

Waste to Resource Strategy Summary Report



Gold Coast City Marina & Shipyard

Prepared by:



Centre for a
Waste-Free World

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Disclaimer

This research was commissioned by Gold Coast City Marina and Shipyard (GCCM) and Innovation Connections. The purpose of this report is to assist GCCM in diverting waste from landfill and exploiting value from conservation of resources. Any views and recommendations expressed in this report do not necessarily reflect the views of GCCM and the Commonwealth or indicate a commitment to a particular course of action. GCCM and the Commonwealth make no representation or warranty as to the accuracy, reliability, completeness or currency of the information contained in this report.

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Summary report

The Gold Coast City Marina & Shipyard (GCCM) embarked on an ambitious strategic action plan in 2021 to manage, recover and convert waste into valuable commodities. It represents a deeper endeavour to help the Marina and its associates steer towards a cleaner and healthier future.

GCCM outlined five key objectives for the project:

- To reduce waste to landfill by 30 percent through implementation of resource recovery and diversion from landfill across its site
- To eliminate single-use plastics by 2025 and uphold its declaration to the Marina Industries Association (MIA)
- To investigate new initiatives and innovations in waste recovery that present commercial opportunities, reduce waste levies, and leverage partnerships with industry
- To drive a culture shift around waste recovery by raising awareness of tenants, staff, and the community
- To develop a comprehensive marketing and policymaking campaign in collaboration with industry and government to push for wider change in the Gold Coast

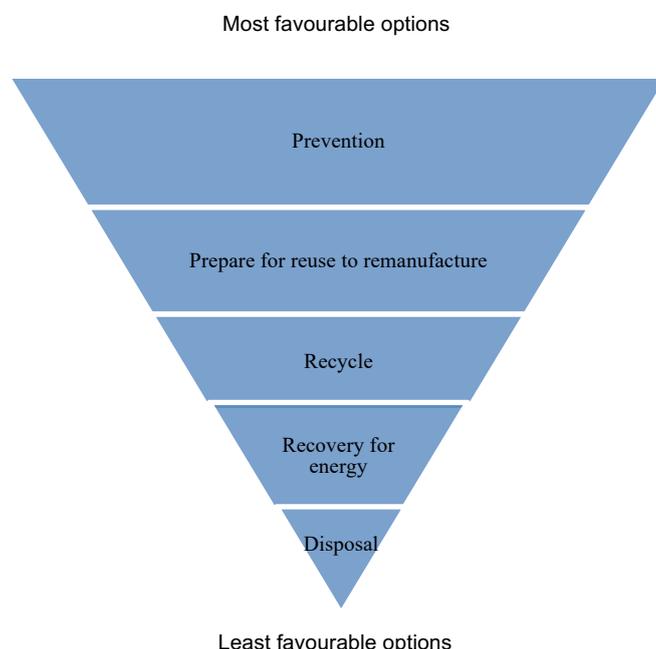
GCCM and the Australian Government commissioned the Centre for a Waste-Free World at Queensland University of Technology (QUT) to provide leading research into transformative solutions to advance new economies for waste. A holistic program was designed to transition to sustainable resource use over one year for future extension. The scope of the project covers three phases, beginning with an evaluation of the existing waste products and processes for disposal and recycling to determine the new measures for landfill diversion and sustainable resource use that lend commercial opportunities.

Over the first three months, an appraisal of the types of waste materials that flow through business operations at GCCM was carried out to discover areas for improvement. This activity entailed data gathering and consultation with GCCM's stakeholders. It became clear the tenants already maintain, repair, and retrofit boats to perform at their maximum capacity over an extended lifetime, however, a lot of waste is generated in this process. In order to adopt more sustainable norms, it is critical for tenants to contribute to 'Closing the Loop' on Waste @ GCCM initiatives to reduce and repurpose waste in the warehouses and shipyard where it is produced. QUT has developed a comprehensive report on the material findings and an analysis of the options for facilitating an action plan in terms of ease, costs, and benefits to deliver on this vision.

During the second phase of the program, short-term activities will be implemented, importantly, to increase collection in source separation bins. A 'Closing the Loop' charter and branding are being created to increase uptake by the tenants and to spread the reputation of the program to build competitive advantage. Other forms of promotion will be disseminated to raise awareness by all stakeholders of GCCM. Newsletters will be issued to all members as the program rolls out, waste reduction training videos will be uploaded to educate staff and customers, and workshops will be run at GCCM and QUT featuring scientific experts. These activities are intended to drive the culture shift for improved environmental and economic outcomes.

