Waste Strategy- Consultation Draft

Queanbeyan-Palerang Regional Council

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MRA Consulting Group

Waste Management Strategy 2019 - 2049

Queanbeyan-Palerang Regional Council

Client: Queanbeyan-Palerang Regional Council

ABN: 95 933 070 982

Prepared by

Mike Ritchie & Associates Pty Ltd trading as MRA Consulting Group (MRA)
ABN 13 143 273 812

Suite 408 Henry Lawson Building
19 Roseby Street, Drummoyne NSW 2047
AUSTRALIA

P +61 2 8541 6169
E info@mraconsulting.com.au

mraconsulting.com.au

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Abbreviations / Glossary

Abbreviation	Description
ABS	Australian Bureau of Statistics
ACT	Australian Capital Territory
C&D	Construction & Demolition
C&I	Commercial & Industrial
CDS	Container Deposit Scheme
Commingled Recyclables	Materials that are able to be recycled or reprocessed through a materials recovery facility
CRJO	Canberra Region Joint Organisation
DWM	Domestic Waste Management Charge – Charge levied for the kerbside collection of bins
EfW	Energy from Waste
EPA	NSW Environment Protection Authority
ERP	Quarterly Population Estimates
FOGO	Food Organics and Garden Organics
GHG	Greenhouse Gas
GO	Garden Organics
GST	Goods and Services Tax
GWC	General Waste Charge – Charge levied to cover waste management costs not directly related to kerbside collections
LGA	Local Government Area
MRF	Materials Recovery Facility
MSW	Municipal Solid Waste
NSW	New South Wales
NTCRS	National Television and Computer Recycling Scheme
Organic waste	Waste from plants or animals that can be composted into material suitable for reuse
POEO	NSW Protection of the Environment Operations Act 1997
QCC	Former Queanbeyan City Council
QPRC	Queanbeyan-Palerang Regional Council
Residual Waste	Waste sent to landfill
RRC	Resource Recovery Centre
WARR	Waste and Resource Recovery
WTS	Waste Transfer Station

Recycling Rate

The recycling rate for a particular waste stream (municipal solid waste (MSW), commercial and industrial (C&I), construction and demolition (C&D)) is the proportion of all materials recycled from that waste stream in a given year (measured in tonnes) compared with the sum of all waste generated from that waste stream in the same year. Recycling excludes recovery of energy from waste processes.

Landfill Diversion

Landfill diversion refers to the proportion of all materials (measured in tonnes) that are either recycled or otherwise recovered (such as through an energy-from-waste facility) compared with total waste generation in a given year disposed of to landfill.

Executive Summary

Queanbeyan-Palerang Regional Council (QPRC) was formed in May 2016 after the amalgamation of the former Queanbeyan City Council (QCC) and Palerang Council. In light of the amalgamation, QPRC commissioned AECOM Australia Pty Ltd to prepare a consolidated 2019-2049 Waste Management Strategy (the '*Strategy*'). The Strategy has been finalised by MRA Consulting Group (MRA). The Strategy provides an opportunity to assist QPRC to meet the objective of a sustainable, "*clean green*" community outlined in the *QPRC 2017 Community Strategic Plan* and address the following key issues faced by the council:

- Predicted population growth in the local government area (LGA) to 76,000 people by 2031
- Achieving *NSW Waste Avoidance and Resource Recovery Strategy 2014-2021* (WARR Strategy) targets
- Different fees and charges regimes based on the former LGA boundaries
- Different waste services provided across the LGA
- Delivery of the same service by Council staff in some areas and by Contractors in other areas
- Sporadic, adhoc waste education activities
- Differences in gate fees at disposal and recycling facilities for the same materials from different areas

A number of actions identified in the former Palerang Council Waste Strategy[1] and the former QCC Waste and Resource Recovery Strategy[2] (QCC Waste Strategy) have been implemented or completed, while others are no longer relevant or supported.

E1 Objectives of the Waste Strategy

This Strategy has been prepared to provide an approach for waste and resource management in the LGA over the next 30 years in a manner which maximises landfill diversion and resource recovery. The key objectives of the Waste Strategy are to:

- provide an overview of the existing waste management practices and services offered
- engage and gauge community views on current and potential waste management options
- identify options for waste management and resource recovery across the whole LGA
- develop key actions to assist Council in implementing the Waste Strategy over a 30-year timeframe

E2 Council, Population and Projected Waste Generation

QPRC covers an area of approximately 5,319 km^2. Major population centres include Queanbeyan, Bungendore, Braidwood and Googong. There are also several rural villages and a number of large residential populations living in rural-residential areas to the west of the LGA near the ACT border. QPRC currently serves a population of approximately 58,100 people. Population is expected to grow significantly in the LGA to 76,000 people by 2031. Population growth is reflected in the growth of the number of households within the LGA.

Overall, the total number of households in the QPRC LGA is expected to grow from 26,742 in 2016 to 40,064 in 2050.

QPRC generates MSW from kerbside collection, waste dropped off at waste transfer stations and landfills (self-hauled) and bulky waste collection (from the former QCC LGA only).

Based on the current waste generation, diversion rates and growth in households, QPRC is estimated to double the amount of waste generated in 2050.

Table E1 provides a summary of estimated MSW generation from 2017 to 2050 based on current diversion rates.

[1] URS (2015), Waste Management Strategy 2015-2035 for Palerang Council
[2] APC (2013), Waste and Resource Recovery Strategy 2013-2023 for Queanbeyan City Council

Table E1 Waste generation 2016 – 2050 (tonnes per annum)

	2017	2021	2026	2031	2036	2041	2046	2050
Residual	16,075	17,346	19,415	21,766	24,059	25,918	27,829	29,433
Recycling	6,126	6,612	7,407	8,304	9,172	9,895	10,636	11,258
Organics	4,983	5,408	6,216	7,122	8,008	8,681	9,358	9,928
Total	27,184	29,366	33,037	37,192	41,238	44,494	47,822	50,618

A waste service for commercial premises is offered by QPRC to businesses in the former QCC LGA. According to the *QPRC 2016-2017 WARR Survey* the following waste quantities were collected by Council from the commercial and non-residential sector:

- Residual Waste –from 792 premises – 398 tonnes - landfilled
- Recyclables – from 597 premises – 116.5 tonnes – 11.6 tonnes landfilled, remaining recycled
- Greenwaste – 49 premises – 11.9 tonnes - recycled

QPRC provide the former Palerang LGA with 123 waste and recycling services to the commercial and non-residential sector however does not separately record these quantities from municipal waste.

The above quantities based on services provided by QPRC to the commercial sector are expected to represent only a small percentage of the overall C&I waste generation in the LGA, with the majority collected by private waste contractors and delivered to facilities in the ACT region

C&D waste is currently received at Bungendore, Braidwood and Braidwood Waste Transfer Stations. The following figures are noted in the 2017-18 WARR Survey:

- Concrete 115.5 tonnes - passed onto external processor
- Mixed C&D: 769 tonnes – landfilled
- Other – 4,559 tonnes – landfilled

The quantities noted above are expected to represent only a small percentage of the overall C&D waste generation in the LGA with the majority delivered to processing facilities in the ACT region

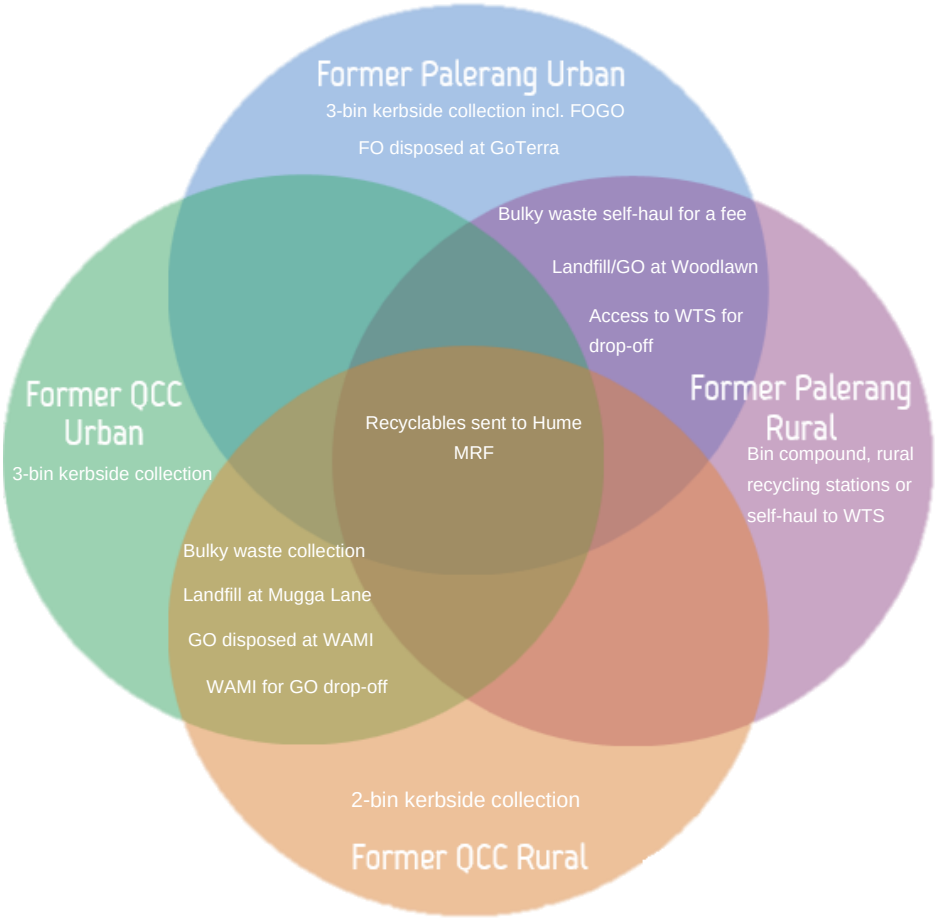
Currently, we do not meet the targets set out in NSW Waste Avoidance and Resource Recovery Strategy 2014-2021.

What makes up our waste

General waste | Recycling | Garden Organics | Bulky Waste

E3 Review of Current Waste Management in QPRC

QPRC provides waste services broadly consistent with those offered by other CRJO councils. Nevertheless, considerable variations remain across the CRJO and QPRC regions with regards to waste services and practices between the former Queanbeyan and Palerang councils.



Based on the number of service types provided to residents of the former QCC and former Palerang Councils the following issues are apparent with the current waste management services provided to residents of QPRC:

Table E2 Issues identified with current waste management services in the QPRC LGA

Category of service	Issue identified with current service
Residential Waste Services	Food waste is not currently collected in the former QCC LGA. This represents a significant amount of material that can be diverted from landfill.
	Population growth in areas with a Domestic Waste Management service in the former Palerang LGA has reached the point where the number of collection trucks and drivers is not sufficient to appropriately manage the service.
	The rates structure for waste management services varies according to the location of the property. Properties in the former LGAs pay different amounts for the same or similar services. Properties in the former Palerang LGA pay a General Waste Charge to manage waste outside the scope of domestic waste management.

