DRAFT Sunshine Coast Resource Recovery Strategy 2023

Sunshine Coast COUNCIL

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Acknowledgements

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Traditional Acknowledgement

Sunshine Coast Council acknowledges the Sunshine Coast Country, home of the Kabi Kabi peoples and the Jinibara peoples, the Traditional Custodians, whose lands and waters we all now share.

We recognise that these have always been places of cultural, spiritual, social and economic significance. The Traditional Custodians' unique values, and ancient and enduring cultures, deepen and enrich the life of our community.

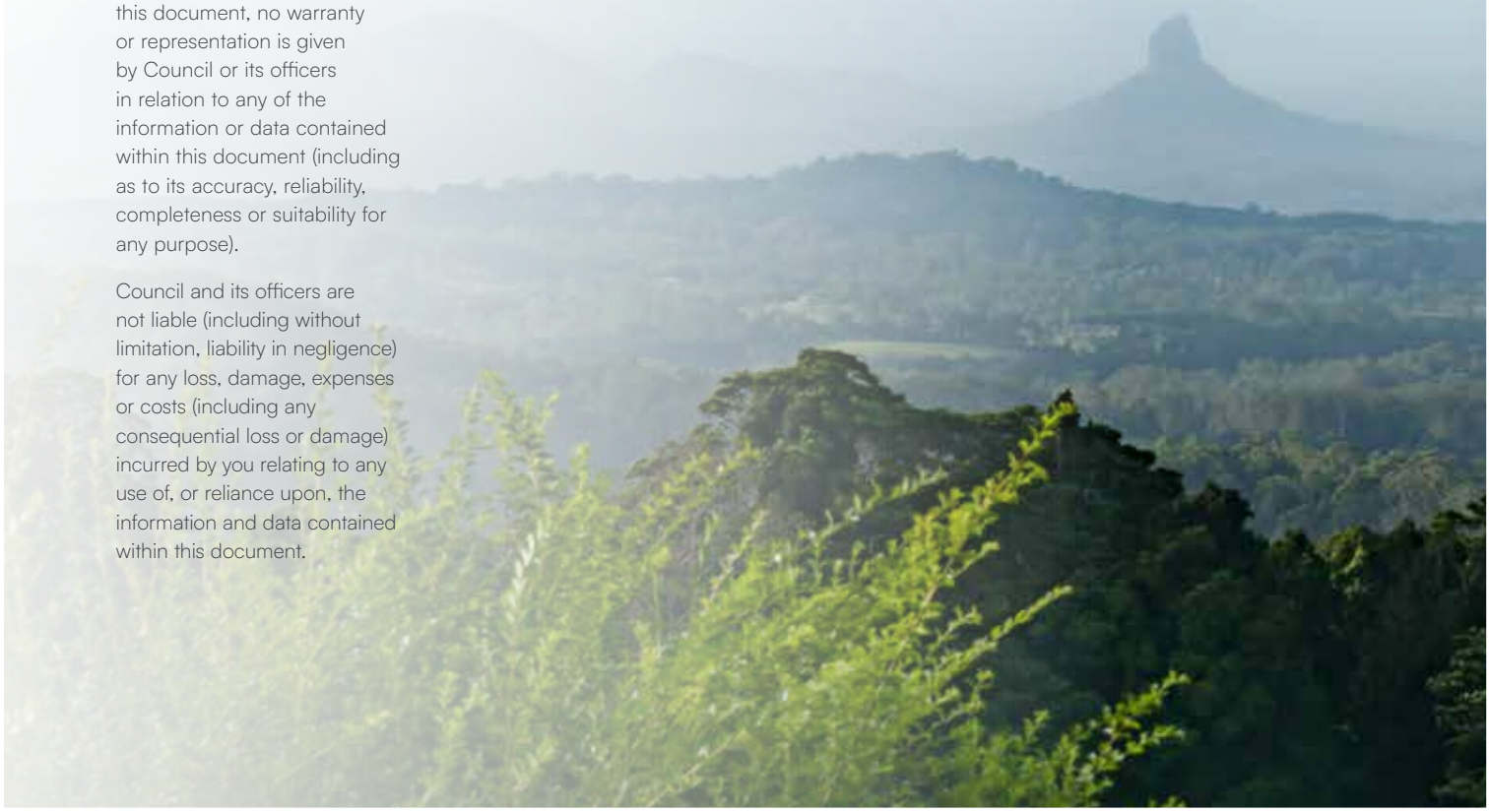
We commit to working in partnership with the Traditional Custodians and the broader First Nations (Aboriginal and Torres Strait Islander) communities to support self-determination through economic and community development.

Truth telling is a significant part of our journey. We are committed to better understanding the collective histories of the Sunshine Coast and the experiences of First Nations peoples. Legacy issues resulting from colonisation are still experienced by Traditional Custodians and First Nations peoples.

We recognise our shared history and will continue to work in partnership to provide a foundation for building a shared future with the Kabi Kabi peoples and the Jinibara peoples.

We wish to pay respect to their Elders — past, present and emerging, and acknowledge the important role First Nations peoples continue to play within the Sunshine Coast community.

Together, we are all stronger.



Contents

Purpose

The Sunshine Coast Resource Recovery Strategy 2023 has been developed to align with Commonwealth, State and South East Queensland (SEQ) Region policies and plans. Each local government is required under the Waste Reduction and Recycling Act 2011 to prepare, adopt and implement a plan for managing waste in its local government area, in a way that best achieve the objectives of the Act. The key alignments of the Resource Recovery Strategy support Councils direction and contributes towards Sunshine Coast Council's

"Australia's most sustainable region – Healthy. Smart. Creative"

The strategy focuses on the provision of sustainable, well-planned infrastructure and services that consider the needs of our expanding community, rapidly evolving waste industry changes and protection of the unique Sunshine Coast environment, both now and in the future.

Sunshine Coast Council

About the Sunshine Coast

The Sunshine Coast Council region is comprised of approximately 2291 square kilometres by area. This includes a wide variety of beaches, coastline, waterways, rural land, national parks, state forests, bushland, coastal urban centres and inland towns. The rural area is primarily used for farming, cattle grazing and crop growing alike.

More than 33,451 registered businesses operate across the Sunshine Coast (ABS 2021) including well-established and recognisable retail and construction sectors as well as a tourism industry that supports an abundance of accommodation options and entertainment venues.

The Sunshine Coast, located in South-East Queensland, approximately 100 kilometres north of Brisbane. The local government area (LGA) is bordered by the shire of Noosa to the north, Gympie and Somerset Regions to the west and Moreton Bay Regional Council to the south.

As of 30th June 2022, the Estimated Resident Population (ERP) stands at 356,059 however this number fluctuates due to the Coast's popularity as a tourist destination. This annual transitory population increase is estimated at an additional 10% that is not accounted for in the population data. The region's population growth between 2011 and 2021 was 83,595 or 31% and it is forecast that the LGA will see further population increase between 2023-2026 of almost 29,000.

In 2021, the census indicated that there were 103,126 detached houses in the LGA, 26,725 medium and 15,837 high-density dwellings, with 68.5% of these dwellings being family households and 22.2% being single person households.

By gaining a thorough understanding of the region's growth rates and housing demographics both Council and contractors can plan for cost effective provision of services. The Sunshine Coast Planning Scheme 2014 Local Government Infrastructure Plan details existing and projected residential, industrial and commercial development for the region. Of note, residential development at the Caloundra South, Palmview, Nambour, and Maroochydore localities are predicted to see most of the growth.

United Nations Sustainable Development Goals

As we advance our vision as Australia's most sustainable region — Healthy. Smart. Creative. the environmental, social, cultural and economic activities across the region must be carefully balanced to ensure we advance our vision sustainably.

The United Nations Sustainable Development Goals (UNSDGs) for peace, prosperity, people and planet provide a comprehensive and internationally recognised framework for us to collectively align the way we each live, work, learn and play every day — and form an important foundation of the performance measurement framework of our Biosphere.

Council is demonstrating regional leadership by committing to embed the UNSDGs in our strategies, plans and associated progress reporting. Each Corporate Plan goal identifies how it contributes to the UNSDGs and, in doing so, assists to progress our Sunshine Coast Biosphere aim and objectives.

Our global commitment

The Sustainable Development Goals are a call for action to promote prosperity while protecting the planet, they provide a comprehensive framework that addresses a range of social needs while tackling climate change and environmental protection. The Sunshine Coast Resource Recovery Strategy aligns to the following goals.

UNSDG 11 — Sustainable cities and communities. Council is striving towards a goal of zero waste to landfill by 2041. This target can be achieved through transition from a linear economy waste management model to a circular economy approach where waste is treated and managed as a resource in the region and beyond. A major contributor to this goal is diversion of food waste and garden organics from landfill (FOGO), managing this waste stream as a finite resource to produce high quality compost for agriculture in the region as well as electricity that can be used to offset the power used in managing these resources. Councils Automated Waste Collection Service (AWCS) in the central business district (CBD) of Maroochydore, helps to source segregate recoverable waste streams and has the capability of handling waste for 1950 residential household offering a highly sustainable approach to managing the impact of waste collection services.

UNSDG 12 — Sustainable consumption and production. Responsible consumption and production methodology is about ensuring sustainable consumption and productions patterns. The Sunshine Coast Resource Recovery Strategy provides Council's strategic approach to improve resource efficiency, reduce waste and pollution, and shape a new circular economy.

In aligning Councils Resource Recovery Strategy and approach to a circular economy, the development of Councils future FOGO service is aligned with the National Food Resource Recovery Strategy which aligns with SDG 12.3 Global food loss and waste, which includes a Healthy Soil strategy established by the Commonwealth Department of Agriculture, Water and the Environment to support the diversion of household and commercial food and garden organics (FOGO) from landfill.

In managing this circular approach to our sustainable development goals, Council resolved to implement a Food Organics, Garden Organics FOGO operation which is expected to be fully expanded and operational by late 2025 which is a major contributor to Councils Organisational Zero Net Emissions targets.

UNSDG 13 — Council recognised a state of climate emergency in 2021. Climate action emphasises the need for climate change action to be shared by all levels of government, business and individuals through the choices made every day.