Local and state government expressed a desire to be involved in the program. They are hoping to scale any successful paradigms that are conceived for replication in the region. Under the Gold Coast City Council's license, GCCM registered for the online trading marketplace, ASPIRE, to resell a diversity of waste products. This activity has begun reaping dividends through repurposing of timber pallets. Efforts will be expanded with a recycling station to be built and undercover storage to be allocated for collecting e-waste and other valuable boating materials or general byproducts that can become a feedstock for industrial ecology and innovative remanufacturing.

The 'Closing the Loop' on Waste @ GCCM program will continue to evolve over six months. Additional funding will be sought to establish a circular marketplace in the boating trade. Outcomes will be monitored to show tonnes of waste diverted from landfill, resources exchanged, revenue generated, and carbon emissions saved. Then longer-term strategic activities will be embedded for future leadership in the last three months. Overall program results will be presented to the stakeholders from business, government, and academia. At all stages, tactics will be pursued to maintain progress in managing waste materials as exemplified by the following waste hierarchy.



Roadmap for waste stewardship



Short-term interventions (1 - 6 months)

Activity	Actors - Internal/External	Benefits	Barriers
0 - 3 months			
Target key on-site businesses and stakeholders to attend a co-design workshop to assist with building the framework of the resource recovery project	Internal & External	Obtain buy-in and engagement from key stakeholders internal & external to GCCM Identify key resource recovery priorities, challenges, and opportunities	Lack of data relating to all site waste volumes and types Lack of understanding of available recycling and resource recovery options on site
Audit tonnes of waste at all businesses	Internal	Determine accurate volumes & types of waste materials for improvements	Small amount of time & effort to log amount in waste register for one month
3 - 6 months			
Resource Recovery Workshop – educational session with on-site businesses to review recycling options & resource recovery strategy Launch 'Closing the Loop on Waste' & GCCM charter with on-site businesses	Internal & External	Raise awareness and understanding of waste types, recycling options, valuable resources for reuse/ recycle/ remanufacture Gain commitment and buy-in from on-site businesses to drive resource recovery outcomes	Time for periodic attendance
Heighten source separation by tenants, staff, patrons & the public in appropriate disposal bins; add recycling bins on site with clearer signage displayed & increase information for arriving customers in welcome guides	Internal & External	Raise recycling rates & reduce contamination of larger waste streams	Resistance to change
Integrate ASPIRE platform across on-site businesses to increase resource recovery of various marine resources & materials	Internal & External	Increase revenue for waste products instead of adding to pollution & levies	Time to become familiar with this system
Work with Queensland Government & Gold Coast City Council to source additional resources & leverage key contacts to increase resource recovery options & partnerships	Internal & External	Solve waste issues for a cleaner, healthier environment & stimulate job growth in region	Design collaborative pathways for change
Develop a PR plan & commence regular communication of the program in newsletters & media to increase awareness & project partnerships	Internal & External	Gather momentum for waste recovery as an asset	N/A

Short-term interventions (6 - 12 months)

Activity	Actors - Internal/External	Benefits	Barriers
6 - 12 months			
Training videos of correct waste procedures will be created & uploaded on the GCCM website to relay to all staff & customers	Internal & External	Amplify efforts of the program	Instil new habits
Educational seminars to be scheduled for tenant meetings to brief business owners on solid & liquid waste issues	Internal	Network to fulfil like-minded objectives of waste reduction & repurposing	N/A
Plastics – source sustainable substitutes for all unnecessary single-use items	Internal & External	Less plastics in ground & waterways to disturb biodiversity	Search & procure sustainable substitutes
Textiles & carpets – send uncoated remnants for reuse or donation, request for coated fabrics to be taken back by manufacturers & replace carpets with carpet tiles by Interface Carpets	Internal	Find new owners willing to pick up offcuts, or donate for stuffing in bedding, or give to charities for rags or arts & crafts outlets	Lack of accountability by manufacturers for their products post-consumption
Glass, e-waste, wood, printer cartridges & other types of packaging materials to be segregated from other mainstream recycling with a purpose-built collection station & then sent for resale or repurposing through ASPIRE or elsewhere, preferably in Southeast Queensland – branding of the marketplace to be posted around the site	Internal	Diversify the kinds of waste for new end-of-life (EOL) options	Drop off items in new recycling station to be set up near the entry/exit gate at GCCM
Organics – set up a composting facility to gather all food scraps & instal vertical gardens for regenerative agriculture that can be used by the food outlets	Internal	Close the loop on food waste	Small amount of time & effort – depending on the composting system, omit certain food scraps that can clog machines
Hazardous waste – make sure all liquids & solids are contained & being disposed of properly	Internal	Prevent catastrophic leakages	Extra care & attention
Collect empty oil drums for return & reuse by suppliers	Internal & External	Stop unnecessary manufacture of new oil drums	Hold manufacturers accountable for their products at EOL