He whakawhiti kōrero kounga mō te whakaheke para

Best practice communications for waste minimisation

A guide to support effective behaviour change within households

Ministry for the Environment
Manatū Mō Te Taiao

Te Kāwanatanga o Aotearoa
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Introduction

This guide, *Best practice communications for waste minimisation*, is part of a strategic approach by the Ministry for the Environment (the Ministry) to improve the behavioural effectiveness of central and local government waste-related communications to households. A key focus is on supporting correct and increased participation in kerbside recycling and food scraps collections, as part of the standardisation of kerbside collections across Aotearoa New Zealand. It also goes beyond household waste collections to cover minimisation of food waste and single-use plastic waste.

This guide draws on the latest behavioural science, evidence and industry best practice in effective public-facing communications,[a] to provide clear guidance on how to write, design, deliver and test both print and digital communications. It brings together nationally agreed elements (key English terms, te reo Māori translations and waste stream colours) with examples of best practice household waste communications locally, and from around the world, tailored to the Aotearoa context.

We recognise that external communications by local and central governments have many functions and purposes. This guide focuses on communications that explicitly aim to influence and change **behaviour**, and specifically the behaviour of households. While the insights it offers may have some relevance to communications that target other audiences, such as businesses or internal stakeholders, they have not been considered with these audiences in mind. In addition, this guidance does not necessarily apply to certain types of communications about rubbish and recycling (eg, announcements, awareness, reputation).

We hope that this guide will:

- raise awareness of the need to consider the behavioural effectiveness of communications, including by incorporating basic behavioural science principles
- provide a clearer understanding of, and advice on how to maximise the likelihood of behaviour change resulting from household communications
- help avoid unintended or contrary outcomes through careful consideration
- signpost interested readers to other guidance documents that can provide more in-depth instruction on certain topics.

The guide is a living document that the Ministry will continue to update over time.

[a] BehaviourWorks Australia undertook a desktop review of applied household waste research and communications guidance in Aotearoa, Australia and the United Kingdom, along with a rapid scan of global, peer-reviewed academic literature to uncover key principles and examples of best practice communications. Research is referenced throughout the document (in the form of, eg, [1,2]) and listed in the references section at the end of this guide.

Why local government should use this guide

By using this guide, you can:

- improve the likelihood that behaviour change will occur
- reduce time in developing communications, by drawing on existing examples
- strengthen shared understandings and objectives of waste and communications staff
- ensure communications are consistent with nationally agreed rules
- make more effective and efficient use of council services.

How to use this guide

This guide has been designed to make accessing relevant insights as easy as possible. It can be used both by those interested in increasing their general behaviour change knowledge and practice, and by those who are just looking to develop a specific household waste communication or campaign.

The guide is structured in three main sections, as follows.

General behaviour change principles *Start here to gain a general understanding*	Brief overviews of key steps and insights to guide all types of behaviour change communications • **Behaviour change basics** Four steps for applying behavioural science to communications: 1. Define the behaviour 2. Understand barriers 3. Develop solutions 4. Test communications
Specific waste guidance *Use this section to plan a specific communication or campaign*	Guidance tailored specifically to household waste behaviour change communications • **Nationally standard waste terms and colours** • **Step-by-step guidance** Specific guidance for each of the four key waste topics on applying the basic behaviour change process and selecting insights: – **Kerbside recycling:** Maximising participation, minimising contamination and introducing service changes – **Kerbside food scraps collection:** Introducing new service, maximising participation and minimising contamination – **Food waste minimisation:** Minimising through grocery shopping, preparation, serving and cleaning practices – **Single-use plastics minimisation:** Minimising through purchase decisions and in-home consumption practices
Key resources *Use these resources to refine your communication or campaign*	Key resources that will help implement relevant behavioural science principles and best-practice communications • **Library of Behavioural Insights** Explanations, considerations and examples of relevant insights. • **Checklists and guidance for building and reviewing behavioural communications** Principles and guidance for maximising behavioural effectiveness of communications: – Key principles for writing messages or content – Key principles for visually designing collateral – Key principles for delivery, including channels of communication • **References** to further research and guidance

General behaviour change principles

This section provides a general foundation for developing best practice behaviour change communications.

It includes:

- **Behaviour change basics**
  Four steps for applying behavioural science to communications:
  1. Define the behaviour
  2. Understand barriers
  3. Develop solutions
  4. Test communications

Behaviour change basics

Adopting a systematic and robust approach to behaviour change will maximise the likelihood of successfully changing how households manage and minimise waste, and so improve waste outcomes across Aotearoa.

A basic behaviour change process involves four key steps.

1. Behaviour Define your target behaviour	Select **just one behaviour** that you want households to perform after receiving your communication. It can help to specify it as **who** needs to do **what, when**.
2. Barriers Understand key barriers to your target behaviour	Explore your target behaviour to understand what is making the behaviour **harder or less likely** to happen, and what might make it **easier or more likely** to happen. It can help to think about aspects of the individual person, the social context and physical environment of the behaviour.
3. Solutions Select or develop relevant strategies	Select behavioural insights[b] and other targeted strategies matched to what you know about your target behaviour and its barriers. You will likely need **persuasive** messages to maximise motivation, and **supportive and enabling** messages to overcome other barriers.
4. Testing Check before, during and after implementation	Success can never be guaranteed, and messages can sometimes have unexpected effects, so it is important to check messages and communication **before** delivery, monitor **during** delivery and evaluate effectiveness **afterwards**.

1. Behaviour: Define your target behaviour

The first step is to understand what problem you are trying to solve and what you want households to **do** to help address that problem (ie, what desirable action you want them to take). This is usually more effective than telling people what not to do, because it gives them a clear alternative. For example:

✓ "Put disposable nappies in your rubbish" tells people what the correct action is, so this message is more effective than

✗ "Don't put disposable nappies in your yellow bin".

Narrowing a broad problem down to focus on **just one or two** clearly defined, desirable behaviours will also increase the likelihood of achieving widescale change.[1] You may find this hard when many changes are needed, but if you target too many behaviours at once, you might not get any change.[2] Instead, you can sequence the behaviour changes you need over time.

Defining your target behaviour as **who** needs to do **what, when** can help make the target behaviour very clear both to yourself and to your household audience.

[b] Generic strategies drawing on research into human behaviour and decision-making, widely applicable across audiences and contexts.

Table 1: Examples of clearly defined behaviours

Example	Who	needs to do **what**	when
1	Households	look up instructions on the council website	when unsure if item is recyclable
2	Households	look for recycling instructions on the label	when unsure if item is recyclable
3	Households	look for recycling instructions on the label	whenever recycling packaging

Table 1 illustrates how subtle differences can change a behaviour. Examples 1 and 2 are both seeking information when confused. The first requires substantial additional effort and therefore has a lower chance of occurring than example 2. Examples 2 and 3 have the same actions but different contexts. Example 2 proposes to prompt the action of checking only when people are unsure, while example 3 proposes to link it automatically to recycling, so that people check even when they think they know what bin it should go in, which will overcome issues with over confidence.

In addition to clearly defining your target behaviour, it is helpful to understand different characteristics of the behaviour.

First, it is helpful to determine if it is an **entirely new** behaviour or a **change to an existing** behaviour.[2] It can often be easier for households to adjust their existing behaviour than to start an entirely new behaviour where none currently exists, as in these examples.

- **New:** Collect food scraps in a kitchen benchtop bin, separate from general kitchen waste.
- **Change:** Place all #3 plastic containers in the rubbish instead of recycling.

Second, you need to know if your target behaviour is **one-off** or **ongoing**. For ongoing behaviour, you will need to get households to start the behaviour and continue the behaviour in the long run.[3] The barriers to starting a behaviour are different from the barriers to continuing with it, and you will need to address both over time to embed the behaviour. These examples illustrate the difference between the two behaviours.

- **One-off:** Buy a soft-drink maker (eg, Sodastream).
- **Ongoing:** Bring your own containers to a bulk food store each time you buy groceries.

Finally, it can be helpful to understand if the behaviour is a **preliminary** behaviour that enables a later behaviour, or if it is the **final** behaviour that will contribute to addressing your problem.[1] You will need to monitor a preliminary behaviour to check if it spontaneously leads to the final behaviour, or if you will need to shift focus to the final behaviour later once the preliminary behaviour is established. These examples illustrate the difference between the two behaviours.

- **Preliminary:** Look for recycling instructions on the label to see if the item is recyclable.
- **Final:** Place the item in the correct kerbside bin.

2. Barriers: Understand key barriers to your target behaviour

Once you have defined your target behaviour, the second step is to understand the barriers to performing that behaviour: **what is making the behaviour harder or less likely to happen?** Basic barriers include lack of awareness or knowledge and insufficient motivation, but these are rarely the only barriers. Further, addressing just these aspects is often not sufficient to achieve widescale change.[2]

One of the most critical insights from behavioural science is that **people do what is easy**, and desired behaviours are far more likely to occur when the surrounding context enables the change. Seemingly insignificant points of friction can stop people from performing a target behaviour.[3]

One way of understanding barriers is to put yourself in your audience's shoes and brainstorm potential barriers to the target behaviour from their perspective. You can also refer to existing research, or conduct your own, formally (eg, through focus groups and surveys) or informally (eg, through your regular interactions with households in your community). When thinking about barriers, a helpful framework is to think systematically about the individual person performing the behaviour, the social context surrounding the behaviour and the physical environment in which the behaviour occurs.[4]

Table 2: Types of barriers

Individual person	Social context	Physical environment
• Awareness and knowledge • Beliefs and attitudes • Emotions • Skills • Existing habits • Time and headspace • Competing priorities	• Relationships and networks • Social norms and proof • Cultural understandings • Opinion leaders	• Objects and equipment • Setting or location • Geography (access/distance) • Infrastructure and services

Source: *Influencing Behaviours: Moving beyond the Individual: A User Guide to the ISM Tool*.[4]

Once you have a long list of barriers, you need to determine which you will try to address through your communications. You could approach this intuitively, or adopt a more formal approach in which you prioritise barriers according to one or more specific criteria, such as what proportion of households the barrier affects, how severe the barrier is when they encounter it and/or whether addressing the barrier is feasibly within your control or influence. You can use multicriteria analysis processes when the decision will underpin significant investment.

Which barriers you identify as the main issues to address will influence what types of strategies will be most appropriate to implement (see table 3). Often you will need to address a number of barriers through a series of related communications.

3. Solutions: Select or develop relevant strategies for your communications

The goal of behavioural communication is to encourage the target behaviour, generally by reducing actual or perceived barriers and friction and/or by increasing motivation to engage.[3]

The third step in planning your behavioural communication is therefore to determine what 'strategies' you will adopt in your communication(s) to increase the chance of households undertaking your target behaviour. Strategies can draw on known 'behavioural insights' (generic strategies drawing on research into human behaviour and decision-making, widely applicable across audiences and contexts) or be developed to solve specific barriers you identify in your audience. As noted previously, often you will need multiple strategies to change a single behaviour.

You will increase the likelihood of the success of your behavioural communications if you match strategies to specific barriers you identify rather than just selecting generic behavioural insights from the table below. For examples of how to match strategies to each of the four key waste topics, see Specific waste guidance.

Importantly, to be effective, behavioural communications need to go beyond providing generic information or instructions,[2] which is typical of many standard education approaches. This is because information alone will not effectively drive behaviour change for most households.[4] Recent Aotearoa research found that only 25 per cent of households surveyed, respond directly to information.[6] Persuasive messages that maximise motivation, along with supportive and enabling messages to address barriers, will almost always be needed alongside basic information.

Furthermore, where key structural or external barriers exist (eg, people do not have anywhere to put a kitchen benchtop bin), then a behavioural communication approach can only go so far. It is unlikely to be sufficient on its own to achieve substantial change, unless you also address these structural barriers directly.[3]

In the absence of information on specific barriers for your target audience, the following table provides some guidance on which of the insights included in the Library of Behavioural Insights (the Library) may be more effective. This guidance is based on whether changing behaviour faces significant barriers (ie, it is **harder**) or whether the lack of change is mainly to do with a lack of sufficient motivation (ie, it is **easier**).

Table 3: Generic guide to choosing behavioural insights from the Library of Behavioural Insights

Insights to make behaviour (seem) easier (Use when a behaviour is harder or competing with other priorities for time and headspace)	
Insight	**Definition and example**
Commitments	Encouraging a declaration to perform the behaviour, often publicly "I took the 'Recycle Right' pledge."
Feedback	Providing information to reinforce, correct or modify the behaviour "60% of homes on Beach Road collect all their food scraps. The average for the region is 50%."
Instructional	Providing clear instructions or guidance on how to perform the behaviour "Here are the food scraps you can put into your green bin…"
Prompts	Providing reminders or cues to perform the behaviour at an appropriate time 'Eat me first' stickers for food containers.
Self-efficacy	Increasing confidence in ability to successfully perform the behaviour "Simple swaps you can make to reduce single-use plastic…"
Insights to make behaviour more attractive (Use when a behaviour is relatively easy but motivation is lacking)	
Insight	**Definition and example**
Consequences	Indicating what will happen if the behaviour is performed or not performed "Recycling correctly helps create employment and supports the local economy."
Emotions	Evoking specific emotions that motivate the behaviour "Don't be a bad apple: check dates and eat older food items first."
Outcome efficacy	Increasing confidence that the behaviour will achieve the desired outcome "Every food scrap counts."
Social norms	Presenting the behaviour as common or socially acceptable "Over 85% of New Zealanders already recycle packaging. It won't be long before we match that with food scraps."

4. Testing: Check communications before, during and after use

Following this guide will maximise the chance that your communications are behaviourally effective. However, success can never be guaranteed, and messages can sometimes have unexpected effects – both positive and negative. So it is critical to check your communication before delivering it, monitor it during the delivery and evaluate it afterwards.

➔ For example, BehaviourWorks Australia conducted trials of carefully designed and behaviourally informed flyers on what can and can't go in the recycling bin. Results showed some flyers actually backfired and **increased** the number of ineligible items participants selected for the recycling bin, effectively increasing contamination rather than decreasing it.[7] From this research, it was discovered that trying to minimise missed capture and contamination at the same time is not effective. So if these flyers had been rolled out without first being tested, they could have made council problems worse rather than helping to address them.

A number of important benefits can be gained from testing.

Table 4: Benefits from testing

1. Check before using	2. Monitor during use	3. Evaluate after use
• Identify potential misinterpretations or negative reactions by testing through focus groups or even with non-waste council staff.[5] • Test communications with customer service or call centre staff as they are likely to know the types of questions households tend to ask.[6] • Choose between potential messages by building 'A/B testing' into social media and email marketing platforms. This is where two different versions are tested to see which is most effective.	• Confirm that digital communications are reaching your audience as expected by regularly checking metrics to assess how your audience is engaging with your content. • Ensure that your audience is reacting as desired by regularly checking direct messages and comments on social media communications and amending any issues while the communication is running. • Check with your customer service or call centre team to find out if there are any common concerns or issues after delivery of physical materials.	• Define SMART[c] goals with quantifiable key performance indicators (KPIs).[7] • Identify which activities worked well and which you need to improve or replace. • Assess if people are actually doing what you want them to do (your target behaviour). • Assess whether your original problem is getting better.

