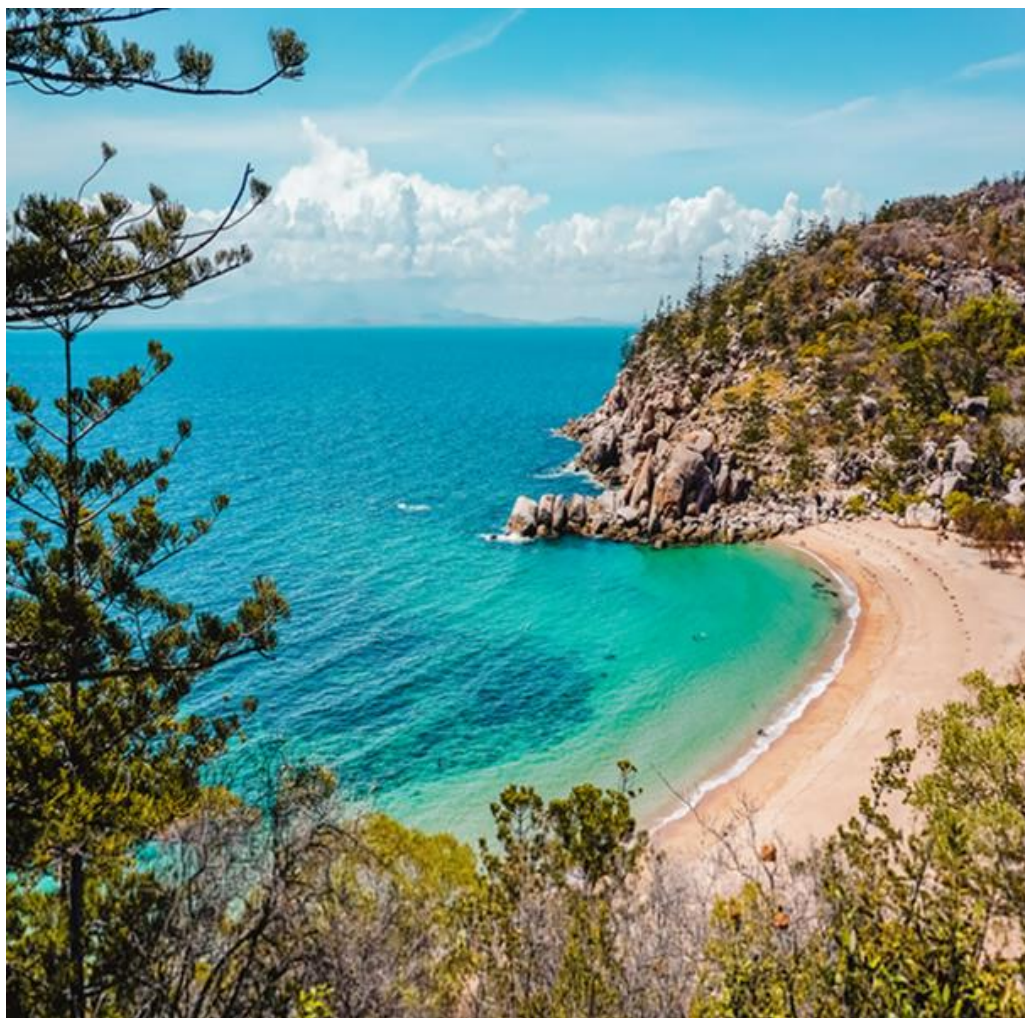


# Towards Zero Waste Strategy Magnetic Island (Yunbenun) 2025-2030



Towards Net Zero Community Action Climate Project

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## SETTING THE SCENE

This *Towards Zero Waste Magnetic Island Waste Strategy* was funded by the Great Barrier Reef Foundation (GBRF) Community Climate Action Grant secured by Magnetic Island Community Development Association (MICDA) on behalf of the community, supported by Townsville City Council and developed by APC Waste Consultants.

## WHY IS WASTE A PROBLEM

Waste is produced by every person, every day. Most of the things we buy and consume generate some form of waste. It costs money when we throw things away and scientific evidence shows improper waste management does impact human health and the environment.

