



Waste and Circular Economy Strategy 2040

Rethink. Reduce. Reuse.



An elderly Indigenous woman with white hair, wearing a white lace top, is performing a smudge ceremony. She is holding a bundle of green leaves over a large, charred wooden log. A plume of white smoke is rising from the log. In the background, two other people are visible, one wearing sunglasses and holding a phone. The scene is outdoors with bright sunlight.

Acknowledgement of Country

We acknowledge the traditional owners of this land and elders past, present and future. We recognise Aboriginal people as the original custodians of the Northern Beaches.

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Message from the Mayor

Our community cares deeply about living sustainably, protecting and enhancing our unique natural environment.



One of the key sustainability challenges we face as a society is reducing and managing the waste we create.

Together, we are making great strides on the Northern Beaches to recycle more, minimise litter, reduce single-use plastics and divert more household waste from landfill. Yet, our community still creates over 100,000 tonnes of household waste per year, which all needs to be collected, transported, sorted and processed at waste facilities. This is equivalent to over 400 kg per person on average.

This is not sustainable and has to change. And while change is not easy, so many solutions are within our reach.

It all starts with thinking smarter at the outset about what we buy and consume, and where it will end up. Moving away from the 'take, make, dispose' culture and embracing a rethink, reduce and reuse mindset. Building a more 'circular economy', where the products and materials we consume are kept in use for as long as possible, will ensure nothing goes to waste.

With change comes opportunity. So many in our community have told us that they are ready to embrace every chance to reuse, repair and recycle more. Growing these solutions can also create more local jobs and support innovative social enterprises.

This strategy sets out how we will work together with our community, state and federal government on real solutions for a better future. Council will lead the way by providing a great waste and litter service, improving environmental outcomes, and creating smarter solutions that will reap benefits for years to come.

Sue Heins
Mayor

Image: North Curl Curl



Executive summary

This strategy provides the long-term strategic direction for Council's waste and litter services. It also empowers the community and Council to make a real difference by reducing, reusing, repairing and recycling more.

Managing household waste and keeping our public places clean of waste are key responsibilities of Council.

If not managed strategically and well, waste can:

- pollute the environment and waterways and harm wildlife
- negatively impact our health
- release greenhouse gas emissions which contribute to climate change
- lead to a loss of the resources (i.e. labour, raw materials, energy, water and embodied carbon) used in making the original product.

Improving how we manage and approach waste can also present opportunities.

Promoting a local 'circular economy' keeps products and materials in use longer through reusing, repairing and recycling, and can stimulate startup businesses and more jobs. It can lead to a more connected local community through sharing, repairing and refurbishing used products.

It can also reduce the environmental impact and emissions caused by waste on the Northern Beaches.

These benefits can be achieved, but it will be challenging.

Our community continues to consume more and more products. Additional infrastructure is needed to manage, repair and recycle the waste created from those products.

We need more markets for recycled, repaired and second-hand products to stimulate demand. Council needs to prepare our services for the impacts of change across our population, climate and technology.

We've listened to residents and businesses through ongoing consultation. Our community has expressed strong support for Council to continue to improve the waste and litter services to recycle, repair and reuse more; and provide options for services that are more flexible and easier to use, whilst protecting the environment.

This draft strategy provides the framework and strategic direction to address the challenges and opportunities, and to enable all parties to bring about lasting change.

It sets out how we can work in partnership with our community, local businesses, and state and federal government to make the shift to a more circular economy that delivers economic prosperity, promotes social cohesion, reduces greenhouse gas emissions, and protects our natural environment.

Key directions

These five key directions will help us all focus in addressing the challenges at hand.

- Eliminating waste
- Easy to use waste service
- Tackling priority wastes
- Green and clean environment
- Council leading the way

The directions identify key outcomes, targets and priorities for Council as we move towards 2040.

The strategy is designed to position the Northern Beaches, by 2040, as a leading circular economy region in Sydney, with a customer-focussed waste and litter service that delivers clean public spaces for the enjoyment of visitors and the local community.





Image: Community use of Northern Beaches bins.



Vision

A sustainable and easy to use waste and litter service that supports a thriving local circular economy and protects our environment

This complements the Northern Beaches Community Strategic Plan 2040 vision which centres around a “connected community that lives in balance with our extraordinary coastal and bushland environment”.

The vision has been developed in response to the priorities of the community and will provide long-term strategic direction for how we manage and approach waste on the Northern Beaches up to 2040.

The vision, together with the directions, targets and outcomes in this strategy, are designed to be ambitious, drive action and inspire Council and our community.

Guiding Principles

The following principles have been developed from our consultation with the community and help guide the key priorities and actions in this strategy.

Sharing responsibility

Our community, local businesses and Council share responsibility and work collaboratively to minimise the impacts of waste and take advantage of the opportunities presented by the circular economy, where we reuse, repair and recycle more.

Empowering the community

Council provides the community and businesses with tailored education and incentives to help manage their waste and minimise their waste footprint.

Making it easy

Council's household and public waste network is designed to provide accessible, flexible and sustainable options for recycling and reuse, and appropriate disposal of waste at the end of its useful life.

Innovating

Council supports and trials new systems, technologies and approaches that have the potential to significantly improve waste, litter, circular economy outcomes and associated reductions in greenhouse gas emissions.

Building resilience

Council's services are reliable and adaptable to changes in population, markets, infrastructure and the climate, and have the capacity to endure unforeseen disruptions and shocks (such as natural disasters and pandemics).

Influencing

Council leads by example, demonstrating and advocating the benefits of changing to a circular economy, where we reuse, repair and recycle more, with better waste management.

Key directions and targets

The directions identify key targets for Council and our community as we move towards 2040



Direction 1: Eliminating Waste

Targets

- reduce total household waste generated in the Northern Beaches by:
 - **10%** per person **by 2030**
 - **20%** per person **by 2040**
- a convenient and accessible Northern Beaches circular economy hub is in operation for the benefit of the local community **by 2030** to increase:
 - reuse, repair and recycling locations, events and/or online networks
 - the range of items which can be locally reused, repaired and recycled



Direction 2: Easy to use waste service

Targets

- **70%** resource recovery rate from household waste **by 2030**
- **75%** resource recovery rate from household waste **by 2040**
- **25%** reduction in kerbside bulky goods per household going to landfill **by 2030**
- **50%** reduction in kerbside bulky goods per household going to landfill **by 2040**
- regular and accessible collections for electronic waste, textiles and household chemicals **by 2025**
- Maintain community satisfaction with Council's household waste collection above **80%**



Direction 3: Tackling priority wastes

Targets

- halve the amount of household food waste sent to landfill **by 2030**
- collaborate with local businesses and state and federal government to phase out unnecessary single-use plastics in local retail businesses **by 2030**
- provide local drop offs or kerbside collections for the most common household plastics where there are reliable markets for the recycled products and no other convenient collection systems are in place.



Direction 4: Green and clean environment

Targets

- reduce litter at local litter hotspots by **60% by 2030**
- increase resource recovery rate in public place litter bins by **50% by 2030**
- reduce greenhouse gas emissions from household organic waste collected by Council by **20% by 2030**
- reduce greenhouse gas emissions from Council waste collection vehicles and street sweeping vehicles by **50% by 2030**



Direction 5: Council leading the way

Targets

- reduce waste generated in Council's operations by:
 - **10% by 2030**
 - **20% by 2040**
- double the number of Council infrastructure projects using recycled material **by 2030**
- increase resource recovery rate of construction waste generated in Council's operations to **90% by 2040***
- improve local planning controls and guidelines **by 2026** to enable public and private buildings and infrastructure to be designed for longevity, reducing the need for raw materials and enabling future disassembly, reuse and recycling

Further details about each target are contained in Section 3. Directions. The baseline year for all targets is FY2021/22 unless otherwise stated in Section 3

*Target to be reviewed for feasibility after audit of council waste by 2025

Community engagement

Council has committed to engaging with the community and other stakeholders at every step in developing this strategy.

Community engagement to date

- Random telephone survey of 600 residents on their thoughts about waste and Council's household waste service, conducted by third party market research specialist. .
- Series of four focused community workshops run by behavioural science experts to:
 - analyse the survey findings
 - understand the engagement and appeal of different initiatives
 - identify barriers to engagement
 - identify behaviour change initiatives.

- Consulting Council's key community reference groups: the Environment Strategic Reference Group, and Youth Advisory Group to help inform and shape the strategy.
- Liaising with other key community and business stakeholders.

Community Engagement Findings

Our community has told us through this engagement that they love their Northern Beaches and are proud to live here.

Our community is willing to embrace changes to improve waste outcomes and wants to see Council advocating for our local area, working collaboratively with businesses, residents, and other local councils to push for change.

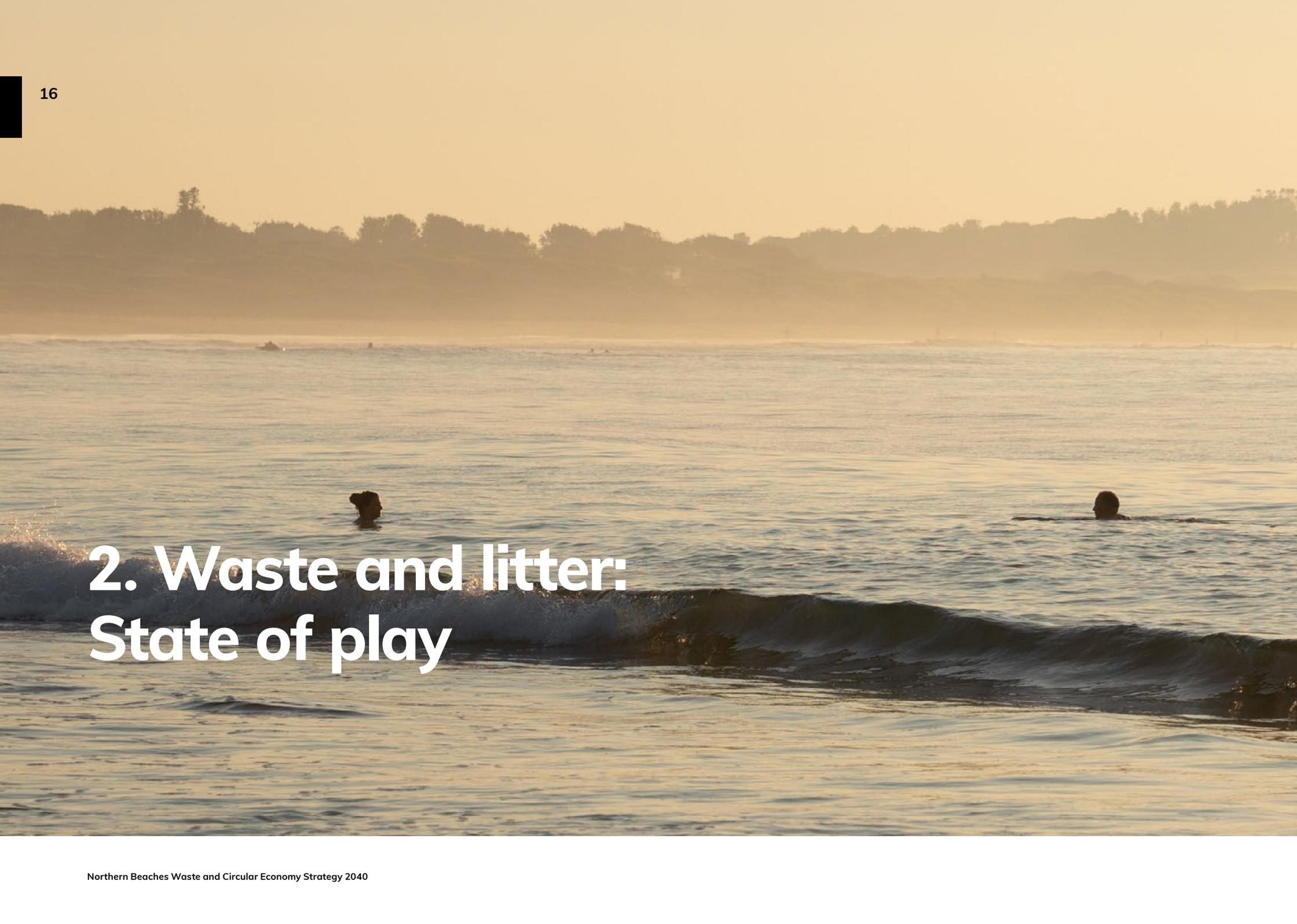
Section 3. Directions of this strategy includes key findings of the telephone survey and other recent community engagement activities, applicable to each relevant direction.