The Resource Recovery Strategy states the intention to pursue a circular economy as advised in Councils Organisational Zero Net Emissions Plan 2022.

The incorporation of the United Nations Sustainable Development Goals into the latest Corporate Plan, Zero Net Emissions Action Plan and Resource Recovery Strategy provides a common set of targets that all Council strategies contribute towards.

SUNSHINE COAST BIOSPHERE

In June 2022, our Sunshine Coast local government area was recognised by the United Nations Educational, Scientific and Cultural Organisation (UNESCO) as a biosphere reserve - where responsible development and people living sustainably sit alongside active conservation.

Our region has joined a global effort of 738 biospheres in 134 countries to balance the environmental, social, cultural and economic needs of today, without compromising the ability to meet the needs of future generations.

Our region's international recognition as a special place where people are living, working, learning and playing sustainably highlights the values of our region that we are seeking to protect and enhance, brings new opportunities and a range of possible benefits to our natural environment, community, lifestyle and economy.

Being recognised as a UNESCO Biosphere reserve and maintaining this credential is our region's commitment to create a positive legacy for future generations. Every resident, visitor, business and government entity has a key role to play in maintaining and enhancing the Sunshine Coast Biosphere reserve for our children, grandchildren and all those who will enjoy the prosperity, beauty and liveability of our region into the future.

Strategic Framework

Sunshine Coast Resource Recovery Strategy 2023

The Sunshine Coast Resource Recovery Strategy 2023 aligns with Council's key strategic elements and intent of other policies crucial to the development of the regions approach to waste management and circular economy outcomes. The strategy focuses on the provision of sustainable, well-planned infrastructure and services that consider the needs of our expanding community, rapidly evolving waste industry changes and protection of the unique Sunshine Coast environment, both now and in the future.

Strategic Alignment

Sunshine Coast Community Strategy 2019-2041

The Sunshine Coast Community Strategy 2019-2041, focuses on inclusive communities by supporting the growth of social connection and collaboration through a place-based approach. Place based planning is an enduring concept in this strategy. Outcomes sought include an emphasis on active transport; community facilities, including supporting facilities. parks, open space and civic spaces; affordable living options; smart infrastructure and sense of place in the public realm.

Our community is growing by almost 8000 residents each year and this trajectory will continue to 2041 when our region will be home to more than 500,000 people.

Through this growth the Resource Recovery Strategy aims to adapt to these opportunities and challenges. A key element the strategy draws from will be the opportunities to develop smart waste infrastructure and technology in managing sustainable outcomes for the region as well as providing innovative opportunities that provide social and economic benefit across the region.

Environment and Liveability Strategy 2017

The Environment and Liveability Strategy, 2017 builds a pathway to a healthy environment and liveable Sunshine Coast in 2041. The natural environment and how it can be preserved and enhanced, as well as the liveability of the region is the primary focus—enabling a good quality of life for all residents and supporting a strong economy in an accessible and well-connected built environment.

The resource recovery and recycling industry is working towards a series of State and National targets and actions, these were developed to reduce waste to landfill, whilst increasing resource recovery through improved recycling rates and co-efficient use of recovered products. Through its pursuit of innovative and clean technologies, Council will aim to generate flow-on economic opportunities in the supply chain for broader business, industry and community benefit on the Sunshine Coast.

Regional Economic Development Strategy 2013-2033

The Regional Economic Development Strategy 2013-2033, (REDS) provides a 20-year vision and blueprint for sustainable economic growth. It will help to ensure the region actively participates in the global economy and deliver the lifestyle and opportunities for local residents and businesses alike.

Council's Zero-Net Emissions Plan recognises our waste contributions as being the most significant source of our total organisational greenhouse gas emissions footprint and is included in our organisational operational boundary as we own and operate two active landfills, Nambour and Caloundra (taking both community and council waste).

Successfully achieving our strategic waste management transition will contribute significantly to achieving our zero-net emissions organisation target by 2041, deliver integrated environmental, social and economic outcomes and provide tools that will equip our growing community to live, work and play sustainably.

Policy and Legislative Context

Commonwealth Government

The Federal Government released a **National Waste Policy** in 2018, followed by a **National Waste Policy Action Plan in 2019**.

The 2018 National Waste Policy provides a framework for collective action by businesses, governments, communities and individuals until 2030.

The policy identifies five overarching principles underpinning waste management in a circular economy:

1 Avoid waste.
2 Improve resource recovery.
3 Increase use of recycled material and build demand and markets for recycled products.
4 Better manage material flows to benefit human health, the environment and the economy.
5 Improve information to support innovation, guide investment and enable informed consumer decisions.

The associated **National Waste Policy Action Plan 2019** outlines a number of targets of which several have been realised to date including:

1 A ban on the export of waste plastic, paper, glass and tyres.
2 Reduce total waste generated in Australia by 10% per person by 2030.
3 80% average resource recovery rate for all waste streams following the waste hierarchy by 2030.
4 Significantly increase the use of recycled content in goods purchased by governments and industry.
5 Phase out problematic and unnecessary plastics by 2025.
6 Halve the amount of organic waste sent to landfill for disposal by 2030.
7 Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.

The 2019 National Action Plan outlines a series of key action areas to drive change in the waste industry, businesses, governments and the community to make Australia more responsible for its own waste.

Queensland State Government

The **Queensland Waste Management and Resource Recovery Strategy 2019** proposes to better manage waste in Queensland, by harnessing the potential value of resources that have traditionally been discarded.

The Strategy identifies a series of outcomes to assist in delivery of the vision to become a zero-waste society through:

- Reduction in the amount of waste that goes to landfill, is littered or illegally dumped.
- Reduction in waste-related greenhouse gas emissions.
- Reduction in the long-distance transport of waste.
- Protection of Queenslander's lifestyles and the enjoyment of our natural environment; and
- Reduction in the impact from waste facilities on neighbouring communities and amenity value.

The State Strategy is underpinned by a waste levy and outlines a series of targets and actions to reduce waste to landfill whilst increasing resource recovery through improved recycling.

Queensland waste related policy and targets

The QLD Waste Management and Resource Recovery Strategy 2019, QLD Waste Levy and QLD Organics Strategy 2022-2032 set out the following waste targets:

- Average landfill diversion of 65% for all waste streams by 2025.
- 25% reduction in household waste by 2050.
- 90% of waste is recovered and does not go to landfill by 2050.
- 75% recycling rates across all waste types by 2050.
- Halve the amount of food waste generated by 2032.
- Divert 80 per cent of the organic material generated from landfill by 2032.
- Achieve a minimum organics recycling rate of 70 percent by 2032.

Sunshine Coast Council supports this plan and is working collaboratively with other South East Queensland Member Councils to investigate opportunities for shared infrastructure and services.

South-East Queensland Waste Management Plan (CoMSEQ)

CoMSEQ member Councils worked together to develop the SEQ Waste Management Plan (the Plan), which sets out a directional path forward for action and collaboration across the Councils of South-East Queensland as they address the challenges and opportunities associated with municipal solid waste management across the region.

The scope of the Plan focuses primarily on the waste flows managed through kerbside collections, as these waste streams represent some of the most complex decisions facing Councils, as well the most significant opportunities for capturing the benefits of collaboration.

The objective for the SEQ Plan is to identify levers that would best enable all SEQ Councils to:

- Optimise the economics of waste management operations.
- Encourage local economic development and job creation.
- Meet or move towards State targets relating to household waste generation, recycling, and landfill diversion by 2050.
- Maintain or achieve high levels of citizen satisfaction with waste management services.

The SEQ Plan focuses on three areas of actions towards achieving the State's landfill diversion targets:

1 Optimising commingled recycling.

2 Removing organic waste from landfill and recovering it.

3 Optimising the treatment of residual waste.

> It is the year 2041 and the Sunshine Coast is Australia's most sustainable region.

The vision

It is the year 2041 and the Sunshine Coast is Australia's most sustainable region.

Sunshine Coast Council

We learned to harness the value of resources that were traditionally discarded and have improved the prosperity and sustainability of the region through waste education initiatives, job creation and establishment of local end use markets for recovered waste products and materials while reducing greenhouse gas emissions, waste generation and pollution.

Greenhouse gas emissions on the Sunshine Coast are among the lowest in the southern hemisphere and local renewable energy sources are integral to our zero net emissions existence.

Our 'towards zero waste to landfill by 2041' target was achieved through transition from a linear economy waste management model to a circular economy approach where waste is treated and managed as a resource.

Waste volumes generated annually per household have reduced from 700kg per household in 2023, to less than 200kg per household in 2041. Through advocacy and collaboration with other local governments, packaging is manufactured from 100% recycled material and has been minimised to use for essential items only.

Kerbside collection of our three-bin system is provided by a fleet of trucks powered by hydrogen fuel cells that generate zero carbon emissions. The hydrogen fuel used by the truck fleet is sourced from local advanced waste technology facilities using processed material from general (red lid) waste bins.

Our Food Organics / Garden Organics (FOGO) service delivers over 60,000 tonnes of material each year from lime green lid bins to a processing facility in Caloundra where anaerobic digestors generate energy from the processed organics to power the facility, combined with a series of in-vessel composting tunnels that produce an agricultural quality compost used to regenerate soil in the region's farmland.