Category of service	Issue identified with current service
	Waste collection services in the former QCC LGA are undertaken by contract. Waste collection services in the former Palerang LGA are undertaken by Council.
	On-going misuse of some rural recycling stations.
Bulky Waste	The existing bulky waste collection service in Queanbeyan/Googong is not well utilised and is labour intensive to manage. In addition, the service is not fully funded and there are insufficient funds to service all eligible properties.
	Bulky waste is treated differently between the former LGAs. Although kerbside bulky waste collection was included in the Palerang strategy for those areas with Domestic Waste Management service, it had not yet been implemented due to resource constraints and significant safety and illegal dumping concerns in rural areas.
Waste Disposal	As not all areas of the QPRC LGA pay the General Waste Charge, not all residents have access to the same facilities.
	The same waste type from different areas are sent to different waste facilities and therefore pay different gate fees for the same waste type.
	The location of the Queanbeyan composting facility in the ACT exposes Council to a regulatory environment outside of the usual environment. This presents issues with respect to the management and reporting of waste.
Council Waste Infrastructure	Collection and management of data differs between council waste facilities. This makes assessment and reporting of waste generation and diversions rates problematic.
	Staffing levels at many waste facilities does not provide sufficient coverage of staff sickness and leave which results in additional exposure to public safety and environmental risks.
Commercial Waste Services	The fees and charges levied to businesses are different between the former LGAs.
	The business waste diversion programs are not well utilised. It is unclear if this is due to a lack of awareness of the programs or if they are considered too difficult to be involved in.
	Reliance on grant funding for business waste diversion programs means that waste diversion momentum is lost at the end of the program.
Education	Education activities are sporadic and/or ad-hoc, are not well targeted and are not sufficiently resourced to be effective.
Illegal Dumping	There are insufficient resources to adequately investigate illegal dumping events in a timely manner. As a result, illegal dumping events are often cleaned up with no investigation.
	There are insufficient resources to safely manage illegal dumping collections and to undertake roadside litter collection across the LGA.
	Roadside litter collection does not have sufficient resources to cover the whole LGA.
Other Waste Services	Free disposal of waste on Clean Up Australia Day risks large volumes of private waste and is unfunded. The practice also potentially diverts residents from cleaning up public spaces to cleaning up private property.
	Council does not have a policy for the management of waste generated by natural disasters.

E4 Alternative Options for Waste Management in the QPRC LGA

A number of integrated scenarios were identified as alternatives to the business as usual (BAU). These were based on common themes found in the shortlisted options, feedback received during community consultation and issues identified with the current waste management services (Table E2).

The following scenarios for waste management in the LGA were assessed:

BAU	Current waste management
Scenario 1	Improve litter and illegal dumping in the LGA
Scenario 2	Improve waste education in the LGA
Scenario 3	Improve management of organics collection and processing
Scenario 4	Increase diversion from landfill for C&I and C&D streams
Scenario 5	Improve all keys areas of waste management in the LGA, including general waste, recycling, organic and bulky waste streams, and associated infrastructure

Each of the above scenarios was modelled on a “user pays” basis. The model provided a series of funding paths including the Domestic Waste Management and/or General Waste Charge, Business Waste Management Charge and facility gate fees (refer to Table E3).

There are potential opportunities for government grants to support the key actions of the Waste Strategy under *Waste Less, Recycle More* and more recent Federal funding to support the export of recyclables. As it is not certain if Council would be successful in gaining financial assistance, the financial model has been developed on the assumption that it is fully self-funding. Any grants gained will be reflected in future updates of this Strategy.

The final Strategy for waste management and resource recovery in the LGA would be rolled out to resident and business annual rates.

Table E3 Council Waste Services Charges Description and Recommendation

Charge	Description	Recommendation
Domestic Waste Management Charge	In accordance with Section 496 of the *Local Government Act*, Council must make and levy an annual charge for the provision of domestic waste management services for each parcel of rateable land for which the service is available, referred to below as the Domestic Waste Management charge. Domestic Waste Management charges are applied to residents with a kerbside waste collection.	Combine the two Domestic Waste Management funds into a single fund covering all domestic waste services.

Charge	Description	Recommendation
	The charge covers the costs associated with management of residential waste as provided in Table 12 of the main report.	
Council Working Fund General Waste Charge	The majority of residents and businesses in the rural and urban areas of the former Palerang LGA pay the General Waste Charge. This charge funds the following components of Council's waste management activities listed in Table 12 of the main report.	Expand the General Waste Charge to cover all QPRC residential properties and move all costs and assets related to waste (other than domestic waste) to the General Waste Charge.
Landfills Charge (former Palerang LGA)	Any property issued with a landfill pass within the former Palerang LGA pays the Landfill Charge. This charge covers the cost of disposing of waste at landfills within the former Palerang LGA, for those rural residents who don't receive a kerbside collection service. This cost is separated from the General Waste Charge following a ruling by the Australian Taxation Office. Following the closure of Braidwood landfill, this cost can now be removed.	Cease charging the Landfills Charge on all properties in the former Palerang LGA.
Business Waste Management Charge	Council imposes a mandatory charge for businesses in the former QCC LGA for the availability of a waste service and an optional charge if the owner chooses to have a waste or recycling bin collected from the premises by Council.	Expand the Business Waste Management Charge to all properties rated as business in the LGA.

E5 Recommended Waste Management Strategy

To facilitate discussion, Council staff and consultants are recommending that Scenario 3 be adopted. The recommendation is based on the modelled waste diversion rates, the financial model and the operational issues identified with the BAU. Additional actions have been included where necessary to assist with understanding of interim arrangements or to make the overall strategy clear.

Scenario 3 has been recommended for the following reasons:

- It delivers the equal highest waste diversion over the life of the Strategy
- It balances costs to residents with delivering diversion targets
- It provides an equitable solution for all residents and businesses in the LGA
- It provides all residents with access to all QPRC waste facilities and reduced gate fees at our waste facilities
- It provides sufficient resources and funding to enable the identified actions to be undertaken

E5.1 Waste Diversion

Compared with the BAU, Scenario 3 would achieve 20% greater diversion of waste from landfill by 2050.

Table E4 Landfill Diversion Rate - BAU and Scenario 3

	BAU	Scenario 3
Diversion Rate - 2029	45%	63%
Diversion Rate - 2050	45%	63%

E5.2 Domestic Waste Management Charge

The strategy for domestic waste management is outlined below in Table E5. The 2021/22 charges are shown in Table E6.

Table E5 Recommended Scenario – Domestic Waste Management Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Priority
DWM1.	Funding	Amalgamate the two existing Domestic Waste Management Funds into one fund	Separate funds resulting from Council amalgamations	High
DWM2.		Maintain a minimum $500,000 in the Domestic Waste Management Fund reserve to act as a buffer for future price shocks	Volatility in markets	On-going
DWM3.		Transfer remaining cash into the General Waste Management Fund to fund future works	Separate funds resulting from Council amalgamations	High
DWM4.		Levy a Domestic Waste Management charge in accordance with the adopted model	On-going funding of operations	On-going
DWM5.	Collection Contract	Continue the current DWM collection arrangements until an analysis of the two collection providers is completed to determine the best value (in-house or private) collection method	Determines the best-value solution for future contracts	High
DWM6.	Collections	Maintain the current gazetted DWM zone extents	Confirms DWM collection zones	N/A
DWM7.		Prepare a policy on collection from properties located on existing routes used by collection vehicles travelling between collection zones (for example, between Bungendore and Captains Flat)	Improves the existing ad-hoc arrangements in place in rural areas of the LGA	Medium
DWM8.		Once the policy is complete, introduce an optional collection zone along existing routes used by collection vehicles travelling between collection zones (for example, between Bungendore and Captains Flat)	Improves the existing ad-hoc arrangements in place in rural areas of the LGA	Medium
DWM9.		Maintain the current waste collection types in each zone, excluding matters covered in DWM8.	Confirms DWM waste collection types	N/A
DWM10.		Expand the Food Organics and Garden Organics collection to the urban areas of Queanbeyan (including Googong and Jerrabomberra) once an appropriate processing facility is completed	Low diversion of food waste	High
DWM11.		Develop and implement a bin contamination policy that permits removal of services for on-going/serious contamination	Recycling and FOGO contamination rates	High
DWM12.		Purchase and staff new collection trucks as necessary as the area grows (subject to the outcome of the DWM5)	Safe provision of collection services	Low
DWM13.	MUD and Mixed Use Developments	Liaise with Council's Planning sections about on-going review of the Development Control Plans related to multi-unit developments and mixed use developments	Safe provision of collection services	Medium
DWM14.		At mixed use properties where it is not possible to keep commercial and residential waste separate, require the property to arrange their own waste collection and charge a "Mixed Use" rate, which will be the same as a residential vacant land charge (per rateable property)	Effective provision of collection services	Medium

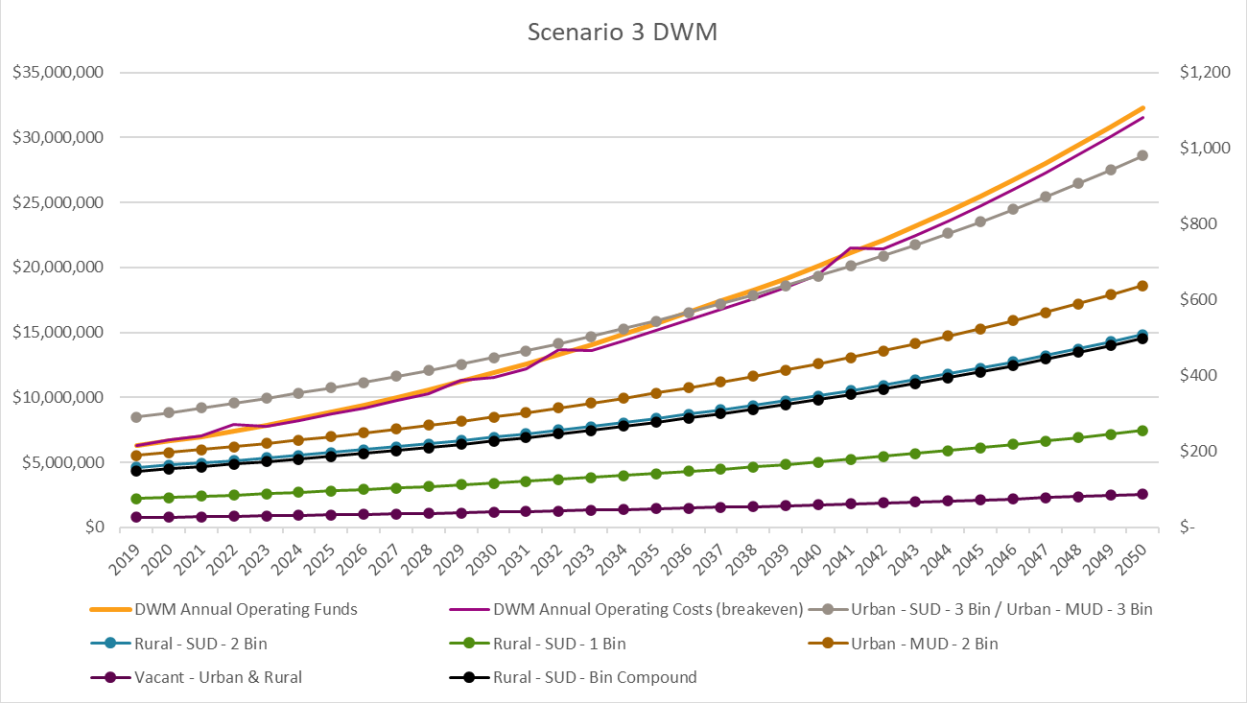
Number	Aspect	Action	What problem is this solving?	Priority
DWM15.	Waste Disposal	Continue to use Hume Materials Recovery Facility for commingled recyclables collected by both Council and Contractor-operated collection vehicles until a new contract is prepared and awarded	Appropriate disposal of collected waste	N/A
DWM16.		Continue to use Bungendore Resource Recovery Facility for residual waste from areas serviced by Council-operated collection vehicles	Appropriate disposal of collected waste	N/A
DWM17.		Continue to use Mugga Lane for residual waste from areas serviced by Contractor-operated collection vehicles until Bungendore Resource Recovery Facility is upgraded	Appropriate disposal of collected waste	N/A
DWM18.		Once Bungendore Resource Recovery Facility is upgraded, and subject to satisfactory contractual arrangements, use Bungendore Resource Recovery Facility for residual waste from areas serviced by Contractor-operated collection vehicles	Appropriate disposal of collected waste	Following facility upgrade
DWM19.		Continue to use Bungendore Resource Recovery Facility for FOGO waste from areas serviced by Council-operated collection vehicles	Appropriate disposal of collected waste	N/A
DWM20.		Continue to use WAMI for collected GO waste from areas serviced by Contractor-operated collection vehicles until Bungendore Resource Recovery Facility is upgraded	Appropriate disposal of collected waste	N/A
DWM21.		Once a new FOGO facility is constructed, divert all FOGO collections to the new facility	Appropriate disposal of collected waste	Following facility upgrade
DWM22.	Education	Hire a dedicated Waste Officer to implement education and engagement program (Shared with GWM38 and BWM12)	Insufficient resources to undertake tasks identified in the Strategy	High
DWM23.		Develop and implement a routine bin inspection program to reduce contamination rates in kerbside collection. (Shared with GWM39 and BWM13)	Recycling / FOGO contamination rates, ad-hoc education activities and closing data gaps	High
DWM24.		Undertake regular bin audits to ascertain current generation rates, contamination rates and problem areas. Results to be incorporated into education programs	Recycling and FOGO contamination rates and closing data gaps	High
DWM25.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with GWM40 and BWM14)	Ad-hoc education activities	Medium
DWM26.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and initiatives identified in the strategy. (Shared with GWM41 and BWM15)	Ad-hoc education activities	High
DWM27.	Bulky Waste	Expand the existing bulky waste collection to all properties provided with an an Urban – SUD – 3 Bin, Urban – MUD – 3 Bin or Urban – MUD – 2 Bin service.	Managing bulky waste collections	Medium
DWM28.		Cease the bulky waste collection program (including rural collections) for all other properties	Managing bulky waste collections	High