For more on how to design and implement an evaluation, see Communications Guidance: Monitoring Communication Activities.[8]

It is important to realise that not all messages and communications will be as effective as you hoped. When this occurs, think of such occasions as opportunities to learn rather than as failures. Evaluations should be designed and presented to key stakeholders with this learning function in mind.[5]

[c] SMART goals are specific, measurable, achievable, relevant, and time bound.

Specific waste guidance

This section provides detailed insights and recommendations to plan a specific communication or campaign on one of the four main waste topics.

It includes:

- **Nationally standard elements** to maximise consistency, including:
  - key waste terms
  - waste stream colours
- **Step-by-step guidance** following the behaviour change basics process, for each of the four key waste topics:
  - **Kerbside recycling** including maximising participation, minimising contamination and introducing service changes
  - **Food scraps collection** including introducing new service, maximising participation and minimising contamination
  - **Food waste minimisation** including minimising through grocery shopping, preparation, serving and cleaning practices
  - **Single-use plastic minimisation** including minimising through purchase decisions and in-home consumption practices

Nationally standard elements

People are more likely to change behaviour when services, communications and calls to action are largely consistent throughout all their various experiences. For example, consistency is needed across different **messengers** (eg, central and local government), **channels** (eg, council communications and media) and **locations** (different parts of the country).

Nationally consistent language and waste stream colours reduce the mental effort required to understand what differences people need to account for in different locations. This will minimise confusion among households when they move to different jurisdictions or when they encounter online communications from other parts of the country.

Nationally standard terms

A standard list of terms for key waste and recycling streams was developed following nationwide consultation by Para Kore and WasteMINZ in September 2017 to determine the most suitable translations into te reo Māori for recycling and rubbish signage in public places. Speakers of te reo Māori from local iwi, community groups, council staff, universities and government departments were invited to take part in the consultation.

A list of all terms can be downloaded from the WasteMINZ website. For some terms, appropriate alternatives are listed, which generally have a slight variation in meaning. This variation is evident in both English and te reo Māori. In English, for example, the words 'compost', 'organic' and 'food scraps' have all been used in the past to indicate a bin that food waste goes into; however, the agreed word in English is now 'food scraps'. Similarly, the agreed translations for 'blocks' and 'rubble' are 'poro raima' and 'kongakonga' respectively, while appropriate alternatives are 'poraka raima' and 'turakanga' respectively. For services only provided locally, it is important to check with local iwi to see if the national translations are appropriate or whether there is a local expression which is in more common use.

In addition, Para Kore has produced a more extensive glossary of many phrases used to describe both waste and recycling activities and the circular economy. Its glossary recognises the work and desire of many communities to become bilingual. For any national organisation such as Para Kore, there is some tension between consistency of terms across the country and the desire to support and maintain local dialects. The words in their glossary have been researched and consulted on nationally, with the aim of helping groups, councils and communities to expand their use of te reo Māori. It is acknowledged that for some terms, in some locations, local dialect should take precedence.

Example: When planning the roll out of their food scraps collection, Auckland Council sought advice from mataawaka, Māori networks, and mana whenua representatives regarding how to frame the service in te reo. Given an area of Auckland is called Parakai, feedback preferred an alternative translation of 'food scraps' to the words 'para kai'. Through working alongside Auckland Council's official translator, the term 'rukenga kai' was adopted for the Auckland region.

Table 5: English and te reo Māori

Type of waste	English	Te reo Māori
Kerbside rubbish	Rubbish	Para
	Rubbish bin	Ipupara
Kerbside recycling	Recycling	Hangarua
	Commingled recycling	Hangarua kōmitimiti
	✓ Glass bottles, jars	✓ Karaehe pātara, ipu
	✓ Paper and cardboard	✓ Pepa, kāri mārō
	✓ Plastic bottles and containers #1, 2, 5	✓ Kirihou 1- 2- 5 ipu
	✓ Drink cans	✓ *Kēne* inu
	✓ Food cans	✓ *Kēne* kai
	× Soft plastic packaging (plastic bags and wrappers)	× Kirihou ngohengohe
	× Non-recyclable	× Hangarua-kore
Kerbside food scraps collections	✓ Food scraps	× Para kai
	× Garden cuttings	× Tapahanga māra
	× Compostable packaging	× Tākai whakawairākau

➔ See Para Kore's Zero Waste Glossary for a list of translations for various recycling and rubbish materials.

Nationally standard waste stream colours

Using nationally consistent colours is an important way to minimise confusion for households. The waste sector in Aotearoa has nationally agreed colours to distinguish between different types of bins and waste streams (which this guide follows).[d] In addition, the colours are used for the signage on bins and should be used in any communications to households about these bins, even where they do not match existing brand colour palettes.

[d] In October 2015, WasteMINZ, the Glass Packaging Forum and councils around Aotearoa agreed on a standardised set of colours for mobile recycling and rubbish bins, crates and internal office bins.

Table 6: Bin and lid colours including PMS code

Material type	Lid colour	Bin body colour
Rubbish	Red (PMS032)	Dark green / black
Mixed recycling	Yellow (PMS109C)	Dark green / black
Food scraps / Combined food and garden	Lime green (PMS361)	Dark green / black
Garden waste	Dark green (PMS553C)	Dark green / black
Plastics	Orange (PMS021C)	Dark green / black
Paper/cardboard	Grey (PMS423)	Dark green / black
Cans/metal	Light Grey (PMS5455C)	Dark green / black
Commingled glass	Blue (PMS299)	Dark green / black
Clear glass	White	Nature green
Brown glass	Brown (PMS4695C)	Nature green
Green glass	Nature green (PMS364C)	Nature green
Textiles	Purple (PMS258C)	Dark green / black
eWaste/appliances	White	Dark green / black
Construction and demolition	Brown (PMS4695C)	Dark green / black
Hazardous	Red triangle (PMS1797C) with black font	Yellow

Kerbside recycling

1. Identifying behaviours

As noted in Behaviour change basics, the first step in developing a behavioural communication is to determine what you want households to **do** in response to your communication (ie, what action you want them to take). See the example behaviours in the table below for the types of behaviour that may be relevant to focus on.

Most councils in Aotearoa already offer kerbside recycling, and so many of their behaviour change efforts focus on increasing the amount that is recycled or reducing contamination. Research has shown that it is better to focus a campaign on just one of these outcomes, as it can be counterproductive to message on both at once.[9] Understanding which particular items to focus on is key, because telling households the specific items you want them to recycle more of (reducing missed capture) or keep out of the recycling bin (reducing contamination) is more effective than general messaging.

With the standardisation of kerbside collections, some councils will be introducing a kerbside recycling service, while others will be changing the service to be consistent with the national direction on eligible items. Prominently announcing these new services and changes through behavioural communications can help grab attention as well as disrupt previous thinking and patterns of behaviour.

Table 7: Examples of kerbside recycling behaviours that may be relevant

Existing kerbside recycling service	
Maximising use (quantity)	**Optimising use (quality)[10]**
• Place in your kerbside recycling bin: – glass bottles and jars – plastic bottles and containers #1, 2, 5 – aluminium and steel tins and cans – paper and cardboard. • Scrape out/off remaining food, rinse and then place leftover plastic takeaway containers in your kerbside recycling bin. • Give bottles and containers a quick rinse and place in your kerbside recycling bin.	• Check the label to see if it can be recycled. • Check [website/app] when unsure. • Place recyclables loose in the kerbside recycling bin. • Before recycling, scrape out any leftover food from: – food packaging – takeaway containers. • Place plastic bags and wrapping in the rubbish bin. • Wrap broken glass and place in the rubbish bin.
Kerbside recycling service change	
New or additional service	**Change to existing service**
• Look out for information on the changes coming your way soon. • Place [eligible items] in your new kerbside recycling bin. • Check [website/app] when you are unsure of what can go in your new kerbside recycling bin.	• Look out for information on the changes coming your way soon. • From [now/date], only place [eligible items] in your kerbside recycling bin. • Take [ineligible items] to [place] to recycle them, or place them in the rubbish bin. • Place [ineligible items] in the rubbish bin.

2. Understanding barriers

The second step in developing your behavioural communication is to understand what is making (or will make) the behaviour harder or less likely to happen. Doing this can allow you to target your messages directly to these barriers, increasing the likelihood that your messaging will achieve change.

Table 8: Examples of barriers to kerbside recycling

Optimising existing service by minimising contamination generally	Optimising existing service by minimising contamination in apartments
Research in Aotearoa[11,12] looked into the factors that affect how committed people are to correctly sorting and preparing their recyclables. Overall it found: • people believe recycling is the correct thing to do • the single biggest driver of commitment to recycling correctly is the belief that it is worth taking the time to do so. The research identified the following barriers to correctly recycling. • **Perceived time and effort:** Those who aren't strongly committed to recycling disliked the mental load required for a menial task. • **Confusion** around what can and cannot be recycled: The majority reported that 'when in doubt they throw items out', yet they still placed the wrong thing in the recycling bin due to 'wish-cycling'[e]. • **Overconfidence:** At the same time, people could be overconfident about their own knowledge of what can or can't be recycled, while basing it on old knowledge or simple rules of thumb. • **Vague understandings** of what happens to their recycling after collection and the benefits of avoiding contamination: A common belief is that someone will pick out contamination further down the process. • **Individuals contribute to the outcomes achieved at a household level**: Many believe that 'they' are trying to do the right thing but find it confusing, yet perceive that 'others' in the household are just not as committed (a common 'attribution fallacy'[f]).	Australian trials[16] aimed to reduce residents' behaviour of putting their recycling in plastic bags before placing them in the recycling bins ('bagging recycling') in apartment buildings.[4] Researchers began by investigating the barriers to the target behaviour of 'households living in apartment buildings place their recyclables loose into kerbside recycling bins'. They talked to a range of local councils to understand why households were bagging their recyclables. The research identified the following barriers to placing their recycling in loose. • **Knowledge:** People didn't know that recycling needed to be loose. They thought someone would open the bag at the other end. • **Context:** People lived in small units that didn't have space for a separate bin and so collected recycling in plastic bags. • **Convenience/habit:** People were in the habit of taking rubbish out to the basement on their way to the car. They didn't want to carry a recycling bin or container back to their apartment after disposing of rubbish and recycling. • **Attitude:** Some people felt that recyclable waste items were unhygienic, and that collecting them inside a plastic bag prevented 'bin juice' from getting in the bottom of a recycling bin (the 'yuck' factor).

[e] Wishcycling is putting something in the recycling bin and hoping it will be recycled, even if there is little evidence to confirm this assumption.

[f] People tend to attribute someone else's actions to character or personality flaws, while attributing their own behaviour to external situational factors outside of their control.

3. Selecting relevant strategies

As discussed in Behaviour change basics, it is better practice to develop messages only after choosing a target behaviour and understanding barriers to that behaviour. This maximises the effectiveness of behavioural communications, as the messaging will actually address specific barriers that exist in your target audience.

The following examples demonstrate ways of tailoring messaging to specific barriers for kerbside recycling.

- To combat barriers around mental effort and confusion, highlight just **a small selection of items** for people to focus on. These may be the most problematic items your sorting facility is experiencing or they may be a group of items targeted to address a particular misunderstanding.

Examples of items that can be used to combat misunderstandings		
"All paper is recyclable"	**"All glass is recyclable"**	**"Compostable means recyclable"**
× Shredded paper	× Broken glassware	× Paper cups
× Wrapping paper	× Glass cookware	× Tissues
× Till receipts	× Panes of glass	× Compostable packaging

- To increase understanding of the benefits of recycling correctly, or to increase trust or confidence in the recycling system, **tell local stories** about what happens to recycling after it leaves their home and how items may be reused within the community.[20]
- To disrupt overconfidence and incorrect habits, draw attention to new rules or changes that **prompt people to pause and reflect** (eg, "Recycling rules are changing. They may no longer be the same as when you first learnt them. Make sure you…"). You can also gently challenge knowledge by providing small amounts of new information, as in the example below.

Source: BehaviourWorks, adapted from *Waste and Recycling: Campaign Concept Testing*.[13]

Other considerations

- **Do** always specify the relevant collection channel, for example, 'kerbside recycling', 'kerbside recyclable' (as opposed to, eg, 'recyclable at store'). This helps people understand that recycling happens through many collection channels and that not everything that is recyclable goes in the kerbside recycling bin.[14]
- **Don't** highlight the scale of a problem (eg, the volume of contaminated recycling going to landfill) as a way to create a sense of importance or urgency. This can evoke an unintended negative social norm that most people are doing the wrong thing (ie, that doing the wrong thing is 'normal'). In addition, emphasising the size of the problem can impact how much people feel they can make a difference, given the scale of the problem or other people's 'bad behaviour' (see Social norms and Outcome efficacy).

- Note: For the new list of eligible items, while messages such as "Only these things are/will be accepted…" will be necessary as part of communication about the change, they will not be sufficient to prevent contamination for many people. These messages will need to be accompanied by specific messaging of what is no longer accepted, including what people should do instead (ie, how else to recycle, or place them in rubbish bin).

Generic strategies

Sometimes targeted research into specific behaviour barriers is not available nor able to be undertaken. In these cases, adopting generic behavioural insights into messaging can still increase the behavioural effectiveness of communications to some extent.

The following insights from the Library have been found to be effective in encouraging kerbside recycling behaviours based on common barriers to participation and correct sorting.

Table 9: Guide to choosing behavioural insights for kerbside recycling from the Library of Behavioural Insights

Insights for kerbside recycling	
Insight	**Definition and examples**
Commitments[10]	Encouraging a declaration to perform the behaviour, often publicly "I took the 'Recycle Right' pledge."
Feedback[10,13,15,16]	Providing information to reinforce, correct or modify the behaviour "60% of homes on Beach Road sort their recycling correctly. The average for the region is 50%."
Instructional[10,11,13,15,17]	Providing clear instructions or guidance on how to perform the behaviour "These things never go in your yellow bin…"
Consequences (positive)[6,18]	Indicating what will happen if the behaviour is performed or not performed "Recycling helps create employment and supports the local economy." "Recycling correctly reduces costs to your council and therefore you."
Intrigue[11] **and gamification**[15,19]	Evoking curiosity or a sense of mystery around the behaviour "Did you know…?" Incorporating fun or game-like elements to increase engagement "Which of these items can go into your recycling bin? … The answer is: none!"
Self-efficacy[15,19]	Increasing confidence in ability to successfully perform the behaviour "Simple rules you can use to recycle correctly…"
Social norms (descriptive)[6,15,19]	Presenting the behaviour as common or socially acceptable "Over 80% of New Zealanders tip their recycling into the yellow bin loose."

