. SR PER ROW]**

	Task	Yes	No	Don't know (DNRO)
a	Disposed of less common household waste e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors	1	2	97
b	Disposed of renovation waste e.g. paint, plaster, bricks, carpet, asbestos	1	2	97
c	Disposed of household chemical waste e.g. pool chemicals, herbicides and pesticides	1	2	97

ASK IF F1 = CODE 1 ('Yes') for task a

F2a1. Who was the person who disposed of the less common household waste (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors)? **[READ OUT CODES 1–8 if necessary. MR]**

F2a2. What was the item, and how did they dispose of it? **VERBATIM**

a) Less common HH waste	F2a1: Who	F2a2: What and how
Self	1	
Husband/ wife/ partner	2	
Grandparent/s	3	
Parent (mother/ father)	4	
Sibling (brother/ sister)	5	
Child (son/ daughter)	6	
Flatmate/ housemate	7	
Everyone/ whole household	8	
Other (DNRO)	96	

ASK IF F1 = CODE 1 ('Yes') for task b

F2b1. Who was the person who disposed of the renovation waste (e.g. paint, plaster, bricks, carpet, and asbestos)? **[READ OUT CODES 1–8 if necessary. MR]**

F2b2. What was the item, and how did they dispose of it? **VERBATIM**

Self	1	
Husband/ wife/partner	2	
Grandparent(s)	3	
Parent (mother/father)	4	
Sibling (brother/sister)	5	
Child (son/daughter)	6	

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Flatmate/housemate	7	
Everyone/whole household	8	
Other (DNRO)	96	

ASK IF F1 = CODE 1 ('Yes') for task c

F2c1. Who was the person who disposed of the household chemical waste (e.g. pool chemicals, herbicides and pesticides)? **[READ OUT CODES 1–8 if necessary. MR]**

F2c2. What was the item, and how did they dispose of it? **VERBATIM**

Self	1	
Husband/ wife/ partner	2	
Grandparent/s	3	
Parent (mother/ father)	4	
Sibling (brother/ sister)	5	
Child (son/ daughter)	6	
Flatmate/ housemate	7	
Everyone/ whole household	8	
Other (DNRO)	96	

ASK ALL

F3a. How convenient is it for you to dispose of less common household waste correctly (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors)? **[READ OUT. SR]**

Very convenient	1	
Fairly convenient	2	
Not very convenient	3	
Not at all convenient	4	
Don't know	97	DNRO

ONLY ASK IF F3a = 3 or 4

F3b. Why is it not convenient for you to you to dispose of these items correctly (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, smoke detectors)?

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Section G: Illegal dumping

ASK ALL

G1. Have you or someone else in your household done any of the following in the past 12 months? **[READ OUT TASK. SR PER ROW]**

	Task	Yes	No	Don't know (DNRO)
a	Placed household goods or furniture on the kerbside for council collection after making a booking for an organised pick up	1	2	97
b	Taken unwanted clothing or household goods to a charity shop where a staff member accepted receipt	1	2	97
c	Taken unwanted clothing or household goods to a charity bin and placed it inside the bin	1	2	97
d	Left unwanted clothing or household goods outside a charity bin or shop	1	2	97
e	Taken unwanted clothing, household goods or furniture to a recycling depot	1	2	97
f	Left unwanted clothing, household goods or furniture in a public place, park or bushland area	1	2	97
g	Left unwanted clothing, households goods or furniture on the kerbside for passers-by and neighbours to collect	1	2	97

ASK ALL

G2a. How convenient is it for you to dispose of items such as unwanted clothing, household goods or furniture correctly? **[READ OUT. SR]**

Very convenient	1	
Fairly convenient	2	
Not very convenient	3	
Not at all convenient	4	
Don't know	97	DNRO

ONLY ASK IF G2a = 3 or 4

G2b. Why is it not convenient for you to dispose of items such as unwanted clothing, household goods or furniture correctly? **VERBATIM**

Section H: Summary knowledge and attitudes

ASK ALL

H1. Please tell me whether you think each of the following statements is true or false.
[READ OUT STATEMENT THEN SCALE. SR PER ROW. RANDOMISE]

	Statement	True	False	Don't know (DNRO)
<i>Dry recycling</i>				
a	Recycling paper, cardboard and glass saves on materials but doesn't help with saving water, energy and fuel	1	2	97
b	It doesn't matter if I put a few wrong things in my recycling bin, as they will be sorted anyway	1	2	97
<i>Organics (food waste/compost/food and garden collection)</i>				
c	Food waste is the largest type of waste in the average NSW household bin	1	2	97
d	The use of compost in gardening, landscaping and agriculture can improve the structure, fertility and health of our soils	1	2	97
<i>Problem waste</i>				
e	If disposed of correctly, gas bottles, fluoro globes and tubes and paint tins can be recycled	1	2	97
f	It's OK to dispose of small amounts of asbestos from your home in your 'red' or general household waste bin	1	2	97
<i>Illegal dumping (charities)</i>				
g	Leaving goods next to charity bin or shop (e.g. on the pavement or in a car park) is illegal dumping	1	2	97
h	Charities can find a use for all donations, even things that have reached the end of their lives (e.g. shoes with holes, electrical items that don't work).	1	2	97