The strategy was placed on public exhibition for 6 weeks and 179 responses were received. The final strategy has been updated to reflect the feedback.

Findings from community engagement activities have informed this strategy.

Image: Community Engagement





2. Waste and litter: State of play



Our service

Northern Beaches Council has one of the largest waste services in Sydney, with over 330,000 bins in service.

Council also services over 1000 public litter bins across the area, undertakes daily litter collection activities and provides numerous reuse, repair and recycling events and education offerings for our community.

Council has already implemented significant improvements to help create a more user-friendly waste service and establish a local circular economy.

Figure 1

Improvements made to create a more user-friendly waste service

Source separation

4 bin system: Separate collection of garden organics, paper/cardboard and containers - providing the best chance to recycle and reuse household waste.

Large scale service

Over 11 million household bin pick-ups per year and 60,000 bulky goods collections, that help deliver a service that meets community needs

Modern fleet

Fleet of trucks with modern technology, reducing emissions and fully enclosed hoppers to prevent litter and reduce odour, including signage with strong litter and waste prevention messaging.

Council has worked closely with our local community so that we now have very engaged residents and businesses who want to achieve even better outcomes when it comes to waste and protecting the environment.

Further information about Council waste, litter and circular economy initiatives is included in Section 3. Directions.

Leading education

Comprehensive waste education and waste reduction programs; including reuse and recycle drop off events, supporting charity collections, and offering re-usable food and drink containers

High landfill diversion

Diversion of household waste from landfill increased from 49% (2019) to 65% (2022), helping to save landfill space and conserve resources Over 3,500 worm farms/compost bins distributed to community in 2019, to help compost organic waste at home

Our strengths

Engaged community

- Environment and sustainability is one of the most important issues to our communityⁱ
- Each year, over 20,000 residents participate in Council-run reuse, repair and recycle events

Local infrastructure

- Local Kimbriki resource recovery facility has capacity to receive, sort, recycle and dispose of a wide range of waste types^{**}
- Transfer stations for red bin waste and some small-scale recycling, repair and reuse operations on the Northern Beaches

Increased investment and profile

- There is increased focus and investment by government and business on transitioning to a circular economy, improving recycling and providing markets for recycled products
- New innovations, smart technology and technological improvements are being developed to help monitor, transport, reuse, repair and recycle waste

Economy of scale

- Northern Beaches Council is one of the largest councils in NSW, providing increased purchasing power
- Ability for Northern Beaches Council to partner with other local councils and work with state and federal governments

^{**}(Council majority shareholder)

Consumption patterns

- Local economy has grown 2% each year (average) in past 10 years
- Each person creates over 400 kg (average) of household waste per year
- Take, make, dispose culture - loss of valuable resources in disposing waste

Infrastructure challenges

- Local area relatively isolated from large scale recycling and waste disposal infrastructure, which can increase transport and costs
- Competing land uses for affordable waste and circular economy activities
- Sydney region running out of landfill space
- Long-term household waste contracts: Council committed to technology and infrastructure which limits some short term recycling opportunities

External forces

- Limited sustainable markets for some 'recyclable' materials, which can undermine community confidence in recycling
- Government policy and regulatory changes can impact on feasibility of some recycling initiatives
- Impacts of 'megatrends', including climate change, disasters/pandemics and technology on planning for service

Environmental impacts

- Waste, litter and illegal dumping can pollute the natural environment if poorly managed
- Managing, transporting, processing and disposing waste can lead to significant greenhouse gas emissions
- Disposing waste (rather than reusing) leads to the need to extract more resources and materials from the environment to create new products

Strategic alignment

This strategy supports and complements priorities and actions within a range of international, national, state, and local policies and frameworks.

These policies and frameworks include targets which are based on various assumptions on a priority level, and what is achievable in the sector. The horizons vary from 2025 to 2050, and address common elements such as:

- reducing total waste generated
- reducing litter
- reducing greenhouse gas emissions
- reducing single use and problem plastics
- recovering more food and organic waste
- increasing recycling and resource recovery

This draft strategy considers these various targets and initiatives and provides ambitious but realistic targets for the Northern Beaches, under each direction. We have customised the strategy to ensure our guiding principles, directions and key priorities align with the characteristics, challenges, opportunities and needs of the community.

It includes initiatives and targets which will contribute towards achieving the targets in the *NSW Waste and Sustainable Materials Strategy 2041*, a strategy that is informed by the international and national policies and frameworks. This includes the NSW Government's targets for:

- mandatory collection of food and garden organics from all NSW households by 2030
- reducing total waste generated by 10% per person by 2030
- 80% average recovery rate from all waste streams by 2030
- overall litter reduction target of 60% by 2030
- tripling the plastics recycling rate by 2030
- halving the amount of organic waste sent to landfill, and net zero emissions from organics to landfill, by 2030.

International



Regional



National



Local



State



Role of Council

Council, local businesses and residents need to work together to help the Northern Beaches achieve the strategy's vision and minimise the impact of waste. By partnering together, we can accelerate change.

Council's principal role in waste management on the Northern Beaches is collecting household waste and associated services. Council's role also extends to other areas which help minimise the impacts of waste:

Household Waste

- Collecting Northern Beaches household waste and providing associated waste processing, disposal and education services (see Local Government Act 1993)
- Levy annual domestic waste management charges on residential ratepayers to recover the cost of providing household waste services.

Maintaining amenity and protecting environment

- Collecting public place litter through our litterbin service and regular litter removal, street sweeping and beach raking services
- Managing waste at events, to maintain public health/amenity and protect the environment
- Collecting and investigating illegally dumped waste.

Land use planning

- Land use planning functions, including development controls and zoning suitable land or spaces for waste management or circular economy activities.

Advocacy and influence

- Seeking to influence the NSW and Commonwealth Government for better regulation of products and building design, and taxation incentives to minimise waste
- Working with local businesses to help minimise their waste and maximise circular economy opportunities, where there is available funding
- Influencing the direction of waste processors and recyclers through Council's procurement and partnerships.

The next section of this strategy, Section 3. Directions, sets out what the local community and businesses can do, and the role that other levels of government play, to achieve better waste outcomes.

Image: Councils waste collection fleet



3. Directions





Direction 1: Eliminating waste

Outcome 1:

Council is a leading advocate, and supports our local community and businesses, in reducing the amount of waste created in the Northern Beaches

Did you know?

Each Northern Beaches household generates over **1.2 tonnes of waste** on average per year.

Why is this important?

The best way to manage waste and its impacts is to avoid creating it in the first place.

Avoiding waste can lead to real environmental, social and economic benefits for our community and natural environment. These benefits are achieved by:

- reducing resource and energy extraction from the environment
- avoiding the greenhouse gas emissions and pollution which can be caused by poor waste management practices
- promoting new business models focussing on product durability and reuse
- extending product life to save consumers money.

Council's approach is aligned with the principles of the waste hierarchy, which prioritises avoiding and reducing waste as the most preferable approach. Council has customised the waste hierarchy to emphasise the positive actions which are involved at the top of the hierarchy (see Figure 2)

Figure 2
Northern Beaches Council waste hierarchy

The top of the hierarchy, and Council's first priority, is to 'avoid and reduce' waste. This includes:

- refusing 'single use' products or packaging where it is possible to do so
- rethinking how we purchase and use products to maximise their lifespan and value
- reducing the resources put into manufactured products

Avoiding waste can be challenging in our society where our population is growing, the variety of products being created is ever increasing, and we continue to demand more convenience as consumers. However, there are real opportunities for change, by rethinking how we design, purchase and use products and services.

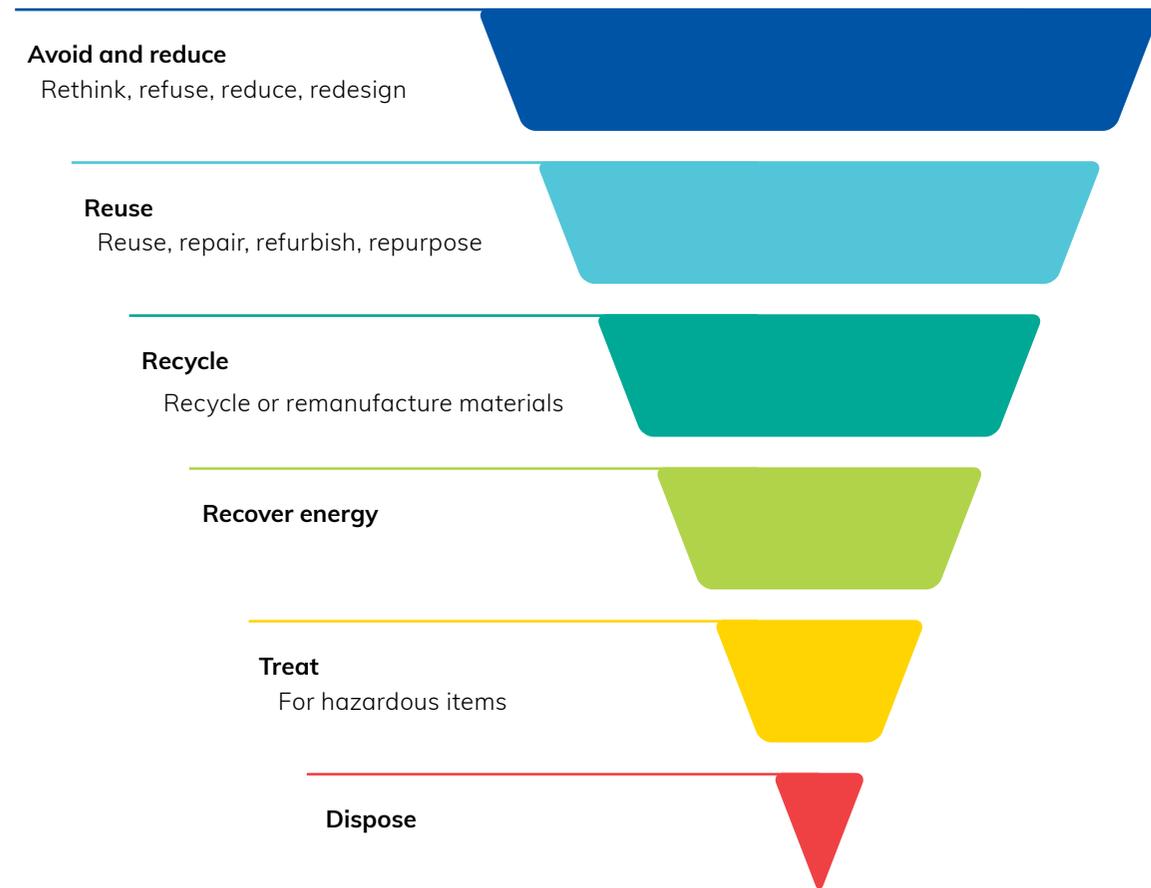
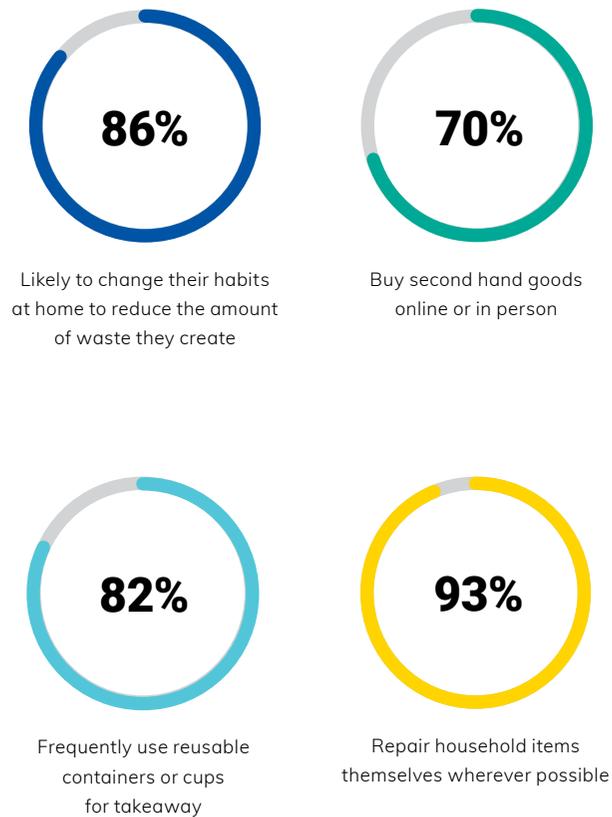


Figure 3
Northern Beaches residents waste reduction behaviours ⁱⁱ



Our opportunities

There is strong community support for reducing waste. We know that many in our community are already repairing and sharing products and want further options to reduce the volume of disposable products and packaging. Many businesses are also starting to improve product and packaging design to extend product life.