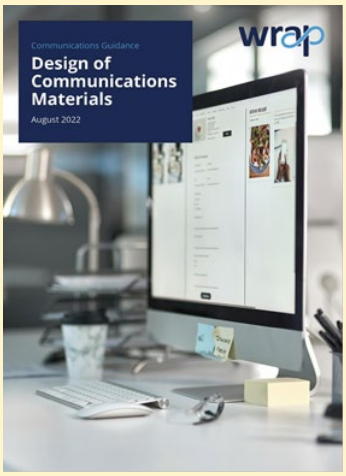
Note: Commitments, feedback and instructional have the strongest evidence.

Further reading

Want to learn more?

Click on the thumbnail to access each 'further reading' source.

Designing communication materials for kerbside commingled recycling
(Communications Guidance: Design of Communications Material.[6])



Reducing contamination of kerbside commingled recycling
(Summary of Behaviour Change Trials to Reduce Contamination of Household Recycling.[15])

Sub-reports available on:

Facebook posts[19]

Flyers[9]

Kerbside food scraps collections

1. Identifying behaviours

The first step in designing your behavioural communication is to decide which behaviour(s) you want households to do in response to your communication. See example behaviours in the table below that may be relevant to your situation.

As part of the standardisation of kerbside collections, all Aotearoa councils will begin collecting food scraps from kerbside through collections of food only or of food and garden waste. When rolling out a collection that accepts food, you will generally need the behaviour focus to change over time. Communication can be general in initial phases of rollout, but once basic behaviour is established, it is important to be specific about behaviours relating to specific types of missed food and contaminating items. A common way of thinking about the phases is as follows (though the order of 'all food' and 'only food' can be swapped if needed).

- **Starting to use – 'any food'.** During initial rollout, communications can be general, about the **main types** of food scraps (eg, fruit and vegetable peelings, meat scraps and bones, bread, rice and pasta, plate scrapings). It is important to encourage even those with small amounts to put out their food scraps for collection each week.[20]
- **Maximising use – 'all food'.** After the rollout, shift to being specific about particular behaviours associated with **types of missed food** that inspections or audits show are not making their way into the food scraps bin.
- **Optimising use – 'only food'.** Once the food scraps collection is established, refine behaviours by focusing on 'tricky' or obscure **things that don't belong** in the food scraps bin.

In addition, it's important to recognise that some households already may be engaged in alternative behaviours, including feeding scraps to pets, home or community composting, worm farming, using bokashi bins and/or minimising food waste.[21] It is therefore important to understand (and communicate) how these behaviours complement your target behaviour so they are not seen as in competition with or contradictory to the food scraps collection.

Table 10: Examples of behaviours that may be relevant to food scraps collection communications[22,23]

Existing service	
Maximising use (quantity)	**Optimising use (quality)**
• Wrap meat scraps and bones in newspaper and place directly in the kerbside food scraps bin • Empty out leftover food from old food and takeaway containers • Place old food in your benchtop bin when clearing out your fridge	• Dispose of any plastic wrapping, fruit stickers or bands before placing food in your benchtop bin • Place tissues, serviettes, bamboo and compostable plastic in home compost or rubbish bin

Service change	
New or additional service	**Change to existing service**
• Get a benchtop bin [from council / from store / by repurposing existing container] • Place any food scraps in your benchtop bin when preparing meals • Scrape any plate waste directly into benchtop bin when cleaning up after meals	• Look out for information on the changes coming your way soon (priming) • Only place [specific eligible items] in your food scraps and garden bin • Place [specific ineligible items] in the rubbish bin

2. Understanding barriers

The second step in developing a behavioural communication is to understand the barriers that might prevent the desired behaviours from occurring. When first implementing a service, barriers are likely to be centred in **perceptions** of or beliefs about the upcoming service. Once the service has become established, the main barriers are likely to shift towards **actual barriers** households experience in attempting to collect food scraps. Understanding the barriers during each phase will maximise the number of households that adopt the behaviours needed throughout the implementation journey.

Table 11: Examples of barriers to food scraps collections

New service	Maximising participation
A Melbourne metropolitan government body conducted research[24] with a range of households in preparation for rolling out a food scraps collection service across multiple local councils in Melbourne. The research identified the following barriers. • **Belief:** People think separating food scraps is too hard and others won't adopt it. • **Attitude:** People don't trust that the food scraps will actually get processed. • **Attitude:** People think food scraps can be smelly and attract vermin (the 'yuck' factor). • **Knowledge:** People don't know the issues of food waste in landfill and the benefits of food scraps recycling. • **Habit:** A small subset of people are already composting or worm farming and don't believe they need another system.	Aotearoa research[25,26] with those not using an available food scraps collection found the most common reported reasons for not participating in the collection were: • **physical** – dirty or smelly • **physical** – flies and pests (in kitchen and outside bin) • **habit** – already compost • **belief** – not having enough food waste to make it worthwhile. These are similar to reasons found in UK research.[20] That study found another important **physical** barrier was not having free or easy access to (more) liners where councils had provided benchtop bins.

3. Selecting relevant strategies

The third step in developing behavioural communications is to select specific messages and behavioural insights that address the specific barriers identified in step 2.

These are examples of messaging that addresses common barriers for food scraps collections.

- Many people have concerns around the 'yuck factor' of food scraps. Instead of devoting space to explicitly addressing concerns about flies and smells, communications should focus on encouraging people to **adopt behaviours that limit the issues** (eg, 'use liners and change them regularly', 'give benchtop bins a quick rinse after emptying', 'wrap animal products in newspaper first').[20]
- When the behaviours are new or unfamiliar, people can benefit from seeing how **others 'just like them'** are performing the desired behaviours. Tips and tricks videos showing how people overcome common problems can also be a means of building confidence and familiarity.
- Many people don't understand the benefits of collecting food scraps (compared with, say, recycling containers and bottles where people are more aware of products made of recycled content). Highlighting **how recycled food scraps are used** (preferably linked to a localised context), as well as the problems associated with food waste in landfills, can increase knowledge and provide a greater connection to unfamiliar behaviours and outcomes associated with food scraps recycling.
- To help people form habits around food scraps collection, provide **prompts at points where relevant behaviours should be occurring**. For example, fridge magnets and indoor/outdoor bin stickers can provide timely reminders. These can supplement more detailed information provided elsewhere.
- Certainly it is not desirable to dismiss people's genuine concerns with or barriers to the uptake of a new service (see below). However, it is also important to **convey norms around uptake** so these barriers don't become an excuse for not 'making a start' (eg, "Around 80 per cent of the participants did not experience **any** problems with their food scraps collection during the year-long trial").

Other considerations

- **Do** avoid the term 'food waste', as many people don't believe they 'waste' much food.[27] It also has connotations of food-related waste, such as tea bags, food-soiled paper towels and cardboard, and paper from fish and chips, which many food scraps collections do not accept.[21] More people can identify with having 'food scraps' left over, and the term provides a strong focus on the food item itself.
- **Do** distinguish between the inside container (eg, 'kitchen benchtop bin') that households can collect food scraps in on a daily basis, and the outside food scraps bin that they place weekly or fortnightly on the kerb for collection. This helps people recognise the different behaviours involved in collecting and transferring food scraps.
- **Do** use easily interpretable icons where possible instead of photos for instructions. Photos of 'old' food can raise concerns about messiness and smell, while photos of 'good' food evoke a sense of wasting good food.[21]
- **Don't** reference issues like climate change (either explicitly, or implicitly through reference to emissions), as these can make people feel powerless and doubt that their actions will be enough to help. Such messages are also more distant and future-focused than messages related to avoiding landfill and creating compost[21] (see Outcome efficacy in the Library).

When introducing a new service, consider the following as part of your strategy.

- **Do** make the desired behaviours as easy as possible to do before beginning any behaviour change campaigns (eg, by providing appropriate benchtop bins and liners). Making it easy is the most important aspect of achieving the new desired behaviour[27] – communications can only help so much in the face of physical barriers.[20]
- **Do** design communications to be multilayered over time. Start by introducing and explaining, and follow up by encouraging and reminding, and supporting households to deal with barriers.[21]
- **Do** provide timely reminders for supporting behaviours, as new services such as food scraps collections face the challenge of forming new habits among households. You can also maintain momentum by communicating strong social norms around uptake and approval, and local stories that reinforce how individual actions are making a difference at a community level (see Social norms and Outcome efficacy in the Library).
- **Don't** treat resident concerns lightly or dismissively, even if they seem minor. New South Wales research found many of the imagined concerns of households before a new service began turned out to be real barriers reported once that service commenced.[23] Instead, focus messaging on positive information that validates and addresses concerns, as in the following example.

Concern	Dismissive message	Validating message
Sorting out food scraps will take lots of extra effort	"Sorting food scraps is easy"	"We're providing benchtop bins to make it as easy as possible"

Generic strategies

Where targeted research into barriers is not available and not able to be undertaken, the following are some behavioural insights commonly found to be effective in encouraging food scraps collection behaviours.[g] Use this list to select relevant insights from the Library of Behavioural Insights.

Table 12: Guide to choosing behavioural insights for food scraps collections from the Library of Behavioural Insights

Insights for food scraps collections	
Insight	**Definition and example**
Consequences (positive)[22–24,26,28]	Indicating what will happen if the behaviour is performed or not performed "Your food scraps are recycled into energy to power our homes."
Instructional ('Yes' items; tips)[22,23,28]	Providing clear instructions or guidance on how to perform the behaviour "Here are the scraps you can put into your green bin…"
Intrigue[22,28]	Evoking curiosity or a sense of mystery around the behaviour "Did you know…?"
Outcome efficacy[24,22,23,28]	Increasing confidence that the behaviour will achieve the desired outcome "Every food scrap counts."

Note: Consequences (positive) has the strongest evidence.

[g] Food scraps collections are still emerging across countries like Aotearoa, Australia and the United Kingdom, so other insights not yet identified in the literature may also be effective.

Further reading

Want to learn more?

Click on the thumbnail to access each 'further reading' source.

Qualitative research on non-users of existing food scraps collections in Aotearoa
(Food Scraps Collection Qualitative Research: Among Those Not Currently Using the Service.[26])

Evaluation of campaign to maximise participation in existing food scraps collections
(Scrap Together: FOGO 'Deep Dive' Education Project Evaluation Report.[28])

Food waste minimisation

1. Identifying behaviours

For communications about waste minimisation (like food waste minimisation), it is particularly important to start by determining specifically what you want households to do in response to your communication and narrow this down to just a couple of priority behaviours.

Asking or advising households to adopt multiple behaviours lessens the chance that your audience will adopt any of them at scale. Focusing on one or two behaviours at any time will maximise the chance of embedding those behaviours, which future communications can then supplement by addressing new behaviours.

Research on food waste minimisation has shown that contributing behaviours actually occur at multiple phases of a household's interaction with food, including shopping, planning, cooking, serving and clearing. Two behaviours identified as being both impactful and feasible for households involve not letting existing foods go uneaten.[29]

Table 13: Examples of behaviours that may be useful in food waste minimisation communications[30]

Before, during and after grocery shopping	When deciding what to eat	During preparation, cooking and serving
• Make a list • Purchase only what you need • Put new items behind older items when unpacking shopping • Store food in fridge or freezer where appropriate	• Look for and eat any leftover foods instead of preparing a new meal* • Check dates and eat oldest food items first* • Keep some flexibility when planning meals	• Prepare the right amount of food • Start with smaller servings of food and encourage people to come back for seconds later if still hungry

Note: * indicates behaviours that prevent existing foods from going uneaten.

Being very specific about the desired behaviour can increase the effectiveness of behaviour change communications. For food waste minimisation, this can include focusing on a specific type of food that is commonly being wasted and sharing information about it as 'tips and tricks'.

Table 14: Examples of food-specific behaviours[30]

Food item	Specific food waste minimisation behaviours
Bread and baked goods	• Store bread in an airtight bag or bread box • Transfer bread to freezer after three days
Leftover meals	• Eat leftover meals for lunch the next day
Meat and seafood	• Check use-by dates and transfer to freezer before expiry • Check how many people will be at home and how hungry they are before starting to cook, and only cook the right amount of meat or other protein
Fresh vegetables	• Store vegetables in plastic containers at eye level in the fridge • Move older vegetables to an 'eat me first' shelf in the fridge
Fresh fruit	• Use older fruits in smoothies and juices

2. Understanding barriers

Understanding the barriers to priority food waste minimisation behaviours is the second step. It is critical to tailoring communications that maximise the effectiveness of behavioural communications.

Table 15: Examples of barriers to food waste minimisation behaviours

General barriers	Barriers to using up leftover food
Aotearoa research[31] into key barriers to food waste minimisation behaviours among Auckland households found barriers for households included: • **time** – too busy to plan for week ahead • **habit** – don't usually check fridge/freezer before doing grocery shopping • **social** – no communication about who will be home for dinner • **physical** – overcrowded fridge, old food pushed to the back and unable to be seen • **knowledge** – using best-before date to determine when food is unsafe to eat • **belief** – seeing eating leftovers as 'unglamorous'.	Australian research[29] investigated the key barriers to households using up existing foods, specifically by planning a meal once a week that includes foods that need to be used up. The research found a range of internal, social and physical barriers, including: • **attitude** – a feeling that leftovers are second-rate foods and not as good as 'fresh' meals • **attitude** – a feeling that using up food is boring and only done out of responsibility • **knowledge** – knowing what to make from leftover foods, or where to look up recipes that work • **effort** – having the perception and experience that planning such a meal requires extra time and thinking • **attitude** – having compost bins or pets to give leftover or unwanted food to reduces pressure or guilt over the need to use up all their food • **physical** – not having key ingredients to make meals that use up the particular leftover food • **social** – beliefs about potential disappointment or disapproval of other household members.

3. Selecting insights

It is only after you have chosen specific food waste minimisation behaviours and understood the barriers to those specific behaviours that you should design behavioural communications.

The following are examples of tailoring messaging to address specific barriers to food waste minimisation.

- While knowledge is important, informational or educational campaigns are not effective on their own and should not be pursued as a primary intervention. However, mass media campaigns that **raise awareness** are valuable in providing a background or context to the issue, and in preparing people for the need to change.[32]
- Adopting a tone of voice that is **helpful and inquisitive** (rather than authoritative) can help address barriers of feeling ill-equipped or disengaged to minimise food waste.
- To address barriers related to effort and a general lack of motivation, use messages that emphasise **personal benefits** of food waste minimisation. Specifically, saving money (through the information or resources provided by a campaign or programme) is a key motivator to adopt food waste minimisation behaviours.