ASK ALL

H2. Please tell me to what extent you agree or disagree with each of the following statements. **[READ OUT STATEMENT THEN SCALE. SR PER ROW. ROTATE]**

	Statement	Disagree strongly	Disagree	Neither agree nor disagree	Agree	Agree strongly
<i>Recycling</i>						
1	I am concerned about the amount of waste our society produces	1	2	3	4	5
3	I am confident about which items can be placed in which kerbside bins	1	2	3	4	5
4	It's too much effort to try and dispose of things properly	1	2	3	4	5
6	I understand the environmental benefits of recycling	1	2	3	4	5
7	Recycling makes me feel like I am doing my part to help the environment	1	2	3	4	5
8	I recycle because the council tells me to do it	1	2	3	4	5
<i>Organics</i>						
11	A recycling bin for food and garden waste is a good idea	1	2	3	4	5
12	A busy lifestyle makes it hard to avoid wasting food	1	2	3	4	5
<i>Problem waste</i>						
13	Some common household items can be harmful to the environment and require special disposal	1	2	3	4	5
15	I am prepared to travel to a special location to drop off materials that require special treatment so that they can be recycled	1	2	3	4	5
<i>Illegal dumping</i>						
16	If I saw someone dumping waste illegally I would report it	1	2	3	4	5

Section J: Communications

ASK ALL (ROTATE QUESTION AROSS CODES A–E)

J7. If you ever needed information about each of the following five topics, where would you look for it/what sources would you use? **[READ OUT 5 TOPICS ONE BY ONE AND CODE DIRECTLY INTO BELOW. MR 1–96. DNRO SOURCE CODES]**

- a) recycling common household waste (e.g. packaging, newspaper, glass)
- b) recycling food waste (e.g. composting, worm farming, food waste collection service)
- c) recycling garden waste
- d) disposing of less common household waste (e.g. fluoro globes and tubes, gas bottles, batteries, motor oils, paints, smoke detectors)
- e) disposing of items such as unwanted clothing, household goods or furniture

Source	a. Common HH waste	b. Food waste	c. Garden waste	d. Less common HH waste	e. Clothes, HH goods, furniture
TV programs (news, current affairs program or other scheduled program)	1	1	1	1	1
TV advertising	2	2	2	2	2
Radio programs (news, current affairs program or other scheduled program)	3	3	3	3	3
Radio advertising	4	4	4	4	4
Newspaper articles or editorials	5	5	5	5	5
Newspaper advertising	6	6	6	6	6
Magazine articles	7	7	7	7	7
Magazine advertising	8	8	8	8	8
Internet forums/blogs	9	9	9	9	9
Internet advertising	10	10	10	10	10
Local council website(s)	11	11	11	11	11
EPA (Environment Protection Authority NSW) website	12	12	12	12	12
Other websites (specify).....	13	13	13	13	13
Facebook/Twitter/YouTube	14	14	14	14	14
Council email/newsletter/meeting	16	16	16	16	16
School email/newsletter/meeting	16	16	16	16	16
Community group	17	17	17	17	17
Family, friends, neighbours	18	18	18	18	18
Workplace/colleagues	19	19	19	19	19
Smart phone or tablet application	20	20	20	20	20
Other (specify)	96	96	96	96	96
Don't know/can't remember	97	97	97	97	97
None/ nowhere	98	98	98	98	98

J3a. Have you seen or heard anything about ...? [READ OUT PROGRAMS a–e one by one. IF YES IMMEDIATELY ASK FOR EACH]

J3b. and where did you see or hear it? [CODE DIRECTLY INTO LIST BELOW]

a	Household Chemical CleanOut program	1
b	Love Food Hate Waste program	2
c	Community Recycling Centres	3
d		
e		
f	None	98

TV programs (news, current affairs program or other scheduled program)	1
TV advertising	2
Radio programs (news, current affairs program or other scheduled program)	3
Radio advertising	4
Newspaper articles or editorials	5
Newspaper advertising	6
Magazine articles	7
Magazine advertising	8
Internet forums/blogs	9
Internet advertising	10
Local Council website(s)	11
Environment Protection Authority (EPA) website	12
Other websites (specify)	13
Facebook/Twitter/YouTube	14
Council email/newsletter/meeting	16
School email/newsletter/meeting	16
Community group	17
Family, friends, neighbours	18
Workplace/ colleagues	19
Smart phone or tablet application	20
Participated in program	21
Other (specify)	96
Don't know/can't remember	97
None/nowhere	98