Better product and building design are keys to 'designing out' waste from the beginning, through longer-lasting and reusable products and packaging. Councils do not regulate the design or sale of products or packaging, but can be a strong advocate to businesses and other levels of government for initiatives that help design out waste.

Council can also work with, educate and incentivise the community and local businesses to reduce waste, and has the ability to influence the design of buildings through the land use planning process (see Direction 5).

Council is already providing numerous programs and education campaigns to help residents to reduce waste, ranging from supporting reusable nappies to initiatives to avoid single use plastics.

Council water fountains

Council has installed 236 permanent drinking water fountains across the Northern Beaches, and 15 portable water fountains for use at Council and community events. Water meter readings at 8 of our permanent water stations showed that in 2022 residents refilled their reusable water bottles with 442,055 litres of water. That has saved the equivalent of around 700,000 standard 600 ml plastic water bottles!

These fountains reduce waste, litter and plastic pollution, as well as help keep our community hydrated when they are out and about.



Targets

Reduce total household waste generated* in the Northern Beaches by:

- **10% per person by 2030**
- **20% per person by 2040**

Key priorities

Avoiding waste is a shared responsibility. To achieve real change, it requires community, business and government at all levels to reconsider how we design, regulate, make, purchase and use products, materials and services.

Council's priorities

Collaborating with local businesses, leading academic institutions and other levels of government to help find innovative solutions to design out waste in product design, including through reusable and sustainable packaging.

Empowering our community with education, incentives and other resources to cultivate a culture of responsible consumption, and to help make it easier to reduce waste and buy products that last.

Influencing businesses and organisations responsible for making and supplying products and packaging to take responsibility for the waste they help create.

Championing businesses and households that reduce their waste.

Supporting reusable food and drink containers being used in the community and other measures to reduce unnecessary packaging.

Investigating the feasibility of user pay models for some household waste, where waste is charged by weight rather than a fixed charge, to help reduce waste.

* Household Waste collected by Northern Beaches Council (by weight) compared to 2021/22 baseline

Advocating on behalf of our residents and businesses to government to:

- identify key systemic barriers to reducing waste and developing reforms to overcome these barriers
- deliver on their commitments to phase out unnecessary packaging and plastics
- discourage planned obsolescence in consumer products
- improve product design and incentives to design out waste.

What can you do?



Community

- When purchasing, ask yourself 'do I really need this?' or 'could I buy this second hand?'
- Purchase products designed to last and be reused, and with minimal packaging
- Keep your products in use for as long as possible



Business

- Try to avoid making or selling single use products or packaging
- Design products and packaging to last as long as possible, including for reuse
- Consider the full life cycle of products you make or sell and their environmental and waste impact at their end of life



Direction 1: Eliminating waste

Outcome 2:

A thriving local circular economy is created which facilitates widespread reuse, repair and recycling of local products and materials

Did you know?

A recent studyⁱⁱⁱ found that transitioning to a circular economy could provide about **\$648 billion in cumulative economic benefits** to the NSW economy **by 2040**

Why is this important?

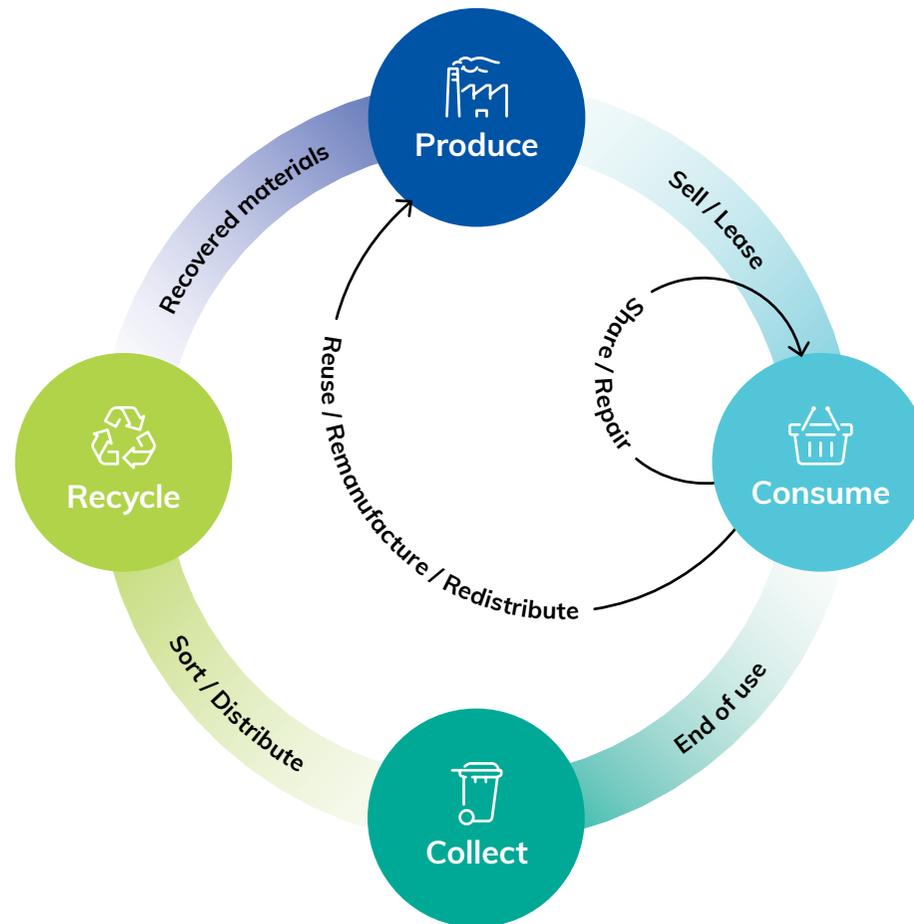
In our economic system, we generally take resources from the earth, plants or animals, make products from those resources, use them and then dispose of them as waste. This 'linear' 'take-make-use-dispose' process, leads to the ever-increasing consumption of raw materials and waste in a growing economy.

This model is not sustainable as it continues to deplete resources and place stress on the environment. As a result of this and recent pressures on global waste supply chains, there is increasing attention on transitioning to a 'circular economy'.

The circular economy involves a transition from the linear 'take-make-dispose' economic system towards circulating materials in the economy for as long as possible at their highest value through repair, reuse and recycling. The 'circular economy' is based on designing out waste and pollution, keeping products and materials in use and regenerating natural systems.

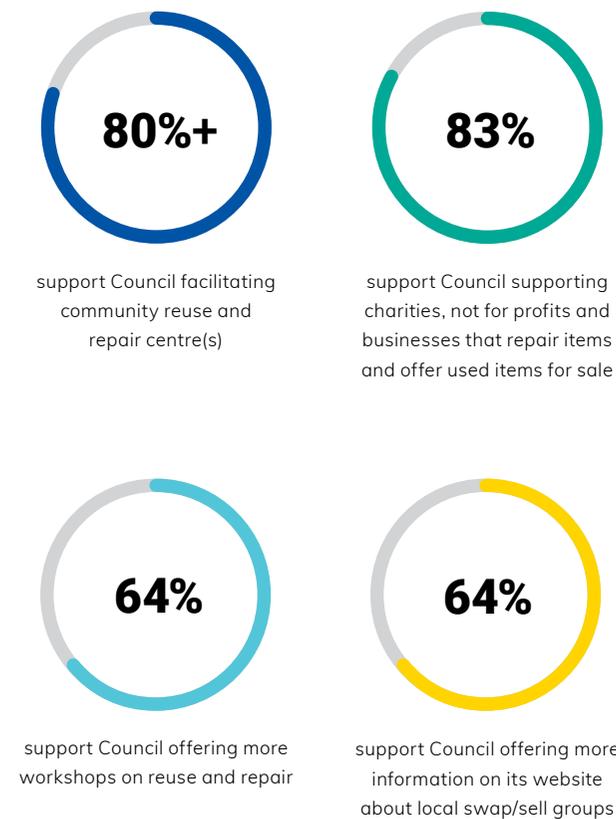
The NSW Government has committed to a transition to a circular economy in its NSW Waste and Sustainable Materials Strategy 2041 (see Figure 4), and Council has supported this transition in the Northern Beaches Community Strategic Plan 2040.

Figure 4
The circular economy*



* Taken from NSW Waste and sustainable Materials Strategy Figure 1, Page 5

Figure 5

Northern Beaches residents support for circular economy ^{iv}

Our opportunities

Developing a local Northern Beaches circular economy presents a range of opportunities for our community and businesses. It has the potential to:

- stimulate new local jobs and innovative manufacturing
- support start up business models and social networks
- minimise our community's greenhouse gas emissions and environmental footprint through reduced transport, resource extraction and embodied carbon
- provide efficiencies in material supply chains to keep costs and impacts down, and maximise the value from resources

Keeping resources and materials circulating locally can also make the Northern Beaches community more resilient and less affected by external supply chain shocks and markets. This will help us to become a more self-sufficient region in production, employment and waste management.

Local businesses can also provide opportunities for residents to reuse, share or rehome items commonly used in the Northern Beaches, such as used outdoor equipment (sporting, camping or water sports equipment), construction materials, electronic items, furniture or solar panels. This will help avoid them ending up in kerbside collections and onto landfill.

Moving towards a local circular economy will, however, require a systemic change in how we think about buying and using products. This will require changing from a 'use and dispose' mindset to prioritising reusing, repairing and sharing, to maximise the life of a product at its highest value. Local recycling also has a role to play for products at their end of life.

Our community has made a great start. The next steps require a scale up of circular economy networks, enterprises and opportunities across the Northern Beaches.

Image: Council reuse and recycling event, 2023

Northern Beaches reuse events and facilities

The Northern Beaches holds numerous reuse events which provide our community with convenient options to donate used household items for reusing, repairing and refurbishing. This includes second-hand markets, Avalon Car Boot Sale, Bags to Riches, the Buy Back Centre at the Kimbriki Resource and Recovery Centre, and more.

At one Council reuse event in January 2023, 560 cars came on the day and over 21 tonnes of pre-loved clothing & accessories, electronics, bikes and essential nursery items for babies and children were donated. Council partnered with charities and reuse, repair and recycling businesses to host the event – all donated goods went for recycling, reuse, repair or resale.



Targets

A convenient and accessible Northern Beaches circular economy hub is in operation for the benefit of the local community **by 2030** to increase:

- reuse, repair and recycling locations, events and/or online networks
- the range of items which can be locally reused, repaired and recycled

Key priorities

Council will work together with the local community and businesses to ensure reuse and repair become part of everyday life in the Northern Beaches, and for our community to emerge as a leading circular economy region in Sydney.