The Great Barrier Reef is one of the richest and most complex natural ecosystems on the planet, but climate change is its biggest threat. There is a clear and urgent imperative to reduce greenhouse gas (GHG) emissions. When organic waste - food, garden waste, timber, textiles, nappies, paper and cardboard break down in landfill they create methane, a greenhouse gas. Over a 100-year period, methane is 28 times more powerful than carbon dioxide at warming the earth and a contributor to climate change. Addressing this issue alone helps preserve, remediate, restore, and enhance Magnetic Island's sustainable future and its World Heritage Values and those of the World Heritage listed Great Barrier Reef.

As a society, we need to consider what we buy, how we use it, and when and how we discard items, we no longer want or need. We must transition from where products are used and thrown out to a circular economy mindset, where we keep resources in use for as long as possible as this saves raw materials, energy, water, greenhouse gases and costs borne by the entire community to manage waste at end of life.

The waste hierarchy is an internationally accepted guide for prioritising waste management practices. It sets out the most-to-least-preferred methods, as depicted in the diagram below. We must take actions to avoid, reduce, reuse, recycle, recover, treat and then, and only then, dispose.



Magnetic Islands *Towards Zero Waste Strategy 2025-2030* builds on the achievements, systems and services already in place. This Strategy aims to support our community to change the way we think about waste so everyone in the community is empowered to play their part and contribute to solutions.

## WHAT DO WE CURRENTLY DO?

For many years Magnetic Island had a landfill site on the island, which was capped and closed over a decade ago. As a result, the operating budget for waste increased substantially as all general waste and recycling has to be freighted to the mainland. The 2026 budget excluding collection, litter, garden waste processing & transfer station operation is approximately \$1.26 million.

Council also operates a modern waste transfer station, featuring a resale shop to encourage reuse, and other on-site options for separation and recycling of 15 materials, including:

- Garden Waste – processed on island
- Scrap metals and whitegoods (which are degassed prior to consolidation)
- Paper and cardboard
- Recyclable containers – plastics, glass, aluminium and steel
- Batteries – used lead acid car and household
- Fluorescent tubes and bulbs
- E waste – computer and TVs
- Tyres
- Used motor oil
- Solar panels
- Fire extinguishers
- Gas bottles
- Paint
- Marine flares
- Mattresses

Townsville City Council currently provides kerbside collection service for general waste and comingled recycling - paper, cardboard, glass, plastics, aluminium and steel containers. The Containers for Change program collects used beverage containers eligible for a 10-cent refund. Our food waste recycling journey has begun, with a Bio-Regen trial to convert food waste into a product called XLR8® Bio, a liquid soil activator that feeds soil micro-organisms to enhance soil health. To date over 3,000 litres of food waste has been processed through the pilot plant at Horseshoe Bay.

## WHERE ARE WE NOW?

The Magnetic Island community generated 5,750 tonnes of waste in 2023-24. Of this, 1,677 tonnes was landfilled, and 4,070 tonnes was separated for reuse and recycling, so the current waste diversion rate is 71%.

Waste generation 2023-2024	
Waste stream	Tonnes
Garden waste	3,195
Recycling	875
Landfill	1,677
<b>Totals</b>	<b>5,747</b>

Containers for Change currently collects about 1.5 million containers of the estimated 4 million containers consumed each year. This is less than a third of all containers on the island which means we are **throwing away \$250,000 a year** in unredeemed containers.

## WHAT CAN WE DO?

### We can recycle better

Households and hospitality venues general waste bins contain 13% recyclables that should be in the recycling bin! Households and hospitality venues are putting a range of items into the recycling bin that don't belong. This includes bagged materials, loose and packaged food, garden waste, soft plastics, plastics that are not containers, and textiles.

- Households are putting 10% rubbish in the recycling bins.
- Hospitality venues are putting 15% food in the recycling bin.

## We need to Get It Sorted!

A waste audit of 200 homes showed us what is in our bins.



### Households – can reduce their general waste bins by 68%.

Based on what we are throwing in our general waste bin if we are separating all recyclables and had a food and garden waste service, we could reduce our bins by 68% by weight.

#### Houses = 68% reduction



### Commercial hospitality venues

A waste audit of 12 hospitality venues showed us what is in our bins





There are 63 commercial premises on the Island. The amount and type of waste they generate differ. This analysis shows the results for commercial hospitality and accommodation premises only which if all recycling and food was separated could reduce their general waste bin weights by 68 – 72%.