- People are more likely to respond to **specific and constructive** guidance and examples on what to do differently when it comes to food waste minimisation, as opposed to generic, authoritative or obvious content. The most effective examples are novel or surprising suggestions that are easy (and desirable) to try (eg, mini pizzas using leftover bread ends), which also serve to grab attention and induce excitement.[33]

Other considerations

- **Do** keep each communication focused on a single call to action. A single key message creates the greatest increase in willingness; two or more key messages bundled together are less effective, because they lead to 'cognitive overload' (too much information to process).[32]
- **Do** highlight a range of benefits. While financial benefits are recognised as a key motivator for food waste minimisation (especially if the amount saved is sufficiently high to pay for something like a holiday), other influential motivations include quantity of waste (useful to grab attention and evoke guilt or surprise) and effort and resources to produce the food (especially if food has travelled large distances and/or involved lots of effort).[33] In addition, highly engaged households like the idea of being organised. They respond well to messaging and images that imply that they are or can be well organised (see Consequences in the Library).
- **Don't** highlight the scale of the problem that needs to be addressed, as this can create a negative social norm that food waste is normal or leave people feeling powerless to make a difference (see Social norms and Outcome efficacy in the Library).
- **Do** use prompts to support those who are already intent on changing their behaviour or who consider the desired behaviour to be easy.[34,35] Pair prompts with other strategies for those who presently have low awareness of the issue or need. Design prompts to be kept and positioned in locations where the desired behaviour takes place, such as the kitchen.[36] Focus prompt collateral on key instructions, rather than on slogans or motivating messages[32] (see Prompts in the Library).

Imagery is particularly important in food waste minimisation communication. Consider the following when making decisions on images.

- **Do** use vibrantly coloured photos of food shown in a flattering light, to draw the eye and interest of both highly and less engaged households. To be effective, images need not be of fresh food, but do need to show good that is appetising and is seen as usable in order to be effective. Monochrome photographs should be avoided.
- **Do** make the future use of the food clear (eg, over-ripe banana can be used to make banana bread) if using images of fruit and vegetables past their best. Such images on their own tend to appeal only to highly engaged households who can already imagine uses for them. Less engaged households can be alienated by images of food past its best when the future use is not clearly articulated, either visually or in text.
- **Don't** use images of plate waste and half-eaten food, which can put people off.
- **Do** use images that include two or more people where possible, in preference to images showing 'hands' or people on their own. Images of groups of people are effective in drawing the participants' attention and emphasising the positive social association of food.

Generic strategies

As noted in previous sections, adopting generic behavioural insights in messaging can increase behavioural effectiveness of communications to some extent. They are useful when targeted research into barriers to specific behaviours, such as meal planning or shopping with a list, is not available or unable to be undertaken.

The following insights from the Library of Behavioural Insights have been found to be effective in encouraging food waste minimisation behaviours based on common barriers.

Table 16 Guide to choosing behavioural insights for food waste minimisation from the Library of Behavioural Insights

Insights for food waste minimisation	
Insight	**Definition and example**
Consequences (positive)[32,33,37–39]	Indicating what will happen if the behaviour is performed or not performed "Reduce your weekly grocery bill by using leftovers to reduce your food waste."
Prompts[32]	Providing reminders or cues to perform the behaviour at an appropriate time 'Eat me first' stickers for food containers.
Social norms (descriptive)[32]	Presenting the behaviour as common or socially acceptable "Most Kiwis are storing their fresh vegetables correctly to reduce food waste…"
Commitments[32]	Encouraging a declaration to perform the behaviour, often publicly "Make a pledge to cut down on your food waste."
Gamification[32]	Incorporating fun or game-like elements to increase engagement "Which of these helps reduce the amount of food that you intend to eat but never get around to doing it? … The answer is **all** of them!"
Feedback[32]	Providing information to reinforce, correct or modify the behaviour "Fewer food scraps in [council area] have been going to landfill this year. Keep up the great work in reducing your food waste!"
Instructional (yes/no, tips)[32,33,38,40]	Providing clear instructions or guidance on how to perform the behaviour "Here are some smart ways to minimise your food waste…"

Note: Consequences (positive), prompts, and social norms (descriptive) have the strongest evidence.

Further reading

Want to learn more?

Click on the thumbnail to access each 'further reading' source.

Household food waste reduction toolkit
(Household Food Waste Reduction Toolkit: A Step-by-step Guide to Delivering Interventions in Australia.[30])

Literature review of effective initiatives to reduce household (and business) food waste
(Reducing Household and Business Food Waste: Effectiveness of Organic Waste Reduction Initiatives (Literature Review).[41])

Single-use plastic minimisation

1. Identifying behaviours

As with food waste minimisation, there is a wide range of single-use plastic minimisation behaviours. To maximise the success of behaviour change efforts, start to design your behavioural communications by narrowing down to a few specific behaviours you want households to do in response to the communications.

Minimising the amount of single-use plastic waste **in the home**[h] involves behaviours performed not only within the home but also outside of it – particularly grocery shopping. The behaviours also differ according to the particular item, including single-use plastic items like cutlery and straws, single-use rigid plastic packaging like food, beverage and laundry containers, and single-use flexible plastic packaging like plastic bags and wrap.

Specifying **how** you would like households to reduce single-use plastic is important (see table below). This is because general messages like 'reduce single-use plastic' can encourage households to switch to other single-use items made from paper and bamboo ('substitution') rather than choosing a reusable or zero waste alternative ('reduction').

Table 17: Examples of behaviours that minimise single-use plastic waste at home

While grocery shopping	At home
• Make do without bags • Bring your own shopping bags • Bring your own fresh produce bags • Choose unwrapped items • Purchase single items rather than pre-packed • Purchase reusable items • Purchase refillable items • Bring your own containers to bulk food stores	• Use plastic containers or reusable wraps/covers instead of cling wrap, freezer bags, etc • Use refillable laundry products • Use reusable nappies • Make your own soft drink

2. Understanding barriers

Understanding the barriers to undertaking priority behaviours to minimise single-use plastic is the second step. It is critical to tailoring communications that will maximise the effectiveness of behavioural communications. The barriers to behaviours performed **in** the home are likely to differ from those performed **outside** of the home and, equally, barriers to minimising use of single-use plastic **items** will differ from those for minimising single-use plastic **packaging**.

[h] A number of behaviours to minimise single-use plastics are designed to reduce single-use plastics waste **outside** the home (eg, bringing reusable drink bottles to avoid buying bottled water, and bringing own coffee cups and food containers for takeaway drinks and food instead of being served in disposable packaging). These behaviours do not contribute directly to household waste and can have quite different drivers and barriers to the behaviours discussed here.

Case studies

Switching from single-use to reusable

Aotearoa research by Wastebusters[42] examined the barriers to specific 'reuse' behaviours that can minimise single-use plastic waste. It found these barriers differed substantially between types of behaviours.

For behaviours that involve bringing own reusable items when grocery shopping (eg, reusable bags, shopping bags, produce bags, storage containers for deli items or bulk food), the main barriers were **internal**:

- not remembering or lack of habit
- not planning ahead or lack of personal system
- not wanting to be a nuisance.

For behaviours that involve choosing alternatives to single-use plastic while grocery shopping (eg, buying unwrapped fresh produce, or refillable products), the main barriers were **physical**:

- option not available
- option more expensive.

For behaviours that involve reusing or refilling packaging at home, barriers were more varied and included:

- lack of awareness and knowledge of where and how
- not being organised to have the right containers or service
- perceived effort or inconvenience
- options more or too expensive.

Reducing single-use plastic

The UK Local Government Association's single-use plastic campaign guidance[43] suggests that the following barriers generally affect households trying to reduce single-use plastic:

- **knowledge** – limited understanding of benefits and consequences of avoiding single-use plastic
- **physical** – limited access to reusable alternatives
- **effort** – additional time or headspace required to implement alternative behaviours
- **memory** – forgetting to take reusable alternatives with them when leaving the house (eg, bags or containers for grocery shopping)
- **system** – continually being offered single-use items
- **social proof** – seeing a lot of single-use items in use around them
- **social norms** – no concern or peer pressure from family or friends.

3. Selecting insights

You will maximise the effectiveness of behavioural communications on single-use plastic by selecting insights only after you have chosen specific behaviours and understand the barriers to those specific behaviours.

The following are examples of tailoring messaging to address specific barriers for minimising single-use plastic.

- Where people perceive the problem as too big (eg, 'landfill' and 'ocean plastic') and that their actions won't make a difference, use messaging that suggests that avoiding use of plastic is common. This increases the perception that **many people are taking action** to solve the problem, which collectively can make a difference.[44] Highlighting the benefits that even small actions can have will also help (see Social norms and Outcome efficacy in the Library).

- To combat entrenched habits around use of single-use plastic, a more effective approach is to time communications with **key moments of change or disruption**, such as Plastic Free July, the start of the New Year and/or plastic item bans.

Other considerations

- **Do** use the term 'soft plastic packaging' generally as the overarching term when describing soft or flexible plastic to households, as it aligns with existing product stewardship schemes and packaging labels. However, the number of people who recognise this term is still relatively low. Therefore, when first using the term in each communication, describe it in full (eg, "soft plastic packaging, including plastic bags, packets, wrappers, films and pouches") to help familiarise people with it. After that, when repeating the term in the body of the text, it is also recommended that, where space allows, you spell it out in short (eg, "soft plastic packaging like plastic bags and wrappers") to remind people of and reinforce the meaning.
- **Do** emphasise the 'single-use' aspect in messaging. This is important so that people don't confuse your desired message with the commonly held, though incorrect, belief that 'all plastic is bad'. You can also address this misunderstanding by broadening the focus from single-use plastic to single-use items of any material (which has the added benefit of emphasising behaviours that actually reduce waste, rather than just substitute one material for another).
- **Do** be careful when using imagery that conveys the negative impact of single-use plastic (eg, on wildlife) and always accompany it with tangible and positive actions that show people how they can make a difference. In this way, you avoid producing emotions such as sadness and/or guilt, which can undermine behaviour change[45,46] (see Emotions in the Library).
- **Don't** highlight the scale of the problem, as this can lead to emotions of fear, disgust, helplessness and/or guilt (either intentionally or unintentionally) (see Outcome efficacy in the Library).
- **Do** remind people that there is value in individuals taking responsibility for what they can do, despite perceptions of the scale of the problem or other people's behaviour. You can do this by providing visualisations of the impact small actions can have, and the multiplier effect when many people join together[47] (see Outcome efficacy in the Library).

Generic strategies

Where targeted research into barriers is not available and not able to be undertaken, the following are some behavioural insights commonly found to be effective in encouraging single-use plastic minimisation behaviours based on the most common barriers identified.

Table 18: Guide to choosing behavioural insights for single-use plastic minimisation from the Library of Behavioural Insights

Insights for single-use plastic minimisation	
Insight	**Definition and example**
Commitments[47]	Encouraging a declaration to perform the behaviour, often publicly "I will remember to take my refillable containers when I go grocery shopping."
Emotions (positive)[47]	Evoking specific emotions that motivate the behaviour "Every time you opt for reusable containers and packaging, you're taking a joyful step towards a cleaner, happier Aotearoa."

Insights for single-use plastic minimisation	
Outcome efficacy[47,48]	Increasing confidence that the behaviour will achieve the desired outcome "Small acts make a big impact. Bringing your own reusable fresh produce bags helps reduce plastic waste."
Social norms (positive)[47]	Presenting the behaviour as common or socially acceptable "More New Zealanders are swapping plastic film for reusable beeswax wraps to reduce plastic waste."
Consequences (negative)[48]	Indicating what will happen if the behaviour is performed or not performed "Plastic pollution devastates our wildlife habitats. By reducing single-use plastic, we can prevent harm to vulnerable species like our precious seals, turtles and sea birds."

Note: Commitments, emotions (positive), outcome efficacy and social norms (positive) have the strongest evidence.

Further reading

Want to learn more?

Click on the thumbnail to access each 'further reading' source.

Reducing plastic pollution: campaigns that work
(Reducing Plastic Pollution: Campaigns That Work.[47])

Resources

This section provides a series of useful resources for applying behavioural science principles to household waste communications.

It includes:

- **Library of Behavioural Insights**
  Explanations, considerations and examples of relevant **insights**
- **Checklists and guidance for building and reviewing behavioural communications**
  Principles and guidance for maximising behavioural effectiveness of communications:
  - Key principles for writing messages or content
  - Key principles for visually designing collateral
  - Key principles for delivery, including channels for communication

Library of Behavioural Insights

This section provides explanations, instructions, considerations and examples for using a range of behavioural insights in your communications.

As noted in step 3 of Behaviour change basics, selecting insights to address particular barriers will increase the likelihood of success of your behavioural communications. Before selecting a particular insight for use, we recommend reviewing the generic guidance on selecting insights, or the tailored guidance for the relevant waste topic:

Kerbside recycling p. 20	Kerbside food scraps collections p.25x	Food waste minimisation p.30x	Single-use plastic minimisation p. 35

The following table summarises the key insights in this guide, along with the waste topics for which the evidence for their effectiveness is strongest.

Table 19: Key insights in this guide

Insight	Definition	Waste topic			
Commitments	Encouraging a declaration to perform the behaviour, often publicly	✓		✓	✓
Consequences	Indicating what will happen if the behaviour is performed or not performed	✓	✓	✓	✓
Emotions	Evoking specific emotions that motivate the behaviour				✓
Feedback	Providing information to reinforce, correct or modify the behaviour	✓		✓	
Intrigue and gamification	Evoking curiosity or a sense of mystery around the behaviour	✓	✓		
	Incorporating fun or game-like elements to increase engagement	✓		✓	
Instructional	Providing clear instructions or guidance on how to perform the behaviour	✓	✓	✓	
Prompts and priming	Providing reminders or cues to perform the behaviour at an appropriate time		✓*	✓	✓*
	Exposing to images, ideas or information that can influence future responses or decisions		✓*		
Self-efficacy and outcome efficacy	Increasing confidence in ability to successfully perform the behaviour	✓			
	Increasing confidence that the behaviour will achieve the desired outcome	✓*	✓		✓
Social norms and social proof	Presenting the behaviour as common or socially acceptable	✓		✓	✓
	Showing that others are already engaging in the behaviour	✓*		✓*	✓*

Note: * These insights are suggested to be effective based on qualitative research and theoretical insights. They have not been empirically evaluated and therefore the evidence is not as strong.

Commitments and plans

Commitments

Encourage making a declaration to perform the behaviour, often publicly.
Also known as public commitments, commitment devices, pledges.

"I will remember to take my refillable containers when I go grocery shopping."

Plans

Encourage advance thinking of how and when to do the behaviour.
Also known as implementation intentions, action plans

"I will put refillable containers with my reusable bags to help me remember to take them."