Council's priorities

- **Piloting** different delivery models for reusing, refurbishing and repairing, including pop up events, repair cafes and collaborating with social enterprises.
- **Identifying opportunities** for local business and manufacturers to share used materials for recycling or reuse by other businesses or the community.
- **Implementing** a sustainable community-centric local circular economy hub, after initial pilots, in collaboration with the local community and businesses, that builds local capacity to repair and refurbish used products.
- **Empowering** community participation in the local circular economy, by providing accessible information and educational resources on local reuse, repair and recycling options and the benefits of buying second-hand.

- **Investigate** approaches to provide competitive seed funding to local businesses, start-ups and other enterprises with innovative and scalable circular economy initiatives.
- **Advocating** on behalf of our community for government to deliver policy, incentives and legislation that:
 - (a) requires products to be designed to be reused, repaired and recycled
 - (b) provides consumers with the right to repair used products.

What can you do?



Community

- Donate quality used items you no longer need to local charities or share with friends
- Buy local second hand or repaired products
- Use resources on Council website about how to reuse or repair used products



Business

- Consider product sharing business models to maximise the lifespan of used products
- Provide manufacturing off-cuts or other recyclables to other local businesses or residents that need them
- Explore business opportunities in the local circular economy



Direction 2: Easy to use waste service

Outcome 1:

Council's household waste collection service is reliable, accessible and flexible

Did you know?

Council's household waste collection service is one of the largest in Sydney. Council currently collects over **100,000 tonnes** of household waste per year from approx **95,000 households**.

Why is this important?

Council is responsible for the collection of household waste across the Northern Beaches, and the safe transportation, recycling or disposal of that waste. This essential service is fundamental to maintaining the amenity of the area, maximising recycling and protecting our local environment.

Our actions toward eliminating waste in Direction 1 are needed to reduce the volume and impacts of the waste we create, whilst relieving pressure on the household waste service and the ability to contain rising costs. However, most materials will eventually reach their end of life, and will need to enter the waste stream at some stage for recycling or disposal.

Our community needs a well-planned and supported household waste service which meets our residents' needs, is resilient to stresses, and supports waste reduction and the transition to a circular economy.

To help separate waste at source, Council currently collects household waste in a four-bin system (see Figure 6), with additional kerbside bulky goods waste collection services. This makes it much easier to recycle the material in each recycling bin at processing facilities, reduces costs and minimises waste going to landfill.

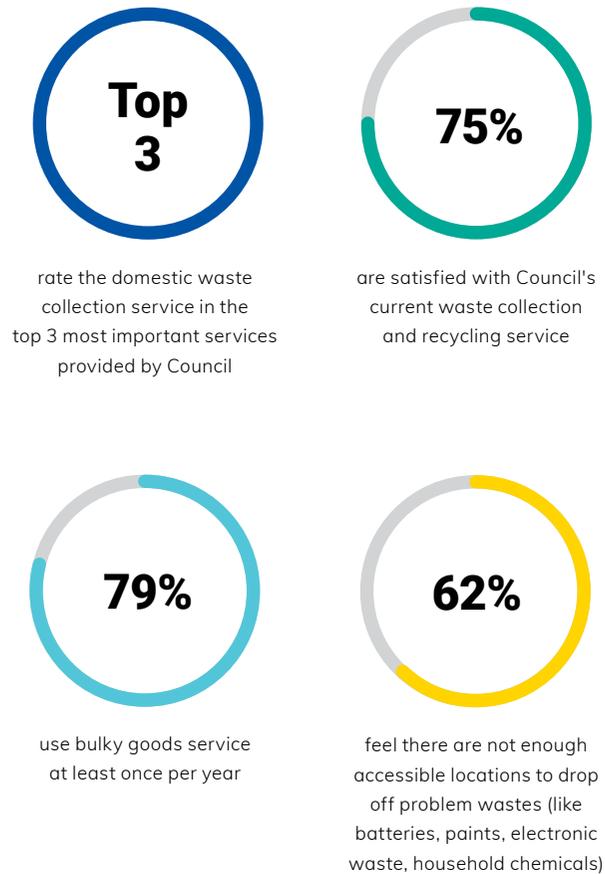
Figure 6
Northern Beaches Residential Waste Service

In addition to the kerbside collection service, Council also offers various household waste drop-off options for our community. This includes drop-offs for problem wastes that cannot be managed in the kerbside collection system, such as:

- household chemical waste, collaborating with NSW Environment Protection Authority
- excess vegetation and plastics, through Kimbriki.



Figure 7
Northern Beaches residents view of our waste collection service ^v



Our opportunities

Council's household waste collection service needs to adapt to meet our community's expectations into the future. To achieve this, it needs to be reliable, accessible and flexible for all of our community.

Council's 4 bin collection system, together with a new collection fleet and other technology introduced in 2019, provide a modern and efficient service to our community. Council also provides a tailored service to meet the different needs of our community, including those living in houses, apartments and offshore communities.

Council needs to continue to implement improvements to:

- ensure our community's waste is always collected, even when increased demand places pressure on our services
- prepare for unexpected events such as extreme weather, natural disasters, significant policy and government changes, and longer term global 'megatrends' (see Figure 8). This is vital to ensuring the service is resilient and adaptable.

Figure 8

The CSIRO published a list of seven 'global megatrends' in 2022^{vi}

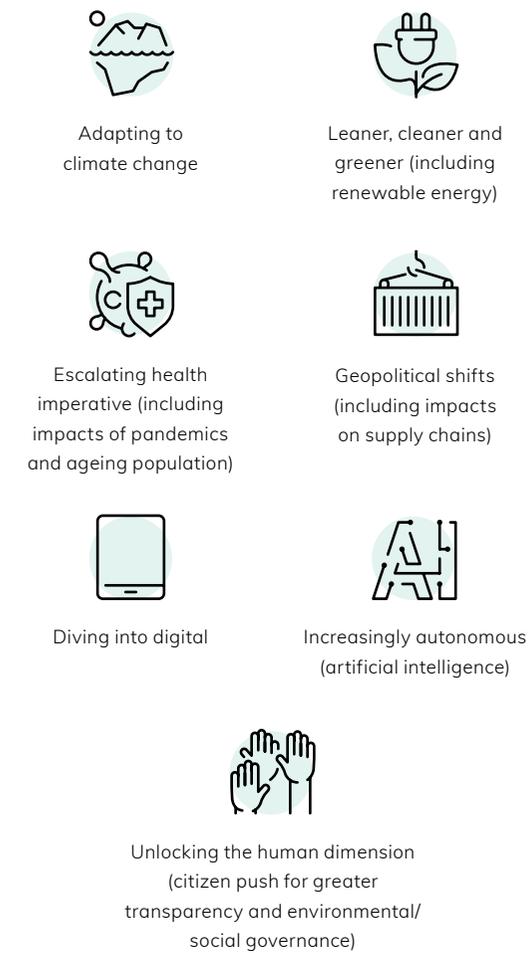


Image: Narrabeen Lagoon during a weather event, 2023



Targets

- Regular and accessible collections for electronic waste, textiles and household chemicals **by 2025**
- Maintain community satisfaction with Council's household waste collection above **80%**

Key priorities

Council will continue to plan and invest in the household waste service to meet community expectations, and to ensure the service is flexible to adapt to changes in the community and external stresses.

Council's priorities

Improving access to quality waste services for residents by:

- supporting more collection options for the community for 'problem' wastes (including household chemicals, electronic waste and textiles), including possible local, mobile or 'neighbourhood' drop off points
- increasing the level of waste collection service to our offshore communities in Pittwater
- customising our bulky goods collection service for high density areas
- improving service reliability, convenience, flexibility, accessibility and ease of use
- benchmarking against best practice to help drive and tune improvements for the local community.

What can you do?

Piloting new technology and systems, to increase efficiency and understanding of the waste collection service for the community.

Empowering our community with education to help use the household waste service to ensure efficient and safe collection and the right waste is placed in the right bin or location for collection.

Engaging with regulatory bodies on key regulatory and policy developments that may impact on waste collection and processing.

Adapting the service:

- for changing demographics and housing (e.g., more units and an ageing population), by planning bin infrastructure and accessibility to meet those needs
- to address emerging risks, megatrends and a changing climate to ensure continuity of service to our community, through forward thinking emergency waste management plans, business continuity plans and waste contracts with our external providers.



Community

- Use Council's website and other resources on what waste goes in each bin, and how to present waste for collection
- Place the right waste in the right bin
- Take advantage of Council drop off events for specific waste types



Business

- Engage with your commercial waste provider to understand the range of wastes that can be collected
- Place the right waste in the right bin



Direction 2: Easy to use waste service

Outcome 2:

Sustainable recycling options for household waste are implemented, with supporting local infrastructure and information about recycling provided to the community

Did you know?

Over **65% of Northern Beaches household waste is diverted from landfill**. This is one of the highest landfill diversion rates in Sydney.

Why is this important?

Recycling plays an important role in our waste management system and the circular economy. When products can no longer be reused or repaired, recycling helps keep the materials in productive use for as long as possible.

By recycling, we can avoid:

- landfilling waste
- greenhouse gas emissions
- the loss of productive resources to the economy

Recycling also helps extend the lifespan of the few landfills remaining in Sydney, including Kimbriki which is forecast to run out of space for more waste by about 2050.

For recycling to work effectively, we need these key elements:

- (a) **Strong collection framework** to collect clean and contaminant-free recyclables
- (b) **Capable infrastructure** to process the collected material into reusable materials
- (c) **Sustainable markets** for the processed material

Without these, collection and processing systems can collapse, stockpiling of waste can occur or recycled materials can end up in landfill, undermining the community's faith in recycling.

The Northern Beaches household waste service has been designed to address these three key elements. As we separate recyclable materials into three different recycling bins (yellow, blue and green), this makes our recyclables of a much higher quality and an attractive product for recyclers.

Figure 9
What happens to waste in your recycling bins?

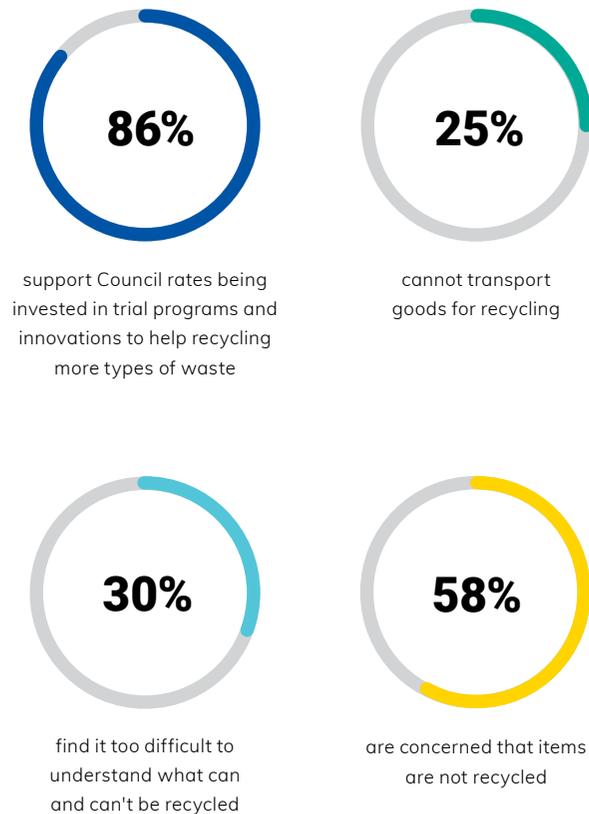


Recycled into packaging, cardboard boxes and other paper products

Recycled into high quality woodchip, mulch and soil improver and returned to the earth as commercial grade compost and soil conditioners

Recycled into new products and materials, including new containers and road base

Figure 10
Northern Beaches residents support for recycling ^{vii}



Our opportunities

Council has a strong household waste recycling system, recycling over 50,000 tonnes of glass, metals, plastic containers, paper/cardboard and vegetation each year. We are also fortunate to have a leading recycling and transfer facility at Kimbriki which handles these and other waste types.