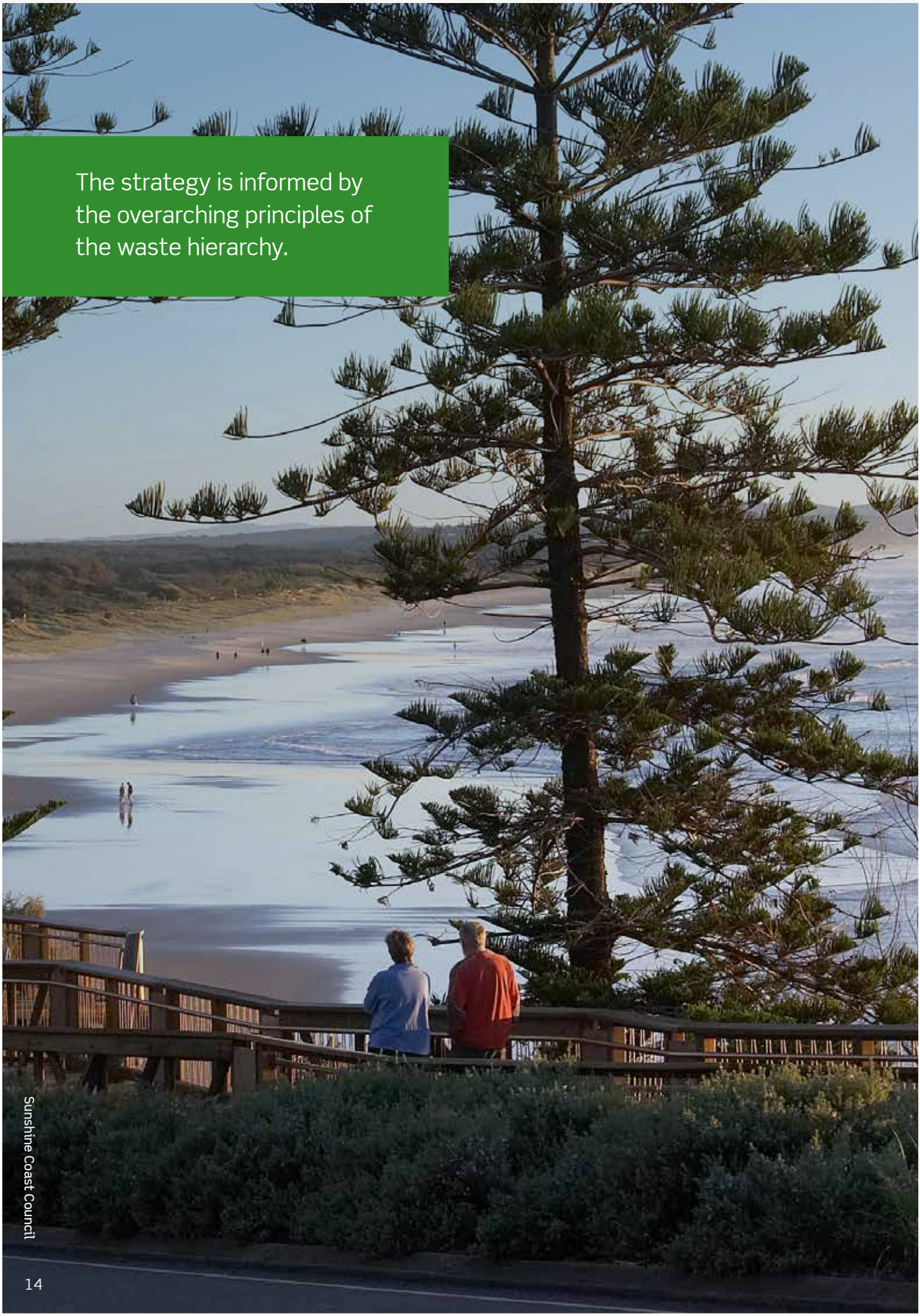
The Nambour Resource Recovrey Centre is home to Council's hi-tech Material Recovery Facility (MRF) where recyclables collected from the region's yellow lid bins are taken to be processed and separated into a range of reusable commodity streams. Optical sorters separate glass into a variety of cullet colours that are used to make new glass bottles, while the remaining glass fines fraction is crushed into an aggregate for use in the construction of local roads and pavements. Paper and cardboard is baled and sent to paper mills to be manufactured into sustainable packaging used by local shops and businesses. Plastic volumes delivered to the MRF have significantly reduced since 2023, and the remaining fraction is manufactured into a range of products including council staff uniforms, park benches, bollards and bin repair parts.

Bio-energy plants at Nambour and Caloundra closed landfill sites extract landfill gas from legacy operations to generate electricity that is used to power the Nambour MRF and Council's fleet of commuter use and pool electric vehicles, with the remainder exported to the grid.

Resource Recovery Centres across the region are powerful economic hubs for composting, recycling and generating energy. Self-haul and kerbside collected waste previously destined for landfill is separated through innovative screening, household bric-a-brac and other re-usable items isolated at front-end sort stations are on-sold through tip-shops, and all other materials that can be reused or recycled locally or regionally are treated as a resource including e-waste, textiles, paints, oils, batteries, building materials, timber, end of life solar panels, scrap metal and mattresses.

Residual waste that cannot be otherwise reused or recycled is bulk hauled to a large-scale south-east Queensland waste to energy facility where it is processed to generate electricity that powers the regions households and businesses.

The strategy is informed by the overarching principles of the waste hierarchy.



Sunshine Coast Council

Approach to developing the strategy

The format of the stategy meets the Queensland Government requirements for a waste strategy. The development of the strategy can be summarised as:

- Review of Waste Strategy 2015-2025.
- Review of commonwealth and state policy, legislation and corporate plans.
- Review of projected population growth, services, infrastructure and related technology.
- Development of objectives, targets and actions to reduce waste to landfill. Consultation with Council officers and Councillors.
- Initial review of objectives, targets and actions.
- Community and industry consultation via release of draft plan for comment.
- Final review of objectives, targets and actions.
- Review of the Queensland Waste Management and Resource Recovery Strategy.
- Review of the National Waste Policy 2018 and National Action Plan 2019.

The 2023 strategy revision proposes new ways of thinking about how we manage waste. It is informed by the overarching principles that underpin the waste hierarchy as we evolve towards a circular economy approach to waste management with a focus on high order uses built on the concept of continually reusing, recycling and reprocessing materials.

The fundamental principle of a circular economy approach to waste management is to avoid waste generation.

Strategy overview

The fundamental principle of a circular economy approach to waste management is to avoid waste generation. Where this is not possible our objective is to enable waste to be re-used, recycled, or treated to generate energy for reuse in a circular economy environment.

It is planned to deliver the Sunshine Coast's transition to a circular economy approach to managing the regions waste through a three phase framework.

1

ASPIRATIONAL OBJECTIVES

2041 and beyond.

- Zero waste to landfill by 2041.
- A functioning circular economy approach to waste is embedded regionally, where:
  - Recovered waste utilised locally as a resource.
  - Local businesses are established that utilise the recovered waste.
  - Jobs are created in local reuse and recycling industries.
- An operational sustainability eco-hub, powering circular economy businesses and manufacturing of products and resources made from recycled waste streams, all powered by renewable energy captured from the treatment of waste food organics.
- Collaboration between other local governments and key industry partners to achieve National targets underpinned by the principle of a circular economy.
- Bio-energy plants located across Councils resource recovery sites utilise compressed bio-methane extracted from landfill gas from legacy operations to generate electricity that is used as a transport fuel to power Council's fleet of alternative energy driven vehicles or injected directly into the National gas distribution networks to generate renewable energy.

2

TACTICAL HORIZON OBJECTIVES

2023-2033.

- Coordinated capital investment in new and upgraded waste infrastructure.
- Progressive transition to advanced resource recovery operations including:
  - Hi-tech kerbside recyclables processing.
  - FOGO collection and advanced technology organic waste processing.
  - Collaboration with regional partners to establish advanced treatment of residual waste.
  - Staged rationalisation of landfill operations to reduce carbon emissions.
  - Continual review and assessment of evolving waste technologies and practices.
  - Ongoing community consultation and information activities.
  - Education, behaviour change and advocacy.
  - Transition to a sustainable circular economy approach to managing the regions waste including emissions reduction.

3

OPERATIONAL OBJECTIVES

Ongoing annual waste management program deliverables.

- High quality waste collection services.
- Well planned waste infrastructure including:
  - Accessible resource recovery centres.
  - Recovered material processing hubs.
  - Landfill operations (until residual waste can be re-purposed).
  - Closed landfill remediation.
  - Waste education and behaviour change initiatives.
  - Capital works delivery for existing and new projects.
  - Advocacy, leadership and support in waste avoidance, managing difficult to recycle and emerging waste streams through alliances and product stewardships.
  - Cost effective, efficient resource recovery operations including ease and proximity of services.
  - Build economic opportunity including infrastructure and fleet modernisation.

> By working together to improve waste management, at a local level we can create opportunities for jobs, protect the environment and better manage valuable and finite resources.

Why Transition to a Circular Economy Approach

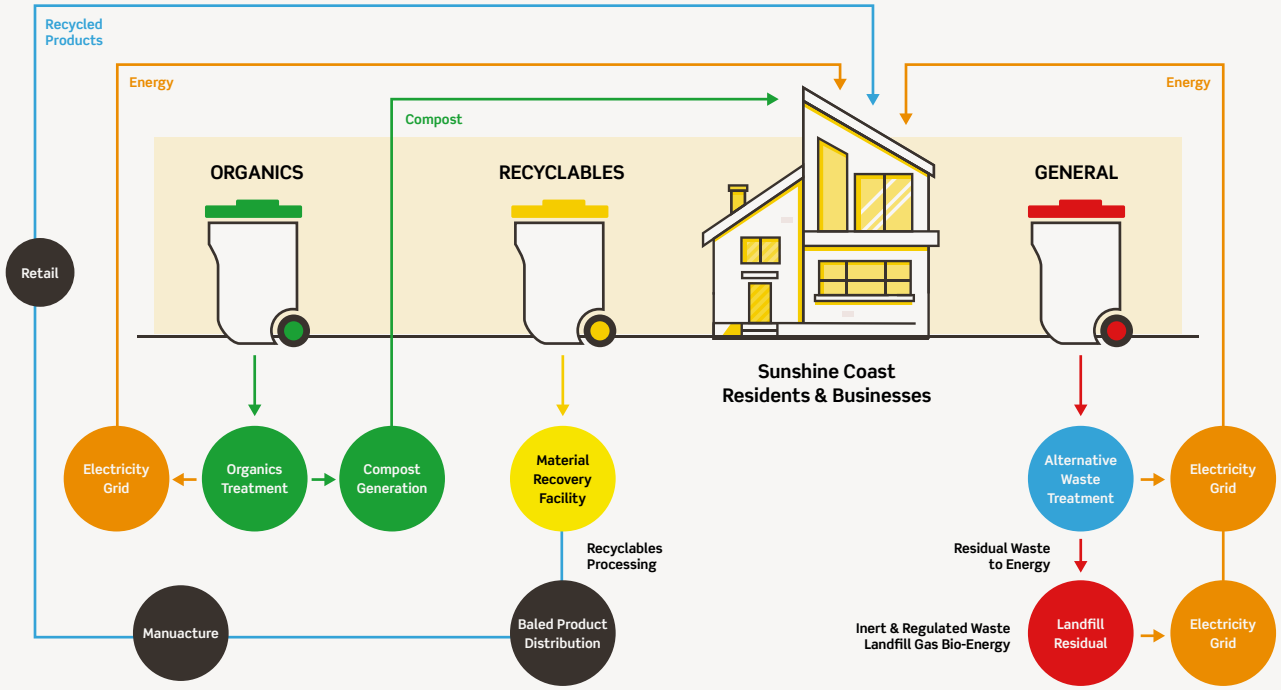
Council currently collects around 31,000 tonnes of comingled recyclable material each year from yellow lid kerbside recycling bins and around 22,000 tonnes of garden organics from lime-green lid kerbside bins.