ASK IF YES TO J3a – any of codes a–e (programs)

J4b. What, if anything, did you do differently as a result of seeing these materials?
VERBATIM

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J6. Are you aware the NSW Environment Protection Authority has programs designed to help householders and businesses to reduce waste and improve recycling? **[SR]**

Yes	1	
No	2	

Section K: Suggestions

ASK ALL

K1. What, if anything, would help to improve the way you and your household manage your waste and recycling? **[DNRO. CODE DIRECTLY INTO LIST BELOW]**

More council collection services	1
More free council collection services	2
More council drop-off points	3
Provision of specific bins	4
Information on what to put into each bin	5
Information on where to dispose of special items	6
Information about available services	7
More frequent collection services	8
Council collection of a wider range of materials	9
Information on council collection dates	10
Information on collection costs	11
Information on range of collection options	12
Definitions of types of household waste	13
Tactics for dealing with different types of household waste	14
Impact of incorrect disposal of household waste	15
Physical help putting containers out	16
Information kit provided by the real estate when I moved in	17
Smart phone or tablet application	18
Other (specify).....	96

Section L: Additional demographics

ASK ALL

L1. What is the highest level of education that you have completed? **[READ OUT. SR]**

No formal schooling	1	
Primary school	2	
Some secondary school	3	
Completed secondary school (HSC, Leaving Certificate, etc.)	4	
Trade or technical qualification (e.g. TAFE)	5	
University or College of Advanced Education diploma, degree or higher degree	6	
Prefer not to answer	99	DNRO

ASK ALL

L2. What is the main language spoken at home? **[SR]**

English	1	
Cantonese	2	
Mandarin	3	
Arabic	4	
Italian	5	
Greek	6	
Vietnamese	7	
Spanish	8	
Hindi	9	
Korean	10	
Tagalog	11	
Other (specify).....	96	
Prefer not to answer	99	DNRO

ASK ALL

L3. What, if any, second language is spoken at home? **[SR]**

No other language	96	
English	1	
Cantonese	2	
Mandarin	3	
Arabic	4	
Italian	5	
Greek	6	
Vietnamese	7	
Spanish	8	
Hindi	9	
Korean	10	
Tagalog	11	
Other (specify).....	96	
Prefer not to answer	99	DNRO

ASK ALL

L4. What type of property do you live in? **[READ OUT. SR]**

Detached house	4	
Low-rise apartment (1 or 2 stories)	1	
Medium rise apartment (3–5 stories)	2	
High-rise apartment (6+ stories)	3	
Semi-detached house, terrace or townhouse	5	
Number of units on block	6	
Other	96	DNRO

ASK ALL

L5. Which of the following best describes the outdoor area(s) available where you live?
[READ OUT. MR]

Balcony	1	
Small garden or courtyard	2	
Large garden	3	
Acreage	6	
Communal garden/shared space	7	
None	98	DNRO

ASK ALL

L6. Do you own or rent the property where you currently live? **[SR]**

Own	1	
Rent	2	
Other	96	

ASK IF L6 = 1

L7. Have you undertaken any renovations on this property within the past 2 years? **[SR]**

Yes – major renovation	1	
Yes – minor	2	
No	3	
Don't know	97	DNRO

ASK ALL

L9. Which of the following best describes your household income before tax? **[READ OUT. SR]**

Less than \$20,000	1	
\$20,000–\$39,999	2	
\$40,000–\$59,999	3	
\$60,000–\$79,999	4	
\$80,000–\$99,999	5	
\$100,000–\$149,999	6	
\$150,000 or more	7	
Don't know	97	DNRO
Prefer not to answer	99	DNRO

ASK ALL

L10. Finally, do you own or have access to a car when needed? **[SR]**

Yes	1	
No	2	
Prefer not to answer	99	DNRO

Section M: Closure

Completion script

Thank you for taking the time to complete our survey. Your opinions and responses are gratefully received and extremely important to us.

Your responses will be used at an aggregate level only, and as such we would like to assure you once again that your details will be used in the strictest of confidence and will not be passed on to any other party for any purpose other than that for which it was intended.

Thank you for your participation.

Appendix 3: Methods of disposing of various wastes

Food waste

Almost all (99%) are disposing of food waste (Fig. A3-1); the majority are doing so via the garbage bin (55%) followed by using a compost bin or worm farm (28%).