In behavioural communications, **commitment** strategies invite people to explicitly commit to perform a specific behaviour or to reach a particular goal. Commitments can motivate change through our desire for consistency and to uphold our reputation. When people make a commitment, they are more likely to follow through on that activity. While commitments can be made privately or publicly, their effects tend to be stronger when made publicly.

A common way to apply commitments to waste challenges is through online pledges (eg, on council websites) to perform specific waste-related actions. This may include an option for individuals to share their pledge on social media, increasing its visibility.

Use of commitments is particularly common as part of campaign 'challenges' such as Plastic Free July. Commitments can be reinforced by offering pledge-based stickers or signs for display, which also create a visual marker of a social norm.

"**I took the 'Recycle Right' pledge.** We've pledged to not put plastic bags in our recycling bins… **how about you?**"

Public commitment

Challenge to others

We can supplement commitments with action plans for the behaviour. A commitment is merely an intention to do the behaviour some time in the future. But if, when we make the commitment, we also consider **when** and **how** we will do the behaviour, this will increase our chance of following through.

"Thanks for committing to eat leftovers once a week. **Use the following form to plan your next leftovers meal.** It will create a printable version of your pledge to stick somewhere to remind you (eg, on your fridge).

I will cook [breakfast, lunch, dinner] using leftovers on [day] next week.

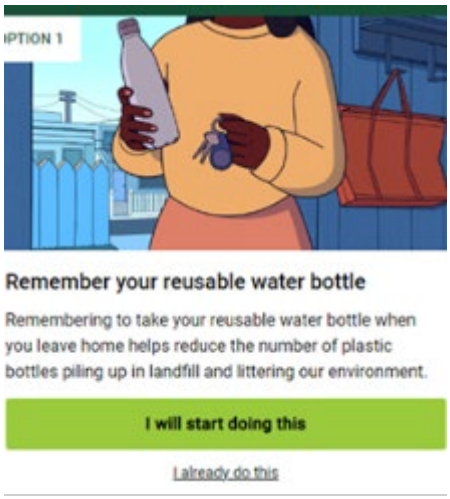
Share your small act."

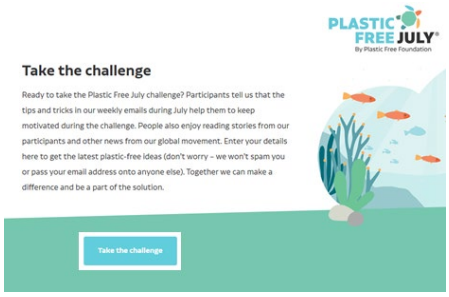
Implementation intention

Make the private pledge a public one

Key principles	
	• Use commitments for voluntary behaviours, which require some effort. • Commitments should be specific and framed actively. If providing a recommendation for people to commit to or inviting people to take a pledge, focus on one specific action and use active voice (eg, "I will minimise food waste"). • Consider inviting people to receive a sticker of their commitment or pledge that they can display publicly (eg, on their kerbside bin). This could strengthen their own commitment to act (out of a desire to maintain their reputation) and could encourage others in the community to do the same (see Social norms). • Keep commitments personally relevant by pairing online commitment strategies with a short quiz (see Gamification), from which people can select a personal recommendation, take a pledge or tailor their own personal commitment. • Keep commitments salient by providing Feedback to encourage their commitment or by emphasising Social norms to highlight increasing levels of commitment across the community.
Important considerations	
	• For public commitments, like pledge-based stickers, be careful to avoid a message with a tone that could be seen as self-promotional; instead, emphasise shared goals and benefits for the community. • Online pledges may be less effective than commitments in a community setting (eg, bin stickers), due to lower visibility among the community. • Commitment strategies tend to be less effective for those who aren't already engaged in or aware of the issue.

Table 20: Examples of commitments in action

Kerbside recycling		
Food scraps collection		"Make a pledge to yourself to further reduce the amount of food in your rubbish bin, by wrapping meat scraps in newspaper and placing directly in the kerbside food scraps bin."
Food waste minimisation		
Single-use plastic minimisation		"I will remember to take my refillable containers when I go grocery shopping."



Consequences

Commitments

Indicating what will happen if the behaviour is taken or not taken.
Also known as outcome framing, outcome-based messaging.

"Recycling correctly helps create employment and supports the local economy."

In behavioural communications, consequences emphasise the outcome(s) of engaging in or neglecting to perform a particular behaviour. The types of outcomes can vary, but generally take the form of positive consequences and benefits or negative consequences. Typically, the more personal the benefit or cost, the more effective the messaging – so translating a general consequence or benefit into something specific that the audience may experience can be valuable.

Positive consequences (benefits) suggest that benefits or good outcomes will arise from desirable actions (or by not engaging in undesirable actions).

> **Recycling lowers the costs of dealing with your rubbish. These savings can be spent on other Council services.**

Demonstrate positive consequence

Show benefit to the individual

Negative consequences suggest that disadvantages or bad outcomes will arise from undesirable actions (or by not engaging in desired actions).

> **Wasting food is costing more than you think. New Zealand households could save an average of $XX per week** by making better use of the food they buy.

Demonstrate negative consequence

Show benefit to the individual

You can use various types of consequences in messages, such as the following.

- **Authority**: Messages imply that an authority figure is monitoring behaviour and that positive behaviour will be rewarded, while negative behaviour will be punished (eg, "Contaminated bins won't be collected, so make sure you are recycling right").

- **Environment**: Messages imply that positive behaviour will benefit the environment, while negative behaviour will harm it (eg, "...by reducing single-use plastic, you can help prevent harm to vulnerable species like…").
- **Financial**: Messages imply that positive behaviour will have financial benefits, while negative behaviour will incur costs (eg, "Correct recycling reduces costs to your council and therefore you").
- **Social**: Messages imply that positive behaviour will have social benefits, while negative behaviour will have social costs (eg, "Put all of your food scraps in the green bin – your local farmers will thank you").

There is limited and mixed evidence around which type of consequence is most effective in waste-related messaging, indicating no 'one-size-fits-all' approach exists. So pre-testing messages (see Behaviour change basics, step 4) will be important in maximising the effectiveness of this insight.

Key principles

- Present or emphasise the positive consequences or advantages of behaviours that are desirable. Present or emphasise the negative consequences or disadvantages of undesirable behaviours.
- Where possible, emphasise immediate impacts and tangible benefits, as these will feel more relevant and achievable to the audience (eg, benefits of turning food waste into compost,[24] use of compost by local council parks and reserves, or by local farmers to grow food[26,28]) (see also Self-efficacy and outcome efficacy), as people are moved more by local, urgent and tangible problems.[47]

Important considerations

- When presenting negative consequences, be wary of making them sound too negative or threatening (see also Emotions). Try to pair this approach with simple actions that people can take to reduce or avoid the negative consequence.
- Similarly, be wary of allowing the problem to feel distant or intangible, as this undermines motivation and can be counterproductive. This is particularly important for minimising single-use plastic (eg, avoiding 'ocean plastic' as a reason to reduce plastic use)[47] and food waste (eg, avoiding 'climate change' as a reason to recycle food scraps).[24]
- While people tend to want to avoid losses (loss aversion), they can habituate and easily tire of negative messaging.

Table 21: Examples of consequences in action

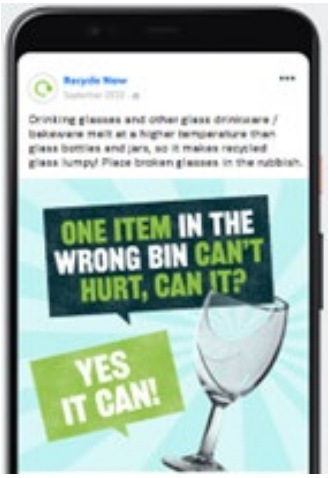
Kerbside recycling

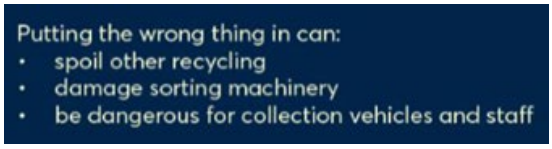
Positive

"Recycling helps create employment and supports the local economy."

"Correct recycling reduces costs to your council and therefore you."

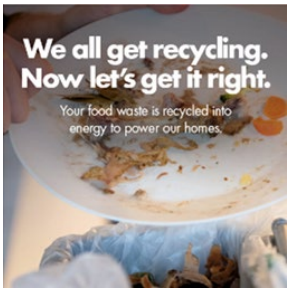
Negative





Food scraps collection

Positive



Food waste minimisation

Positive

"If the UK stopped wasting uneaten bread, it would be like saving the CO_2e of us taking over half a million London to NYC return flights each year. So when you get a fresh loaf in, freeze it!"

"Reduce your weekly grocery bill by utilising leftovers to reduce your food waste."

Negative

"Over a quarter of a million tonnes of milk is wasted at home in the UK every year. That generates the same CO_2e as taking over 450,000 return flights from London to Shanghai. So keep your fridge at 0–5°C to keep your milk fresh for longer."

Single-use plastic minimisation

Positive

Negative

"Over a quarter of a million tonnes of milk is wasted at home in the UK every year. That generates the same CO_2e as taking over 450,000 return flights from London to Shanghai. So keep your fridge at 0–5°C to keep your milk fresh for longer."

Emotions

Emotions

Evoking specific emotions that motivate the behaviour.
Also known as emotional appeals, affective messaging.

"Unleash the power of your food scraps – become a composting superhero today."

Behavioural communications can evoke different emotions to attract attention and motivate change in the audience. There appears to be no universally agreed set of emotions, but one useful tool for classification is Plutchik's wheel of emotions.

Examples of **positive emotion** categories are joy, trust, surprise and anticipation.

Examples of **negative emotion** categories are fear, sadness, disgust and anger.

As with Consequences, there is limited and mixed evidence around which specific emotions are most effective in waste-related messaging. While there is likely no 'one-size-fits-all' approach, current evidence suggests it is preferable to leverage positive emotions where possible.

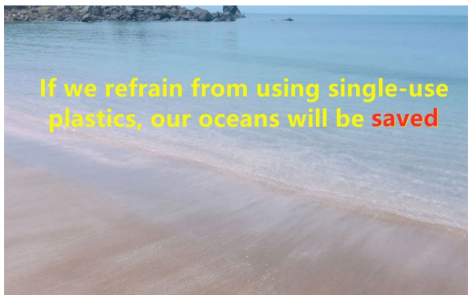
Key principles

- In general, draw on positive emotions (eg, pride, hope, joy).
- Use humour cautiously. While enjoyable and memorable, humour may not translate to behaviour change and can be counterproductive. It should not be belittling or overpower or undermine the message intended to be a call to action.

Important considerations

- Evoking fear can be counterproductive. If your message uses fear, you need to pair it with an effective response to alleviate the threat (see Self-efficacy and outcome efficacy).
- Similarly, mixed effects are reported for evoking guilt. If using it, your message needs to include a way for people to address guilt (eg, a specific and effective action – see Self-efficacy and outcome efficacy), or other counterbalancing features of the communication.
- You can turn people off if your message feels manipulative or pings the wrong emotion. A miss in an emotive message "is personal" and can backfire significantly.[2]

Table 22: Examples of emotion in action

Kerbside recycling	**Positive** "Join the Recycling Revolution and make a positive impact today! "	**Negative** "Don't Let Your Trash Haunt Our Future! Reduce waste by recycling better."
Food scraps collection	**Positive** "Unleash the power of your food scraps – become a composting superhero today!"	**Negative (humour)** "Avoid being overrun by stinky food scraps – get a compost bin and reclaim your kitchen's sanctity!"
Food waste minimisation	**Positive (humour)** 	
Single-use plastic minimisation	**Positive** 	**Negative**

Feedback

Feedback

Providing information to reinforce, correct or modify the behaviour.
Also known as performance feedback, feedback loops.

"60 per cent of homes on Beach Road collect all their food scraps. The average for the region is 50 per cent."

In behavioural communications, feedback attempts to change behaviour by providing information directly in response to the appropriateness of previous performance of a behaviour. Feedback can be either positive or negative.

Positive feedback reinforces desirable behaviour.

Negative feedback corrects undesirable behaviour.

Feedback can be provided about the individual's behaviour, but a less resource-intensive approach is to give collective feedback about a group the individual belongs to. Providing effective feedback requires some understanding of the audience's behaviour. At an individual level, this understanding is commonly achieved through bin inspections, using bin tagging to communicate the results, while audits or facility waste data might be used to provide community feedback, which might be communicated through targeted social media.

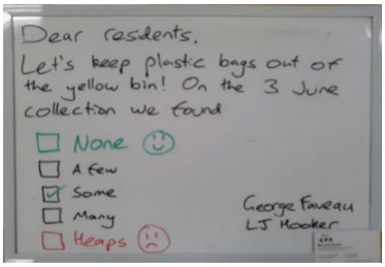
Key principles

- Feedback needs to be tailored to the behaviour. For example, it may be appropriate for feedback to focus on what food types should go in a food scraps collection, but kerbside recycling feedback will generally need to focus on what should **not** go in the recycling bin.
- Provide feedback on one specific aspect of waste-related behaviour at a time. For example, focus on up to two specific contaminants to keep messaging specific and minimise behaviour change requested at one time.
- When basing feedback on visual bin inspections, be very specific with the feedback, for example on whether or not specific good (or bad) items 'were seen'. Positive feedback, in particular, needs to be very specific in this case, as otherwise people may believe that all the contents of their bin are perfectly correct, which may unwittingly increase contamination of unseen items in future collections.
- Publicly reinforce 'correct' behaviour to emphasise positive social norms, but privately amend 'incorrect' behaviour to de-emphasise negative social norms and reduce shame and defensiveness ('reactance').

Important considerations

- Avoid providing general positive feedback (like a generic 'thanks for recycling'), as this may encourage incorrect behaviours like contamination.[13] Direct feedback on incorrect recycling behaviours is more likely to have a positive impact on behaviour.
- To be effective, feedback requires adequate inspection or verification of bin contents.
- Consider preparing individuals for feedback (and inspection), using priming cards (see Prompts). This may help to prevent or reduce defensiveness.

Table 23: Examples of feedback in action

Kerbside recycling	**INDIVIDUAL** **Positive** **COLLECTIVE**  	**Negative**
Food scraps collection	**INDIVIDUAL** **Positive** ("Thank you") **COLLECTIVE** 	**Negative** ("Let us help you") "Did you know: X per cent of homes on 'A Street' collect all their food scraps. The average for the area is Y per cent." (With a smiley or frowny face, depending on whether the street was better or worse than the neighbourhood average.) "Fewer food scraps in [council area] have been going to landfill this year. Keep up the great work in reducing your food waste!"

Food waste minimisation	**COLLECTIVE** "Fewer food scraps in [location] have been going to landfill this year." 	"Fewer food scraps in [location] have been going to landfill this year."
Single-use plastic minimisation	"When we looked in your bin, we noticed less single-use plastic than last time – keep it up!"	