- Whilst this demonstrates that most Sunshine Coast households are dedicated recyclers, characterisation audits undertaken to categorise the composition of material in domestic general waste bins, show a high percentage of recyclables that could be diverted from landfill. Based on the audit results, around 13,000 tonnes of recyclable material suitable for yellow lid recycling bins is being deposited in general waste bins each year.

The bin audits also indicate that half the material in the general waste bin is food organics or garden organics (FOGO), representing over 40,000 tonnes of valuable organic resources per annum that could be captured and converted into compost instead of going to landfill.

Organic waste when landfilled gradually decomposes over a period of years continually generating greenhouse gases that significantly contribute to Council's carbon footprint. Organic waste is a valuable material that when separately collected and recycled into compost and other organic by-products can help reduce pollution and improve overall quality of life.

Council undertook a significant community consultation exercise in March 2021, the 'Our Future Waste Survey'. The survey response indicates a very high level of community interest and engagement with waste related issues. There was overwhelming support (84%) identifying it as extremely important or very important for Council to divert organic waste away from landfill for processing into useful by-products and to reduce greenhouse gas emissions.



Sunshine Coast Circular Economy Projected Waste Management Process

Strategy Evolution - Overview of Previous Strategy

Under the 2015 - 2025 strategy, Sunshine Coast Council invested over $100 million developing new and improved resource recovery facilities, establishing innovative waste management contracts, increasing landfill capacity, investigating a range of alternative waste treatment initiatives and engaging with the community and other stakeholders.

Since the adoption of the previous strategy in 2015 Sunshine Coast Council has:

- Delivered Australia's first underground automated waste collection system in Maroochydore.
- Expanded Nambour landfill to create an additional 4.2 million cubic metres of airspace.
- Started the construction of a new hi-tech Material Recovery Facility to process kerbside recyclables.
- Expansion of the Buderim resource recovery centre to cater for increased customer numbers.
- Commissioned a landfill gas bio-energy plant at Caloundra landfill.
- Mobilised the next generation waste collection contract in July 2022.
- Expanded garden organics kerbside collection services to over 85,000 properties.
- Learned from the hugely popular 'Our Future Waste Survey' community consultation process in 2019.
- Implemented Site Based Management Plans for all closed landfills in the region.
- Collaborated with other SEQ Councils to develop the SEQ Waste Management Plan.

AWCS Public Place Bins - Maroochydore City Centre

Waste management program

Council provides essential waste management services to the Sunshine Coast community, while striving to achieve positive environmental, social, and economic outcomes in its day-to-day operations of collection, processing, recycling, reuse, and disposal of the regions waste.

A suite of contracts awarded through public tender processes provide waste facility operation and collection services. This ensures a transparent, cost effective and beneficial outcome for all residents and customers.

1.1 Solid waste collection

Council provides waste, recycling and garden organics collection services via a contract that commenced in July 2022 and expires in July 2030. The collection and service type arrangements are outlined in Table 1 (below).

Description	Services	Frequency
Domestic Waste	140L and 240L	Weekly
Domestic Recycling	240L and 360L	Fortnightly
Domestic Garden Organics	240L, 660L	Fortnightly
Multi-Unit Developments Waste	140L and 240L 1, 1.5, 2, 3, 4.5m^3 bulk bins 660L and 1100L low noise bins	Minimum weekly
Multi-Unit Developments Recycling	240L and 360L 660L and 1100L low noise bins	Minimum fortnightly
Multi-Unit Developments Garden Waste (Optional)	240L, 660L and 1100L low noise bins	Fortnightly
Commercial Waste	240L 1, 1.5, 2, 3m^3 bulk bins 660L and 1100L low noise bins 17, 19 and 23m^3 compactors	Minimum weekly
Commercial Garden Waste (Optional)	240L 660L and 1100L low noise bins	Minimum fortnightly
Public Place Bins	60L, 140L and 240L	Varied, daily to weekly
Maroochydore City Centre	Automated Waste Collection System (AWCS)	Varied

Table 1: Summary of solid waste collection arrangement.

Comingled Recyclables

Recyclables collected under the kerbside collection service are delivered to the Nambour Material Recovery Facility (MRF) which is operated under a recyclables processing contract.

> "A new hi-tech material recovery facility at the Nambour waste precinct will be commissioned in 2023"

Garden Organics

Councils garden organics collection service was expanded to over 85,000 properties in July 2022. Garden organics are delivered to Council's resource recovery centres for processing into mulch that is suitable for use in garden beds for soil enrichment, weed suppression and moisture retention.

> "This strategy aims to transition the garden organic collection service to a food organic / garden organic (FOGO) service by July 2025"

Producing compost using garden waste and food scraps collected through council's organic bin service will:

- Reduce greenhouse gas emissions from landfill.
- Reduce the impacts from leachate production in landfills.
- Allow Council to produce a high quality compost that could reduce the use of synthetic fertilisers needed in horticulture and agriculture; and
- Improve the structure, fertility and health of soil.
- Support further opportunities around energy from waste production.

General Waste (Residual Waste)

General waste collected under the kerbside collection service is currently disposed to landfill. Council is researching advanced waste treatment technology to determine alternative options for utilising residual waste to generate power. Council will continue to assess the viability of emerging technology opportunities as circumstances change and markets evolve during the term of this strategy.

Automated Waste Collection System (AWCS)

An underground automated waste collection system is operational in Maroochydore City Centre. Waste and recyclables from buildings and public bins in the new Maroochydore City Centre move by vacuum pressure at up to 70kmh through a 6.5km network of underground pipes to a control centre on the perimeter of the CBD. The collected material is then transferred to disposal or recycling facilities. The system is dynamic and can be monitored continuously and waste disposal managed on both a routine and as needs basis. The existing AWCS underground pipe network will be progressively extended into future stages as the city centre is developed.

1.2 Resource recovery centres and landfill operations

Sunshine Coast Council currently operates two putrescible landfills and eight resource recovery centres for the receipt of household waste, commercial and industrial waste, construction and demolition waste as well as recyclables.

This strategy includes actions and objectives aligned to the State Government Strategic Priorities with a focus on achieving landfill diversion targets established in the Queensland Resource Recovery Strategy (refer Table 4, Page 26.)

Sunshine Coast Council provides a range of resource recovery centres and disposal facilities to accept and process waste generated in the Sunshine Coast. Table 2 identifies each facility and the waste type it accepts. Information about proposed future capital works is also included.

Facility	Waste types accepted	Programmed Infrastructure
Caloundra Landfill and Resource Recovery Centre	Domestic and commercial. Construction waste. Contaminated soils. Regulated waste. Green waste. Recyclables. Household hazardous.	Internal roads reseal. Sth Batter leachate pump station upgrade. Market & staff amenities upgrade. Transfer Station roof rehab. Internal roads reseal program. HES Basin wetland/WQ treatment. Leachate system asset rehab. Hardstand rehab program. Mattress Recycling mechanical upgrade. Cell 9 leachate riser extension
Beerwah Resource Recovery Centre	Domestic waste. Green waste. Recyclables. Household hazardous.	Hardstand rehab program.
Witta Resource Recovery Centre	Domestic waste. Green waste. Recyclables. Household hazardous.	
Nambour Landfill and Transfer Station	Domestic and commercial. Construction waste. Contaminated soils. Regulated waste. Green waste. Recyclables. Household hazardous.	Landfill Expansion Cell 6. New weighbridges. Resource Recovery Area. Leachate system asset rehab. Cell 5 wall liner and leachate risers. North diversion drain upgrade. Leachate well LW5 reline. Future proposed. Internal roads reseal program. Leachate system asset rehab. Primary sort and transfer station.

Table 2: Current and proposed infrastructure

> This strategy sets an action for the construction of a new Resource Recovery Centre at the Nambour Waste Precinct.

Facility	Waste types accepted	Programmed Infrastructure
Nambour Resource Recovery Centre (MRF)	Domestic and commercial recyclables.	New Materials Recovery Facility
Buderim Resource Recovery Centre	Domestic waste. Green waste. Recyclables. Household hazardous.	Internal roads reseal. Hardstand rehab program. Compactor bin. Seal creek crossing. Internal roads reseal. Hardstand rehab program. Leachate system asset rehab.
Kenilworth Transfer Station	Domestic waste. Green waste. Recyclables.	
Mapleton Transfer Station	Domestic waste. Green waste. Recyclables.	Hardstand rehab program. Storage for market goods.
Yandina Transfer Station	Domestic waste. Recyclables.	
Maroochydore City Centre	General mixed waste. Recyclables.	Staged expansion of AWCS with city centre development. Transfer bin replacement.
Sustainability Park	N/A	Proposed land development.
Caloundra FOGO Facility	N/A	FOGO processing operation.

Table 3: Current and proposed infrastructure

The map shows that over 85% of the region's population resides within 20 minutes of a waste disposal facility. This information combined with predicted population growth guides the decision making process to determine options for future disposal site locations and necessary upgrades/ expansions of resource recovery centres and transfer stations.