	Shared costs/resources with DWM, GWM

Table E6 Recommended Scenario – Domestic Waste Management Annual Charges

Domestic Waste Management Code	Domestic Waste Management Charge 2019/2020*	Domestic Waste Charge 2020/2021		
		New QPRC Domestic Waste Management Code	BAU	S3
DWP1	$385	Urban - SUD - 3 Bin	$334	$315
DW1	$328			
DWP4	$311	Rural - SUD - 2 Bin	$218	$170
DW15	$355			
DW17	$181	Rural - SUD - 1 Bin	$97	$82
DWP8	$108			
DWP12	$26	Vacant - Urban & Rural	$28	$28
DW10	$26			
DW8	$328	Urban - MUD - 3 Bin	$334	$315
DWP6	$234	Rural - SUD - Bin Compound	$208	$160
DW7	$299	Urban - MUD - 2 Bin	$253	$205
DW11	$48	Moved to General Waste Charge		-
Not Applicable	Note Applicable	Mixed-Use – No Service	As per Vacant Rate	

Figure E1 Recommended Scenario - Domestic Waste Management Charge



E5.3 General Waste Management Charge

The strategy for general waste management is outlined below in Table E7. The 2021/22 charges are shown in Table E8.

The charge will be levied on all residential and non-business properties in the LGA.

Table E7 Recommended Scenario – General Waste Management Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Priority
GWM1.	Funding	Create and maintain an internally restricted General Waste fund	Creates a transparent fund to provide certainty to ratepayers that income is being used for the agreed purpose	High
GWM2.		Levy a General Waste Management charge to all residential properties within the LGA	Confirms extent of GWM zone and provides on-going funding	On-going
GWM3.		Cease providing refunds to residents using Collector and Tarago waste facilities operated by neighbouring properties	Equity of the user pays model	High
GWM4.		Move all costs and income related to Council operated waste facilities to the General Waste Fund	Improves tracking of income and expenditure and provides certainty to ratepayers that income is being used for the agreed purpose	High
GWM5.		Maintain a minimum $1,000,000 in the General Waste Management Fund reserve to act as a buffer for future price shocks and changes in regulatory requirements	Volatility of markets and regulatory changes	On-going
GWM6.	Facilities	Maintain and operate existing waste facilities including the current opening hours and accepted wastes unless specifically noted elsewhere in this strategy	Provides certainty for residents of the operations of waste facilities	On-going
GWM7.		Consolidate the Bungendore RRF as the primary waste management facility in the LGA	Efficiency of operations at facilities and safety of facility users	On-going
GWM8.		Continue to operate the Community Recycling Centres at Queanbeyan WAMI and Bungendore RRF	Provides certainty for residents of the operations of waste facilities	On-going
GWM9.		Reduce the public operating hours of the Queanbeyan WAMI to 4 days per week	Efficiency of operations at facilities and safety of facility users	On-going
GWM10.		Modify the Bungendore RRF to improve management of the site	Efficiency of operations at facilities and safety of facility users	High
GWM11.		Construct and operate a centralised FOGO facility for the processing and treatment of all FOGO and GO materials received in the LGA. Relocate two staff from the Queanbeyan WAMI to the new facility.	Appropriate disposal of collected waste	High
GWM12.		Consult with the Nerriga community regarding their preferred replacement waste facility – either a staffed small waste transfer station similar to Macs Reef WTS or an unstaffed bin compound with access control	Improved regulatory and environmental outcomes	High

Number	Aspect	Action	What problem is this solving?	Priority
GWM13.		Design and construct a replacement facility for Nerriga and surrounding localities based on the outcome of GWM12	Improved regulatory and environmental outcomes	High
GWM14.		Upgrade bin compound at Majors Creek	Improved regulatory and environmental outcomes	High
GWM15.		Upgrade bin compound at Araluen	Improved regulatory and environmental outcomes	High
GWM16.		Cease collection of GO at Araluen Bin Compound	Not operating in accordance with regulatory requirements	High
GWM17.		Cease collection of GO at Majors Creek Bin Compound	Not operating in accordance with regulatory requirements	High
GWM18.		Routinely monitor usage/patronage at facilities to review their on-going viability and that they are delivering value for money for ratepayers	Efficiency of operations at facilities and safety of facility users	On-going
GWM19.	Waste Facility Rehabilitation	Rehabilitate and close existing composting site at Oaks Estate following the construction of a new GO/FOGO facility. Existing staff to be divided between replacement FOGO facility and WAMI.	Environmental management and regulatory compliance	Medium
GWM20.		Rehabilitate Bungendore Landfill	Environmental management and regulatory compliance	High
GWM21.		Rehabilitate Braidwood Landfill	Environmental management and regulatory compliance	High
GWM22.		Rehabilitate Majors Creek Landfill	Environmental management and regulatory compliance	Medium
GWM23.		Rehabilitate Araluen Landfill	Environmental management and regulatory compliance	Medium
GWM24.		Close and rehabilitate Nerriga Landfill following the construction of a new facility in Nerriga	Environmental management and regulatory compliance	High
GWM25.		Monitor and maintain closed landfills	Environmental management and regulatory compliance	On-going
GWM26.	Operations	Provide all properties that pay the General Waste Charge with a “General Waste Card” as part of their rates notice	Ensuring only eligible people/businesses have accesses to the subsidised waste disposal rates	On-going
GWM27.		Cease free waste disposal at Council waste facilities on Clean Up Australia Day unless waste is generated from a registered Clean Up Australia Day event	Supports the original intention of the Clean Up Australia Day	High
GWM28.		Undertake waste audits at QPRC waste facilities to identify waste generation and composition of self-haul materials.	Improves data and knowledge of waste streams	Medium

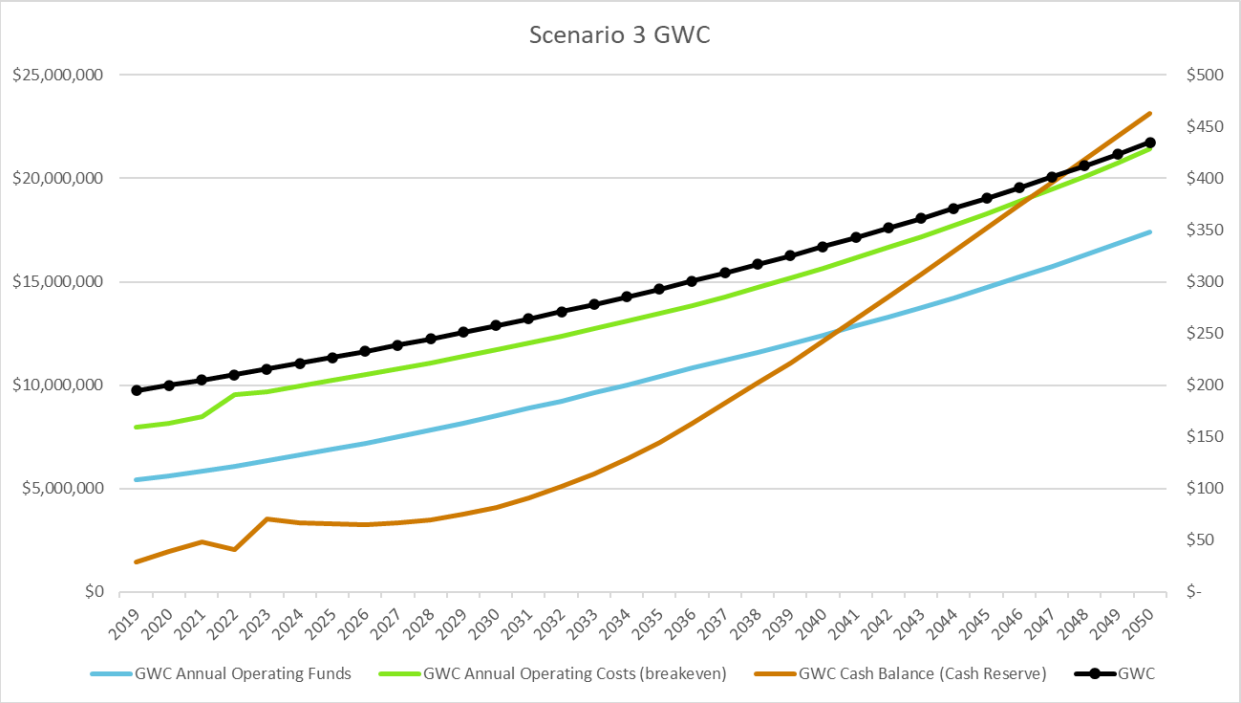
Number	Aspect	Action	What problem is this solving?	Priority
GWM29.		Following engagement of staff identified in GWM34, expand Council's litter management programs to cover the entire LGA	Environmental management and regulatory compliance	Medium
GWM30.	Disposal	Prepare and award a Tender for the disposal of residual waste delivered to Council waste facilities	Procurement not currently in compliance with the Local Government Act	High
GWM31.		Prepare and award a Tender for the disposal of commingled recyclables delivered to Council waste facilities	Procurement not currently in compliance with the Local Government Act	High
GWM32.		Once new FOGO facility is completed, deliver all FOGO and GO waste to centralised facility for processing and treatment	Appropriate disposal of collected waste	High
GWM33.	Staffing	Hire one additional full time equivalent (FTE) to assist operations at Braidwood WTS	Insufficient resources to undertake tasks identified in the Strategy	High
GWM34.		Hire two additional FTE to undertake litter collection activities in the LGA and cover illness/leave in collection and facilities areas.	Insufficient resources to undertake tasks identified in the Strategy	High
GWM35.	Public Bins	Continue to place and service litter bins in public areas	Appropriate provision of services	On-going
GWM36.		Due to ongoing contamination issues, only provide residual waste bins in public areas	Recycling contamination rates	On-going
GWM37.		Undertake regular bin audits of public bins to ascertain current generation rates and materials composition.	Recycling contamination rates	On-going
GWM38.	Education	Hire a dedicated Waste Officer to implement education and engagement program (combined with DWM22 and BWM12)	Insufficient resources to undertake tasks identified in the Strategy	High
GWM39.		Develop an education and routine inspection program to reduce contamination rates at waste facilities. (Shared with DWM23 and BWM13)	Recycling and FOGO contamination rates, ad-hoc education activities and closing data gaps	High
GWM40.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with DWM25 and BWM14)	Ad-hoc education activities	Medium
GWM41.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and initiatives identified in the strategy. (Shared with DWM26 and BWM15)	Ad-hoc education activities	High
GWM42.	General	Develop and implement an online booking and payment portal for waste related activities	Inefficiencies in processes	High

	Shared costs/resources with DWM and GWM

Table E8 Recommended Scenario – General Waste Management Annual Charges

	General Waste Charge 2019/2020*	General Waste Charge 2020/2021	
		BAU	S3
Former Palerang	$375-$416	$143	$196
Former Queanbeyan	$0		

Figure E2 General Waste Management Charge – Recommended Scenario



Expected gate fees payable at waste facilities are shown in Table E9. Not all facilities will accept all waste types and eligibility requirements and limitations apply in some instances.