However, our community wants us to do more by investing in recycling of additional materials, and providing more accessible recycling options. Some in our community also remain sceptical about what happens with their recycling after collection.

There are some real challenges in recycling even more items than we currently collect in recycling bins, such as soft plastics, textiles, engineered timbers and mattresses:

- limited infrastructure and market competition to recycle these items
- limited markets for products recycled from these items
- high costs to separately collect these items, as they require alternative collection systems from our bin based service.

To ensure success of new recycling initiatives, and to maintain the community's faith that separately collected items are genuinely being recycled, Council will need to increase its domestic waste charge to invest in improved collection and processing (see timber trial example below). Markets for the recycled items will also need to be expanded nationally, requiring investment by industry and government. Where items are still not able to be feasibly recycled, the priority will be to work to phase out their production (see Direction 1).

Image: Timber collected in Council's 2022 Engineered Timber Recycling trial

Engineered timber recycling trial

Council and Kimbriki ran an engineered timber recycling trial as part of the bulky goods service in 2022. The trial was an opt-in service offered to residents who had an existing bulky goods booking during a trial period.

The timber collected was sent for remanufacture to be turned into kitchen cabinets and other joinery. A total of 202 bookings were fulfilled resulting in the recycling of over 17 tonnes of timber material in the 11 week trial.



Targets

- **70%** resource recovery rate* from household waste **by 2030**
- **75%** resource recovery rate* from household waste **by 2040**
- **25%** reduction** in kerbside bulky goods per household going to landfill **by 2030**
- **50%** reduction** in kerbside bulky goods per household going to landfill **by 2040**

Working towards these targets will help NSW reach the target for 80% average recovery rate from all waste streams by 2030 in the NSW Waste and Sustainable Materials Strategy 2041 (noting household waste has a significantly lower resource recovery rate than construction waste; see initiatives in Direction 5 regarding construction waste).

Key priorities

Council will work collaboratively with the community to increase recycling for household waste and reduce the pressure on the remaining landfill life at Kimbriki and other Sydney landfills.

Council's priorities

Seeking opportunities to innovate and trial solutions to recycle more materials, where Council is confident that the materials will be sustainably recycled with reliable downstream markets, through:

- piloting new recycling programs and technologies with end-to-end supply chain approaches, in collaboration with innovators and recycling partners
- supporting new recycling infrastructure and demonstration models, in collaboration with Kimbriki and other local recycling facilities
- seeking co-funding and implementation support for new recycling programs from the retailers or manufacturers of the products being collected, to ensure producer responsibility.

*Resource recovery rate (by weight) for household waste collected by council, and local drop off/return to store programs

**Compared to 2021/22 baseline (by weight)

What can you do?

Identifying opportunities to reduce the volume and increase recycling of household items being disposed of in Council's kerbside bulky goods collection.

Reviewing and updating bin design and education to improve recycling practices, for better quality of material collected and increasing the amount recycled.

Empowering our community by providing more accessible and current information, and tours of recycling facilities, to show where waste goes after collection by Council and how it is recycled.

Auditing the waste collected in the household waste system at least every four years to identify emerging waste trends in our community and ensure our collection and recycling system responds to trends



Community

- Place all your recyclable containers in your yellow bin and paper/cardboard in your blue bin (check Council website for eligible items)
- Use recycling drop off points advertised on Council website, ensuring the materials are free of contaminants
- Buy products containing recycled materials



Business

- Identify business opportunities for recycling materials in the Northern Beaches
- Trial different 'return to store' models for products your business sells, to enable your customers to recycle
- Buy products containing recycled materials



Direction 3: Tackling priority wastes

Outcome 1:

Our households have the tools to minimise their organic waste, reuse their organics at home and access a flexible collection and recycling service which maintains the value in organics

Did you know?

Food waste makes up an average of almost **50% of the waste in our red bins.**

Organic waste

Organic waste is derived from material that was once living, including food and garden waste. This is the largest single waste stream, by weight, in the Northern Beaches.

The local community has already shown they are great at recovering value from organic wastes when the right tools are available. Council currently collects vegetation waste in the green bins, which is highly valued by composters, thanks to residents' efforts in keeping it clean and free of contaminants such as plastics bags. Over 99% is recycled into compost and other beneficial products.

Food waste

The next big challenge is tackling food waste. Wasting food also wastes the extensive energy, water and other resources that go into making, storing and transporting that food. When food waste decomposes and is not managed appropriately, it can also lead to significant methane emissions, a greenhouse gas which is over 25 times more potent than carbon dioxide^{viii}. Council has recognised this and already implemented steps to support the community recycle food waste at home. (i.e. see home composting and worm farm case study on page 53).

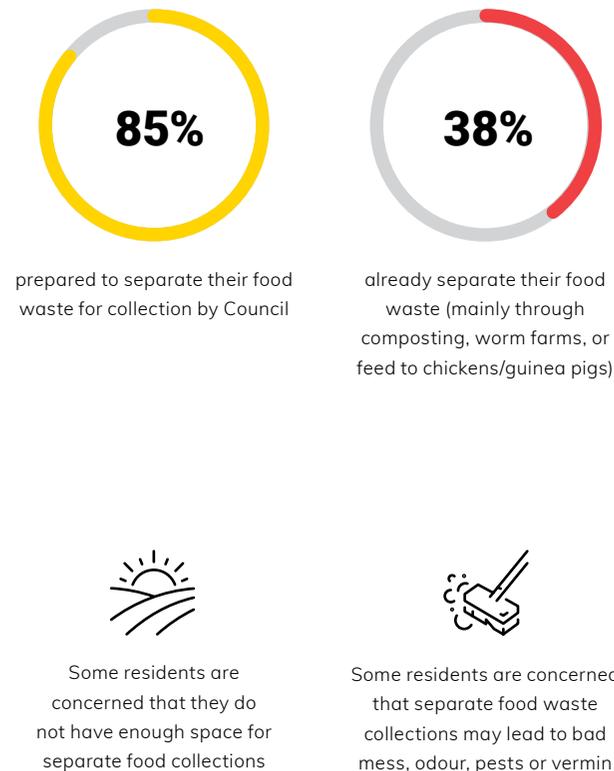
The NSW Government has now committed to mandate the separate collection of food and garden organics for each household by 2030, in the *NSW Waste and Sustainable Materials Strategy 2041*.

Home composting and worm farms

In May 2019 Council launched a composting and worm farm campaign to support the new waste service. Residents were offered either a free worm farm or compost bin, leading to an uptake of 3,667 compost bins/worm farms. The post survey found that over 70% of respondents reduced the amount of waste (including food) placed in their red bin by over 25%.

By providing the compost bins and worm farms, backed up by education, residents can learn new skills to instil long term behaviour change for recycling organics, and use the recovered organics to provide nutrients to the home garden, starting a circular economy at home.



Figure 11Northern Beaches residents organic waste behaviours ^{ix}**Our opportunities**

Council's existing framework for managing organic waste helps produce quality compost and other nutrients which are valued by households and industry.

With the requirement for separate collections of food and garden organics, Council needs to adopt a system by 2030 that includes collection of food waste. This can be:

- Collecting food and garden organics together in the green bin (called 'FOGO')
- Collecting food organics separately in a new bin (called 'FO')
- Providing at home composting in conjunction with one or more of FO or FOGO.

While our community is willing to separate their food waste for recycling, we also need to be prepared for the challenges a new food waste collection service will present. Separately collecting food and garden organics can increase contamination of the organic material, with plastic bags and other non-organic materials placed in the bins. This can impact on demand for the recycled product and the viability of separate collections.

Currently, there are also insufficient recycling facilities to manage the organic waste stream in Sydney, and a number of organics processing schemes have failed in the past. As a result, there is a chance that some organic waste may still go to landfill for a period in the absence of viable alternatives.

The transition will take time as we address the challenges and opportunities together with the local community.

Roadmap for Northern Beaches food waste collection

The new mandated food and garden waste collection will require a significant system change for Council and our community. It will impact most local households and will require:

- new bins or caddies in households
- behaviour change to ensure the right waste is placed into the organics bin(s)
- different frequency of collections
- new ways of recycling organic waste.

Council will adopt a staged approach to the new collection service, working together with the community to build trust and successful solutions.

Step 1: Council will:

- pilot localised 12month deployments of FO and/or FOGO collections for between 5,000 to 15,000 households. This will test different collection and processing systems, frequency of collections, different bins and the use of bin caddies and liners
- offer households in other areas of the Northern Beaches free 'at home' composting/ worm farm kits, subject to completing composting training.

Step 2: Council will review success of the initial deployment.

Step 3: Council decision on the final design of the Northern Beaches food waste collection, including whether it will be a FO collection or a FOGO bin, and the ongoing role of home composting.

Step 4: Roll out of Northern Beaches full organics collection system.

Targets

Halve the amount of household food waste sent to landfill* **by 2030**

Key priorities

Council's approach to reducing and managing organic waste will be customised to the community's strengths, needs and readiness, with an adaptive and holistic approach, which leverages off our strong existing framework to continue to:

- provide education and support to help reduce food waste generation in the first place
- adapt and grow at-home organics recycling to minimise costs and impacts of collection and transport
- ensure we continue to produce a quality organic product for processing.

Council's priorities

Empowering the community with accessible information to help make it easier to reduce food waste being generated in the home, donate excess food and manage organics waste in home composting.

Providing home composting and worm farm units to our community to promote food waste and vegetation being managed at source and regenerating backyards

Advocating to the NSW Government for funding and program opportunities to assist local businesses and the community to reduce and recycle their organic waste, including through precinct, community and 'at home' composting.

*Household food waste sent to landfill by Northern Beaches Council (by weight) compared to 2021/22 baseline

What can you do?

Reviewing and updating Council's existing collections of organic waste, including at the kerbside and vegetation drop offs at Kimbriki, to ensure they are cost effective, maximise participation and recycling, minimise greenhouse gas emissions and are supported by appropriate education and technology

Implementing a staged rollout of a new organics collection system to include food waste, to test different collection and processing methods to ensure the system is sustainable for the Northern Beaches (see the Roadmap on page 55)



Community

- Plan your meals and use leftover food rather than throwing away
- Get a compost bin or worm farm to recycle your food scraps at home and use compost on your garden



Business

- Look into opportunities for precinct composting facilities with other businesses
- Arrange for separate collection of your food waste for recycling with your waste provider



Direction 3: Tackling priority wastes

Outcome 2:

Our community has access to viable and sustainable options to reduce single use plastics and to recover resources from genuinely recyclable plastics

Why is this important?

Plastics are used extensively in modern society due to their durability, versatility and low-cost relative to other materials. Whilst we often think of plastics being used in packaging and containers, they are also used in toys, cars, medical products, piping, electronics and clothing, and are often mixed in with other materials.

However, plastic consumption can lead to a range of negative consequences.

Impacts of plastic consumption

Pollution and litter

- Plastics can remain in the environment for hundreds of years
- Plastics, including microplastics, potentially harm our wildlife and food chain

Reinforce 'take-make-dispose' culture

- Plastics are cheap and abundant
- Plastics are often thrown away after single use

Greenhouse gas emissions

- Most plastics are made from oil, continuing our reliance on fossil fuels
- Most plastics emit greenhouse gases at every stage of their lifecycle

Low recycling rate

- Less than 16% of plastics are recycled in Australia
- Plastics are consuming valuable space at landfills

Image: Shredded plastic

Recycling is not a magic fix for plastics. Despite significant investment by governments and businesses, Australia still only recycles about 16% of the plastics we consume^x.

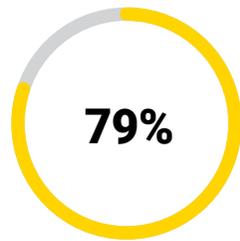
More recycling infrastructure could improve these recycling rates. However, recycling is unlikely to significantly increase without substantial product re-design and monetary incentives for using recycled plastics.