Significant differences across subgroups (by disposal form)

- Garbage bin
 - 16–29 years, 70+, metropolitan areas, lone household, CALD, renting, apartment living, living in unit blocks, Captives, Good intentions and Hard-to-reach
- Compost or worm farm
 - 30–69 years old, regional areas, families, home owning, living in detached house, Champions and Diligents
- Other
 - Regional.

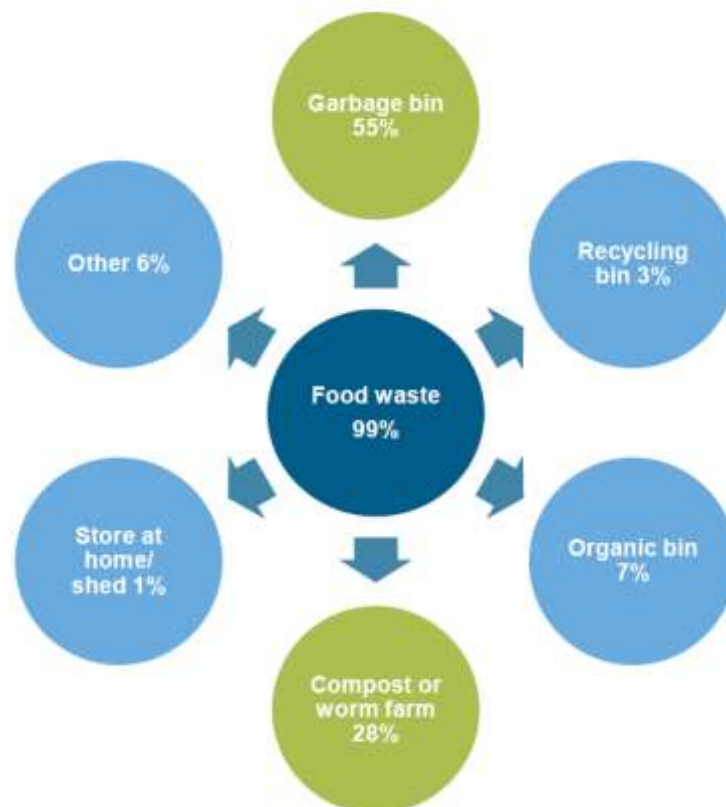


Figure A3-1. Primary methods of disposing of food waste. Base: Those who stated that they disposed of the above material type (n = 1187)

Old clothing

Among respondents, 98% were disposing of old clothing; this was mostly dropped off at a charity shop for re-use (83%) (Fig. A3-2). Only a few respondents disposed of old clothing in the bin (garbage bins, 6%; recycling bins, 2%).

Significant differences across subgroups

- Charity Shop
 - Females, 30–69 years old, Sydney/Newcastle/Wollongong area, families, mid- and high household income, home owning, car access
- Garbage bin
 - Male, Hard-to-reach.

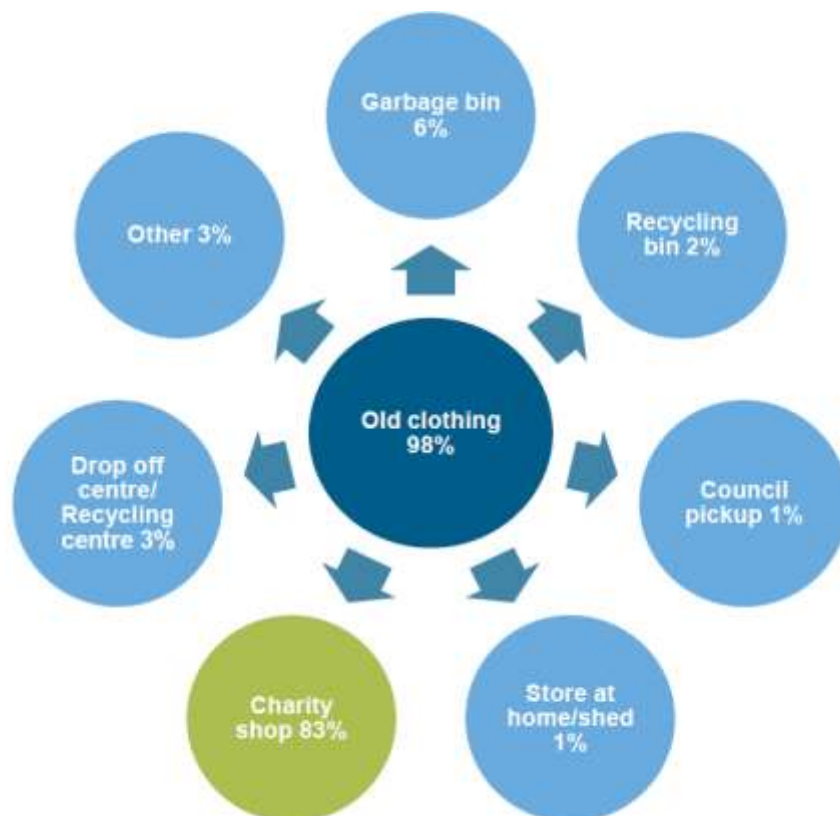


Figure A3-2. Primary methods of disposing of old clothing. Base: Those who stated that they disposed of the above material type (n = 1173)

Plastic wrapping

Almost everyone (98%) had encountered plastic wrapping. It is primarily being disposed of via garbage bins (60%), followed by recycling bins (34%).