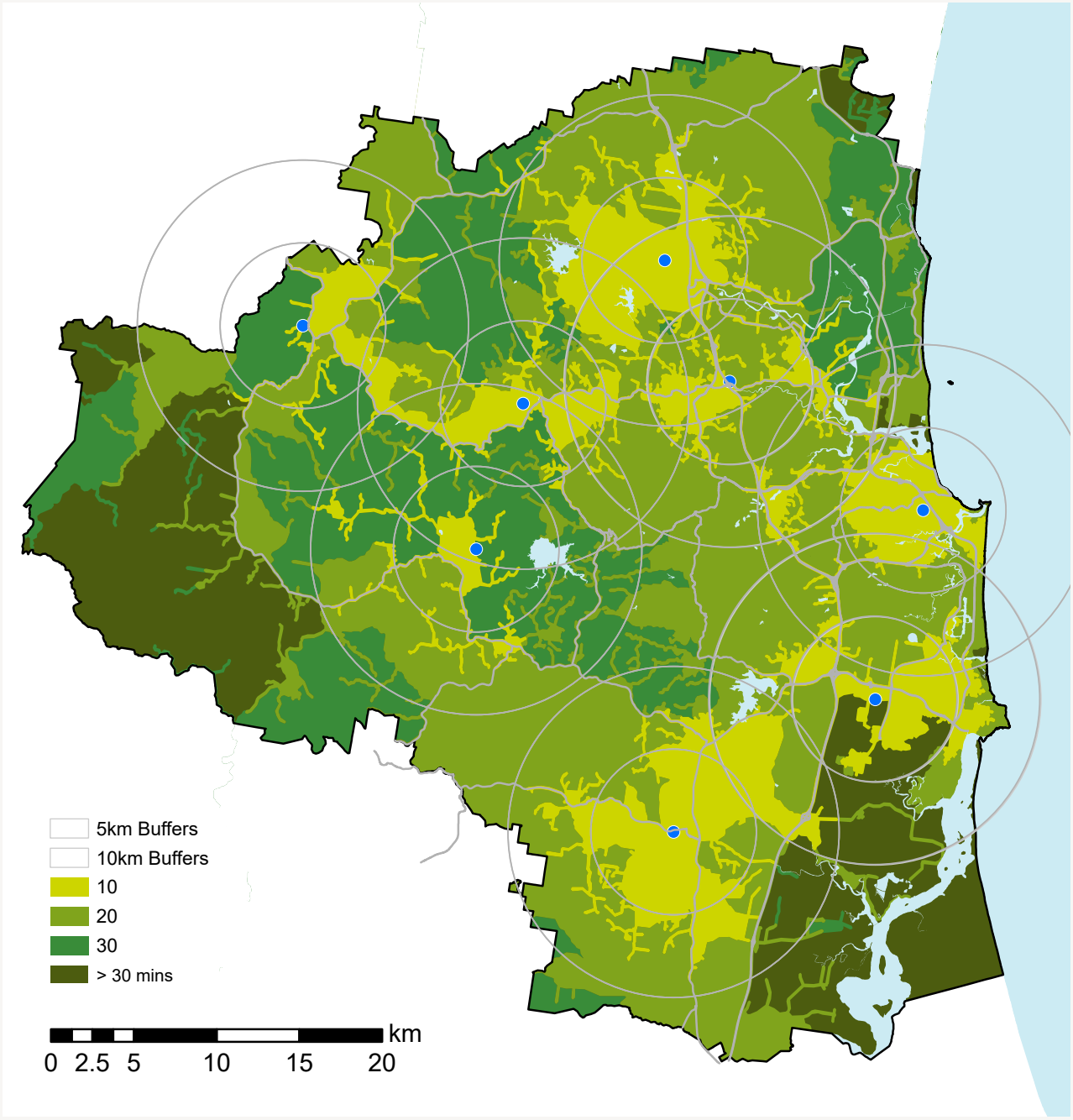


Figure 1 illustrates locations and drive time analysis of the eight disposal facilities currently located within the region (excluding the Nambour MRF, which is not open to the public).

What happens to recycled materials?

Garden Organics

Garden organics collected by Council collections or brought to Council Resource Recovery Facilities (RRC's) by the community go through a decontamination process to remove any contamination such as plastics, treated timbers, metal or non-organic objects. Once the materials have been pre-processed, they are mulched and screened to produce mulches suitable for re-use by Council and its constituents.

Metals and alloys

Metals and Alloys disposed at Council RRC's are screened into various alloy types where they are recovered and recycled by industry and turned back into useful everyday items.

Aggregates

Aggregates such as bricks, pavers and concrete are screened and crushed to various sizes to be used as secondary use in the construction and development sectors.

Kerbside recyclables

Kerbside collection bins are collected by Council where materials such as paper, cardboard, glass, hard plastics, aluminium and steel are recovered and recycled through a materials recycling facility (MRF). These materials are generally turned back into similar commodities such as bottles, cans and packaging materials.

> This strategy actions the improvement of recycling rates for Municipal Solid Waste to 55%, Commercial Industrial Waste to 65% and Construction and Demolition Waste to 85% by 2030.

1.3 Waste statistics

The quantities, types and sources of waste materials disposed of throughout the region are an important factor in determining the pathway to achieving future directions in waste and resource management. In 2021/22 the Sunshine Coast community delivered 282,574 tonnes of waste to Council's waste management facilities, of which 182,197 tonnes were landfilled.

These tonnages constitute kerbside collected and selfhauled municipal solid waste, commercial and industrial waste and construction and demolition waste.

A total diversion rate of 36% was achieved in the 2021/22 financial year (up from 31% in the 2013/14 financial year. Table 5 provides a breakdown of the waste streams received, recycled and landfilled at Council's facilities.

With a recycling and diversion rate of 36% in 2021/22, a significant improvement will be required to meet the QLD Resource Recovery Strategy average landfill diversion target of 65% for all waste streams by 2025.

The recycling performance for C&D waste is currently 70%. The C&D recycling and diversion target of 75% by 2025 will entail a 0.8% annual improvement over the period up to 2025.

Waste Stream	2025 Target	2030 Target
Municipal Solid Waste (MSW)	55% diversion	70%
Commercial Industrial Waste (C&I)	65% diversion	80%
Construction and Demolition Waste (C&D)	75% diversion	85%

Table 4: Queensland Waste Reduction Targets.

Waste Streams	Incoming Tonnes	Landfilled Tonnes	Recycled Tonnes	Diversion from Landfill Rate
Domestic Kerbside Waste	99,178	99,178		34%
Domestic Kerbside Recycling	25,132		25,132	
Domestic Kerbside Garden	13,216		13,216	
Domestic Self-Haul Waste	50,482	29,855	20,627	
Domestic Self-Haul Garden	7,862		7,862	
Total MSW	195,870	129,033	66,837	
Commercial Kerbside Waste	38,569	38,569		26%
Commercial Kerbside Recycling	4,091		4,091	
Commercial Self-Haul Waste	32,089	21,929	10,160	
Commercial Self-Haul Garden	7,036	9	7,027	
Total C&I	81,785	60,507	21,277	
Total C&D	32,159	8,054	24,105	75%
Overall	309,813	197,595	112,219	36%

Table 5: 21-2022 Sunshine Coast Council waste statistics.

1.4 Waste composition

Waste composition assessments are carried out on a regular basis, alternating between waste streams. The assessments are undertaken at different times of the year to ensure that the data represents a valid and accurate reflection of the Sunshine Coast seasonal variations.

The data (Figure 2) highlights the high proportion of organic material (garden and food organics) in general waste bins and also demonstrates the large proportion of other recyclable material in the bins such as metals, plastics, paper/cardboard and glass.

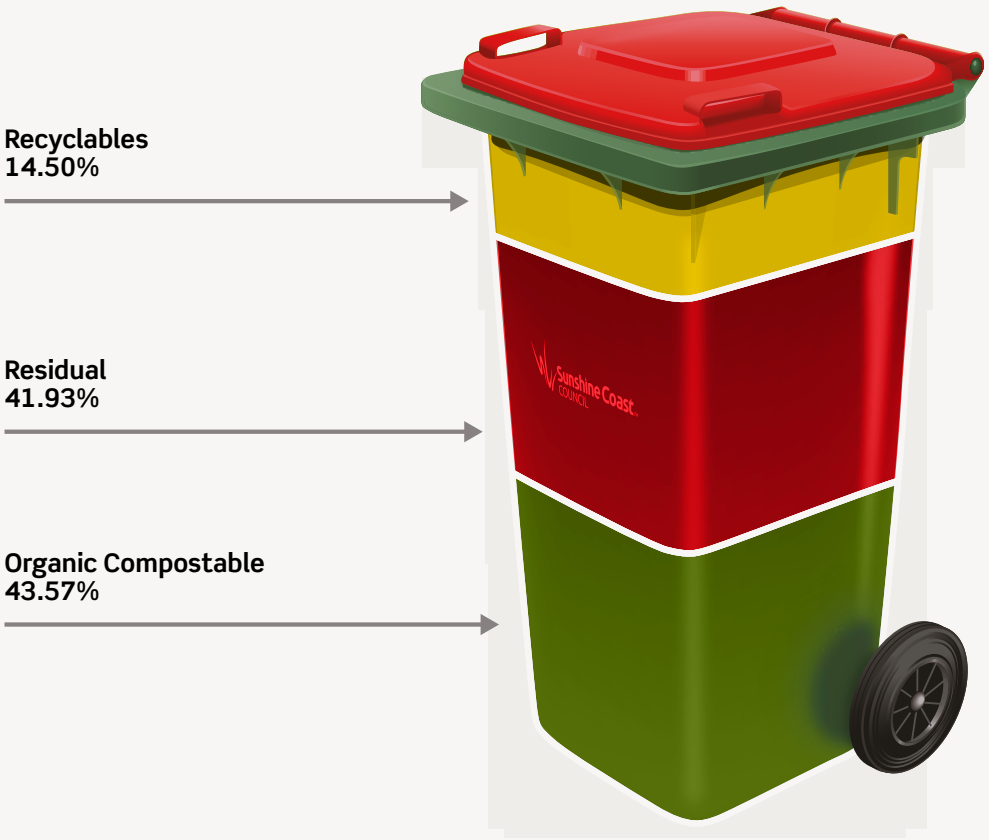


Figure 2. Sunshine Coast Council - Average General Waste Bin Composition

> This strategy aims to establish a food organic / garden organic (FOGO) processing facility in the region by 2025. By doing so, it will reduce greenhouse gas emissions from landfill

1.5 Waste generated by Council activities

The waste generated by Council's activities widely varies, as highlighted in table 6 below. Whenever and wherever possible Council branches undertake a range of measure to avoid, reduce, reuse and recycle waste.