Intrigue and gamification

Intrigue
Evoking curiosity or creating a sense of mystery around the behaviour.
Also known as curiosity-driven messaging, mystery-based communication.

"Did you know? Food scraps from your green lid bin are professionally treated."

Gamification
Incorporating gaming elements to increase engagement and behaviour.
Also known as game-based approaches, game mechanics.

"Which of these items can be recycled? Take this quiz to find out!"

In behavioural communications, strategies of intrigue and gamification help to make messaging attractive and engaging, either by sparking curiosity or by encouraging play and/or competition. Although the application of intrigue and gamification to waste-related behaviours is growing, the evidence on its impact is currently limited. **Intrigue** is often applied by asking a question like "Did you know…?" or following up an answer with a comment such as "If that surprises you…". Intrigue may include disrupting elements to surprise the reader.

"**Which of these items can go in your recycling bin?** (A) plastic bags; (B) uncleaned plastic containers; (C) broken crockery; (D) used napkins. **The answer is NONE!** If that surprises you, check the rest of your recycling knowledge."

Ask question to spark curiosity as to the answer

Disrupting element that may surprise the reader

Gamification is often applied in the form of quizzes or multiple-choice questions on social media. In an application of gamification, people earned points each week they participated in a recycling quiz and could win grocery gift cards as incentives for participating.

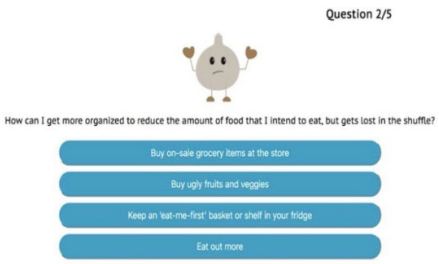
Key principles

- To generate curiosity through intrigue, present thought-provoking questions or provide partial information or hints that engage the audience to find out more or complete a task.
- Where possible, provide feedback on performance and identify areas for improvement. Particularly for gamification, this could be linked with taking a pledge to work on a recommendation (see Commitments).
- Keep gamification fun and social. Where possible, encourage social interaction, for example by offering opportunities to engage in collaborative tasks or share achievements on social media.
- Gamification should balance challenge with achievability. Set tasks that are challenging, but not so difficult that they become discouraging.
- Gamification can be paired with incentives to enhance motivation. If offering incentives, keep these aligned with the desired behaviour or goal.

Important considerations

- Much like using humour (see Emotions), ensure that intrigue and gamification elements support the intended outcomes rather than overshadowing or distracting from them.
- Gamification is designed to be fun and exciting. Do not make the experience overly complicated or confusing by including too many steps or instructions, or providing too much information or too many questions. You want to avoid overloading people with new information, and also make sure they finish on a fun note and don't get bored part-way through.

Table 24: Examples of intrigue and gamification in action

Kerbside recycling	**INTRIGUE** "Click here to find out!" **GAMIFICATION** Which of these items can go in your recycling bin? The answer is NONE! If that surprises you, check the rest of your recycling knowledge here.
Food waste minimisation	**GAMIFICATION**  Figure 2. Sample online game question. **Q: Which foods can be frozen? Eggs, cheese, milk, cream, bread, cake, nuts, pulses, meat, fish, herbs, fruit, veg?** **A: All of them!** In fact, pretty much most foods can be frozen! Freezing food is a brilliant way to press pause and stop it going to waste. Find out more about making your food go further at [website]. **Let's talk about eggs!** **Q: Where should they be stored? Counter/fridge?** **A: Keeping eggs in the fridge makes them last longer.** Find out more about making your food go further at [website]. **Let's talk about eggs!** **Q: Can eggs be frozen? Yes/No?** **A: The answer is yes! Just crack into a container, beat together, seal, label and freeze.** Find out more about making your food go further at [website]. **Let's talk about eggs!** **Q: Can you eat eggs past their best-before date? Yes/No?** **A: Yes, you can use them in baking or cooking a couple of days after their best-before date – first, just make sure they don't float to the surface in a glass of water.** Find out more about making your food go further at [website].

Single-use plastic minimisation	**GAMIFICATION** GREENPEACE How much do you know about the plastic pollution crisis? Start Quiz Takes 2 minutes

Instructional

Intrigue

Providing clear instructions or guidance on how to perform the behaviour.
Also known as how-to messaging, step-by-step guidance.

"Here are the scraps you can put into your green bin…"

In behavioural communications, instructional messages focus on educating individuals and providing them with the knowledge and skills they need to engage in the desired behaviour effectively.

Instructional approaches for waste-related behaviours include:

- information about what can and can't be recycled
- tips to address known barriers (eg, to reduce the 'yuck' factor for food scraps collection)
- suggestions for alternative products (eg, to minimise use of single-use plastic)
- sharing simple rules, helpful tips or strategies (eg, how to keep food fresh for longer).

> **Three simple ways to avoid single-use plastics:**
> 1. Carry a reusable water bottle
> 2. Bring your own cloth shopping bags
> 3. Seek out products with minimal packaging

How to break down the issue into small and simple behaviours

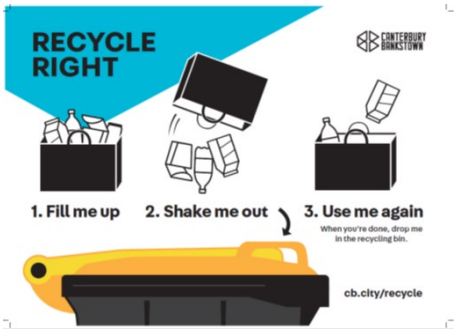
Key principles

- Keep things simple. Provide instructions, guidance or tips that are clear, concise and easy to understand.
- When providing guidance on how to perform a complex task or goal, break it down into manageable steps, or provide simple rules or tips. Diagrams or demonstrations can help illustrate how to perform actions correctly.
- Tailor instructions to the waste-related behaviour and where the community is currently at with the behaviour. For example, it may be important to emphasise 'No' items to reduce recycling contamination, and to emphasise 'Yes' items to encourage food scraps collection.
- For avoidance behaviours, it might help to keep things fun and social by providing tips and suggestions that are easy and desirable to try.[48,6,8,10,40]
- Pair with behavioural communication principles that make it easier to quickly get a sense of the message or desired behaviour, like using visual chunking and streamlining.[9] For example, for kerbside recycling it may help to include ticks and crosses of what to do with brief explanations and colour codes.[13,22]

Important considerations

- Avoid overwhelming individuals with information or complex instructions, as this can lead to cognitive overload.
- Only use instructional messages that have a clear 'right' or 'wrong' element.[9]
- Be wary of the tone used. Instructions that are too obvious, insufficient or generic can be seen as patronising or unhelpful.[33] Messages that sound like orders (eg, "Stop food waste"[32]) can induce resistance.[33]
- Be careful not to encourage behaviours that are impractical or inappropriate in particular areas. Particularly for cross-regional or national communications, target barriers or behaviours that are universal.[10]

Table 25: Examples of instructional messaging in action

Kerbside recycling	"These things **never** go in your yellow bin…" 	
Food scraps collection	 	Only use compostable liners or newspaper to line your kitchen benchtop bin
Food waste minimisation	 	 "Here are three smart ways to minimise your food waste…"

Single-use plastic minimisation

Prompts and priming

Prompts

Providing reminders or cues to perform the behaviour at an appropriate time.
Also known as action reminders, cue-based messaging.

'Eat me first' stickers for food containers.

Priming

Exposing to images, ideas or information that can influence future responses or decisions.
Also known as unconscious influencing, triggered responses

"Look out for information on the changes to recycling coming your way soon."

In behavioural communications, **prompts** can encourage behaviour change by providing timely reminders, cues or go-to resources to perform a specific action. To encourage or support waste-related behaviours, prompts can be delivered in various ways, such as:

- personal flyers that remind individuals to perform desired actions
- physical cues in the environment, like posters, magnets or stickers that can remind people to perform a desired behaviour or can provide guidance on how to perform the desired behaviour correctly.

"Use this form to create a weekly meal plan, **then print it out and stick it on your fridge.**"

Provide a timely reminder of plans to use food.

For behavioural waste communications to households, **priming** can be used as a conscious or subconscious signal to look out for a change coming up.

By strategically incorporating priming techniques into waste-related communications, individuals can be subtly guided and influenced towards adopting more sustainable behaviours, by making them more likely to pay attention to and be favourable towards changes and requests. Priming can also be used to increase the chance people will notice and pay attention to future communications.

> **Look out for the new materials in your bin area** which can help your household and building to get recycling right!

Prime people for upcoming communications

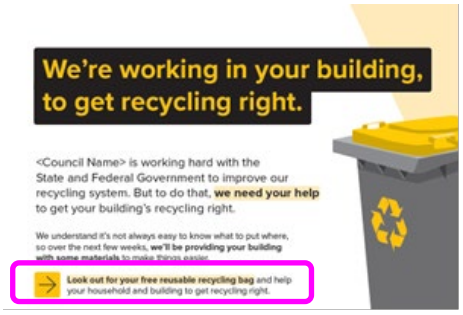
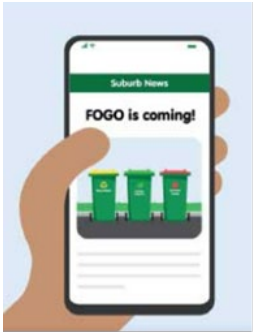
Key principles

- Use **priming** to increase the likelihood people will notice and engage with upcoming communications, by informing them that changes are coming and/or instructing them to look out for something. Priming is particularly important in the lead-up to delivering important information about service changes.
- Make **prompts** clear and easy to understand[47] (see also Instructional), and visually eye-catching, using techniques like visual chunking and streamlining[9] and colour coding.[13,22]
- Make **prompts** actionable. Where possible, encourage the positive rather than the negative behaviour[31] and focus on one key action to minimise the amount of behaviour change requested at one time.[10,15,16]
- Ensure **prompts** are delivered at the right time and in relevant contexts or trigger points where key decisions or behaviours are performed (eg, fridge magnet, bin sticker, benchtop bin sticker).[47,32,10]
- **Prompts** can be paired with feedback to reinforce desired behaviours when people respond to prompts, or to correct performance. This can strengthen the association between the prompt and the behaviour.

Important considerations

- Avoid providing excessive prompts or reminders, as this can lead people to habituate to or resist messages.
- Similarly, consider the timing and mode of delivery of prompts, so that they are seen as appropriate (rather than invasive).

Table 26: Examples of prompts and priming in action

Kerbside recycling	**PRIMING**  	
Food scraps collection	**PRIMING**  	**PROMPTS (bin sticker)**
Food waste minimisation	**PROMPTS (fridge magnet)** 	
Single-use plastic minimisation	**PROMPTS** 	

Self-efficacy and outcome efficacy

Self-efficacy

Increasing confidence in ability to successfully perform the behaviour.
Also known as confidence building, belief in capabilities.

"Simple rules you can use to recycle correctly…"

Outcome efficacy

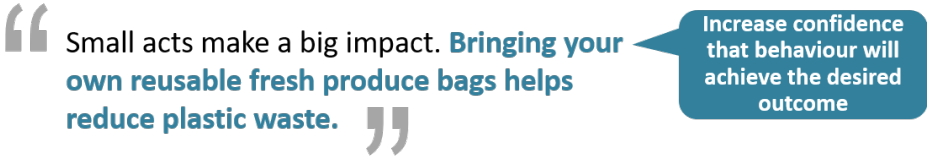
Increasing confidence that the behaviour will achieve the desired outcome.
Also known as response efficacy, outcome expectations, effectiveness messaging.

"Small acts can add up to a big impact. Bringing your own reusable fresh produce bags helps reduce plastic waste."

In behavioural communications, emphasising effective actions and making these actions seem easy to do can motivate and support behaviour change. The following are some ways of emphasising self-efficacy or outcome efficacy for waste-related behaviours.

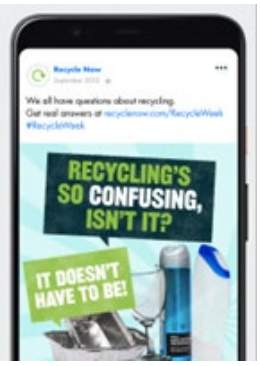
Self-efficacy: Focus on controllable aspects of the problem, like what can be achieved at individual and community levels. Break complex behaviours or large goals into small, simple and incremental steps.

Outcome efficacy: Present effective alternative behaviours (eg, reusable alternatives to single-use plastic[47], storing food correctly to reduce food waste[32]). Show that individual actions matter[47] and how they have impact[48] (eg, "Every little bit counts – even your small actions will make a big change!"[23]).



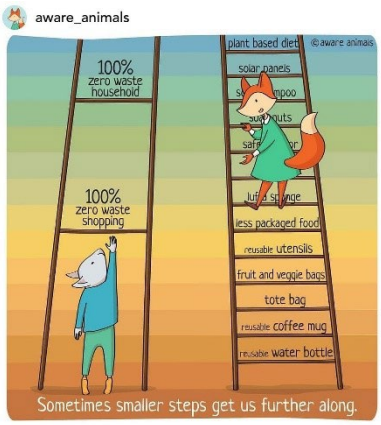
Key principles	
	• Keep messages simple and instructions clear, so that effective actions are easy to understand and appear easy to do.[24] • To bolster self-efficacy, focus on easier actions ('small wins'). Particularly for complex behaviours, break down desired behaviours into simple, small and incremental steps or achievable goals. • To leverage outcome efficacy, clearly communicate desired behaviours and the benefits or positive outcomes associated with these behaviours. You could compare this with the outcomes of alternative actions or not acting. • Where possible, connect the behaviour and outcomes to immediate benefits for the individual or community, to make the outcomes feel more tangible and personally relevant (see Consequences). • Outcome efficacy and self-efficacy can be paired with feedback to reinforce effective change (or improvements). This can build associations between the behaviour and outcome and can strengthen confidence.
Important considerations	
	• Avoid setting unrealistic expectations, or making the problem feel too large or the behaviour too hard, as this can disempower people (undermines self-efficacy).[24,47] Keep actions, goals and their outcomes simple, achievable and tangible (see Consequences). • As for instructional messages, be wary of the tone used when providing guidance on effective actions or boosting people's confidence. Avoid sounding authoritarian or patronising as this can induce resistance.[33] • Be careful not to overstate or misrepresent the effectiveness of the behaviour. This is important so that communications can maintain credibility and trust.