Table E9 Recommended Scenario – General Waste Management Facility Gate Fees

Waste Type	Amount	Charge (GST Inclusive) – with General Waste Card	Charge (GST Inclusive) – without General Waste Card
General Mixed Waste	1 x 240L Bin	$10	$10
	Trailer or Ute	$112	$112
	Per tonne	$145	$145
Household recycling	Any	Free	$10/cubic metre
Residential greenwaste	Any	Free	$10/cubic metre
Mattresses	Per mattress	$53	$53
CRC Eligible Materials	Per item	Free	Free
Household E-waste		Free	Free

E5.4 Business Waste Management Charge

The strategy for business waste management is outlined below in Table E10. The 2021/22 charges are shown in Table E11.

Table E10 Recommended Scenario – Business Waste Management Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Timeframe
BWM1.	Funding	Maintain a minimum $25,000 in the Business Waste Management Fund reserve to act as a buffer for future price shocks	Volatility in markets	On-going
BWM2.		Transfer remaining cash into the General Waste Management Fund to fund future works	Separate funds resulting from Council amalgamations	High
BWM3.		Levy a Business Waste Availability Charge on all business properties in the LGA	On-going funding of operations	On-going
BWM4.		Levy collection charges (on a per bin basis) in accordance with the adopted model for businesses that opt-in to collection services	Businesses only pay for the services they require	On-going
BWM5.	Collections	Provide weekly residual waste collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis.	Businesses only pay for the services they require	On-going
BWM6.		Provide fortnightly commingled recyclables collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis	Businesses only pay for the services they require	On-going
BWM7.		Provide fortnightly garden organics collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis	Businesses only pay for the services they require	On-going
BWM8.		Encourage businesses with larger waste generation rates or requiring more frequent collections to explore private collection contracts	Council does not incur large expenditure to service a small number of businesses	On-going
BWM9.	Education	Expand and promote the ACTSmart or BinTrim business waste education programs to cover the entire LGA	Equal service provision to all businesses	On-going
BWM10.		Conduct a bin audit of C&I customers in LGA to determine approximate volume of waste generated by sector and recycling rates.	Improvement in waste data	On-going
BWM11.		Following the audit identified in BWM10, develop and implement program to increase diversion	Improvement in waste diversion	Medium
BWM12.		Hire a dedicated Waste Officer to implement education and engagement program (Shared with DWM22 and GWM38)	Insufficient resources to undertake tasks identified in the Strategy	High
BWM13.		Develop and implement a routine bin inspection program to reduce contamination rates in kerbside collection. (Shared with DWM23 and GWM39)	Recycling and FOGO contamination rates, ad-hoc education activities and closing data gaps	High

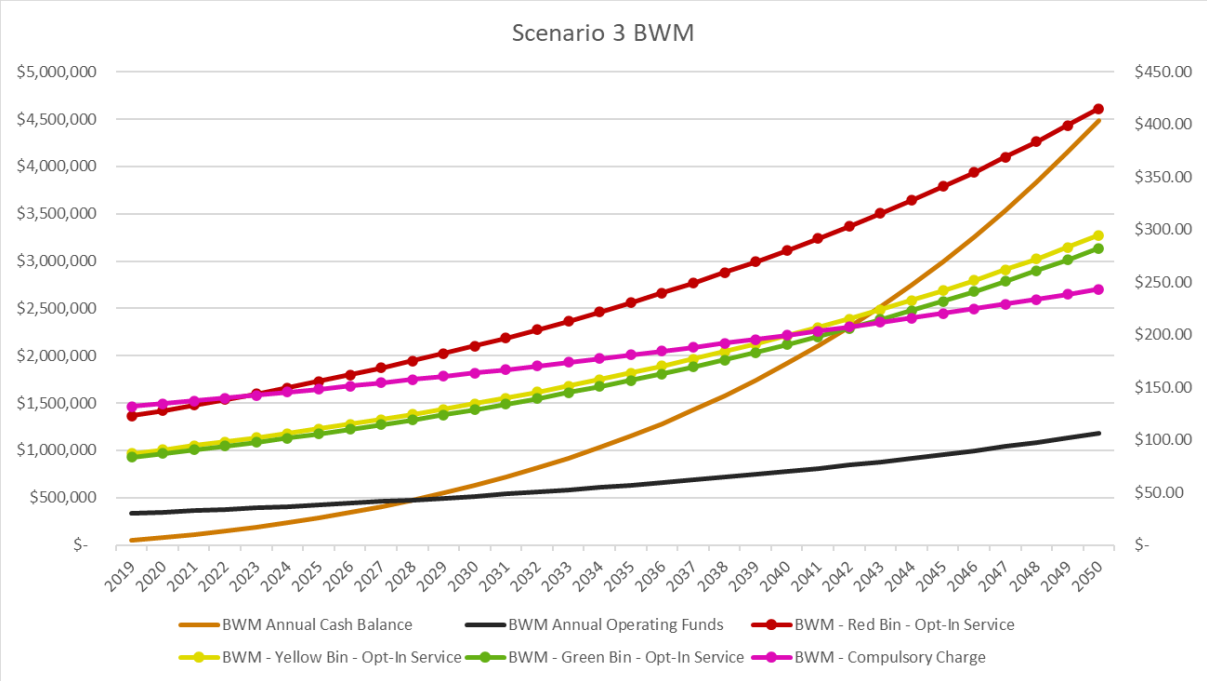
Number	Aspect	Action	What problem is this solving?	Timeframe
BWM14.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with DWM25 and GWM40)	Ad-hoc education activities	Medium
BWM15.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and initiatives identified in the strategy. (Shared with DWM26 and GWM41)	Ad-hoc education activities	High

	Shared costs/resources with DWM and GWM

Table E11 Recommended Scenario – Business Waste Management Annual Charge

Opt-in Service	QPRC Revenue Policy Business Waste Management Charge 2020/21	Business Waste Management Charge 2020/21	
		BAU	S3
Red Bin (Residual)	$262	$169	$133
Yellow Bin (Recycling)	$94	$131	$94
Green Bin (GO)	$94	$109	$90
Compulsory Charge – all businesses	$96	$78	$137

Figure E3 Recommended Scenario – Business Waste Management Charge



E5.5 Total Annual Waste Management Charges

The summary of charges for residential and business properties are outlined in Table E12.

Table E12 Recommended Scenario – Summary Annual Waste Management Charges

Waste Management Charge	Type	Scenario 3
Domestic Waste Management	Urban - SUD - 3 Bin	$315
	Rural - SUD - 2 Bin	$170
	Rural - SUD - 1 Bin	$82
	Vacant - Urban & Rural	$28
	Urban - MUD - 3 Bin	$315
	Rural - SUD - Bin Compound	$160
	Urban - MUD - 2 Bin	$205
	Moved to General Waste Charge	
	Mixed-Use – No Service	$28
General Waste Management	ALL QPRC residential properties	$196
Business Waste Management	Red Bin (Residual)	$133
	Yellow Bin (Recycling)	$94
	Green Bin (GO)	$90
	All QPRC Businesses	$137

The total waste management cost for residential properties is shown in Table E13 and total waste management costs for businesses is shown in Table E14.

Table E13 Recommended Scenario – Total Annual Waste Management Charges - Residential

Domestic Waste Management Code	New QPRC Domestic Waste Management Code	Total Waste Management Costs	Change from BAU
DWP1	Urban - SUD - 3 Bin	$510	-$275
DW1			$173
DWP4	Rural - SUD - 2 Bin	$366	-$335
DW15			$2
DW17	Rural - SUD - 1 Bin	$278	$92
DWP8			-$223
DWP12	Vacant - Urban & Rural	$224	-$193
DW10			$197
DW8	Urban - MUD - 3 Bin	$510	$173
DWP6	Rural - SUD - Bin Compound	$356	-$274
DW7	Urban - MUD - 2 Bin	$400	+$93
DW11	Moved to General Waste Charge	-	-
Not Applicable	Mixed-Use – No Service	$224	+$224
N/A	No DWM Service	$196	-$194

Table E14 Recommended Scenario – Total Annual Waste Management Charges - Business

New QPRC Business Waste Service	Total Waste Management Costs	Change from BAU
Compulsory Charge – Former QBN	$137	+$41
Compulsory Charge – Former Palerang	$137	-$253
Red Bin (Residual)	$133	-$129
Yellow Bin (Recycling)	$94	No change
Green Bin (GO)	$90	-$4

E6 Next Steps

To finalise the QPRC Waste Strategy the following steps are required:

- Review feedback received from the Waste Strategy Working Group and the community during public exhibition of the recommended scenario
- Finalise the Strategy based on the scenario selected
- Put forward the Strategy to Council to adopt.
- Rates and charges (2021/2022)

1 Introduction

Queanbeyan-Palerang Regional Council (QPRC) was formed in May 2016 after the amalgamation of the former Queanbeyan City Council (QCC) and Palerang Council. In light of the amalgamation, QPRC commissioned AECOM Australia Pty Ltd to prepare a consolidated 2019-2049 Waste Management Strategy (the '*Strategy*'). The Strategy has been finalised by MRA Consulting Group (MRA). The Strategy provides an opportunity to assist QPRC to meet the objective of a sustainable, "*clean green*" community outlined in the *QPRC 2017 Community Strategic Plan* and address the following key issues faced by the council:

- Predicted population growth in the local government area (LGA) to 76,000 people by 2031
- Achieving NSW Waste Avoidance and Resource Recovery Strategy 2014-2021 (WARR Strategy) targets
- Different fees and charges regimes based on the former LGA boundaries
- Different waste services provided across the LGA
- Delivery of the same service by Council staff in some areas and by Contractors in other areas
- Sporadic, adhoc waste education activities
- Differences in gate fees at disposal and recycling facilities for the same materials from different areas

A number of actions identified in the former Palerang Council Waste Strategy[3] and the former QCC Waste and Resource Recovery Strategy[4] (QCC Waste Strategy) have been implemented or completed, while others are no longer relevant or supported. Key initiatives implemented under the former QCC and Palerang Strategies are discussed further in Section 5 as they relate to this Strategy.

The Council LGA and main waste facilities are shown in Figure 1.