What happens to plastics after they are used?

Once plastics have been used by consumers they are often:

- **degraded product:** Plastics are often contaminated after their use, have printed ink or are made up of a mix of multiple polymers. This degrades their quality and limits their recyclability and the range of products they can be used to create.
- **not cost competitive:** Recycling plastic is often far more expensive than using virgin plastic. This limits potential markets for recycled plastic, in the absence of significant government subsidies.



Figure 12Northern Beaches residents views on plastics ^{xi}

often avoid plastic bags
to carry shopping home



often avoid products
with large amounts of
packaging when shopping

Our opportunities

There are some successful recycling schemes already in place for rigid plastics, such as PET, which are collected in Council's yellow bins and through the NSW Government's Return and Earn Scheme. This material can be manufactured into various products including plastic bottles and furniture. By continuing to collect containers separately from other waste, Council can maximise the opportunity to recycle these plastics.

Recycling other plastics can be challenging. As a result, Council initiatives have focussed on reducing the impacts of single use plastics by promoting alternatives and reusable containers, through our Single Use Plastics Policy (see case study on page 61).

Council can also explore other measures to support recycling, such as buying products containing recycled plastic for infrastructure (See Direction 5). However, substantial change will only occur where the companies that make and sell plastics also take responsibility for managing the adverse impacts of plastics. This is called producer responsibility.

Swap for Good

In 2017, Council released its Single Use Plastics Policy, where Council committed to taking a leadership role in eliminating single use plastics, advocating for legislative change, and influencing and enabling responsible consumption practices.

Council implemented its 'Swap for Good' program under this policy and has been successfully working with local businesses to trial reusable products and systems to replace single use plastics.

Swap for Good includes:

- a float of 'swap and go' coffee cups, to help businesses get started. More than 550 swap cups were distributed to 22 businesses, helping avoid tens of thousands of disposable cups being disposed of in landfill.
- a school canteen support program with reusable containers. The program delivered 500 reusable bento boxes to the 10 participating schools, supporting the circular economy and avoiding single use containers filling up bins in the schoolyard and being sent to landfill.



Targets

- **Phase out unnecessary single use plastics** in local retail businesses **by 2030**, in collaboration with local businesses and state and federal governments
- **Provide local drop offs or kerbside collections by 2030** for the most common household plastics where there are reliable markets for the recycled products and no other convenient collection systems are in place.

Key priorities

Council reaffirms its commitment in the Single Use Plastics Policy to take a leadership role in eliminating single use plastics, advocating for legislative change, and influencing and enabling responsible consumption practices. Council will also support sustainable recycling of plastics generated in the community.

Council's priorities

Empowering the community, businesses and visitors with resources to avoid single use plastics, build capacity for change, and to live without single use plastics.

Identifying opportunities to partner with local businesses to:

- promote alternatives to single use plastics with low environmental impact, particularly in packaging
- reuse more plastics.

Continuing rigid plastics collection through our yellow bin service, ensuring it is easy to use for our community.

What can you do?

Supporting recycling programs for other types of commonly used plastics in the home where Council is confident that the plastics will be sustainably recycled with reliable markets, seeking co-funding and implementation support from the retailers or manufacturers of the products being collected to ensure producer responsibility.

Advocating to the NSW and Commonwealth Governments for producer responsibility approaches, requiring industry to phase out the use of single use or unrecyclable plastics in products and packaging.

Demonstrating responsible procurement practices and influencing supply chains in relation to procurement of plastics



Community

- Avoid single use packaging wherever possible
- Use keep cups or long lasting reusable containers for take away food and drink
- Encourage your local shops to move away from supplying single use plastics



Business

- Supply reusable containers to your staff and customers, rather than single use packaging
- Look for business opportunities for plastic recycling
- Seek competitive advantage from using alternate materials to single use plastics



Direction 4: Green and clean environment

Outcome 1:

The Northern Beaches has the cleanest public spaces in Sydney

Did you know?

Single use takeaway food and drink packaging makes up over **35% of litter in the Northern Beaches**^{xiii}

Why is this important?

Our community takes pride in the beauty of our natural and built environment. This helps to make the Northern Beaches a great place to live, work and play.

Litter and illegal dumping can threaten this natural beauty in many ways. It can:

- affect how we see and enjoy our spaces
- pollute our waterways, which can be hazardous to the environment, wildlife and humans
- deter investment, outdoor activities and visitors.

Council already provides an extensive public place litter bin and litter service to help manage waste and litter across our public places in the Northern Beaches. This includes:

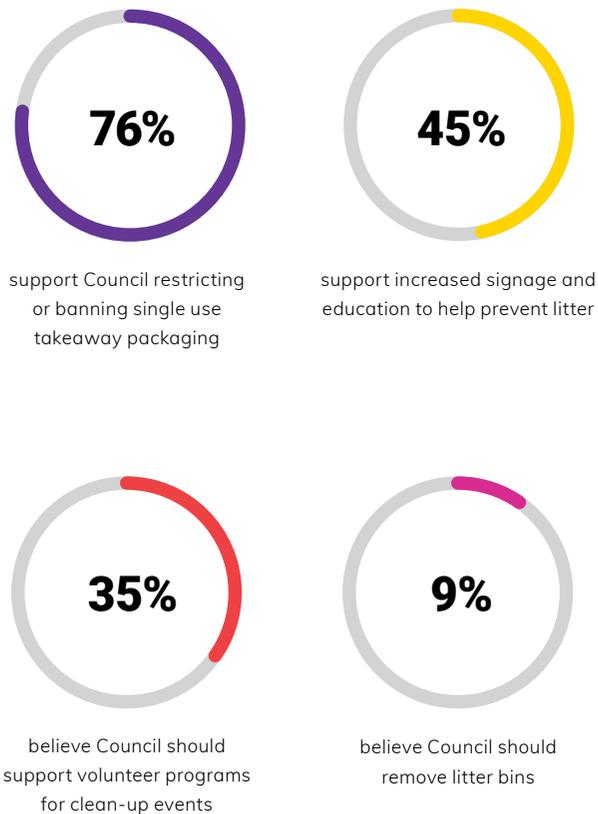
- managing over 1,000 litterbins across the Northern Beaches
- daily litter pick services in parks, public places, playgrounds
- regular street sweeping service to collect litter from streets
- beach raking of major and accessible beaches
- providing and replenishing dog waste bags
- cleaning street furniture, pavements and BBQs
- active maintenance of gross pollutant traps to remove litter from stormwater systems
- removing illegally dumped waste on Council land

Council's litter management program has helped keep the Northern Beaches clean and capture 94% of public place litter in our public place litter bin network^{xiii}. However, cleaning up litter and illegal dumping is expensive. Council spends about \$7 million per year on maintaining clean public places, streetscapes and waterways through these services and infrastructure, and these costs are rising.

Image: Community litter collection event in Manly



Figure 13

Northern Beaches residents views on litter ^{xiv}

Our opportunities

To reduce the impacts and costs of litter and illegal dumping, we need to focus attention on prevention at the source.

Council has made a strong start through its Zero Waste to Oceans Charter, which includes measures to help prevent litter and waste entering our waterways, through community education on litter reduction and improving stormwater assets and controls.

To maximise impact, we need to work with the community on reducing the production of the types of items regularly littered or dumped. This includes disposable food and drink packaging and other single use items. We also need to deter littering and dumping behaviours.

Littering and illegal dumping are also regulatory issues, led by the NSW Environment Protection Authority (EPA). Council can increase collaboration with the EPA to bring about sustainable change to reduce litter and illegal dumping, and also explore opportunities and technologies to help streamline litter collection services.

Our community and local businesses have a strong desire to support measures to help keep our area clean. We can enhance our local capacity to prevent litter and dumped materials by working side by side with our community in keeping the environment clean. We can also provide infrastructure to the community to help recycle more public place waste.

Image: Sand sculpture at Manly Beach promoting Council's Swap This for That Campaign

Collaboration Collective

Council established the Collaboration Collective in 2021. The collaborative has representatives from over 30 community groups and social enterprises, with the collective mission to reduce single-use plastics and waste in the Northern Beaches.

The Collaborative Collective has participated in various events, including the Collaroy Seaside Scavenge. Over 20 representatives from the Collective participated in the 2021 event, collecting litter from local waterways. Each person involved in delivering this event also assisted in talks, stalls and workshops on sustainable living. This provided an excellent demonstration of the power of collaboration when engaging a community in environmental protection and waste education.



Targets

- Reduce* litter at local litter hotspots by **60% by 2030**
- Increase* resource recovery rate in public place litter bins by **50% by 2030**

Key priorities

Council will transition from providing a litter and illegal dumping removal and disposal service, to a litter prevention approach through education, engagement and enforcement.

Council's priorities

Developing long-term litter and illegal dumping roadmaps, in collaboration with our community, businesses, the NSW Government, prioritising the prevention of littering and illegal dumping and ensuring our litter prevention and management practices care for country.

Enhancing Council's litterbin network to ensure bins are strategically located and accessible, whilst meeting demand, minimising overflowing rubbish, maximising recycling and protecting the environment.

Collaborating with:

- the community to broaden engagement in resident volunteer clean-ups
- local businesses to identify opportunities to phase out single-use packaging locally and contribute in volunteer clean-ups
- the NSW Environment Protection Authority to help develop a strategic and targeted approach to prevent and manage litter and illegal dumping.

Empowering our community, businesses and visitors through customised resources, education campaigns and signage. Providing guidelines and support on what they can do to help prevent litter and illegal dumping, ensure litter is placed in the right bin and about alternatives to take away packaging and single use items.

Delivering the actions identified in Council's Zero Waste to Oceans Charter to help prevent waste and litter entering our oceans, including improvements to stormwater management.

*Compared to 2021/22 baseline (by weight)

What can you do?

Innovating by:

- exploring opportunities and infrastructure to increase recycling of littered and public place waste, including more strategically located public place recycling bins
- investigating and piloting smart and emerging technologies (including drones and sensors) to help deter litter and illegal dumping activities, and make Council's litter services more predictive and proactive
- piloting different initiatives to reduce fishing line and hook litter in our waterways.

Advocating on behalf of our community for state and federal policies for producer responsibility schemes for products which are commonly littered or dumped in the Northern Beaches, to incentivise businesses to find sustainable alternatives.

Auditing public place litter and illegally dumped waste at least every 4 years to identify opportunities to improve Council's litter management and prevention services, and target 'hotspot' areas.



Community

- Say 'no thanks' to excess packaging
- Keep our local community clean by using Council's bulky goods service to dispose larger household waste items
- Volunteer to clean up litter
- Help spread the message that littering and illegal dumping is not OK on the Northern Beaches



Business

- Phase out single use packaging and other disposable items in products your business makes or sells
- Manage waste your business creates to avoid litter or waste escaping into the environment
- Support volunteer clean up events
- Champion government, business and community initiatives which help prevent litter and reduce impact of litter in our local environment



Direction 4: Green and clean environment

Outcome 2:

Council minimises the environmental and climate change impacts from managing waste

Did you know?

Waste management (collecting, transporting, storing, processing and recycling waste) contributes about **3% of Australia's greenhouse gas emissions^{xv}**

Why is this important?

Waste collection and management is an essential service which provides numerous benefits for the community. However, creating and managing waste can result in negative environmental and climate change outcomes across all stages of the waste supply chain, from collection, transport, sorting, recycling to disposal.

As Council is responsible for collecting Northern Beaches household waste and collecting litter, appropriate controls need to be in place to eliminate and control these potential outcomes, as we seek to address climate change and environmental pollution. Sydney's available landfill space is also currently forecast to run out in the next 15 to 25 years. Collective action is needed to prepare for this challenge and expediting the transition to a circular economy to help minimise the need to dispose of waste in landfill or elsewhere.