Table 27: Examples of self-efficacy and outcome efficacy

Kerbside recycling	**SELF-EFFICACY**  "Simple rules you can use to recycle correctly…"	
	OUTCOME-EFFICACY **Negative frame** 	**Positive frame** Recycling works when you do it right
Food scraps collection	**SELF-EFFICACY** "You've got the power! Start collecting food scraps today!" "Building new habits can take time, but we'll support you every step of the way." "Once introduced, [84 per cent of surveyed NSW residents[2]] find ways to successfully integrate FOGO into their daily routines"	**OUTCOME EFFICACY** "Every food scrap counts."
Food waste minimisation	**SELF-EFFICACY** "You can conquer food waste! Take control, make a change!" "Too busy to make a shopping list? Just snap a 'fridge selfie' and refer back to your phone when shopping to see what you already have."	**OUTCOME EFFICACY**

Single-use plastic minimisation

SELF-EFFICACY



"Simple swaps you can make to reduce single-use plastic…"

OUTCOME EFFICACY

"Small acts can add up to a big impact. Bringing your own reusable fresh produce bags helps reduce plastic waste."

Social norms and social proof

Social norms

Presenting the behaviour as common or socially acceptable.
Also known as descriptive norms, dynamic norms, injunctive norms, conformity messaging.

"X per cent of residents in [location] believe it's important to recycle food scraps through their food scraps bin."

Social proof

Showing that others are already engaging in the behaviour.
Also known as observational evidence, peer influence, social modelling.

"Thanks, Love Food Hate Waste. I tried the recipe for using mashed potatoes to make scones and the kids loved it."

In behavioural communications, social norms and social proof use social influences to encourage desired behaviours. People generally want to conform and so tend to look to others for guidance on what to do. When they are made aware of what is typical, acceptable or currently done, people may align their decisions and behaviours to this accepted practice.

Social proof means that people can see others doing the behaviour (or see evidence that others have done it).

Table 28: Types of social proof for placing recycling loose into the bin instead of tied up inside plastic bags that can't be sorted at a recycling facility

Illustration	Testimonial	Visual markers
• Realistic* video showing one or more people placing their recyclables loose in their bin • Videos or photos of insides of a number of bins showing all recycling in there is loose	• Written testimonials from people saying they place their recyclables loose in their bin • Video testimonials from either relatable 'everyday' people or 'influencers' saying or showing how they place their recyclables loose in their bin	• Stickers placed on kerbside bins stating, 'We place our recyclables in loose'

Note: * It is important that the audience believes it is real 'proof', not staged.

Social norms convey that a behaviour is important, by showing an individual either that the behaviour is common or that it's socially acceptable (or not). The following are two common types of social norms.

- **Descriptive** norms (what people **do**) convey the actions of other people and so what behaviours are common. They work best when:
  - there is little cost to doing the behaviour (ie, it is easy)
  - the rate of behaviour in the population is high (above 70 per cent[50]).

  Descriptive norms are more effective[50] than injunctive norms for household waste behaviours.

- **Injunctive** norms (what people **approve** of) convey the values and morals of other people and so whether a behaviour is acceptable or approved. They can add a 'cost' (social sanction) to not doing a behaviour. They can be used when the rate of behaviour in the population is low (under 70 per cent[50]). They are less effective[50] for household waste behaviours compared with descriptive norms.

The table below presents examples of both types of norms. It also illustrates how each type can be presented as either a **static** norm (what is happening now) or a **dynamic** norm (how things have changed recently). Injunctive norms can also be implied by suggesting or showing other people's approval (see examples at the end of this section).

Table 29: Types of social norms for placing recycling loose into the bin

Use when…		Numerical values (when known)	Qualitative values (when exact figures unknown)
Descriptive norms			
Static	Rate of behaviour is high.	**Over 80% of Auckland City residents currently put** their recyclables loose in the recycling bin.	**The majority of Auckland City residents are putting** their recyclables loose in the recycling bin.
Dynamic	Rate of behaviour is *not* high but is increasing.	**Over the last month, another 1,000 more households put** their recyclables loose in the recycling bin.	**More and more Auckland City residents are putting** their recyclables loose in the recycling bin.
Injunctive norms			
Static	Rate of behaviour is *not* high, but approval is high.	**90% of Auckland City residents believe that residents should put** their recyclables loose in the recycling bin.	**Most Auckland City residents believe it's important for residents to put** their recyclables loose in the recycling bin.
Dynamic	Rate of behaviour is *not* high, and approval is *not* high but is increasing.	**The number of Auckland City residents** who **believe that residents should put** their recyclables loose in the recycling bin **increased by 10% last month**.	**Compared to previous years, more Auckland City residents thought that residents should put** their recyclables loose in the recycling bin.

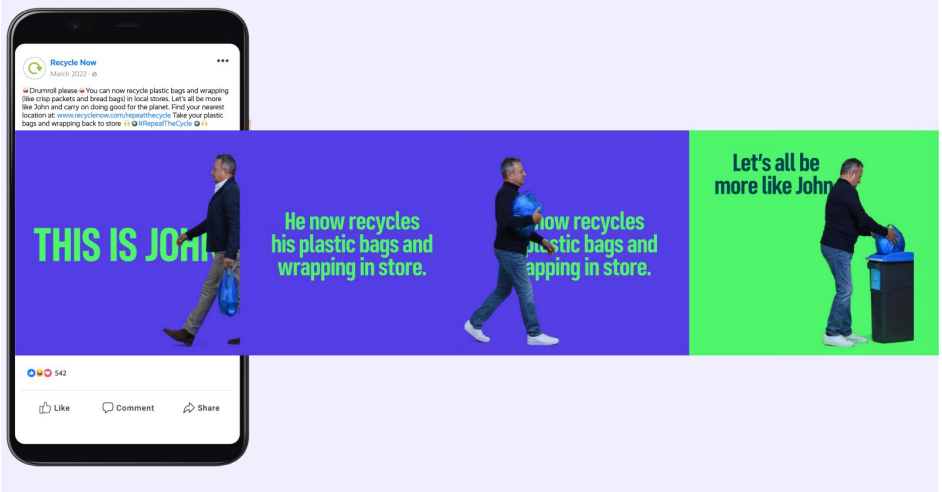
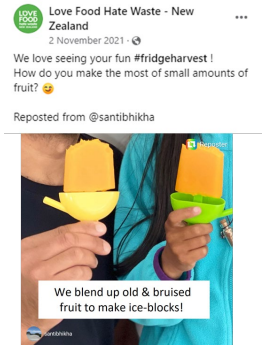
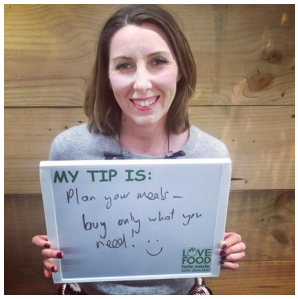
Key principles

- Highlight positive norms that you want people to adopt.
- Emphasise that a large number of individuals (at 70 per cent[50]) already engage in the desired behaviour and showcase examples of people engaging in it. Where possible, show national statistics that illustrate widespread adoption of the behaviour, as this can show that most people agree.
- Where adoption of the behaviour is not high (ie, less than 70 per cent[50]) or a positive norm has not yet been established, draw on dynamic norms and emphasise the **growing** prevalence of the behaviour.
- The more relevant you can make a norm **geographically** (eg, X per cent of street, suburb, council area or country) or **demographically** (eg, X per cent of teenagers, students, parents with young kids, or retirees), the better.
- Emphasise that the behaviour is socially valued and approved. Where possible, draw on well-respected influential people in the community to endorse and demonstrate positive behaviours. Similarly, encourage people to share success stories or testimonials related to the behaviour.
- Sharing social media content from people or groups who are already doing the desired behaviour is an easy way to illustrate social proof.

Important considerations

- Be careful about any aspect of a communication suggesting a negative norm exists (ie, that undesirable behaviour is common or socially acceptable) as people tend to move towards the norm, whether it is positive or negative.
- Communications can sometimes use negative norms when they provide very clear 'unacceptability' signals alongside the negative norm. However, you should take care with this approach and test messages first.
- Note that emphasising the scale of a problem to be solved often suggests that the negative behaviour is more common than the desirable behaviour, and so can backfire.
- Avoid presenting fake or unbelievable social norms or proof, as this can damage credibility and trust.

Table 30: Examples of (positive) social norms and social proof in action

Kerbside recycling	**SOCIAL PROOF**  **SOCIAL NORMS** "The majority of [location] residents scrape out any remaining food before recycling items." "More and more residents are looking for the Australasian Recycling Label to check what goes in the recycling bin." "Most residents believe it's important to check the council website first if unsure whether something is recyclable." "Since last year, the number of residents who know it's important to keep [item] out of the recycling bin has jumped dramatically."
Food scraps collection	**SOCIAL NORMS** "People just like you in [location] switched [amount] of food scraps from their rubbish to their food scraps bin last month." "The number of people in [location] who are recycling all the food scraps they can increased by X per cent last month." "X per cent of residents in [location] believe it's important to recycle food scraps through their food scraps bin." "More and more residents of [location] know it's important to remove any plastic wrapping before putting old food in the food scraps bin."
Food waste minimisation	**SOCIAL PROOF**  

Food waste minimisation (cont)	**SOCIAL NORMS** 	"Most Kiwis are storing their fresh vegetables correctly to reduce food waste." "Increasingly, [location] residents are making a shopping list before grocery shopping to reduce food waste." "Most residents believe it's important for residents to use up leftover food to avoid having to throw it out later." "More and more residents are committing to monitoring how much food goes in their bin and trying to reduce it."
Single-use plastic minimisation	**SOCIAL NORMS** 	"Most people in [location] shop with reusable shopping bags." "Every month, more New Zealanders are swapping plastic film for reusable beeswax wraps to reduce plastic waste." "Most shoppers in [location] believe it's important to choose items with less packaging where possible." "Many shoppers in [location] are starting to buy refillable laundry products to reduce plastic waste."

Checklists and guidance for building and reviewing behavioural communications

What are behavioural communications?

The goal of behavioural communications is to encourage the target behaviour, generally by reducing actual or perceived barriers and friction, and/or by increasing motivation to engage.[3]

Behavioural communications:

- go beyond providing generic information or instructions,[2] which are often typical of standard education approaches
- are tailored to the particular characteristics of specific sub-populations, individual behaviours and desired outcomes, often requiring a suite of messages to address a single audience[10]
- typically incorporate behaviour change techniques such as 'persuasion' (eg, communication to create positive or negative feelings towards a behaviour) and those described in this guide.

Checklists and guidance

The following checklists supports a review of existing behavioural communications, including those that have been created by a graphic designer or social media professional. The supporting guidance and examples explain these principles and guide use of the checklist.

The content of this section is based on a scan of Aotearoa and international waste communication research. It provides key principles for:

- writing communication messages
- visually designing communication
- selecting communication delivery channels.

We recognise that many organisations may have their own brand identity or style guide – and that sometimes the advice contained in this section may conflict with those guidelines. However, if the goal is to change behaviour, it can be valuable to trial behavioural communication principles, even if the approach is new or deviates from corporate guidelines. (For example, this guide has adopted the nationally standard waste stream colours to colour code the relevant sections, even though these colours are outside the defined Ministry colour palette.)

Checklist for behavioural communications

Overview	
Name of communication	
Behaviour change objective, including: • the problem • target behaviour(s) • known barrier(s) being addressed, and/or • specific audiences	
Channel(s) the communication will be delivered through (eg, flyers, social media, council website)	

Written messaging and content
The 'words' in the communication

Type	Principle The communication…	Y	N	NA	Comments
Structure	Focuses on one key message				
	Starts with or contains an attention hook (something designed to grab and hold attention)				
	Has a clear call to action (clearly asks household to perform one action)				
	Places the key message and call to action up front and/or very prominently				
	Repeats the key message or call to action in body content (where appropriate)				
	Is repeated in other languages if necessary				
Style	Is written clearly and concisely, using simple language and avoiding jargon				
	Speaks directly to the audience (eg, uses "you" rather than "we")				
	Uses a positive tone of voice				
	Contains nationally consistent English terms and te reo Māori translations (see Nationally standard terms)				
Strategy	Includes either a strategy directly targeting a known barrier or a behavioural insight known to be effective				
	Focuses on what you want people to do (ie, rather than on what not to do)				
	Does not use an approach known to be counterproductive (eg, plea message, highlighting the scale of the problem, restating a myth)				

Visual design and images The visual design of, and images in the communication					
Type	**Principle** The communication…	**Y**	**N**	**NA**	**Comments**
Layout and formatting	Uses colour(s), font(s), imagery, layout and tone of voice consistent with the visual brand				
	Implements a visual hierarchy (eg, draws the reader's eye to the most important part of the communication first)				
	Contains visuals that are large, simple and easy to read				
	Is not too text-heavy (eg, provides a suitable amount of space around paragraphs or to break up content)				
	Does not overdo colours in the design				
Images	Uses images that are realistic, organised and visually appealing				
	Presents easily recognisable icons (if any)				
	Uses images of people (if any) are culturally appropriate (eg, people are of indeterminate ethnicity)				
	Uses images that are relevant to the audience or context (eg, local images or reference points)				
	Uses images that convey or complement the underlying message				
	Does not use images or icons of poor quality				

Message delivery, including channels of communication The method and channel(s) of delivery to the audience					
Type	**Principle** *The communication…*	**Y**	**N**	**NA**	**Comments**
Channels	Is delivered across multiple channels (ie, to meet different audience needs and preferences)				
	Is delivered through channel(s) that maximise reach (eg, paid advertising on social media, rather than simply posting to a council page)				
	Is delivered through channels that get noticed or places particular emphasis on grabbing attention				
Sequencing	Takes a multipronged approach (ie, uses a variety of messages to achieve behaviour change goals)				
	Will be repeated on multiple occasions over time				
	Will be delivered at a suitable and/or opportunistic time for the audience				

Additional checklist for flyers

Consider the following in addition to the general principles in the Checklist for behavioural communications.

Flyers					
Type	**Principle** The flyer…	**Y**	**N**	**NA**	**Comments**
Lists	Is highly legible (ie, uses legible typeface(s) and font size(s))				
	Is repeated in other languages if necessary (ie, lists are **not** multilingual)				
	Uses 'no' items either on their own or alongside 'Yes' items when aiming to reduce contamination (ie, to indicate what is **not** recyclable)				
Imagery and design	Uses images of items rather than just written lists of items				
	Uses suitable labels for images of items or groups of items				
	Uses easily recognisable icons or images (ie, they can be recognised without reading an identifying label)				
	Uses ticks and crosses to easily show 'Yes' and 'No' (ie, to identify what can and can't be recycled)				
	Uses images of people or characters suitable for the audience				
	Includes the organisation's name or brand clearly in the header or footer to distinguish from junk mail				
	Has been or will be pre-tested before full-scale distribution				
Structure and mediums	Has a simple and uncluttered structure and layout (eg, suitable use of headings and white space to break up content)				
	Provides all necessary information or provides links to more detailed information				
	Is an appropriate medium for the communication purpose (ie, hardcopy rather than digital collateral)				
	Is useful and likely to be kept (eg, is a calendar, has a magnet attached)				

Additional checklist for social media

Consider the following in addition to the general principles in the Checklist for behavioural communications.