1.1 Objectives of the Waste Strategy

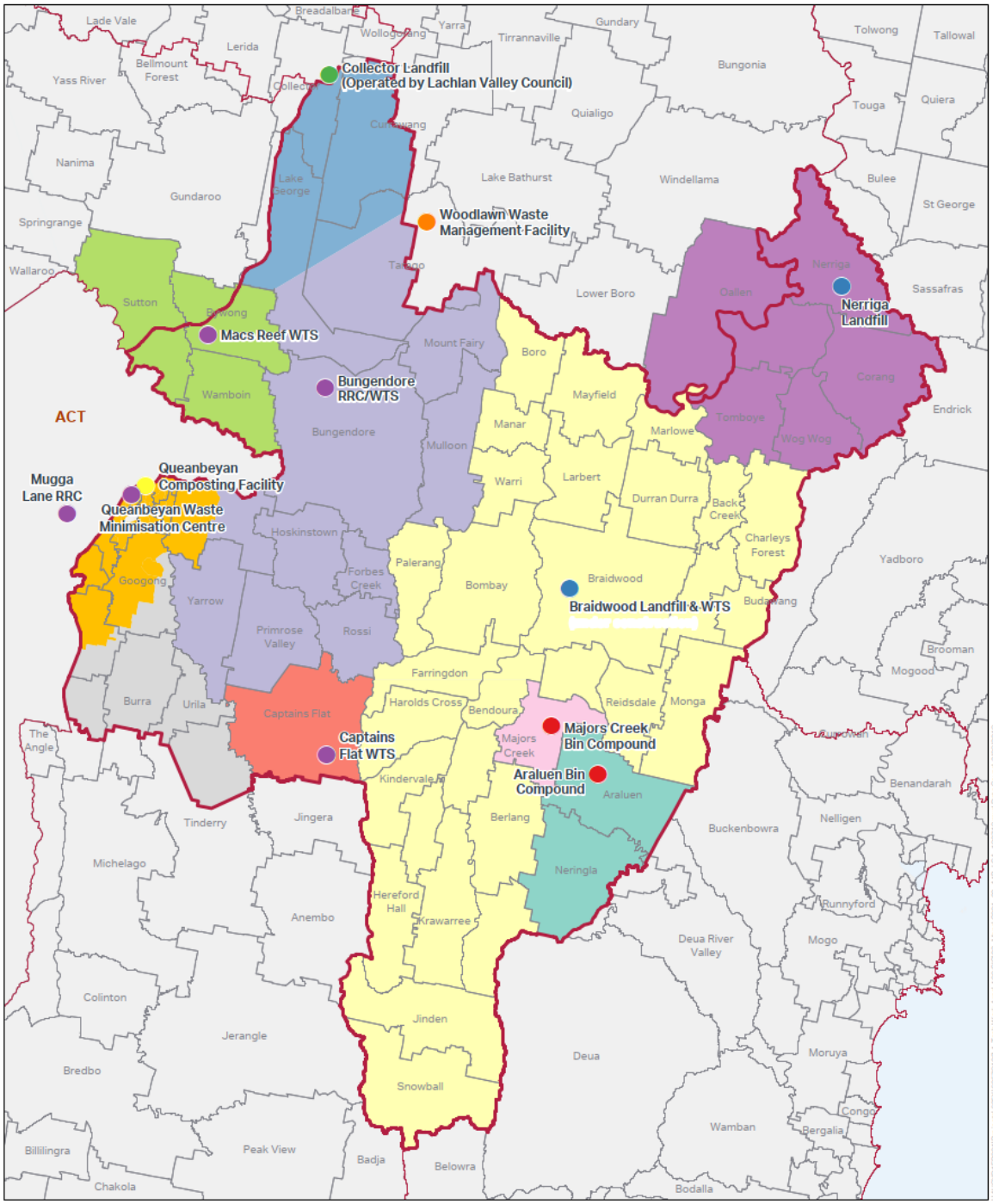
This Strategy has been prepared to provide an approach for waste and resource management in the LGA over the next 30 years in a manner which maximises landfill diversion and resource recovery. The key objectives of the Waste Strategy are to:

- provide an overview of the existing waste management practices and services offered
- engage and gauge community views on current and potential waste management options
- identify options for waste management and resource recovery across the whole LGA
- develop key actions to assist Council in implementing the Waste Strategy over a 30-year timeframe

We want to be a sustainable, "clean green" community and create the right solutions for our local residents, businesses, service providers and community groups.

[3] URS (2015), Waste Management Strategy 2015-2035 for Palerang Council
[4] APC (2013), Waste and Resource Recovery Strategy 2013-2023 for Queanbeyan City Council

Figure 1 QPRC Local Government Area



1.2 Structure of the Waste Strategy

The Waste Strategy consists of the following sections.

Section 1 Introduction: Provides key background information and project objectives relevant to QPRC and its waste management.

Section 2 Development of the Waste Strategy: Provides an outline of the key information which informed the Waste Strategy and subsequent key tasks undertaken in development of the Strategy.

Section 3 QPRC Population and Waste Generation: Provides an overview of the estimated growth in population and associated number of dwellings in the LGA and the associated waste generation over the next 30 years.

Section 4 Key Legislation and Guidelines: Outlines the key waste management and environmental legislation which influence how QPRC manage waste generated in the LGA.

Section 5 Current Waste Management: Describes the current waste management practices implemented in QPRC LGA and provides a review of to the planned changes to waste infrastructure.

Section 6 Waste Management Options: Outlines both long and short lists considered for the QPRC LGA and incorporates an assessment of the preferred options for Council to increase resource recovery.

Section 7 Recommended Waste Management Strategy: Provides an overview of the recommended scenario for managing QPRC's waste and resources based on the outcomes of the financial model. An implementation plan of this scenario has been provided.

Section 8 Next Steps: The immediate actions required to finalise the Strategy.

2 Development of the Strategy

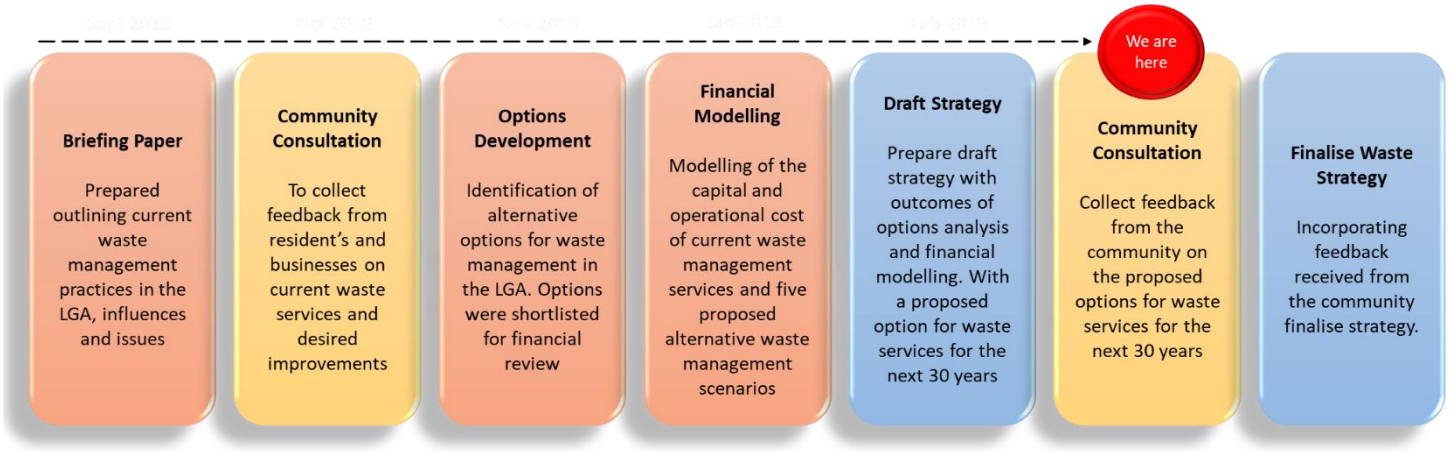
Given the complexities of waste management services in QPRC following the amalgamation, this Waste Strategy has been prepared with a focus on:

- understanding what services are currently provided and to who, presented in the *QPRC Waste Strategy – Briefing Paper* (AECOM, 2018),
- ensuring this information is communicated to the community through establishment of the Waste Strategy Working Group and active community engagement sessions, and
- identifying and reviewing opportunities to improvement access to services,

with the objective of increasing resource recovery across the LGA and provision of equitable services across all QPRC residents. To achieve this a number of tasks were completed as shown in Figure 2 and described further below.

Council is currently at the stage of exhibiting the Draft Waste Strategy to gain feedback from the community on the proposed waste management and resource recovery plan for the next 30 years.

Figure 2 Development of the Waste Strategy



2.1 Waste Strategy Briefing Paper

AECOM undertook a review of QPRC's current waste management practices, regulatory and policy context, and the environmental impact of waste management across the QPRC LGA. Information reviewed was incorporated into all stages of development of the Waste Strategy. Data reviewed included:

- The Palerang Council Waste Management Strategy 2015 – 2035
- The Queanbeyan City Council Waste and Resource Recovery Strategy 2013 – 2023
- Canberra Regional Joint Organisation (CRJO) Regional Waste Strategy 2018-2023
- Information from waste related reports, strategies and studies provided by Council
- QPRC 2017 Strategic Directions Discussion Paper 2017
- Information on costs to Council of existing waste management and recycling services provided by council
- Population and growth rates (Australian Bureau of Statistics (ABS)
- Household growth data provided by Council

- GIS data for locations of waste and recycling facilities in the region provided by Council
- NSW Waste Avoidance and Resource Recovery Strategy Progress Report 2014 – 2015
- Local Government Waste and Resource Recovery Survey Data provided by Council for years 2012 – 2018
- Queanbeyan-Palerang Council Household Kerbside Bin System Audit 2018 (EC Sustainable, 2018)

The Briefing Paper was presented to the community, as discussed below, and the findings of the paper used to inform the development of this Strategy.

2.2 Community and Stakeholder Engagement

Prior to the development of this draft Strategy, QPRC and AECOM consulted with local residents and key community members through information sessions and a targeted workshop. A survey was also used to collect feedback on residents' and business' experience with waste services.

The objective of the information sessions was to explore responses to the current outcomes on waste management in the QPRC LGA, which was outlined in the QPRC Waste Strategy Briefing Paper. This allowed the community to ask questions in one-on-one conversations with the project team.

Representatives from QPRC and AECOM spoke to approximately 120 community members over the course of three sessions. Surveys were carried out with those interested in having their say.

Key outcomes from the survey include:

- Whilst majority of respondents confirmed a high level of confidence in waste separation, there was a great degree of interest (over 60 per cent) amongst the respondents in receiving between a bit to a lot more waste education from Council.
- About 80 per cent of respondents indicated that they would like Council to provide other waste services and specified their preferences. The top three results included requests for:
    1. more composting services and options to dispose of food waste into green bins
    2. soft plastics recycling services
    3. increased availability of kerbside bin collection for rural residents and changes to the frequency for current receivers.
- The assessment of respondents willingness to pay for these extra services showed that majority would want to pay the same rates, with only 37 per cent willing to pay between $5 to $10+ more per quarter.

The key themes that arose during the community drop-in sessions included:

- Education – need for additional education and its importance
- Community perception - Community perception that waste at the transfer stations are not correctly processed
- Rates and fees – interest in weight based billing
- Accessibility – concerns around access times for waste facilities and positive feedback on mattress recycling
- Additional services – return and earn
- Communication – request for regular kerbside collection schedule

A copy of the Consultation Report is provided in Appendix A.