Significant differences across subgroups

- Garbage bin
 - Families
- Recycling bin
 - 30–49 years old, Sydney/Newcastle/Wollongong, CALD, Diligents.

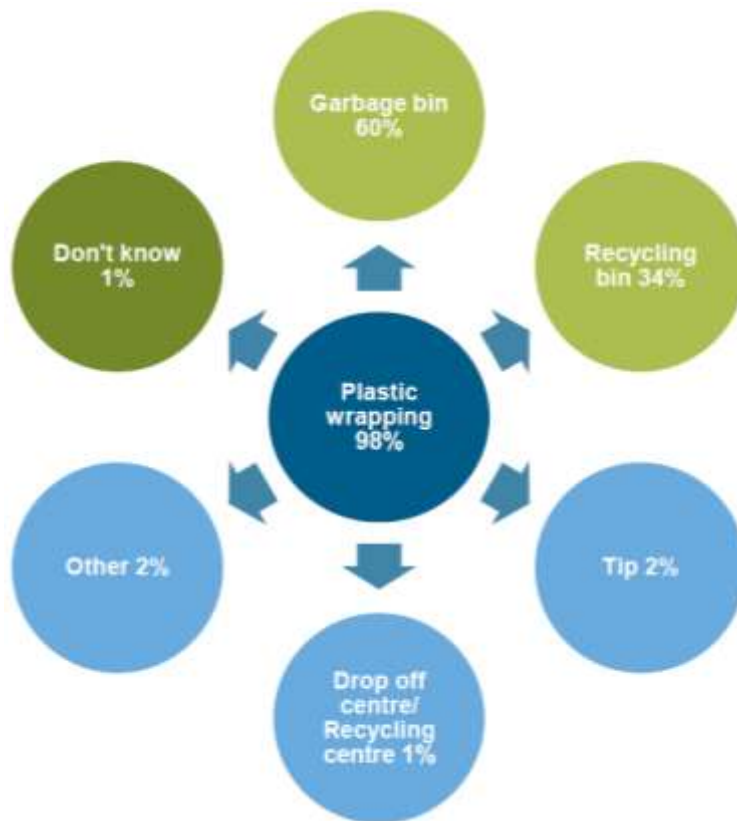


Figure A3-3. Primary methods of disposing of plastic wrapping. Base: Those who stated that they disposed of the above material type (n = 1170)

Household batteries

Household batteries are being disposed of by more than 9 in 10 respondents. Just under two-thirds (63%) of all respondents use the garbage bin; 8% drop batteries off at a drop-off centre or Community Recycling Centre (Fig. A3-4).

Significant differences across subgroups

- Garbage bin
 - 16–49 years old, high household income, Good intentions, Hard-to-reach
- Drop-off centres/Community Recycling Centres
 - 50+years old, Champions, Diligents



Figure A3-4. Primary methods of disposing of household batteries. Base: Those who stated that they disposed of the above material type (n = 1122)

Garden waste/plant cuttings

Organics bins (52%) and compost bins or worm farms (20%) were mostly used for garden waste/plant cuttings; 1 in 10 respondents (11%) dispose of their garden waste in the garbage bin (Fig. A3-5).

Significant differences across subgroups

- Organics bin
 - Sydney/Newcastle/Wollongong, home owning, detached house
- Compost bin/worm farm
 - 50–69 years old, regional/rural areas, families, home owning, living in detached house, Champions
- Garbage bin
 - 30–49 years old, Sydney/Newcastle/Wollongong, single household, Good intentions



Figure A3-5. Primary methods of disposing of garden waste/plant cuttings. Base: Those who stated that they disposed of the above material type (n = 1109)

Furniture

Furniture is most likely to be disposed of via council-delivered out-of-home services such as the council pick-up (44%) (Fig. A3-6); 1 in 4 respondents (24%) drop off their furniture at a charity shop, followed by a few respondents who drop furniture off at a tip (8%).

Significant differences across subgroups

- Council pick up
 - 16–49 years old, metropolitan areas, families, high household income, CALD, living in unit block
- Charity shop
 - Females, 50+ years, lone household, trade education, no CALD, owning, Champions.