Council branches / activities	Waste types				
	C&I Waste	C&D Waste	Garden Waste	Recyclables	Other
Council Offices	✓			✓	
Council Depots	✓		✓	✓	
Parks & Gardens			✓	✓	✓
Civil Works		✓	✓		
Environmental operations		✓			✓
Community Response			✓		✓
Pathways Maintenance		✓			

Table 6: Waste types generated by Council branches in carrying out their activities.

The Queensland Waste Reduction and Recycling Act 2011 stipulates that local governments must develop and implement a Waste Reduction and Recycling Plan that includes actions to improve the reduction and recycling of waste generated by Council in carrying out its activities.

An action has been established to measure internal waste generation and allow future performance to be measured against the previously established baseline data.

> This strategy aims to prolong landfill life and support the achievement of recycling rate targets

1.6 Landfill capacity

The space above ground level at landfill sites (known as airspace) is a key strategic driver for long-term planning of waste disposal assets. Council operates two active landfills for the disposal of putrescible and non-putrescible waste:

- Caloundra Landfill is located at Pierce Avenue; the landfill has an estimated remaining capacity of approximately 1.51 million cubic metres and is forecast to reach capacity in approximately 2030.
- Nambour Landfill is located at Cooney Road, Bli Bli and has a remaining capacity of approximately 4.3 million cubic metres with an approximate forecast closure of 2042.

A summary of the landfill airspace capacity current in July 2022 is provided in Table 7 (below).

Facility	Remaining airspace	Potential additional airspace	Closure year (estimated)
Caloundra Facility	1,485.000m3	Nil	2030
Nambour Facility - Current	523,000m3	Nil	2024
Nambour Facility - Future	Nil	4,220,000m^3 (excluding lining and capping volumes)	2045

Table 7: Remaining landfill airspace capacity

Due to the regions predicted population growth, an essential need for disposal infrastructure planning has been identified.

Options under investigation include:

- Bulk storage/bulk haul transfer station/s.
- Potential to increase the life of current landfills by diverting organics to an in-vessel processing facility.
- Construction of a new resource recovery centre and tip shop at Nambour.
- Re-shaping the way current facilities are utilised.
- Partnerships with neighbouring local governments for the development of regional facilities.
- Alternative waste treatment (AWT) of residual waste and other difficult to manage materials in conjunction with neighbouring councils and private sector partners as appropriate.

> This strategy will improve site operational methods to enable a 40% methane capture rate by 2025. This development is to support Council's target of zero net carbon emissions by 2041"

1.7 Landfill gas

Greenhouse gases are released from decomposing organic waste in landfills, particularly methane. Greenhouse emissions from our landfills account for approximately 72% of Council's total greenhouse gas emissions.

Landfill gas is captured so that the methane component can be treated to reduce its impact on the environment. Current gas capture rates are approximately 35%. Council's target of 40% by 2025 will be achieved through expansion of landfill gas capture systems, as cells are progressively filled and capped.

Council has landfill gas capture systems in place at three locations:

- Nambour Landfill.
- Caloundra Landfill.
- Buderim Closed Landfill.

The quantity and characteristics of gas generated at each site are continually monitored.

In October 2020, the Caloundra landfill gas capture system was expanded, and a landfill-biogas-to-energy facility installed. An 850KW engine was commissioned, capable of generating approximately 7,000MW hours of reliable, base-load renewable electricity each year.

The upgraded gas collection system and renewable energy facility will abate over 40,000 tonnes of CO2e emissions per annum. A similar biogas-to-energy facility is planned to be commissioned at Nambour landfill by 2024.

Aligned to Council's target of becoming a zero-net emissions organisation and low carbon community by 2041, short term waste-related greenhouse gas emission reduction will be improved by ongoing expansion of landfill gas capture and treatment systems, and the introduction of kerbside FOGO collections. Long term reduction is aligned to the SEQ Waste Management Plan objective to establish large scale, regional advanced waste treatment facilities that will process residual waste and generate power.

> This strategy aims to action landfill rehabilitation plans

1.8 Landfill remediation

Sunshine Coast Council actively manages several legacy landfills in the region including those itemised in Table 8 below. Rehabilitation of legacy landfills is delivered via an ongoing remediation program that includes long-term prioritised operational and capital works.

Facility	Address
Buderim	Syd Lingard Drive, Buderim
Coolum	Toolborough Road, Coolum
Kenilworth	Brooloo Lane, Kenilworth
Mapleton	Delicia Road, Mapleton
Woombye	Liadlaw Road, Woombye
Duck Holes Creek	Pelican Waters Boulivard, Caloundra West
Glass House	Mount Beerwah Road, Glass House Mountains
Witta	Cnr Cooke and Witta Road, Witta
Eumundi	Eumundi Noosa Road, Verridale
Yandina Landfill	Browns Creek Road, Yandina
Landsborough Landfill	Forestry Road, Landsborough
Conondale Landfill	Appalossa Drive, Conondale
Russell Barker	Pelican Waters Boulivard, Caloundra West
Reeseville	Reesville Road
Caloundra Pony Club	Pierce Avenue, Bells Creek

Table 8: Legacy landfill managed under environmental management program.

In accordance with the Australian Accounting Standards, Council is required to recognise a provision for any future costs associated with closing and restoring its landfills, where:

- It has a present obligation (legal or constructive) as a result of a past event
- It is probable that an outflow of resources embodying economic benefits will be required to settle the obligation
- A reliable estimate can be made of the amount of the obligation.

1.9 Education

Sunshine Coast Council is committed to encouraging positive community change, particularly regarding waste management attitudes, behaviours and practices.

The first step is a clearly defined plan that places emphasis on continued development in the areas of education and community engagement in waste minimisation and resource recovery.

Council's Waste Education Plan aims to:

- Raise awareness and understanding of waste and resource consumption issues and solutions.
- Provide the community with an interactive experience in waste management issues and activities.
- Facilitate on-ground behavioural change and improve practices towards resource recovery, recycling and waste minimisation through engagement, education and leadership.

The program is delivered throughout the region and directly impacts over 8,000 people per year including community groups, businesses, schools, local TAFE networks and early learning centres.

1.10 Litter and illegal dumping

Sunshine Coast Council is committed to improving the management of litter and illegal dumping by utilising a proactive and cost-effective approach. A range of corporate initiatives and plans address the ongoing issue of litter and illegal dumping in the Sunshine Coast local government area.

Litter and illegal dumping objectives include:

- Adopt zero tolerance to illegal dumping.
- Reduce the amount and incidence of littering and illegal dumping.
- Increase enforcement of litter and illegal dumping offences.
- Increase community awareness of littering and illegal dumping (why it's a problem and what to do to be part of the solution).
- Encourage community involvement in litter and rubbish dumping prevention.
- Adopt an advocacy role for Producer Responsibility and expansion of the Queensland Container Refund Scheme.

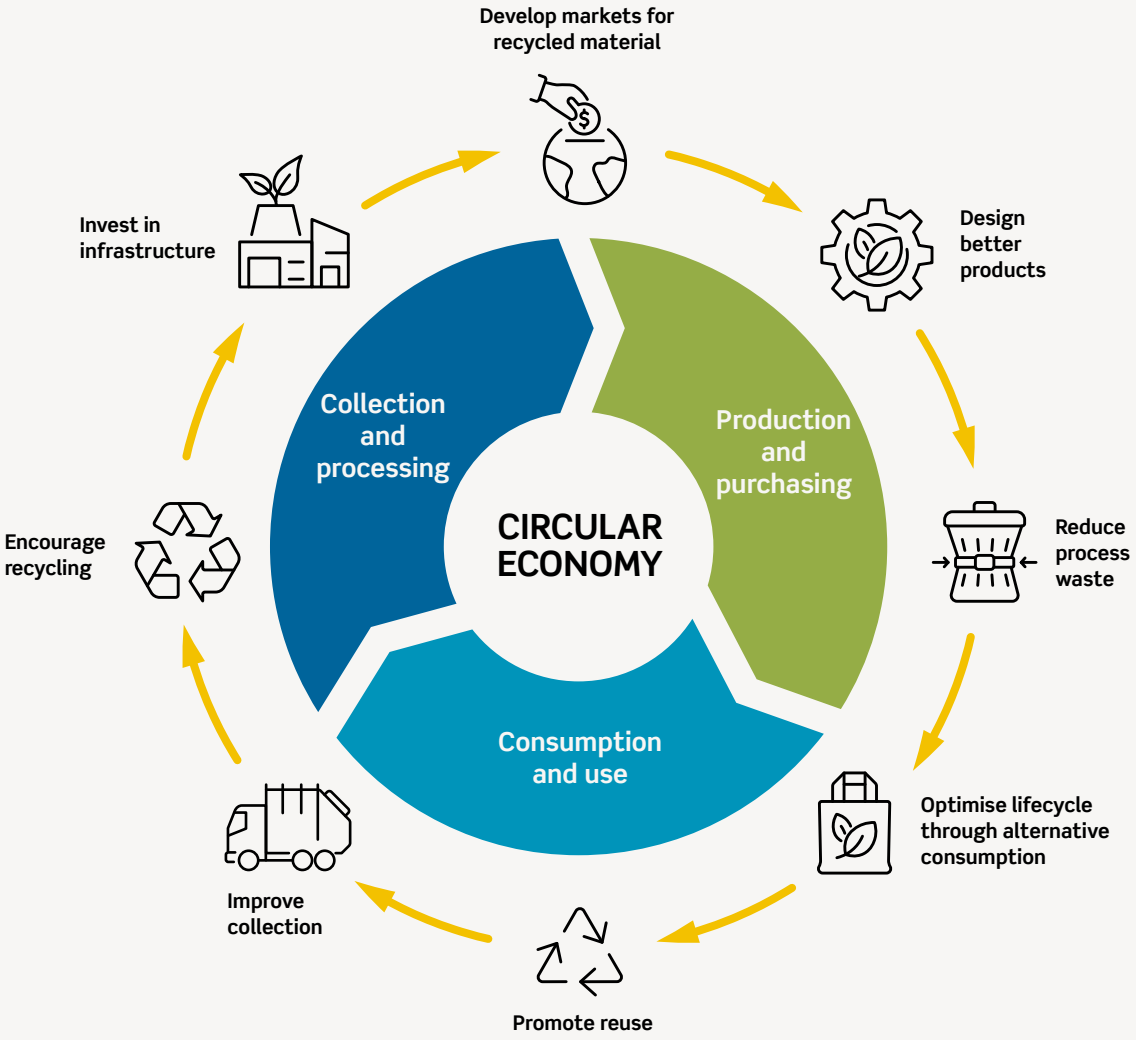
An Illegal Dumping Taskforce has been established by Council and Penalty infringement notices may be issued in accordance with the Waste Reduction and Recycling Act 2011 (WRRA 2011).