Feedback from the Waste Strategy Working Group identified that during the first round of community consultation understanding of the needs on urban and rural residents was not looked at in sufficient detail. Based on this feedback the consultation of the draft Strategy has incorporated this feedback to gather data representative of rural and urban residents.

2.3 Waste Management Options Analysis

Based on review of current waste management in the QPRC region, as described in the Briefing Paper (AECOM, 2018), and consultation with Council and the local community, a number of options for future management in the QPRC LGA were identified. These options formed a 'long list' which is provided in Appendix B. The long list of options was assessed against the following assessment criteria to obtain a 'short-list' of options for further detailed assessment:

- Indicative cost of implementation i.e. whether it is broadly feasible from a cost perspective
- Potential to increase resource recovery / landfill diversion
- Whether it would meet minimum regulatory requirements
- If a technology option, then whether it is considered a proven / commercially viable option
- Benefits, Opportunities, Risks and Challenges

The results of the long list options assessment were presented to the Waste Strategy Working Group to gain feedback and obtain confirmation of the five integrated scenarios (combination of a number of individual options) to be included in the financial model for an analysis of their financial feasibility.

The following integrated scenarios for improving waste and resource management across the LGA have been assessed as part of the development of this Waste Strategy:

1. Improve litter and illegal dumping issues in the LGA
2. Improve waste education in the LGA
3. Improve management of organics collection and processing
4. Increase diversion of landfill for C&I and C&D streams
5. Improve all key areas of waste management in the LGA, including general waste, recycling, organic and bulky waste streams, and associated infrastructure.

2.4 Review and update of QPRCs 30 Year Financial Plan

Existing financial information and models were reviewed as part of the project. The financial model for the Queanbeyan Strategy was not available, however the existing Palerang financial model was reviewed. The review found that the former Palerang model would be difficult to adapt to fit the new entity. Therefore a new model was created. The financial model incorporates key financial factors from both former Councils such as planned capital costs, existing loan repayments, operating costs, and fees and charges. The model also incorporates Council's *Activity Cost Attribution and Distribution of Governance Policy*. The model also includes waste diversion rates from landfill over the 30 years period for each of the five shortlisted scenarios compared to the current waste management (referred to as the business as usual (BAU) scenario).

3 Population and Waste Generation

The following section provides an overview of the QPRCs population and households demographics. The growth expected in the region will have an impact on the estimated municipal solid waste (MSW) generation from residential sources and need to be managed by Council over the next 30 years. In addition, Council manages commercial and industrial waste (C&I) from kerbside collection of waste generated by businesses and construction and demolition (C&D) waste from waste received at the Council's Waste Transfer Stations (WTS).

3.1 Population and Households

QPRC covers an area of approximately 5,319 km^2. Major population centres include Queanbeyan, Bungendore, Braidwood and Googong. There are also several rural villages and a number of large residential populations living in rural-residential areas to the west of the LGA near the ACT border. QPRC currently serves a population of approximately 58,100 people. Population is expected to grow significantly in the LGA to 76,000 people by 2031. Population growth is reflected in the growth of the number of households within the LGA.

Not all areas of QPRC receive domestic waste management services. Figure 3 below shows the estimated growth in the number of households within the domestic waste management area (i.e. properties which receive a kerbside waste collection service).

Figure 3 Growth in the estimated number of households within the domestic waste management area (source: *QPRC*)

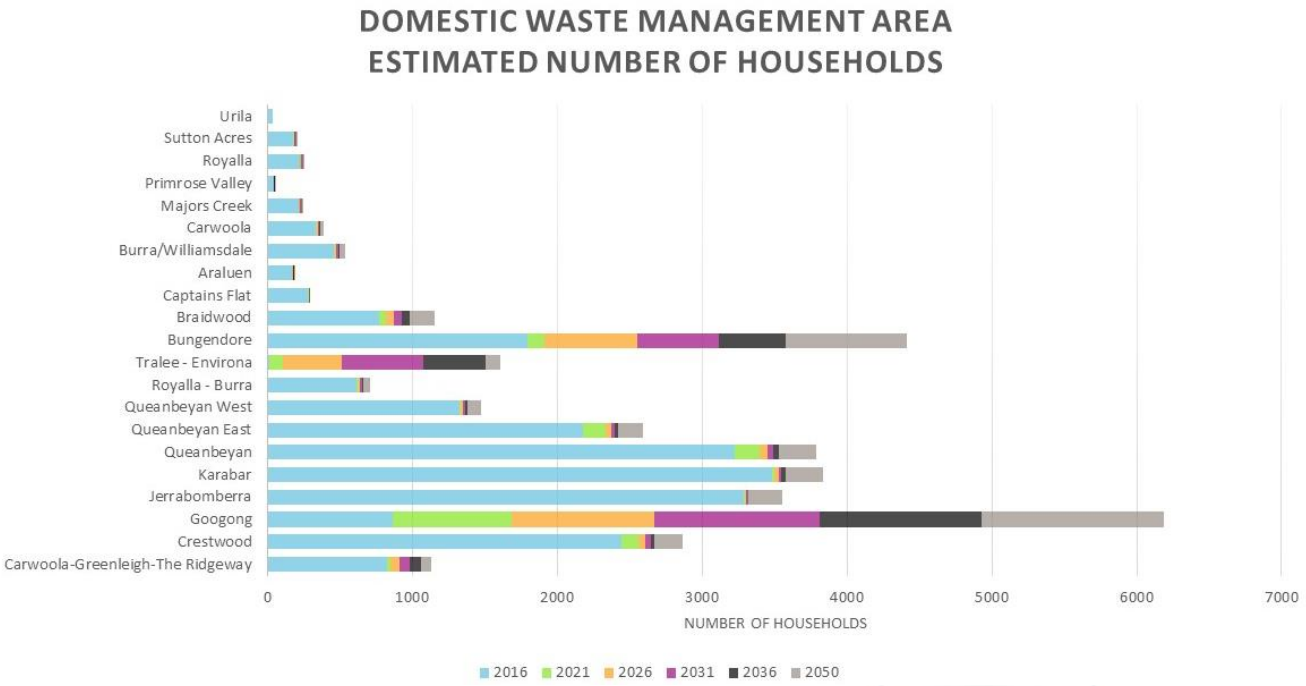
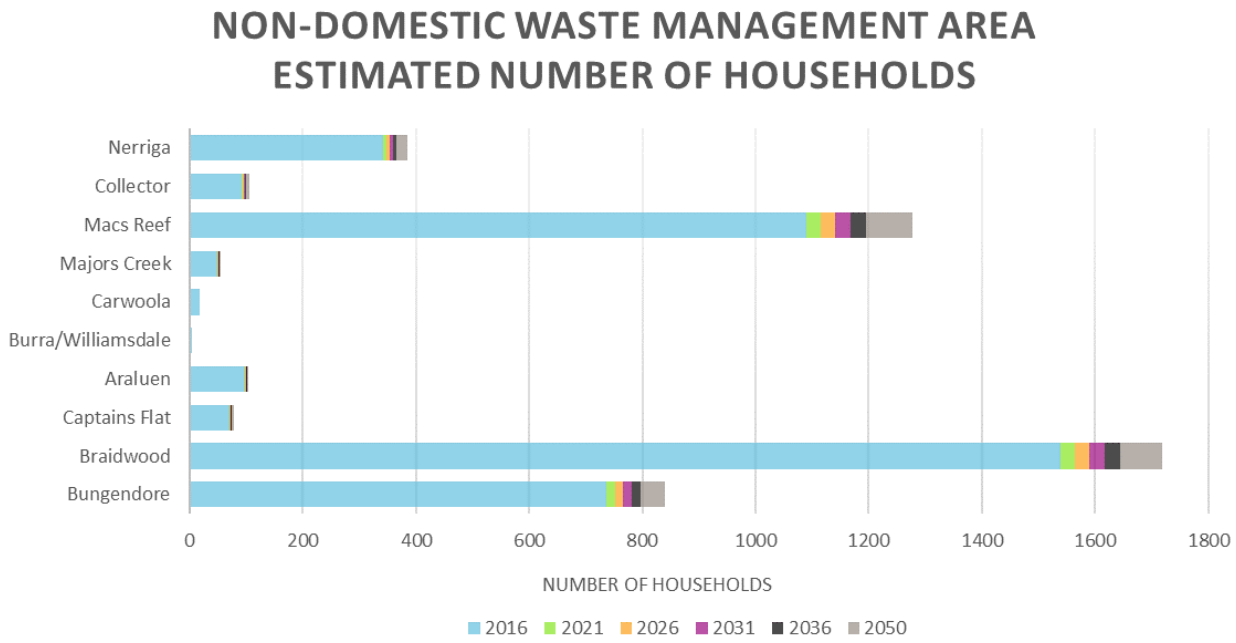


Figure 4 below shows the estimated growth in the number of households outside of the domestic waste management area (i.e. properties that do not receive a kerbside waste service).

Figure 4 Growth in the estimated number of households outside of the domestic waste management area (source: *QPRC*)



**Note – Burra/Williamsdale has three households*

Overall, the total number of households in the QPRC LGA is expected to grow from 26,742 in 2016 to 40,064 in 2050.

3.2 Municipal Solid Waste Generation and Diversion

QPRC generates MSW from kerbside collection, waste dropped off at waste transfer stations and landfills (self-hauled) and bulky waste collection (from the former QCC LGA only). In addition to this, the existing self-haul arrangements within the former Queanbeyan LGA mean that a portion of waste is effectively "lost" through diversion to the ACT. To ensure that all model scenarios use the same waste volumes, an estimate of the amount of material that would potentially come back into the waste stream managed by Council has been included.

As shown in Figure 5, QPRC generated approximately 27,184 tonnes of MSW in 2017/18 from these sources. Of these tonnes generated QPRC diverted approximately 41% of waste from landfill.As the destination of "Lost" material is unknown, it has been conservatively assumed that all "Lost" waste goes to landfill.

Figure 5 QPRC 2017/18 MSW Breakdown of generation and diversion

Based on the current waste generation, diversion rates and growth in households, QPRC is estimated to double the amount of waste generated in 2050. Table 1 provides a summary of estimated MSW generation from 2017 to 2050.

Table 1 Waste generation 2016 – 2050 (tonnes per annum)

	2017	2021	2026	2031	2036	2041	2046	2050
Residual	16,075	17,346	19,415	21,766	24,059	25,918	27,829	29,433
Recycling	6,126	6,612	7,407	8,304	9,172	9,895	10,636	11,258
Organics	4,983	5,408	6,216	7,122	8,008	8,681	9,358	9,928
Total	27,184	29,366	33,037	37,192	41,238	44,494	47,822	50,618

3.3 Commercial and Industrial Waste Generation

A waste service for commercial premises is offered by QPRC to businesses in the former QCC LGA. According to the *QPRC 2016-2017 WARR Survey* the following waste quantities were collected by Council from the commercial and non-residential sector:

- Residual Waste –from 792 premises – 398 tonnes - landfilled
- Recyclables – from 597 premises – 116.5 tonnes – 11.6 tonnes landfilled, remaining recycled
- Greenwaste – 49 premises – 11.9 tonnes - recycled

QPRC provide the former Palerang LGA with 123 waste and recycling services to the commercial and non-residential sector however does not separately record these quantities from municipal waste.

The above quantities based on services provided by QPRC to the commercial sector are expected to represent only a small percentage of the overall C&I waste generation in the LGA, with the majority collected by private waste contractors and delivered to facilities in the ACT region.