Figure A3-6. Primary methods of disposing of furniture. Base: Those who stated that they disposed of the above material type (n = 1017)

Fluorescent light globes and tubes

Among the 67% who have encountered fluorescent light globes and tubes, the most common way of disposing of them is via the garbage bin (64%), followed by the recycling bin (13%) (Fig. A3-7). However, almost 1 in 10 respondents do not know how their household disposes of these.

Significant differences across subgroups

- Garbage bin
 - Males, Captives
- Recycling bin
 - Low-income household, CALD, renting



Figure A3-7. Primary methods of disposing of light globes and tubes. Base: Those who stated that they disposed of the above material type (n = 806)

Paint and paint-related products

For the disposal of paint and paint-related products (as encountered by 59% of respondents) a mix of disposal options was used (Fig. A3-8). One-fifth of respondents stated that they used the garbage bin (20%). This was followed by the drop-off centre/ Community Recycling Centre (19%) and then the tip (16%); 1 in 10 respondents wait for council-delivered services such as council pick-up and Household Chemical CleanOut (each 11%).

Significant differences across subgroups

- Garbage bin
 - 16–29 years, regional, group living arrangement, unaware of EPA programs
- Drop-off centre
 - 50+ years, trade education, home owning, Champions, Diligents
- Tip
 - Regional areas, detached housing, Champions
- Household Chemical CleanOut
 - 50+ years, metropolitan areas, no CALD, home owning, Diligents, Champions
- Council pick-up
 - 50+ years, high household income.



Figure A3-8. Primary methods of disposing of paint and paint-related products. Base: Those who stated that they disposed of the above material type (n = 704)

Motor oils and fuels

Four in 10 respondents had encountered motor oil and fuel waste, which they had either dropped off at a drop-off centre (18%) or a tip (14%) or disposed of via the garbage bin (12%) (Fig. A3-9). One-fifth of respondents were unsure how their household was disposing of motor oil and fuels, and 1 in 6 respondents cited an alternative form of disposal by opting for 'Other' (17%).

Significant differences across subgroups

- Drop-off centre
 - 30+years, detached housing, Champions, Captives
- Tip
 - 50–69 years old, mid-range household income
 - 16–49 years, Hard-to-reach



Figure A3-9. Primary methods of disposing of motor oils and fuels. Base: Those who stated that they disposed of the above material type (n = 500)

Garden pesticides/ herbicides

A mixture of forms of disposal forms was cited for disposal of garden pesticides/herbicides, with the garbage bin being mentioned most often (24%), followed by Household Chemical CleanOut (12%) and the Tip (10%) (A3-10).

Significant differences across subgroups

- Garbage bin
 - 16–29 years, small country town, semi-detached housing, Good intentions.

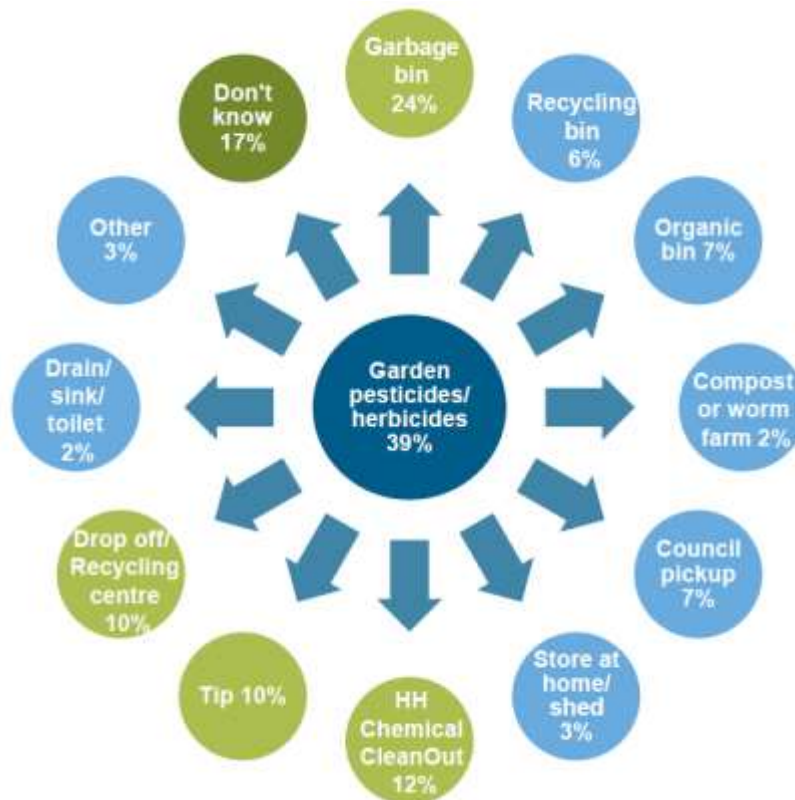


Figure A3-10. Primary methods of disposing of garden pesticides/herbicides. Base: Those who stated that they disposed of the above material type (n = 469)