Figure 14
Potential environmental impacts of waste management

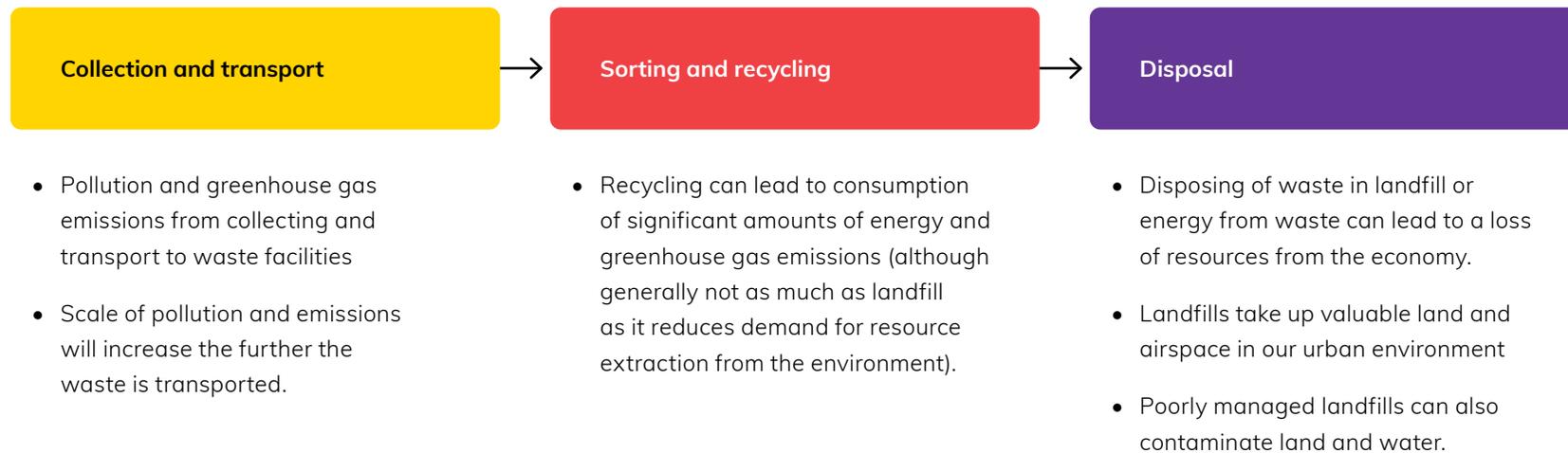


Figure 15Northern Beaches residents views on the environment ^{xvi}

Climate change and water pollution are two of the three most important environmental issues for the Northern Beaches community

Our opportunities

Under our Northern Beaches Environment and Climate Change Strategy 2040, Council aspires to achieve net zero emissions in its operations by 2030, and to actively work to keep single use plastics and other litter out of our waterways, catchments and coast.

What have we already done?

Council has already adopted many measures to help reduce environmental and greenhouse gas impacts from managing Northern Beaches waste, including:

- new garbage trucks for household waste collections in 2019 with emission-controlled engines to reduce pollution and covers for the loading hopper when not in use to stop plastic, paper or other material escaping and reduce odour
- processing household vegetation waste locally at Kimbriki to minimise transport and greenhouse gas emissions
- piloting supply of home compostable dog waste bags in Northern Beaches dog parks
- recycling over 80% of waste collected in Council's street sweeping services.

What is next?

Council will strategically implement initiatives to help meet these targets in managing our community's waste. Transitioning to a circular economy will also reduce greenhouse gas emissions and pollution by avoiding waste and associated management.

Image: New garbage trucks



Targets

- Reduce* greenhouse gas emissions from household organic waste collected by Council by **20% by 2030**.
- Reduce* greenhouse gas emissions from Council waste collection vehicles and street sweeping vehicles by **50% by 2030**.

Key priorities

Council will plan and resource our waste and litter services, and transition to the circular economy, to minimise greenhouse gas emissions and environmental impact.

Council's priorities

Identifying and implementing options to minimise greenhouse gas emissions and pollution in each stage of the waste supply chain, including:

- collecting and transporting waste: by transitioning to zero greenhouse gas emissions collection vehicles as it becomes logistically and economically feasible to do so.

- processing waste: by focusing on recycling waste with high potential to reduce greenhouse gas emissions and pollution footprint, including organics and electronic waste
- reusing organics: investigating options to reuse recovered organics and compost to regenerate local environments, habitat and biota
- disposing waste: focusing on reducing landfill gas and greenhouse gas emissions from waste disposal.

Assessing the potential greenhouse gas emissions impact of any new waste collection or recycling service that Council offers to the community, prior to implementation.

* Compared to 2021/22 baseline

What can you do?

Promoting local circular economy initiatives (including reuse, repair and recycling) to promote regional self-sufficiency, by prioritising local drop off points and processing of waste, where economically and logistically feasible, to reduce waste generation, transport and disposal in landfill.

Ensuring safe disposal of products and materials which are at their end of life, by:

- working collaboratively with other local councils, the NSW government and Kimbriki to seek to increase available capacity of facilities to dispose of waste
- only recovering energy from waste, where it is consistent with the NSW EPA's environmental, circular economy and social licence controls and guidelines
- monitoring landfills receiving Council waste to ensure greenhouse gas emissions are effectively controlled.



Community

- Minimise the amount of waste you generate, to avoid environmental impact of collecting, transporting storing processing or landfilling that waste
- Ensure your bin lids are closed when placing waste out for collection, to avoid waste escaping
- Do not add any electronic waste or household chemicals to your kerbside bulky goods wastes for collection, to avoid pollution



Business

- Minimise the amount of waste your business generates, to lower its environmental impact in handling the waste
- Secure your business' waste when placed out for collection



Direction 5: Council leading the way

Outcome 1:

Council demonstrates leadership by reducing, reusing, repairing and recycling more in its operations and advocacy

Why is this important?

Council recognises that for our community to achieve the objectives of this strategy, Council needs to lead by example in our own operations and advocacy.

Council has a significant footprint in the Northern Beaches, with facilities, works and events spread across the local area. Through these operations, Council generates a range of different waste types.

Waste generated by Council

- commercial waste (e.g. waste generated in our offices)
- construction waste (e.g. waste generated in building, maintaining or demolishing infrastructure)
- other types of waste, such as nappies in our childcare centres and food and drink packaging in public events.

There is significant scope to reduce the amount of waste generated in these operations and to reuse or recycle waste which may arise through Council works and activities.

There are also many diverse and complex challenges in waste management and the transition to the circular economy. A number of these challenges need to be addressed with a collaborative approach across different levels of government and businesses to succeed.

Image: Council Reuse and Recycling event



Figure 16Northern Beaches residents views on the role of Council in waste ^{xvii}**Our opportunities**

Council has a key role in driving the transition to a Northern Beaches circular economy, through reducing the waste Council generates, procuring sustainably, and advocating to other levels of government for the changes needed.

Council can drive change through trialling different reuse, recycling and waste reduction initiatives to see what does and does not work. Council can share learnings with the community to help the community to do the same.

Council has commitments in our Procurement and Contracts Policy to prioritise purchasing products and materials to support the circular economy, including those that are or can

be, in order of preference, reused, repaired or recycled. Council could further embed these principles across Council's operations, to ensure circular economy principles are front of mind in purchasing decisions.

We can also seek to use our influence where it is most significant, to help achieve the Outcomes of this strategy. As Northern Beaches Council is one of the largest Councils in New South Wales, with a natural environment which is highly valued and enjoyed by many residents in Sydney, Council can seek to utilise its position to collaborate with businesses and other levels of government and drive the changes needed.

An example of Council leading by example is how we manage events run on Council property and public open space.

Waste minimisation policy for functions and events

Council released its *Waste Minimisation for Functions and Events* policy in 2017. Since that time, all public events and functions on Council property and public open space are required to follow strict principles to manage waste.

Policy highlights:

- minimising the amount of waste generated
- prohibiting the sale and/or distribution of single use plastic products or bottled water
- maximising recycling
- promoting sustainable procurement practices
- minimising the environmental impact of any products used at events.

Council assesses over 150 events each year under this policy, which helps to minimise our waste footprint, pollution and the environmental impact of events on Council property.



Targets

Reduce* waste generated in Council's operations by:

- **10% by 2030**
- **20% by 2040**

Key priorities

Council will seek to lead and advocate for our community and local businesses to make the changes needed to minimise our waste footprint.

Council's priorities

Trialling on-site initiatives to reduce, reuse and recycle waste generated in Council operations (including composting), and sharing outcomes with the community.

Reducing waste generated in Council's day to day operations, including in cleaning buildings, office activities and unnecessary brochures.

Buying better. Doing this by:

- prioritising products which are or can be reused, repaired, or recycled
- establishing a panel of suppliers of sustainable products and materials (including products which are or can be reused, repaired, or recycled), able to be used by Council when making new purchases
- buying more materials with recycled content generated from household waste (such as compost) where feasible
- avoiding single use plastics wherever possible.

Monitoring the volume and types of waste generated across all of Council's operations on a regular basis, to ensure Council can make evidence based decisions on waste reduction, reuse and recycling initiatives.

*By weight: Compared to 2024/25 baseline (the year the baseline council waste audit will take place - see Action table in Section 4. Implementing the Strategy)

Image: Bulk sauce and condiment dispensers at Drop Festival, Manly

Promoting best practice waste management at Council events and facilities, including measures to reduce the waste and litter generated, and increase recycling and reuse.

Preparing for Council's next waste collection and processing contracts commencing in 2029, so that Council can demonstrate to the community a service that facilitates the transition to a circular economy, lower greenhouse gas emissions and pollution, whilst ensuring a customer focussed service into the future.

Advocating to the NSW and Commonwealth Government to help achieve the objectives in this strategy, including eliminating waste, an easy to use waste service, tackling priority wastes and a green and clean environment.





Direction 5: Council leading the way

Outcome 2:

Council facilitates best practice waste reduction and waste management in its local planning framework and in Council's built infrastructure

Did you know?

Construction and demolition waste makes up over **50% of waste generated in New South Wales**^{xviii}

Why is this important?

The way buildings, infrastructure and precincts are designed, constructed and demolished has a substantial impact on the amount of waste generated in the Northern Beaches,

Construction and demolition activities produce over 10 million tonnes of waste every year in New South Wales^{xix}.

This waste is made up of materials including bricks, concrete, metals, timber, gyprock, plastic and asbestos.

The building sector also contributes 39% of global greenhouse gas emissions; 28% from building operations and 11% from the embodied carbon in building materials^{xx}.

A significant proportion of construction waste is recycled. However, the process is often resource and energy intensive. Buildings are generally demolished, with different materials then mixed together in skip bins and transported extensive distances for processing, often into lower grade materials if not effectively separated at source. This leads to further greenhouse gas emissions and millions of tonnes of construction waste still ending up in landfill each year.

Like with consumer products, to make a substantial impact on the amount of construction waste generated requires a rethink of how buildings, precincts and infrastructure are designed, by designing out waste in the first place and incorporating sustainable materials.

The NSW Government has recognised this with the *Circular Design Guidelines For The Built Environment* released in February 2023.

Principles include:

- designing for longevity
- designing to enable disassembly
- re-using existing assets or materials
- maximising materials circularity
- selecting products with recycled content.

Image: Recently completed Long Reef SLSC



Figure 17Northern Beaches residents support for a sustainable built environment ^{xxi}

support Council using
more recycled materials
in infrastructure



in 2021, development and planning became
the most important environmental issue
among Northern Beaches residents

Our opportunities

Council has recognised the importance of sustainable resource use and transitioning to a circular economy in the built environment in its Local Strategic Planning Statement.

Taking a circular economy approach can provide significant opportunities for more sustainable resource use, greenhouse gas emissions reduction and new economic and social opportunities. Where circular design promotes refurbishment or modular design, rather than demolition, this can also lead to avoided construction and demolition costs. It can create more local jobs, with a more labour-centred economic model than a material centred approach.