3.4 Construction and Demolition Waste Generation

As noted in Section 5.5, C&D waste is currently received at Bungendore, Braidwood and Braidwood Waste Transfer Stations. The following figures are noted in the 2017-18 WARR Survey:

- Concrete 115.5 tonnes - passed onto external processor
- Mixed C&D: 769 tonnes – landfilled
- Other – 4,559 tonnes – landfilled

The quantities noted above are expected to represent only a small percentage of the overall C&D waste generation in the LGA with the majority delivered to processing facilities in the ACT region as noted in Section 5.5.

4 Key Legislation and Guidelines

The following table summarises the current legislative and regulatory environment at a State and National level. Refer to the Briefing Paper, refer to Appendix C, for more detail including likely changes in the short to medium term which may impact on waste management in QPRC and therefore the actions outlined in this Waste Strategy.

Table 2 Current legislation and regulations impacting on waste management in QPRC

Legislation/ Regulation	Short Description/ Relevance to QPRC
Australian Government (Cwth)	
Product Stewardship Act 2011	Mandatory and voluntary schemes involve businesses taking responsibility for the full lifecycle of their products and materials. Paintback is a voluntary scheme allowing free drop off of paint containers and unwanted paint at the Bungendore Resource Recovery Facility, Braidwood Waste Transfer Station and Queanbeyan Waste Minimisation Centre. It is funded by a 15c/L (excl. GST) levy applied to paint wholesalers. There is a free drop off point for QPRC residents for the National Television and Computer Recycling Scheme (NTCRS) in the ACT.
Waste export ban	The Council of Australian Governments (COAG) Waste Export Bans response strategy outlines a timetable to ban the export of waste plastic, paper, glass and tyres. All bans will be in effect from 1 July 2024.
New South Wales	
Protection of the Environment Operations (POEO) Act 1997	Regulation of pollution control, waste disposal and waste management and licensing requirements in NSW. Waste is categorised into MSW, C&I and C&D waste. QPRC predominately manages MSW, however additional C&I services are provided to small businesses and some waste facilities operated by QPRC accept C&D waste. The Bungendore Resource Recovery Facility was issued an environment protection licence in 2018. The EPL includes requirements for groundwater monitoring and noise monitoring.
Protection of the Environment Operations Waste Regulation 2014	Sets out provisions covering the way waste is managed in terms of storage and transportation as well as reporting and record keeping. Key areas relating to QPRC include: Tyres: consignors and transporters of waste tyres are required to monitor the movement of waste tyres in NSW. A site which stores more than 5 tonnes of tyres or 500 waste tyres on site at any time requires an environment protection licence (EPL). Illegal dumping: lists wastes that automatically constitute land pollution to highlight the risk of dumping. To support efforts to reduce illegal dumping and littering, the NSW EPA has developed the *Don't be a Tosser* campaign. Unlicensed landfills: provides minimum operational standards which must be implemented at an unlicensed landfill site. This clause is relevant to the ongoing operation of Nerriga and Braidwood landfills.
NSW Waste Avoidance and Resource Recovery Act 2001	The *NSW WARR Act* requires the WARR Strategy to be reviewed and replaced every five years. The WARR strategy promotes the waste hierarchy, providing a guideline for considering options prior to more detailed analyses. With regards to reuse or recycling, the most sustainable option may depend on the specific location of the product and the distance required transporting it to eligible recycling markets. In this instance, the more sustainable waste management option for QPRC may differ between Braidwood and Googong.

Legislation/ Regulation	Short Description/ Relevance to QPRC
	The latest WARR strategy was released by the NSW EPA in 2014 and sets new recycling targets to be achieved by the year 2021-22, including: • increase MSW recycling rate from 52% to 70% • increase C&I recycling rate from 57% to 70% • increase C&D recycling rate from 75% to 80% • increase waste diverted from landfill from 63% to 75% It is noted that the EPA is currently preparing a updated 20 Year Waste Strategy which may influence the future directions of waste management in QPRC.
NSW Landfill Levy	Encourages less waste generation and increased resource recovery. Some of the revenue collected from the landfill levy is used to help fund resource recovery initiatives. QPRC is currently not located within the levy paying area. However, the existing levy structure impacts Council and changes the market conditions for recycling operations and waste movement.
Waste Avoidance and Resource Recovery Amendment (Container Deposit Scheme) Act 2016 No 57 and the *Waste Avoidance and Resource Recovery (Container Deposit Scheme) Regulation 2017*	The NSW container deposit scheme (CDS), Return and Earn, commenced in 2017, enabling individuals and businesses to return eligible containers and receive 10c per container. As of June 2018, there were three drop off points in Queanbeyan/Jerrabomberra. The ACT implemented a complementary CDS via the *Waste Management and Resource Recovery Amendment Act 2017* in 2018. Recyclables collected from kerbside collections in QPRC are taken to the Hume Materials Recycling Facility (MRF) in the ACT. QPRC is able to claim the 10c from containers collected once a revenue sharing model is agreed with the MRF. This is a potential opportunity to offset costs related to waste management.
Local Government Act 1993	Defines how Councils may exercise their powers and the manner in which Councils are managed and financed. With respect to waste management, Councils may make an annual charge for the provision of waste management services other than domestic waste management services (s. 501). In addition, Councils must make and levy an annual charge for the provision of domestic waste management services (s. 496). With respect to domestic waste management services, Council charges for domestic waste management must be calculated so as to not exceed the reasonable cost to the council of providing those services.
Waste Less Recycle More Initiative	The WLRM grant program provides funding for organisations to improve their management of waste and recovery of resources. Phase 1 of WLRM provided $465.7 million over the period July 2012 to June 2017, focusing on funding new, large-scale waste and recycling infrastructure, recycling facility upgrades, drop off centres, food and garden organics processing and recycling innovations. Phase 2 of WLRM commenced on 1 July 2017, with the capacity to award $337 million over 4 years. Priorities have already been outlined with a number of funding areas being potentially relevant to Council: • Local government waste and resource recovery – $70 million; • Illegal dumping prevention and waste enforcement – $65 million; • Household problem waste – $57 million; • Waste and recycling infrastructure – $48 million; • Organics infrastructure – $35.5 million; • Litter prevention and enforcement – $30 million;

Legislation/ Regulation	Short Description/ Relevance to QPRC
	• Business recycling – $22.5 million; • Recycling innovation – $5 million; and • Heads of Asbestos Co-ordinating Authorities – $4 million.
Australian Capital Territory	
Waste Management and Resource Recovery Act 2016	The Act requires all waste facilities to be licenced and all waste transporters to be registered. Rigorous reporting requirements are stipulated for waste facilities and transporters. The progressive enforcement of provisions is likely to result in some poor waste operators, practicing waste stockpiling, shutting down their ACT sites and seeking to establish new facilities interstate, potentially in QPRC. Under the Act, QPRC is considered both a waste management business (as Council operates the composting facility located at Oaks Estate in the ACT) and a waste transporter. The fact that Council is subject to conditions of the Act leaves Council vulnerable to potential changes to this Act and Regulations enacted under it.

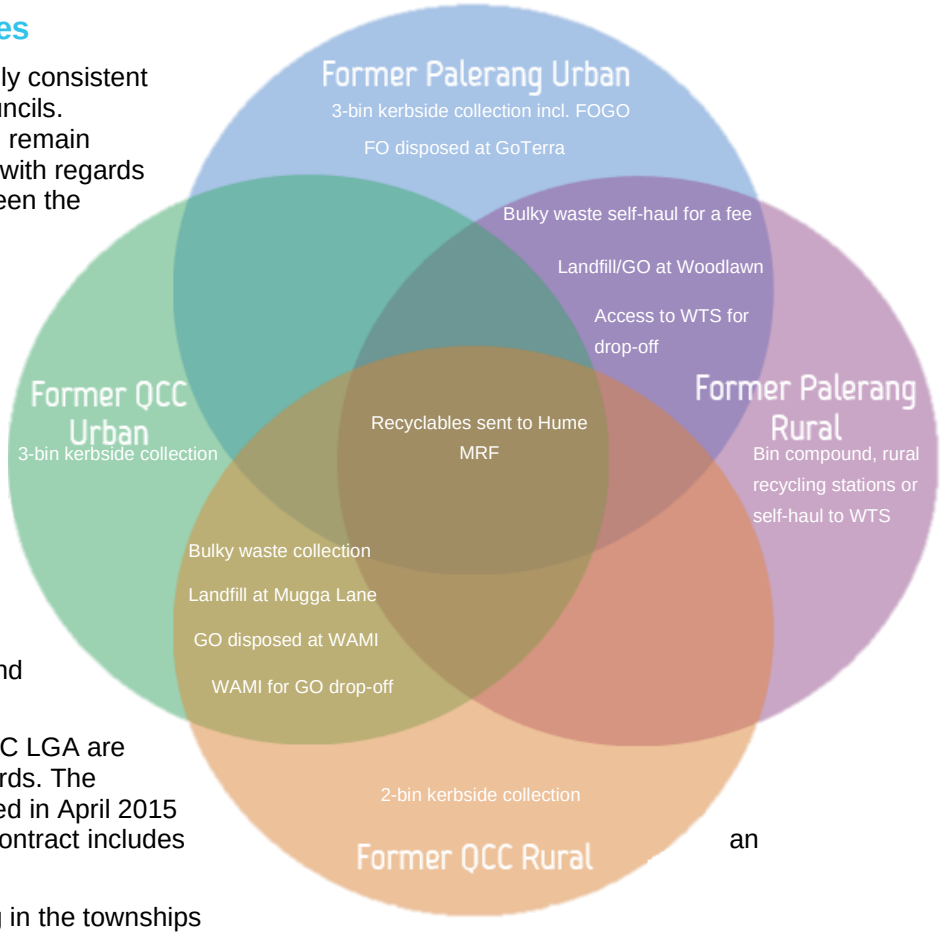
5 Current Waste Management

The following section provides an overview of waste management and resource recovery services currently offered by QPRC.

5.1 Residential Waste Services

QPRC provides waste services broadly consistent with those offered by other CRJO councils. Nevertheless, considerable variations remain across the CRJO and QPRC regions with regards to waste services and practices between the former Queanbeyan and Palerang councils.

5.1.1 Kerbside Collection



Former QCC urban residents receive a three bin kerbside service. This includes a 240L fortnightly collection for recyclables, a 240L fortnightly collection of garden organics (GO) and a 140L or 240L weekly collection of residual waste. Former QCC rural residents receive a two bin kerbside service. This service includes a 240L fortnightly collection for recyclables and residual.

Kerbside collections in the former QCC LGA are provided under contract by J.J. Richards. The contract with J.J. Richards commenced in April 2015 and will conclude in April 2022. The contract includes an optional extension to 2025.

Former Palerang LGA residents living in the townships of Braidwood, Bungendore and Captains Flat receive a three bin service consisting of 140L weekly collection for residual, a 240L fortnightly collection for recyclables and a 240L fortnightly collection for food organics and garden organics (FOGO) service.

Former Palerang LGA residents living in Royalla/Burra/Urila receive a two bin service consisting of 240L fortnightly collection for residual waste and a 240L fortnightly collection for co-mingled recycling. Residents living in Carwoola/Primrose Valley receive one 240L fortnightly collection for co-mingled recycling and currently self-haul their residual waste, which is also the case for Sutton Acres. Residents living in Majors Creek/Araluen receive a 240L fortnightly residual waste collection and a 240L fortnightly co-mingled recycling service.

The former Palerang LGA collection services are provided directly by Council staff using Council-owned trucks.

The current waste collection services and the associated catchment services in QPRC are summarised in

Table 3 below.

More remote rural residents within the QPRC are required to self-haul all their wastes to council provided collection points (e.g. bin compounds, rural recycling stations, WTSs and landfills) which are located across the LGA as shown in Table 5. The location of these facilities is shown in Figure 6.