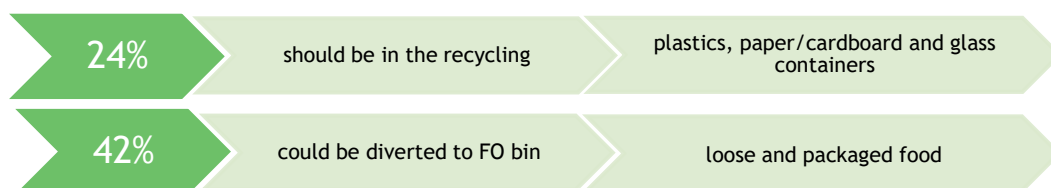
**Hospitality venues** - Hospitality venues could reduce waste to landfill by 72%.

#### Commercial hospitality = 72% reduction



**Commercial accommodation** - Commercial accommodation could reduce waste to landfill by 68%.

#### Commercial accommodation = 68% reduction



**Reduce waste, recycle more ... its vital.**

## WHERE DO WE WANT TO BE?

The Queensland Government has set 3 key waste targets by 2030 which we need to adopt:

- Divert 80% from landfill
- Recycle 65% of all waste
- Reduce household waste by 15%

## WHAT DO WE NEED TO DO TO GET THERE?

To meet the 80% waste diversion target by 2030 will take a concerted effort from the entire community as we need to recover an additional 500 tonnes of waste each year based on the current waste generation. We know not every household or business will recycle every item or recover all garden and food waste, so we have made assumptions based on the experience of other communities.

### How and where do we get 500 tonnes per annum (pa)

Waste Source	Recovery target by material	Extra tonnes pa	Total tonnes pa
Households	90% garden waste	350	442
	50% food waste	55	
	50% recyclables	37.5	
Hospitality venues	65% of food waste	30	37
	60% recyclables	7	
Accommodation	90% garden waste	8	24
	65% food waste	9	
	60% recyclables	7	
<b>Total</b>		<b>503</b>	<b>503</b>

We need a four-stream waste system:

1. Compostables – food and garden waste
2. Recyclables – glass, aluminium, steel, plastic bottles and containers, cardboard and paper
3. CRS material – used eligible beverage containers
4. Residual waste – anything else

### It's as easy as 1,2,3

#### 1. Get it sorted

- We need to separate all paper, cardboard and containers to our recycling bins = 51 tonnes
- We must stop putting rubbish in our recycling bins.

#### 2. Separate our food and garden waste

We need a kerbside organics service to collect and process our organic waste on the island.

- Household bins - 37% garden organics + 19% food waste = 46% or 405 tonnes
- Hospitality bins - 45% loose food waste + 15% packaged food = 60% or 30 tonnes
- Accommodation bins - 25% loose food waste + 17% packaged food waste = 42% or 9 tonnes

#### 3. Return our 10 cent containers

- We estimate around 50% or around 2 million containers end up in landfill rather than any recycling or CRS bins resulting in \$200,000 in lost revenue.

## HOW DO WE DO IT?

We need to take more responsibility for the waste we produce and take more control of how that waste is managed. By having a co-ordinated plan we can reduce our over consumption, refuse single use items, reuse, recycle, repair and return more. The community have set their vision.

### Vision

*Magnetic Island to become a global leader in sustainability and a Towards Zero Waste community – protecting our precious Great Barrier Reef and natural environment for generations to come.*

### Mission - Towards Zero Waste

### Targets by 2030

- Divert 80% of all waste from landfill
- Recycle 65% of waste
- Recover 80% of all Containers for Change containers
- Reduce greenhouse gas generation by 35%
- Reduce household waste by 15%

### Goals

1. Reduce waste to landfill
2. Improve organics recovery
3. Implement new waste management practices
4. Promote circular economy
5. Drive community and visitor behaviour change

We currently generate 2,683 t CO<sub>2</sub>e from disposing of organics in landfill. By implementing the combined actions in the Strategy, we can reduce 960 t CO<sub>2</sub>e per annum.