Gas bottles

Four in 10 households do dispose of gas bottles, but just under one-third (32%) of respondents stated 'Other' as a means of disposal rather than any of the options provided (Fig. A3-11). Of the stated disposal options, respondents were most likely to select Drop-off centre/Recycling Centre (18%) and recycling bin (16%). One in 6 respondents did not know how gas bottles were disposed of in their household.



Figure A3-11. Primary methods of disposing of gas bottles. Base: Those who stated that they disposed of the above material type (n = 453)

Smoke alarms

Of the 25% who had disposed of a smoke alarm, 1 in 3 had disposed of it in the garbage bin (34%) and 1 in 10 had used the recycling bin (9%) (Fig. A3-12). One-third of these respondents did not know how their household disposed of smoke alarms.

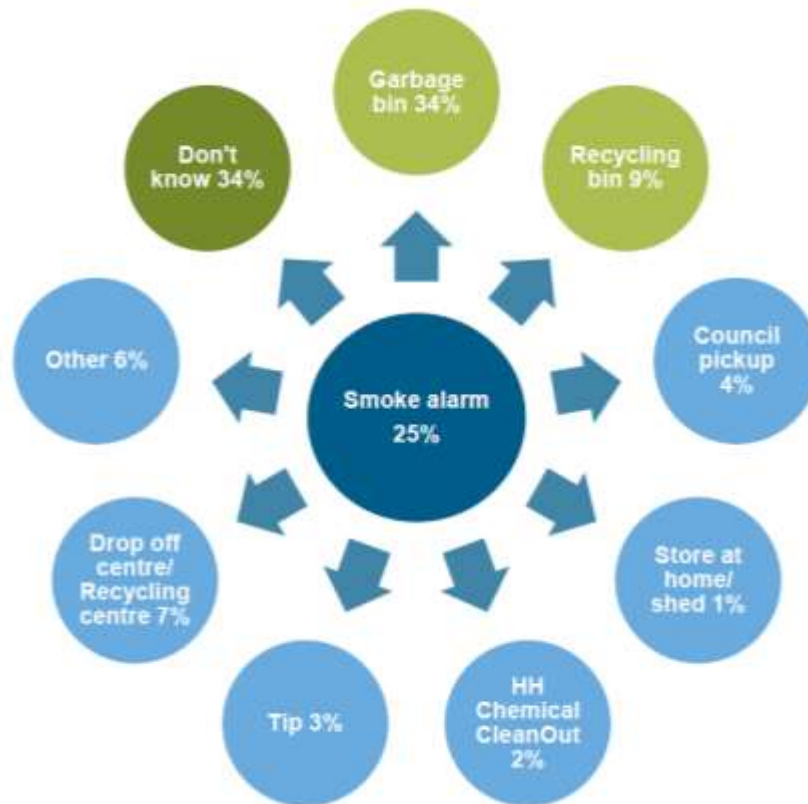


Figure A3-12. Primary methods of disposing of smoke alarms. Base: Those who stated that they disposed of the above material type (n = 305)

Asbestos

Only a minority of respondents (16%) had encountered asbestos waste; 32% of these mentioned 'Other' forms of disposal (32%) besides the options listed, and 24% opted for 'Don't know' (Fig. A3-14). Those who selected one of the disposal options provided opted for council pick-up (selected by 13%) followed by the tip (11%).