Illegal dumping and littering hotspots are monitored through a combination of surveillance techniques and highly visible regular inspection programs. By utilising ongoing enforcement and community education.

The Sunshine Coast Resource Recovery Strategy embodies the principles of a circular economy approach.

Action Plan

The Sunshine Coast Resource Recovery Strategy embodies the principles of a circular economy approach to how we will manage the regions waste by recognising the opportunities waste materials provide and the economic value they retain.



With approximately 64% of our kerbside waste currently sent to landfill, increased diversion to higher value outcomes is a critical step in reducing the waste footprint of the Sunshine Coast community.

Actions

Sunshine Coast Council's planned advancement of innovative, financially viable 21st century waste infrastructure for the future includes:

- Research and development including in processes to develop fuels or recover energy from wastes that cannot be reused or recycled as an alternative to landfill disposal.
- Alternative waste treatment processes and scenarios.
- Feasibility review of current and emerging alternate waste technology/treatment systems.
- Understanding the market's capacity to deliver commercially viable technology for the Sunshine Coast including maximising the diversion of recyclable material, organic waste and residual waste from landfill.
- Expansion of waste and recycling collection services to cover >95% of the region's premises.
- Adopting an advocacy role for Producer Responsibility in the region.
- Continue to work with, educate and engage our community to help change waste management behaviours.
- Continue to trial and where viable introduce initiatives to increase recycling rates, reduce organics disposal to landfill and increase landfill diversion.

As the greater medium and long term actions are investigated, business cases will be brought to Council for consideration as the economic impacts of capital investment into new infrastructure will have financial implications for the business and ratepayers.

Strategic Priorities

Strategic priorities and actions have been established based on Councillor feedback and to align with Commonwealth, State and SEQ Regional priorities.

The following tables outline actions to support the achievement of the strategic priorities. Action timelines of one, two and three are based on 1-3 years, 4-7 years and 8+ years respectively. Action costs of low, medium and high are valued at $0-100k, $101k-500k, and greater than $500k respectively.

Table 9: Strategic Priority 1 — Cost effective, efficient resource recovery operations including ease and proximity of services.

No.	Actions	Timeline Annual	Measure/Source
1.	Collaborate with SEQ Councils to identify opportunities for establishing and potentially sharing regional facilities.	1	Attend regional workgroup meetings (CoMSEQ) Maintain membership of LGAQ Waste.
2.	Review current and emerging waste treatment technologies and economic aspects of each process.	1	Documented evidence of review.
3.	Investigate opportunities for waste processing activities at Sustainability Park or alternative sites to support Council's Economic Development Strategy.	2	Potential markets, business initiatives and sites explored.
4.	Research grant processes and third-party interest for the implementation of alternative treatment technology applications.	3	Maintain currency in industry developments.
5.	Review future infrastructure needs to cater for population growth and Identify opportunities for bulk haul options and / or alternative waste technologies in collaboration with other SEQ Councils, public utility or private sector partners as relevant.	1	Business case for future waste disposal/ transfer infrastructure requirements.
6.	Provide efficient and reliable collection services meeting all relevant legislative requirements.	1	99% scheduled services performed on time.
7.	Construct a new resource recovery centre within the Nambour waste precinct.	2	RRC constructed and operational.

Table 10: Strategic Priority 2 — Education, behaviour change and advocacy.

No.	Actions	Timeline Annual	Measure/Source
1.	Provide timely and relevant information to customers about waste management services.	1	Information available on website and in print material.
2.	Continue to advocate for an improved product stewardship scheme for reduction in packaging materials.		Lobby industry, state and federal government.
3.	Maximise the safety and well-being of employees, contractors and volunteers.	1	On an annual basis no major incidents reported.
4.	Adopt an advocacy role for Producer Responsibility for difficult to manage waste streams such as solar panels and for expansion of the Container Refund Scheme.	1	Lobby industry, state and federal government.
5.	Implement and monitor Annual Education Plan.	1	Education Plan adopted, updated annually.

Table 11: Strategic Priority 3 — Transition to a sustainable circular economy approach to managing the regions waste including emissions reduction.

No.	Actions	Timeline Annual	Measure/Source
1.	Examine opportunities for offsetting and/or reducing carbon emissions in line with Council's target of carbon neutrality by 2041.	2	Procurement and capital program.
2.	Improve site operational methods to enable the capture of 40% of methane by 2025.	2	Percentage of methane captured measured annually.
3.	Perform annual waste characterisation surveys of kerbside or self-hauled waste.	1	Annual waste survey report.
4.	Investigate and seek to establish local markets for management of existing and emerging reusable / recyclable waste streams.	3	Industry liaison.
5.	Council adopts sustainable procurement policies in infrastructure/construction projects that support materials sourced from a regional circular economy.	2	Council's procurement to establish minimum standards for reusable materials in infrastructure projects.
6.	Support the implementation of Product Stewardship schemes at Council facilities (i.e. batteries, photovoltaic systems).	1	Implement as established by State/ Commonwealth government.
7.	Establish an accurate baseline data of the waste generated by Council's activities.	1	Collaboration between divisional Council operations.
8.	Establish a FOGO collection service and Processing Facility within the region by 2025.	2	FOGO processing facility constructed and operational.
9.	Research advanced waste treatment technology to determine alternative options for utlising residual waste to generate power.	1	Annual review.
10.	Plan for the rationalisation of landfill operations aligned to introduction of advanced waste treatment facilities.	3	Progressive assessment as systems evolve.

Table 12: Strategic Priority 4 — Build economic opportunity including infrastructure and fleet modernisation.

No.	Actions	Timeline Annual	Measure/Source
1.	Expand waste collection service area to encompass whole of region when service access and/or communal collection points can be established.	1	95% of residences and businesses serviced.
2.	Maintain a 10 year capital works plan to deliver new and improved resource recovery infrastructure.	1	Endorsed capital works plan in place, updated annually.
3.	Investigate fleet modernisation options as technology evolves including hydrogen fuel cell collection trucks and electric vehicles.	3	Annual review of emerging and evolving technology.
4.	Establish a hi-tech MRF and create new jobs at Nambour waste precinct.	1	New MRF operational and fully staffed.

Monitoring our progress

Monitoring and tracking our progress is a critical element of the regions waste strategy. The measuring of outcome indicators and supporting annual performance measures enable regular and meaningful reporting.

The following performance outcome indicators are aligned to the strategic direction of the regions waste strategy and support the key factors that influence waste management and resource recovery outcomes in the region. The waste recycling and reduction measures highlighted in our key measurables help support Councils goal to be Australia's most sustainable region.

Long-term Outcomes

The issue of waste and resource recovery sits within a broader context of overlapping challenges and opportunities for the region and aligns to multiple complimentary streams of work. Collectively this work seeks to achieve the following outcomes:

Outcome 1

- **Outcome:** Sunshine Coast operates as a circular economy.
- **Outcome indicator:** Waste is treated and managed as a resource.

Outcome 2

- **Outcome:** Elimination of waste to landfill.
- **Outcome indicator:** 85% diversion from landfill by 2041.

Outcome 3

- **Outcome:** Contribution to Sunshine Coast Council becoming a zero-net emissions organisation by 2041.
- **Outcome indicator:** Zero net emissions from waste generated by Council activities by 2041.

Outcome 4

- **Outcome:** Contribution to Sunshine Coast becoming a low carbon community by 2041.
- **Outcome indicator:** A reduction in organic waste volumes landfilled annually.

Key Measurables

The progress of this strategy will be monitored through the following performance measures:

Theme	Measure
Illegal dumping and littering	Reduction in the amount of waste that goes to landfill that is littered or illegally dumped proportional to population.
Greenhouse gas emissions	Increase landfill gas capture in line with landfill developments and future cells.
Power generation	Kilowatt hours of power generated from Council's landfill Renewable Energy Facility through increased gas capture.
	Tonnes of greenhouse gases flared or combusted for power generation.
Waste management	Maintain or achieve high levels of community satisfaction with waste management services
Prolong landfill life	Percentage landfill capacity remaining

Glossary

Alternative waste technology (AWT)

Waste processing infrastructure using mechanical, biological and/or thermal processes as an alternative to, or pre-treatment prior to landfill disposal.

Circular Economy

A circular economy is based on the principles of designing out waste and pollution, keeping products and materials in use, and regenerating natural systems.

Construction and demolition waste (C&D)

Unwanted materials produced directly or incidentally by building or demolition activities.

Commercial and industrial waste (C&I)

Waste, other than green waste, recyclable waste, interceptor waste or waste discharged to a sewer, produced as a result of the ordinary use or occupation of commercial premises.

Polluter pays principle

The principle that all costs associated with the management of waste should be borne by the persons who generated the waste.

Putrescible landfill

Landfills that are licensed for the disposal of waste that decomposes, e.g., food waste.

Resource recovery. The selective recovery of waste materials for a specific next use, such as recycling, composting or energy generation.

Landfill airspace

Amount of space directly related to the capacity and usable life of the landfill.

Landfill gas capture

Collection of methane gas that is formed during the breakdown of decomposing waste.

Leachate

Water that has percolated through the landfill itself and contains contaminating substances.

Legacy landfills

Former landfill sites for which Council still has an environmental responsibility.

Materials recovery facility (MRF)

Facility for the sorting of mixed recyclable materials primarily from yellow lidded bins into separate material streams.

Municipal solid waste (MSW) — domestic waste

Waste from households, usually either collected at the kerbside or delivered by residents to transfer stations/ landfill sites.