### Key actions

Action area	Key actions	What it will do
<b>Collections</b>	Introduce a new kerbside collection service for garden organics to all households then extend the service to include food waste from households and the commercial sector.	This is the single biggest impact action as it has the potential to divert 452 tonnes from landfill.
<b>Infrastructure</b>	Expand the Bio-Regen to process commercial food waste, establish a composting facility for garden and food waste and investigate a glass processing plant for reuse on the island.	Keep these large volumes and costly materials to freight on the island where they can be recovered, repurposed, valued added and reused.
<b>Engagement</b>	Research, develop, and implement behaviour change campaigns that effectively engage both the local community and tourists. Employ a Towards Zero Waste Coordinator to drive the Strategy implementation	Ensure that the community and visitors are engaged and motivated to align behaviours with the waste hierarchy.
<b>Regulation</b>	Introduce a by-law to regulate the use of single-use items and support zero-waste events.	This supports waste minimisation and reduces waste generation of single use items.
<b>Data</b>	Council to report bi-annually to the community on the island's waste performance to ensure transparency, accountability, and ongoing monitoring.	Consistent, reportable data helps the community track progress and to inform future activities, actions and plans.
<b>Leadership</b>	ZWMI with council representation to lead implementation of this strategy.	Build open, honest communication between council and the community to share the implementation.



### ACTION PLAN AND TIMELINE

This Action Plan aims to set out clear, practical initiatives for collective action to reduce waste arisings and address the issues and opportunities identified in this strategy. There are 61 key actions that will lead us on our *Towards Zero Waste* journey. This table links actions to the Waste Hierarchy, identifies who will lead each action and the anticipated timeline for each action. Many of the actions can only be taken if programs are funded including the employment of a Zero Waste Co-ordinator to oversee and drive implementation of these recommendations. Zero Waste Magnetic Island (ZWMI) and Marine Action Magnetic Island (MAMI) are working groups of MICDA.

**Legend: Townsville City Council (TCC), Magnetic Island Community Development Association (MICDA), Zero Waste Magnetic Island (ZWMI), Marine Action Magnetic Island, (MAMI), Containers for Change (COEX), Townsville Enterprise limited (TEL)**

WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Avoid	<b>Single use items</b> 1. Adopt and implement by-law and <i>Single Use Packaging and Materials Policy</i> to ban single use items. 2. Encourage / incentivise single use alternative reusable merchandise - water bottles, keep cups, cutlery, food containers.	TCC MICDA/ ZWMI	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓
	<b>Zero waste events</b> 3. Adopt and implement a <i>Zero Waste Events Policy</i> for all events held on Council land on Magnetic Island. 4. Promote the <i>Environmental and Packaging Guidelines for Public Events</i> to assist event organisers. 5. Investigate grants to purchase a mobile wash and hydration station with reusable food ware to be located on the island and available for hire at minimal cost to non-for- profit groups or engage a contracted service provider.	TCC  TCC/ ZWMI  MICDA	✓  ✓✓  ✓	✓  ✓✓  ✓	✓  ✓✓  ✓	✓  ✓✓  ✓	✓  ✓✓  ✓
	<b>Plastic shopping bags</b> 6. That advocacy efforts be directed to local, regional and state offices of IGA and Foodworks to remove all plastic shopping bags from island stores and replace with paper or reusable options to reduce the risks of marine litter.	MICDA/ ZWMI	✓	✓			
Reduce	<b>Greenhouse gas</b> 7. Investigate purchase of an electric garbage truck to service Magnetic Island	TCC		✓			

WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Reduce	8. Investigate installing solar panels on the roof of the TS with optional battery storage to charge the electric collection vehicle	TCC		✓			
	<b>Packaging</b> 9. Investigate options to establish an automated refill station and bulk food outlet.	MICDA/ ZWMI	✓	✓	✓	✓	✓
	<b>Stormwater</b> 10. Install and maintain litter booms or traps to reduce litter and debris entering the Great Barrier Reef and Horseshoe Bay Lagoon waterways.	TCC		✓	✓	✓	✓
	<b>Litter</b> 11. Ensure litter bins are installed at all litter hotspots, including high-usage bus stops, jetties, and boat ramps.	TCC/MICDA/ ZWMI	✓✓				
	12. Review current placement of litter bins at Geoffry Bay, Nelly Bay and Picnic Bay near the Surf Life Saving Club and provide additional if need identified.	TCC/MICDA/ ZWMI	✓✓				
	13. Undertake beach clean-ups on remote bays of the island where marine debris wash up	MICDA/ ZWMI	✓	✓	✓	✓	✓
	14. Install tackle boxes at jetties and boat ramps with information signage to encourage responsible disposal of fishing lines and tackle.	ZWMI/ MAMI	✓	✓	✓	✓	✓
Reuse	<b>Garden waste service</b> 15. Council introduces a kerbside garden organics service on a fortnightly basis with an option for residents to upsize to a 360L bin on request at no extra charge.	TCC		✓	✓		
	16. Develop a garden planting guide to assist residents identify preferred plantings to reduce garden waste generation.	TCC/ MICDA		✓✓			
	<b>Household food and garden organics, commercial food only collection and organics processing</b> 17. Undertake a cost-benefit analysis for both households and commercial premises considering the most appropriate collection model and preferred processing technology or go to market and assess tendered responses for processing.	TCC		✓			
	18. Introduce and encourage utilisation of a dedicated food organics collection service for hospitality and accommodation businesses.	TCC			✓	✓	✓

WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Reuse	19. Introduce and encourage utilisation of a dedicated food and garden organics (FOGO) or food organics (FO) only collection service for households.	TCC			✓	✓	✓
	20. Continue the Bio-Regen project and reassess after FOGO service and commercial scale composting facility is commissioned food waste and reassess with TCC support.	TCC/MICDA	✓	✓	✓	✓	✓
	<b>Community garden</b> 21. Establish community gardens as demonstration sites and hubs for community training and outreach activities with TCC support.	TCC/MICDA		✓	✓	✓	✓
	<b>Glass</b> 22. Undertake a Glass Recycling Feasibility Study to investigate options to process and reuse glass on the island.	TCC	✓				
	<b>Textiles</b> 23. Participate in annual “Give a Sheet Day” promotion for old linen recycling 24. Investigate options for poor-quality, unsaleable textiles to be reused / recycled.	TCC/MICDA ZWMI TCC	✓✓	✓✓	✓✓	✓✓	✓✓
	<b>Reusables rebate</b> 25. Maintain the budget allocation to encourage the use of reusable products such as cloth nappies and divert from landfill	TCC	✓	✓	✓	✓	✓
	<b>Share Library</b> 26. Investigate funding options to establish a share library for tools, equipment, and toys to be operated by a non-profit or social enterprise to promote reuse.	MICDA		✓	✓		
	<b>Solar panels</b> 27. That TCC provide a testing service to encourage panel reuse and resale at tip shop.	TCC	✓				
	<b>Tip shop</b> 28. Provide an awning to the tip shop hard stand area for weatherproofing of items stored outside.	TCC		✓			
	<b>Households</b> 29. Ensure standard bin colours are used throughout the island and replace as necessary	TCC	✓				

WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Recycle	<b>Commercial accommodation</b>						
	30. With the support of Tourism Magnetic Island consult with commercial accommodation premises to determine the preferred waste bin types for a consistent approach and seek funding to subsidise bins for all accommodation venues.	MICDA/ ZWMI	✓	✓			
	31. With the support of Tourism Magnetic Island encourage premises to include waste management as part of all visitor inductions.	MICDA/ ZWMI	✓	✓	✓	✓	✓
	<b>Commercial hospitality</b>						
	32. Seek support from the waste collection drivers to identify sites with contaminated recycling bins.	TCC	✓	✓	✓	✓	✓
	33. Develop a Contamination Management Action Plan to reduce bin contamination.	TCC	✓				
	<b>Container Refund Scheme (CRS)</b>						
	34. Provide a permanent on-island solution (depot) for the scheme operator to provide a full-service solution for households and commercial operators including collecting containers from source i.e. Container Home / Partner Program.	COEX /TCC	✓✓				
	35. Install wire cages to high-profile litter bins across the island for container donations.	COEX / TCC	✓✓				
	36. Monitor wire cages to ensure they do not overflow, preventing adverse impacts on the environment.	TCC	✓				
	<b>Batteries – household</b>						
	37. Provide household battery recycling collection points at locations where batteries are sold or at community hubs to facilitate easy return.	MICDA/ ZWMI	✓				
	<b>Expanded polystyrene (EPS)</b>						
	38. Conduct a 6-month EPS separation pilot to determine quantity over 6 months.	TCC	✓				
	39. Develop a business case with trial data to determine if EPS machine is warranted	TCC	✓				
Repair	<b>Repair cafe</b>						
	40. The community investigate options and models to inform funding to establish a Repair Cafe on Magnetic Island, to be operated by a nonprofit or social enterprise.	MICDA/ ZWMI		✓	✓		

WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Dispose	<b>Hazardous and chemical waste</b>						
	41. That Council investigate the provision of a properly designed and constructed storage unit to be located at the Transfer Station for the storage of out of data and unwanted chemicals deliveries by the public.	TCC	✓				
	42. That the community be encouraged to safely dispose of chemicals at the transfer station to avoid them going into general waste with the potential contamination issues that arise at landfill.	TCC		✓			
	<b>Horseshoe Bay Yacht moorings</b>						
	43. That a dedicated waste system be provided to Horseshoe Bay yacht moorings to avoid overuse of the public litter bin stations along Horseshoe Bay foreshore	TCC		✓			
Finance	<b>Environmental levy for tourists</b>						
	44. Introduce an environmental levy on all tourists whose residential address is outside of the TCC council boundary.	TCC/ TEL / MICDA	✓✓	✓✓	✓✓	✓✓	✓✓
	45. TCC and community non-for-profits groups develop annual budgets for the quarantined funds to be used exclusively for island sustainability initiatives and report outcomes annually.	TCC/MICDA		✓✓	✓✓	✓✓	✓✓
	46. Employ an Island based Towards Zero Waste Co-ordinator to drive implementation of this waste strategy for a period of 3-5 years supported by a budget for resource, events, social media and printing.	TCC/MICDA		✓✓	✓✓	✓✓	✓✓
	<b>Commercial deliveries of recyclables</b>						
	47. That TCC review its pricing policy for commercial operators delivering recyclables.	TCC	✓				
	<b>Differential Bin Charges</b>						
	48. That the cost differential between general waste bin sizes be increased to reflect the difference in capacity and encourage waste minimisation.	TCC	✓				
Education	<b>Behaviour Change</b>						
	49. Utilise the council quarterly letter boxed island newsletter to provide regular information around waste and resource recovery activities on the island.	TCC	✓	✓	✓	✓	✓



WASTE HIERARCHY	ACTION	BY WHO	BY WHEN (FINANCIAL YEAR)				
			2025-26	2026-27	2027-28	2028-29	2029-30
Education	50. Develop a specific island-wide behaviour change program targeting residents and visitors to drive waste minimisation and improve resource management or align with actions within the mainland behaviour change program.	MICDA/ ZWMI	✓	✓	✓	✓	✓
	51. Design educational resources specifically for the tourist sector, using graphics to reduce language barriers for fridge magnets, wall posters and bin stickers	TCC/MICDA /ZWMI	✓✓				
	52. Establish a range of training forums/ programs such as composting workshops, permaculture courses, repurposing activities to empower and engage the community.	MICDA/ ZWMI	✓	✓	✓	✓	✓
	53. Distribute resources and bin stickers to commercial accommodation premises annually.	TCC/MICDA /ZWMI	✓	✓	✓	✓	✓
	54. Request ferry operators to include recycling messages on community screenings.	TCC/MICDA /ZWMI	✓✓	✓✓	✓✓	✓✓	✓✓
	55. Consult with hospitality businesses to standardise resources for staff engagement aimed at improving recycling and minimise contamination.	MICDA/ ZWMI	✓	✓	✓	✓	✓
	56. Ensure consistent messaging harmonising with TCC and state government Let's Get It Sorted campaign focusing on the key items contaminating recycling bins - bagged materials, soft plastics, food, electronic and textiles	MICDA/ ZWMI	✓				
	57. Issue new household resident waste management information packs annually.	TCC	✓	✓	✓	✓	✓
	58. Install a digital "Sustainability Notice Board" in a high-profile position at the gateway to the island with information about strategy goals, updates about what/where to recycle, current initiatives and programs.	TCC/MICDA /ZWMI		✓✓			
Implement	<b>Communication, measure, and monitor</b>						
	59. That Council representatives and community non-for-profits groups oversee strategy implementation.	TCC/ZWMI MICDA	✓✓	✓✓	✓✓	✓✓	✓✓
	60. Council to provide a bi-annual reporting to the community of the islands waste performance for transparency and monitoring over time.	TCC		✓	✓	✓	✓
	61. Conduct a waste audit 6 – 12 months after the introduction of GO/FO/FOGO to measure and quantify household and commercial bin use.	TCC					✓