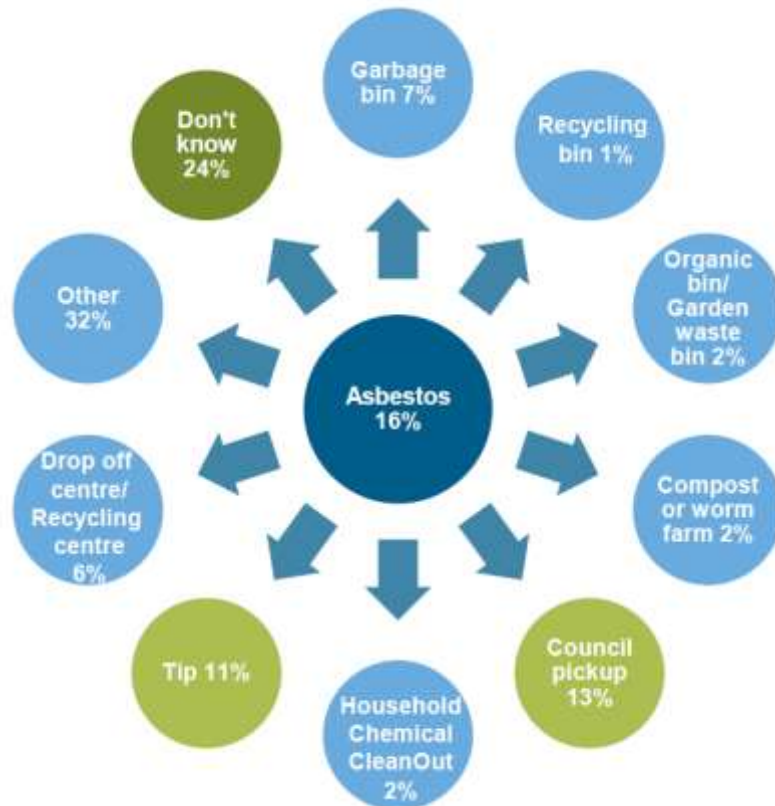


Figure A3-13. Primary methods of disposing of asbestos. Base: Those who stated that they disposed of the above material type (n = 190)

Pool chemicals

Of the options provided on the list, pool chemicals were the least encountered type of waste, with only 13% stating that they had disposed of them in the past (Fig. A3-15). The garbage bin was the most often mentioned disposal form (20%), followed by mentions of 'Other' (11%).

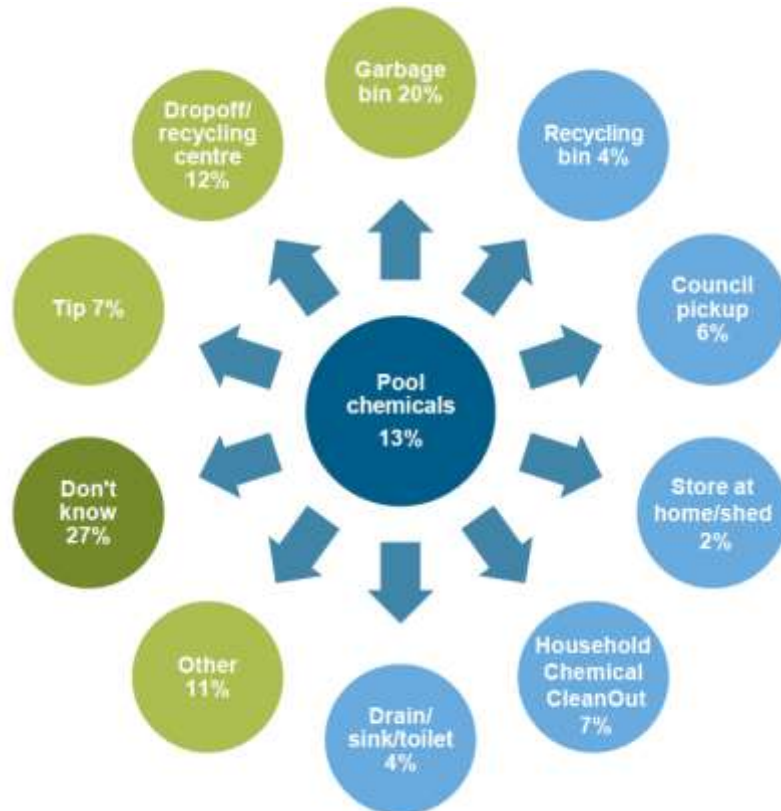


Figure A3-14. Primary methods of disposing of pool chemicals. Base: Those who stated that they disposed of the above material type (n = 158)

Demographic profile of those who have not encountered certain forms of waste

Significant differences across subgroups (significantly more likely to not have encountered ...)

- Fluorescent light globes/tubes (33%) (Fig. A3-16)
 - Trade education, renting, living in apartment
- Paints/paint-related products (41%)
 - Lone household, CALD, renting, living in apartment or unit block, no renovations, no car access, aware of *Love Food Hate Waste* program, Captives and Good intentions
- Motor oils and fuels (58%)
 - 30+ years, metropolitan area, lone household, renting, apartment living, unit block, no car access
- Gas bottles (62%)
 - 70+ years, metropolitan area, lone household, apartment, unit block, not aware of EPA programs
- Garden pesticides/herbicides (61%)
 - 30+ years, rural area, renting, apartment living, unit block, Champions
- Smoke alarms (75%)
 - 30+ years
- Asbestos (84%)
 - Renting, living in apartment, doing no renovations
- Pool chemicals (87%)
 - Males, 30+ years, renting, living in apartment or unit block



Figure A3-15. Percentages of the sample who had not encountered various types of waste. Base: Those who stated that they had not disposed of the above material types (n = 1200)