Social media posts					
Type	**Principle** The social media post…	**Y**	**N**	**NA**	**Comments**
Style and design	Contains positive and helpful content (eg, inspirational, uplifting content, like success stories and meaningful tips)				
	Shares real stories (eg, uses Reels to 'show, not tell'; visual stories by posting carousels; testimonials from real people)				
	Leverages optimised hashtags (ie, uses a number and type of hashtags that are optimised for the platform)				
	Is designed to drive sharing and discussions in the comments section				
	Does not have a cluttered caption (eg, provide links to more information in the comments below, post hashtags in the comments)				
	Does not prioritise clickbait (ie, isn't just something catchy with little substance)				
Images	Uses high-quality images				
	Uses images that keep to appropriate aspect ratios				
	Uses images with a suitable colour palette (ie, adopt or establish a brand colour palette to keep your feed visually appealing)				
Videos	Uses high-quality videos				
	Uses videos that keep to appropriate aspect ratios for the platform you are using				
	Uses a video of a suitable length to optimise engagement on the platform you are using				
	Incorporates captions into videos				
Scheduling	Is scheduled for times of day when audiences are most likely to engage on that platform				
	Is scheduled along with other posts at an optimised frequency for the platform (ie, some platforms promote accounts that post more frequently)				

Supporting guidance

Written messaging and content

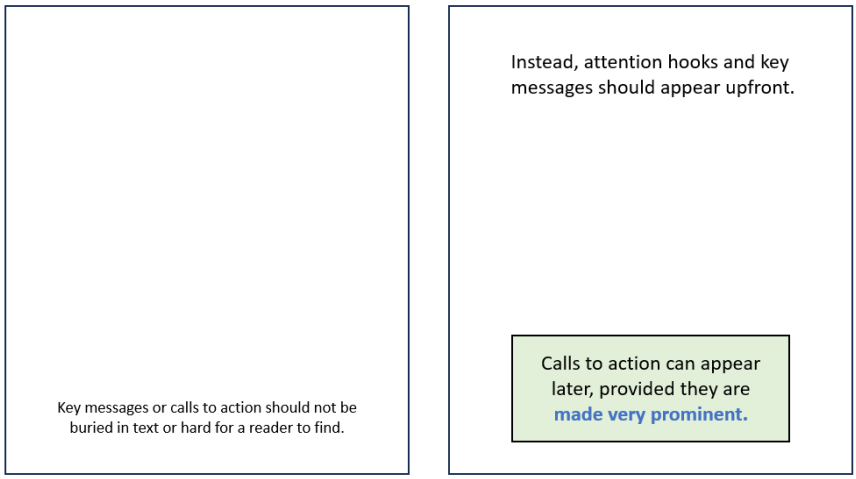
Structure

- **Attention hook:** Start communications with something designed to grab and hold attention.[51] Ideally this will appear in the heading, subject line or first few sentences to ensure that busy households actually engage with the communication.[52]

Examples

- Don't overload people by trying to communicate too much.[5,51]
  - **Focus on a single key message.** You may feel you need to tell households a long list of things, but they will hear more if you say less.[2]
  - **Have a clear call to action.** Only ask households to perform one action per message and make it clear what that action is. Asking households to perform multiple actions could confuse them or make them feel that too much effort is required.[30]
  - **Repeat the key message.** Households need to receive a message multiple times to remember it.[53]
- Don't assume that all households will read all of your content. Make your key message and call to action **up front and/or very prominent**.[53]

How to present key messages and calls to action



Content

- Consider the multicultural barriers to understanding your communication, such as language and literacy issues or cultural differences.[5] Aim to **repeat communications in other languages** as necessary.
- Be careful **not to miss important information for particular groups within your audience**. For example, consider key information for the elderly or those with disabilities.

Style

- Written content should be **clear, simple and concise**, free of technical language and jargon. For example, use 'rubbish' instead of 'landfill'. Write for the reading age of a 12-year-old. Paragraphs should be no more than two to three short sentences to aid comprehension.
- **Speak directly to the audience**. Use the second person voice (ie, "you") to grab people's attention rather than the more communal "we", "us", "they" and "the community", which are easier to ignore.[6,51] This is because "you" is very direct, but "we" is softer. While using "we" can create a sense of togetherness, it can also unintentionally lead to people being less proactive or attentive, and taking advantage of others' efforts without contributing anything themselves, as in these examples.

Impersonal and personalised language

Impersonal	Personalised[6]
• "We are changing the way we collect **household** waste" • "Council is making it easier for all of **us** to recycle"	• "We are making improvements to the way we collect **your** waste" • "We are making it easier for **you** to recycle"

- Use a **positive and casual tone of voice** that is friendly, simple and factual in the messages conveyed. Negative tones that seek to invoke guilt or threaten tend to irritate and annoy people, leading to more disengagement.[5,53]

Strategy

- The key message should include either:
  - a **strategy that directly targets a known barrier** (see step 3 of relevant waste topics for explanations and examples) or
  - a **behavioural insight known to be effective** (see step 3 of Behaviour change basics for an explanation and the Library of Behavioural Insights for examples).
- **Avoid using counterproductive strategies** (counterproductive strategies for each waste topic are outlined in the Library of Behavioural Insights). Particularly avoid both of the following.
  - **Plea messages:** Studies have shown these tend not to work, such as:
    - ✗ "Please recycle more"
    - ✗ "[Location] needs to recycle more".
  - **Directly restating existing myths or misunderstandings:** Dispelling myths and correcting misunderstandings are often a key part of waste behaviour communications.[5] However, it is important to never restate the myth or

misunderstanding directly, as this can actually subconsciously reinforce it.[54] Instead, simply and clearly state the correct information.

How to combat myths and misunderstandings

Visual design and images

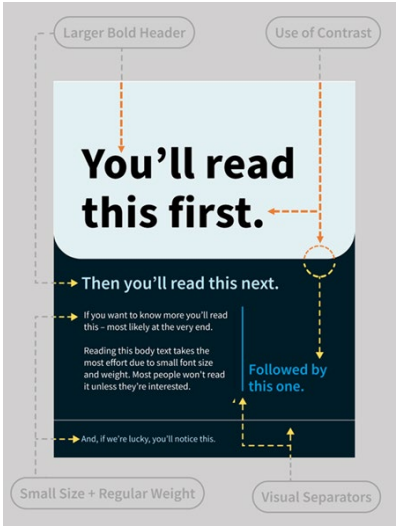
Layout and formatting

- Develop and apply a **consistent visual brand**, with consistent use of colour, font, imagery, layout and tone of voice (see example below). This helps build recognition and trust in the messenger and therefore the message.[6]
- Don't overdo colours in your design – stick to your brand colours and consider colour theory.[60]
- Implement a **visual hierarchy** (see example below) that draws the reader's eye to the most important part of the communication first and makes the least important information inconspicuous. If you've convinced people this communication is important or interesting to them and they need more detail, they will keep reading.[6]
- Use **visuals that are large, simple and easy to read** in order to catch and hold attention. Avoid creating content that is too text-heavy because pages packed with text are difficult to read. Using space around paragraphs makes text much easier to read.[6]

Consistent brand across materials

Source: New Zealand's diverse population in photographs.[53]

Visual hierarchy example



Source: interaction-design.org

Images

- Use **high-quality images** that are realistic, organised and visually appealing.[2]
- When featuring people, look for photos of **suitable people** that the audience can relate to or connect with. For instance, it can help to use images containing people of indeterminate ethnicity, or create multiple versions of the communication with images of different people.
- Where possible, include local images or reference points to keep the communication **relevant to the audience or context** and enable people to connect with images.
- If you are using images to highlight specific text, make sure you are selecting **images that convey the underlying message** of the text.[55]
- Households often don't have a specific preference for photos or icons, but ensure that all **icons are easily recognisable** (not too abstract!).

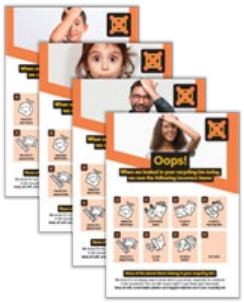
Examples of local images

Source: Central Otago District Council

Source: Hamilton City Council

Examples of appropriate people images

Source: Summary of Behaviour Change Trials to Reduce Contamination of Household Recycling.[61]



Source: Improving Recycling through Effective Communications[15]

Message delivery

Delivery channels

There is a range of channels to deliver communications through, and each has its advantages and disadvantages for particular situations. Some common examples are:

- flyers and leaflets
- fridge calendars
- rates notices
- stickers, signs, posters
- local advertising (TV, radio)
- facility tours

- door-knocking
- public events
- council website
- council newsletters
- direct email campaigns
- social media.

Trusted partners, celebrities or social media influencers and community leaders can also deliver communications.[30]

What to consider when selecting channels or platforms

- Different households will use different channels or platforms to source information, so a **multichannel approach** is best for achieving widescale change.[5,56] Seeing the same information across multiple channels also improves familiarity and trust.[2]
- **Potential reach**. For example, on social media, only a niche, engaged segment of households tends to follow council accounts, so posting communications on council channels can often be 'preaching to the converted'. Paid social media advertising will reach a much broader cross-section of households. Paid advertising can also be targeted to particular demographics – useful if research reveals that certain sub-populations are more likely to need or respond to particular messages. Letterboxing can reach all households in the targeted area.
- How likely people are to **notice a communication** in a particular channel (eg, how likely they are to dismiss a flyer as junk mail or swipe past a social media post when 'mindlessly scrolling', compared with their response to a clear message on a council rates notice)? When you are delivering messages through channels that are less likely to be noticed, you need to give greater attention to 'salience' (ie, how they'll attract attention) and repetition, including across supporting channels.[53]
- When contemplating printed materials like flyers, consider the **environmental impact of the material compared with the expected benefits**. An effectively designed flyer delivered to every letterbox will likely reach more people than a social media post or website and may therefore be more impactful. You can maximise the benefits of printed material by using a format that people can keep and use repeatedly, such as a calendar, or an information flyer with a magnet attached so it can go on a fridge.

What to watch out for

- Consider what types of households may not receive communications through the channels you have selected (eg, those with access issues, transient populations), and what that means for the success of your behaviour change efforts.
- People will often recommend or ask to receive information by specific channels, and their preferences matter. However, it is important to note that stated preferences do not necessarily match actual information-seeking behaviours, so don't assume people will automatically and proactively use the channels they mention, without some prompting to do so.

Sequencing messages

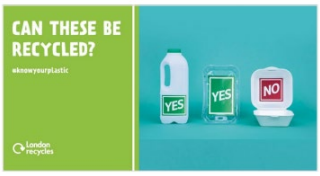
- Taking a **multipronged approach** (using a variety of communications, each featuring a different key message) is important as people will often experience a mix of barriers and respond to different motivators. This kind of approach is also important when you need to cover multiple behaviours.

Don't understand benefits

Don't think others are doing

Not aware can recycle bones

Food packaging behaviours



Kitchen packaging behaviours

Bathroom packaging behaviours

- Each message should be **repeated on multiple occasions over time**. The more often people see a message, the more likely they are to notice it.

Repeating the same message over time

- Try to deliver or schedule communications at **a suitable time**. For instance, households are more likely to respond at times when they have the mental and financial resources to act. People are also often more open to change during periods of transition (eg, when getting married, having a child).
- Particularly, take advantage of **opportunities when people are actively looking for new information**. For example, people moving house may seek information on the waste collection times at the new location, or households may want to know more when there is a change in policy or service.[57]

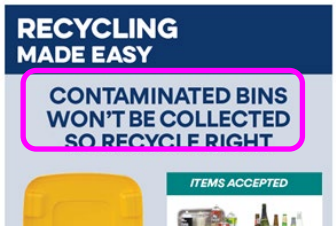
Flyers[i]

Lists

- When the aim of a flyer is to improve recycling behaviour, **always present 'No' items that should not go in the recycling bin**, either on their own or alongside 'Yes' items.[14]

✓ 'No' only	✓ 'Yes' + 'No'	✗ 'Yes' only

- Placing behaviourally informed **statements and persuasive messages** at the start of an information flyer (see more on Attention hooks) can increase its effectiveness.[9] Using insights like Intrigue, Consequences and Emotions (especially in relation to humour) can help to get attention.

✓ Intrigue	✓ Consequences	✓ Humour
		

[i] Reviewed research relates only to flyers for kerbside recycling and food scraps collections. Therefore, when applying this guidance to flyers for food waste minimisation or single-use plastics minimisation, consider it cautiously and pre-test your communications before implementing at scale.

- **Multilingual vs bilingual vs monolingual:** Australian research shows that streamlining text by removing multiple language translations improves performance for English-speaking people.[9] This suggests that where communications are required for the 6 to 13 per cent of people in different regions of Aotearoa who do not speak English,[58] it may be worth looking at other ways to reach these language groups (whether flyers repeated in other languages or communicating through other channels), rather than trying to design a single flyer for both English speakers and speakers of other languages.
- Note this does not apply to the incorporation of Te Reo Māori translations alongside English, which as an official language of Aotearoa is recommended for inclusion for flyers written in English. There is less research into the effectiveness of bilingual flyers and documents in New Zealand are increasingly including te reo Māori together with English.

✗ Multilingual

✓ Repeated separately

✓ Te reo Māori translations

Imagery and design

- Providing **images of items along with or in place of text** is preferable to a written list alone.
- Households accept both icons and photographs of recyclable and waste items as long as it is easy to identify the items. However, research suggests that **icons may be more useful**, as they are more symbolic of categories of items, while people interpret photos more literally as the specific item(s) shown.

✗ Text list

✗ Icons hard to identify

✓ Clear icons

- Adding labels to images or icons of items can help households to identify items pictured in flyers. However, it is recommended that flyers include only **images of items that people can readily identify** without reading the labels.[13]
- **Visually 'chunking'** together or categorising types of items helps to organise large amounts of information. However, it is also important that the audience can recognise or interpret the label of the overall categories.[9]

✖ Un-labelled	✓ Labelled	✓✓ Labelled & chunked

- **Ticks and crosses** provide clear indicators of whether items are recyclable or not.
- **Before using people or illustrated characters** in any materials, carefully consider (and preferably test) your approach to ensure that households identify with them.
- Note that the visual appeal of a flyer is not always related to its behavioural effectiveness, and our intuition can misguide us in judging what will work. **Pre-testing flyers** before delivery is therefore critical[9] (see step 4 of Behaviour change basics).

Structure and mediums

- **Layout should be simple and uncluttered**, while providing the necessary information (or links to more detailed information) that covers any questions households are likely to have.
- Consider the environmental impact of flyers and whether their use is appropriate. **Make sure physical communications are useful** and create communications that people are likely to keep, such as magnets, calendars and bin stickers.[59]

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