Site based management plans (SBMP)

Identifies the potential environmental harm that may occur from routine operations and establishes, and documents measures to avoid this harm as far as practicable.

Recycle markets

Facility that houses and sells quality used, recycled and second hand products that have been salvaged before going to landfill.

Transfer station

A building or processing site for the temporary deposition of waste.

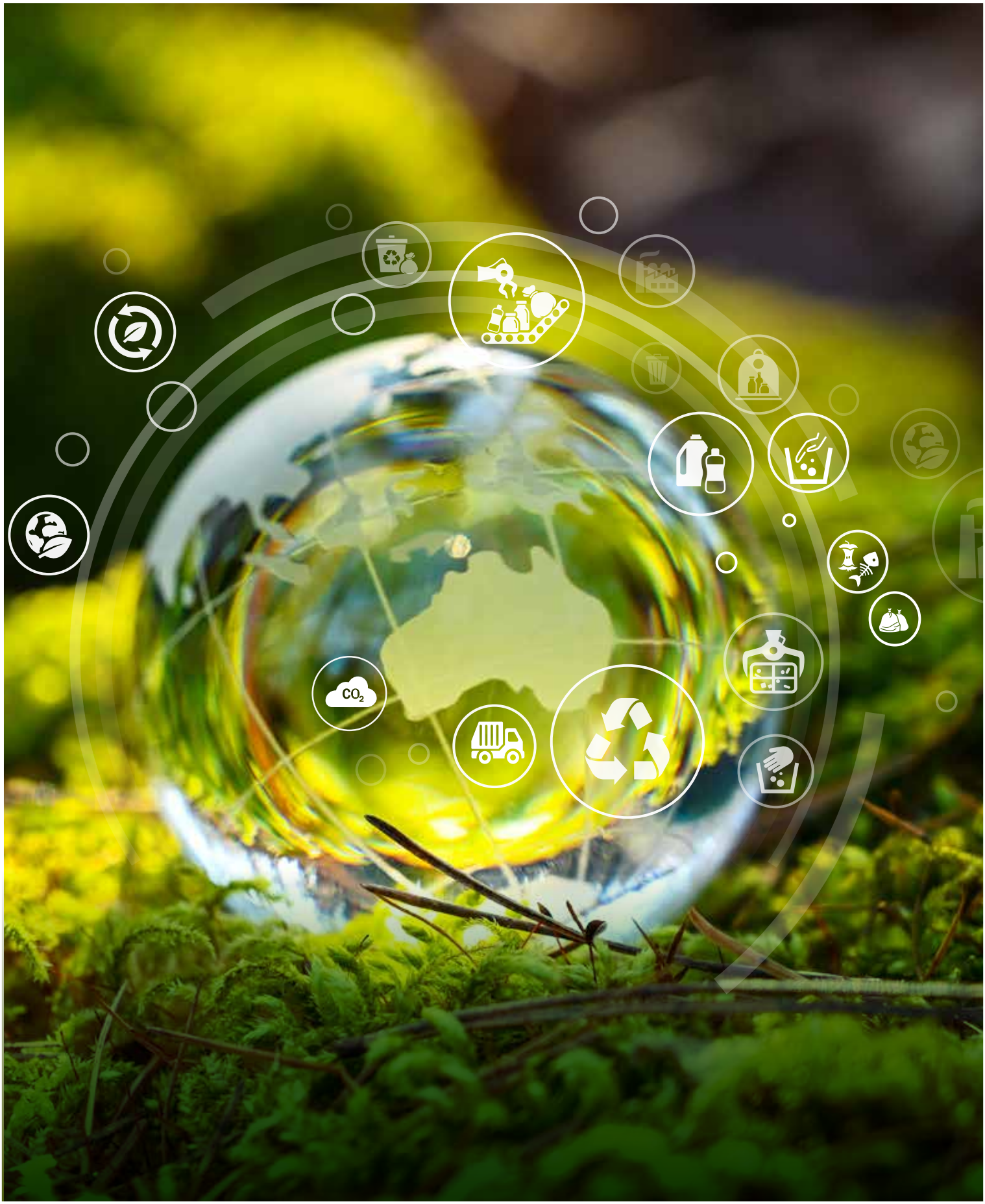
Waste and resource management hierarchy

The waste hierarchy is the preferred order in which waste and resource management options should be considered with avoidance and reduction the most preferable, followed by reuse and recycling and disposal the least preferable option for managing waste.

Appendix 1 - Sunshine Coast - Existing and projected population (ERP)

Locality name	Population in single dwellings					Pop
	2021	2026	2031	2036	2041	
Beerwah	6,619	6,778	11,966	18,385	24,801	
Belli Park - Coolabine - Kureelpa	2,244	2,254	2,265	2,276	2,286	
Bli Bli - Rosemount - Forest Glen	12,491	12,730	13,200	13,661	14,113	
Buderim - Kuluin	26,486	27,495	28,548	29,604	30,663	
Caloundra - Moffat Beach	4,325	4,326	4,396	4,465	4,533	
Coolum Beach - Mount Coolum	11,804	12,191	12,595	13,003	13,417	
Currimundi - Aroona - Dicky Beach	12,333	12,467	12,625	12,779	12,930	
Eumundi - Bridges	4,154	4,214	4,310	4,406	4,500	
Glass House Mountains - Beerburrum - Bribie Island North	5,913	6,046	6,180	6,314	6,448	
Golden Beach	5,138	5,523	5,809	6,101	6,398	
Ilkley - Eudlo - Glenview	4,468	4,559	4,634	4,712	4,791	
Landsborough - Mount Mellum	4,624	5,253	5,897	6,566	7,261	
Caloundra South - Little Mountain - Meridan Plains	29,081	38,078	48,249	58,461	68,112	
Maleny - Witta	5,099	5,283	5,467	5,652	5,836	
Mapleton - Flaxton - Obi Obi	2,921	2,976	3,032	3,087	3,142	
Marcoola - Twin Waters	7,440	8,025	8,623	9,205	9,770	
Maroochydore	8,205	9,483	8,539	8,734	8,927	
Mooloolaba - Alexandra Headland	5,786	5,674	5,769	5,863	5,957	
Mooloolah Valley - Balmoral Ridge - Bald Knob	4,378	4,696	5,017	5,351	5,697	
Mountain Creek	9,829	10,099	10,207	10,314	10,421	
Nambour - Image Flat - Dulong	15,512	17,238	19,054	20,884	22,729	
Palmwoods - Chevallum - Montville - Hunchy	7,713	8,053	8,358	8,664	8,970	
Peachester - Crohamhurst - Booroobin - Wootha	1,903	1,900	1,910	1,919	1,928	
Pelican Waters	4,870	5,347	5,738	6,142	6,559	
Peregian Springs	8,735	8,997	9,220	9,442	9,663	
Kenilworth - Reesville - Conondale	2,593	2,604	2,616	2,627	2,638	
Sippy Downs - Palmview	10,975	15,879	20,245	28,341	28,731	
Weyba Downs - Verrierdale - Doonan (part)	4,167	4,227	4,293	4,359	4,426	
Woombye	3,177	3,272	3,385	3,498	3,613	
Wurtulla - Buddina	23,001	24,188	26,774	29,378	31,992	
Yandina - Yandina Creek - Kulangoor	7,208	7,324	7,522	7,717	7,909	
Total Population	263,191	287,179	316,441	351,909	379,162	

ulation in multiple dwellings					Total population				
2021	2026	2031	2036	2041	2021	2026	2031	2036	2041
595	1,222	2,085	3,023	4,021	7,214	8,000	14,051	21,408	28,822
0	0	0	0	0	2,244	2,254	2,265	2,276	2,286
2,888	2,809	2,843	2,874	2,903	15,378	15,539	16,043	16,535	17,016
7,131	7,944	8,768	9,660	10,627	33,617	35,439	37,315	39,264	41,290
5,810	7,906	9,878	11,910	14,003	10,136	12,232	14,274	16,375	18,536
3,997	4,693	5,438	6,234	7,081	15,801	16,884	18,032	19,237	20,498
2,238	3,021	3,787	4,561	5,341	14,570	15,488	16,413	17,340	18,271
20	54	87	119	150	4,174	4,267	4,397	4,525	4,650
244	290	335	381	426	6,157	6,335	6,515	6,694	6,874
1,422	1,705	1,945	2,196	2,461	6,560	7,229	7,754	8,297	8,858
60	67	74	82	89	4,528	4,626	4,709	4,794	4,880
426	590	781	987	1,208	5,050	5,843	6,678	7,553	8,469
5,548	6,004	6,506	7,009	7,494	34,629	44,082	54,755	65,470	75,606
475	588	701	814	928	5,574	5,871	6,169	6,466	6,764
126	131	135	139	144	3,047	3,107	3,167	3,226	3,286
3,183	3,527	3,759	3,997	4,239	10,624	11,552	12,382	13,201	14,009
10,638	17,615	27,673	38,363	49,142	18,843	27,098	36,212	47,097	58,070
6,824	7,944	9,082	10,221	11,360	12,610	13,618	14,851	16,085	17,317
79	128	184	245	310	4,457	4,824	5,202	5,596	6,007
2,306	2,361	2,386	2,412	2,437	12,135	12,460	12,593	12,726	12,859
3,105	3,626	4,268	4,944	5,653	18,618	20,864	23,322	25,828	28,383
475	504	559	611	663	8,188	8,557	8,917	9,276	9,633
0	5	11	16	22	1,903	1,905	1,920	1,935	1,950
548	772	987	1,216	1,458	5,418	6,119	6,725	7,358	8,017
1,165	1,310	1,419	1,524	1,626	9,900	10,307	10,639	10,966	11,289
49	65	80	96	111	2,642	2,669	2,696	2,722	2,749
3,038	3,446	4,026	4,685	5,018	14,013	19,326	24,270	33,026	33,749
0	0	0	0	0	4,167	4,227	4,293	4,359	4,426
411	435	472	510	551	3,589	3,707	3,856	4,009	4,163
4,221	7,792	11,292	14,743	18,146	27,222	31,980	38,066	44,122	50,138
719	728	779	827	872	7,927	8,051	8,300	8,543	8,781
67,744	87,281	110,339	134,400	158,486	330,935	374,460	426,781	486,309	537,648



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