What role does Council play?

Council can play a significant role in leading more sustainable design of the built environment in the Northern Beaches, through:

- public infrastructure: maintaining and constructing public infrastructure, including roads, footpaths, cycleways, community centres, stormwater works and wharves.
- local planning controls: regulatory controls to regulate building design and materials in development, within the limitations of the NSW Government planning framework.

Council has already set an example to local businesses and the community by prioritising the purchase of recycled materials in local infrastructure projects.

Recycling in our roads

Between 2019 and 2021, Northern Beaches Council trialled the use of Reconophalt™ in three road projects and one footpath project. Reconophalt™ is an asphalt product that repurposes post-consumer soft plastics, glass and toner into higher value products to construct roads.

Using recycled materials such as these in road resurfacing projects can lead to numerous benefits:

- utilises waste-derived materials as resources, thus reducing landfill
- reduces requirements for virgin bitumen
- stronger asphalt which can extend asset life
- reduces CO2-e emissions

Success of these trials led to Council approving ongoing use of Reconophalt™ in future roadwork projects.



Targets

- Double* the number of Council infrastructure projects using recycled material **by 2030**.
- increase the resource recovery rate of construction waste generated in Council's operations to **90% by 2040.****
- improve local planning controls and guidelines **by 2026**, to enable public and private buildings and infrastructure to be designed for longevity, reducing the need for raw materials and enabling future disassembly, reuse and recycling.

Key priorities

Council will lead our community towards more sustainable resource use in the built environment.

Council's priorities

Identifying opportunities in local planning controls and supporting documents to incorporate circular design principles, including improving design of buildings and precincts to be designed to:

- last for as long as possible
- for adaptability and flexibility to reduce duplication of assets and to be able to change use over time
- promote reuse, repair and recycling of materials
- enable efficient storage and collection of waste (including separate organics waste).

Encouraging developers and businesses to incorporate circular design principles into new local buildings and precincts.

Facilitating local reuse, repair and recycling activities by making land available and facilities permissible through land use zones.

Buying better by procuring building materials for Council infrastructure that:

- are designed to last for as long as possible
- are or can be, in order of preference, reused, repaired or recycled.

Enhancing maintenance, renovation and refurbishing of Council buildings and other Council infrastructure to further extend their asset life and enable adaptive reuse.

*Compared to 2021/22 baseline

** Target to be reviewed for feasibility after audit of council waste by 2025

Improving waste separation when maintaining, constructing and demolishing Council infrastructure, to maximise reuse and recycling opportunities.

Identify opportunities for private and Council projects to reuse and recycle more waste generated in construction and demolition projects, including through conditions of consent and better project management.

Advocating on behalf of our residents and businesses to deliver urban planning laws and incentives that lead to more circular design of buildings and precincts.

Image: Council Reuse and Recycling event



4. Implementing the strategy





Putting this strategy into action

Council will continue to work with our community and businesses on the strategic direction and initiatives in this strategy in a genuine, meaningful and ongoing manner to understand how they are working in practice and ensure they are adapted to meet community needs.

A variety of tools will be needed to implement the key priorities in this strategy, including:

- innovation and research
- strategic land use planning and development controls
- on-ground works
- compliance
- collaboration
- education and engagement for behaviour change.

Many of the priorities fall beyond the direct control of local government, and we will play a strong collaboration and advocacy role to partner with the relevant stakeholders to deliver the outcomes together.

Implementation will be largely supported through existing funding, in line with Council's Long Term Financial Plan. Council will also seek opportunities to leverage additional internal and external sources of funds, as well as collaboration and partnership projects.

Council will monitor performance against the targets and will assess progress annually. Our annual report will include key data and updates. Progress will also be reported every 4 years in the state of the region report, a report on the implementation and effectiveness of the Community Strategic Plan.

The strategy will be reviewed every 5 years to ensure it continues to reflect the community's vision. This will allow us to adapt the targets, priorities and actions in light of fast paced changes in the market, knowledge, technology and science as well as federal and state waste policies.

To drive change, Council will implement the following key actions during the first five years of the strategy, and will review the actions as part of the 5 yearly review of the strategy.

Image: Toy repair workshop

Key actions: first 5 years

The table below sets out a summary of the key actions for the first 5 years of this strategy.

The table includes the Financial Year when the initiative will commence, indicative costs and alignment with the strategy's guiding principles. For the indicative costs:

- \$: Low (\$0 - \$15k per year)
- \$\$: Medium (\$15k - \$500k per year)
- \$\$\$: High (\$500k - \$2 million per year)
- \$\$\$\$: Significant (\$2 million+ per year)





Direction 1

Eliminating waste

Action	Year Commencing	Costs	Guiding Principles
1.1 Pilot local circular economy hub model for household items, including working with charities, community groups and/or other interested groups	2023/24	\$\$-\$\$\$	Sharing responsibility Innovating
1.2 Investigate opportunities for local business and manufacturers to share used materials for reuse or recycling	2023/24	\$	Influencing
1.3 Educate and incentivise the community to reduce the amount of household waste they create	2023/24	\$\$	Empowering the community
1.4 Advocate for stronger producer responsibility legislation and incentives to design out waste in products and promote more circular product design	2024/25	\$	Influencing
1.5 Explore models for a 'Circular Economy Start Up Fund' for innovative circular business models	2024/25	\$\$	Empowering the community
1.6 Collaborate with local businesses and leading research institutions on innovative solutions to reduce waste and promote more circular product design for products commonly used in the Northern Beaches*	2025/26	\$	Influencing Innovating
1.7 Investigate best practice education and user pays incentive schemes to reduce household waste	2025/26	\$\$	Innovating

*Subject to available funding - in competitive budget bidding process



Direction 2

Easy to use waste service

Action	Year Commencing	Costs	Guiding Principles
2.1 Deliver education resources to improve use of bin system and resident sorting to maximise recycling	2023/24	\$\$	Influencing
2.2 Provide separate collections of targeted recyclable bulky goods to divert more waste from landfill and consider other options to recover more resources from bulky goods where possible.	2023/24	\$\$ -\$\$\$	Empowering the community
2.3 Consider options for more accessible collections for the community: <ul style="list-style-type: none"> • household chemicals, electronic waste and textiles • offshore communities in Pittwater • more flexible bulky goods service 	2024/25	\$\$\$	Sharing responsibility Innovating
2.4 Develop and implement an emergency waste management plan	2024/25	\$	Influencing
2.5 Pilot new technology and systems to improve recycling outcomes and increase efficiency and community understanding of the waste service	2024/25	\$\$	Empowering the community
2.6 Benchmark the domestic waste service, and audit domestic waste collected by Council, to understand resident practices and inform strategic decisions, community education and resourcing	2025/26	\$\$	Influencing Innovating
2.7 Plan for Council's next long term waste service contracts, including review of: <ul style="list-style-type: none"> • data on service and service performance to ensure service meets customer needs and expectations. • ongoing suitability of bin system • available processing/disposal infrastructure • options to ensure the service facilitates transition to a circular economy and reduces greenhouse gas emissions and pollution. • potential alternate collection models (including centralised drop offs) to meet community needs. • impacts of megatrends on the service 	2025/26	\$\$	Innovating

*Subject to available funding - in competitive budget bidding process



Direction 3

Tackling priority wastes

Action	Year Commencing	Costs	Guiding Principles
3.1 Advocate for phase out of single use or unrecyclable plastics	2023/24	\$	Sharing responsibility Innovating
3.2 Implement phased approach to food waste collection (see Direction 3)	2024/25	\$\$\$\$	Building resilience Innovating
3.3 Support initiatives to reduce food waste being generated in the home, donate excess food and manage organic waste in home composting	2024/25	\$	Sharing responsibility Empowering the community
3.4 Identify opportunities to support local businesses to use alternatives to single use plastics, including reusable containers*	2024/25	\$\$	Influencing Empowering the community
3.5 Trial plastics recycling programs where there are identified markets for the recovered plastics and responsibility across the supply chain	2025/26	\$\$	Innovating

*Subject to available funding - in competitive budget bidding process



Direction 4

Green and clean environment

Action	Year Commencing	Costs	Guiding Principles
4.1 Consider environmental impact (including greenhouse gas emissions) of new waste service that Council offers to the community prior to implementation	2023/24	\$\$	Building resilience Innovating
4.2 Develop long term roadmaps to help prevent litter and illegal dumping	2024/25	\$\$	Sharing responsibility
4.3 Work with businesses to phase out single use packaging in targeted CBDs and areas near beaches/waterways*	2024/25	\$\$	Influencing
4.4 Increase engagement with community volunteers in local litter campaigns	2024/25	\$	Sharing responsibility Empowering the community
4.5 Improve litterbin network to increase recycling of containers*	2025/26	\$\$	Innovating
4.6 Pilot smart and emerging technologies to help deter litter and illegal dumping activities, and target point source litter (eg sporting fields, fishing areas)*	2025/26	\$\$	Innovating
4.7 Audit public place litter to identify opportunities to improve Council's litter services*	2026/27	\$\$	Building resilience

*Subject to available funding - in competitive budget bidding process



Direction 5

Council Leading the Way

Action	Year Commencing	Costs	Guiding Principles
5.1 Promote best practice waste management at Council events and facilities	2023/24	\$	Influencing Sharing responsibility
5.2 Audit, improve and measure volume and types of waste generated across all of Council's operations and how waste is separated for recycling*	2024/25	\$\$	Building resilience
5.3 Council is a leading voice for best practice waste prevention and sustainable recycling	2024/25	\$	Influencing
5.4 Improve waste management and circular economy principles, in Council's LEP, relevant DCP's, Waste Management Plan and supporting framework (having regard to NSW Government's Circular Design Guidelines for the Built Environment)	2024/25	\$\$	Influencing Sharing responsibility
5.5 Maximise uptake of infrastructure projects using recycled materials	2024/25	\$\$	Influencing
5.6 Establish a panel of suppliers of sustainable products and materials – to reduce and recycle more waste*	2024/25	\$\$	Making it easy Influencing
5.7 Identify and trial composting and other recycling solutions for Council-generated waste*	2025/26	\$\$	Innovating Influencing

*Subject to available funding - in competitive budget bidding process

Endnotes

ⁱ Community Survey Results
Micromex Research March 2022

ⁱⁱ Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

ⁱⁱⁱ PWC, Building a more circular Australia – The opportunity of transitioning to a circular economy, March 2021

^{iv} Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

^v Community Survey Results Micromex Research March 2022 and Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

^{vi} See <https://www.csiro.au/en/news/all/news/2022/july/seven-megatrends-that-will-shape-the-next-20-years>

^{vii} Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

^{viii} US EPA, see <https://www.epa.gov/gmi/importance-methane>

^{ix} Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

^x Australian Packaging Covenant Organisation, APCO Collective Impact Report, Version 1 – November 2021

^{xi} Instinct and Reason, Northern Beaches Environmental Perceptions Report 2021

^{xii} EC Sustainable, Public Place Bin Audit 2022, Report: October 2022

^{xiii} EC Sustainable, Public Place Bin Audit 2022, Report: October 2022

^{xiv} Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group

^{xv} <https://www.csiro.au/en/research/environmental-impacts/climate-change/climate-change-qa/sources-of-ghg-gases>

^{xvi} Instinct and Reason, Northern Beaches Environmental Perceptions Report 2021

^{xvii} Instinct and Reason, Northern Beaches Environmental Perceptions Report 2021

^{xviii} See <https://www.epa.nsw.gov.au/your-environment/waste/waste-overview/waste-performance-data>

^{xix} See <https://www.epa.nsw.gov.au/your-environment/waste/waste-overview/waste-performance-data>

^{xx} Clean Energy Finance Corporation, Australian Buildings and Infrastructure; Opportunities for cutting embodied carbon

^{xxi} Waste & the Circular Economy: A random survey of 600 residents for Northern Beaches Council, February 2023, Taverner Research Group and Instinct and Reason, Northern Beaches Environmental Perceptions Report 2021



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