Issue: Food waste is not currently collected in the former Queanbeyan LGA. This represents a significant amount of material that can be diverted from landfill.

Issue: Population growth in the areas with a Domestic Waste Management service in the former Palerang LGA has reached the point where the number of garbage collection trucks and drivers is not sufficient to appropriately manage the service.

Issue: The rates structure for waste management services varies according to the location of the property. Properties in the former LGAs pay different amounts for the same or similar services. Properties in the former Palerang LGA pay a General Waste Charge to manage waste outside the scope of domestic waste management.

Issue: Waste collection services in the former Queanbeyan LGA are undertaken by contract. Waste collection services in the former Palerang LGA are undertaken by Council.

Table 3 QPRC Waste Collection Services

Catchment	Number of Services	Residual	Recycling	GO	FOGO	Collection Contractor
Braidwood	768	140L (W)	240L (F)	N/A	240L (F)	Council
Bungendore	1,441	140L (W)	240L (F)	N/A	240L (F)	Council
Burra/Royalla/Urila	628	240L (F)	240L (F)	N/A	N/A	Council
Captains Flat	275	140L (W)	240L (F)	N/A	240L (F)	Council
Carwoola/Primrose Valley	367	N/A	240L (F)	N/A	N/A	Council
Majors Creek/Araluen	376	240L (F)	240L (F)	N/A	N/A	Council
Queanbeyan – Urban	15,856	140L (W)	240L (F)	240L (F)	N/A	J.J. Richards
Queanbeyan –Urban	1568	240L (W)	240L (F)	240L (F)	N/A	J.J. Richards
Queanbeyan – Multi-unit shared^	2,898	240L (W)	240L (F)	240L (F)	N/A	J.J. Richards
Queanbeyan – Rural	869	240L (F)	240L (F)	N/A	N/A	J.J. Richards
Sutton Acres	177	N/A	240L (F)	N/A	N/A	J.J. Richards
Vacant (no service)	4,218					

(W) Weekly collection, (F) Fortnightly collection, N/A Collection service not offered

^ Some shared multi-unit bins are collected twice weekly

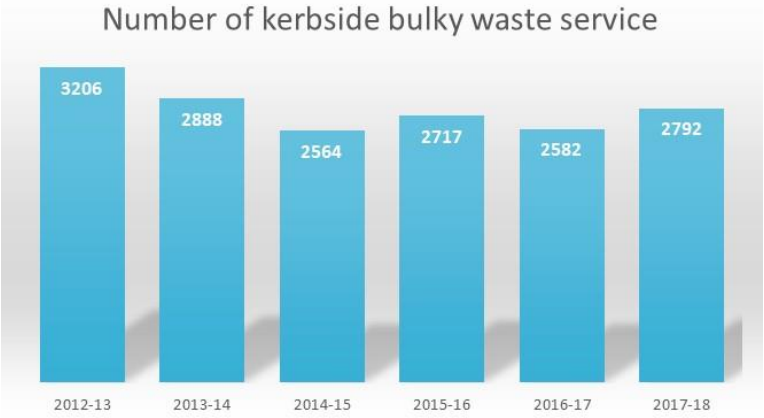
5.1.2 Bulky Waste

Households in the former QCC LGA are provided two kerbside clean-ups per financial year, the cost of this service is covered through the QCC Domestic Waste Management charge. These are accessed by contacting Council and booking a collection of one trailer load of materials which are placed by the resident on the kerbside on the allotted date for collection. For residents living in either multi-unit dwellings or rural areas of the former QCC LGA, two collections per financial year are provided on fixed dates.

Households in the former QCC LGA booked on average 2,792 kerbside bulky waste services over six years.

Given there around 17,424 households eligible to use the kerbside bulky waste service in the former QCC LGA, the number of households utilising the bulky waste collection service is relatively small.

Bulky waste collections were included in the former Palerang Waste Strategy. Due to significant safety issues and resourcing constraints it has not yet been implemented. Former Palerang LGA residents currently self-haul their bulky waste to transfer stations.



Mattresses collection from bulky waste collections or self-hauled to QPRC waste facilities are collected and recycled by Soft Landings.

Issue: The existing bulky waste collection service in Queanbeyan/Googong is not well utilised and is labour intensive to manage. In addition, the service is not fully funded and there are insufficient funds to service all eligible properties.

Issue: Bulky waste is treated differently between the former LGAs. Although kerbside bulky waste collection was included in the Palerang strategy for those areas with Domestic Waste Management service, it had not yet been implemented due to resource constraints and significant safety and illegal dumping concerns in rural areas.

5.2 Waste Disposal

Residual waste collected from the former Palerang LGA through kerbside collection, WTSs and bin compounds are disposed of at Woodlawn Waste Management Facility or Braidwood Landfill. Recyclables collected through kerbside collections, WTSs and bin compounds are taken to the Hume MRF.

Residual waste collected from the former QCC LGA catchments are sent to Mugga Lane Landfill in the ACT. Recyclables collected from kerbside collections are taken to the Hume MRF.

FOGO material from the former Palerang LGA was previously sent to Landtasia Organic Farm in Mulloon for composting. However, this arrangement ended in 2017. FOGO collections are taken to Bungendore Resource Recovery Facility (RRF) where the food organics (FO) component is extracted. The garden organics (GO) component is transferred to Council's GO stockpile and FO is sent to GoTerra, a large scale worm farm. The former QCC LGA GO is composted at Oaks Estate near the sewage treatment plant. The existing facility at Oaks Estate does not provide suitable facilities for site staff, is located within the ACT (and thus exposed to the ACT regulatory environment) and its operation is sometimes in conflict with the operations of the sewage treatment plant.

A summary of where MSW generated in QPRC is processed or disposed is provided in Table 4.

Table 4 Waste Disposal Summary

	Former Palerang LGA	Former QCC LGA
Waste Category	**Disposal Facility**	**Disposal Facility**
Residual	Woodlawn Waste Management Facility or Nerriga Landfill	Mugga Lane Landfill, ACT
Recycling	Hume MRF	Hume MRF
Organics	GO – Woodlawn for reuse as mine rehabilitation material FO – GoTerra Worm Farm	Oaks Estate near the sewage treatment plant
Bulky Waste	Self-haul by residents to WTS	Bungendore Resource Recovery Facility and Braidwood Landfill

The waste services provided by QPRC for each waste catchment are summarised in Table 5.

Former Queanbeyan Waste Minimisation Centre (WAMI)

Organic output from the former Queanbeyan Oaks Estate garden organics processing facility

Issue: As not all areas of the QPRC LGA pay the General Waste Charge, not all residents have access to the same facilities.

Issue: The same waste type from different areas are sent to different waste facilities and therefore pay different gate fees for the same waste type.

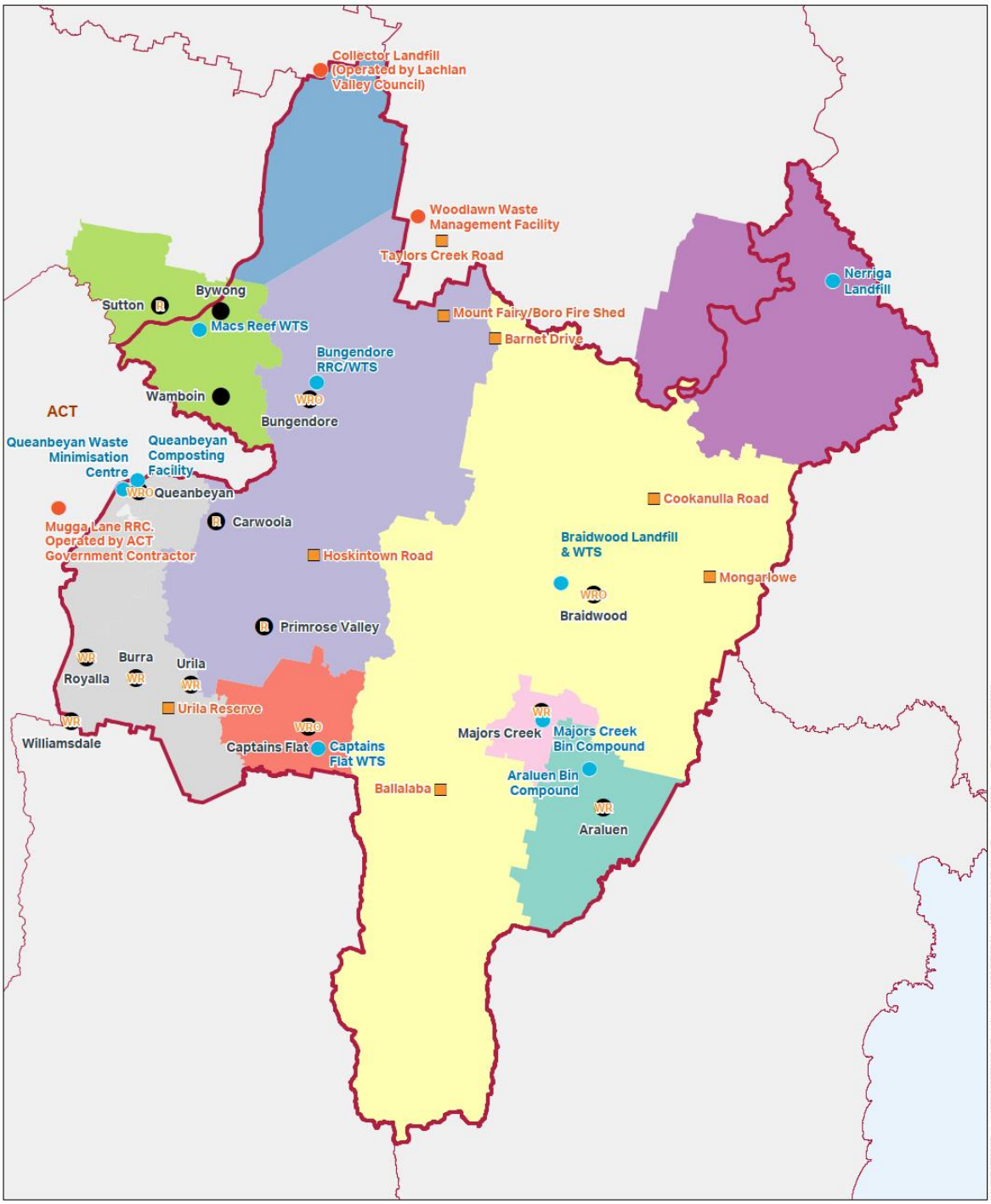
Issue: The location of the Queanbeyan composting facility in the ACT exposes Council to a regulatory environment outside of the usual environment. This presents issues with respect to the management and reporting of waste.

Table 5 Summary of waste services for the main townships in the QPRC

Waste Catchment	Township/ Locality	Kerbside Collection				Bin Compound	RRS*	WTS	RRC	Landfill	Bulky Waste Collection
		Residual	Recycling	FOGO	GO						
Araluen	Araluen	✓	✓			✓					
Bungendore	Bungendore	✓	✓	✓				✓	✓		
	Primrose Valley		✓								
	Carwoola		✓								
	Hoskinstown						✓				
	Mount Fairy						✓(two sites)				
	Tarago						✓				
Braidwood	Braidwood	✓	✓	✓				✓			
	Durran Durran						✓				
	Mongarlowe						✓				
	Ballalaba						✓				
Captains Flat	Captains Flat	✓	✓	✓				✓			
Collector	-									✓	
Macs Reef	Bywong/ Wamboin							✓			
	Sutton East		✓								
Majors Creek	Majors Creek	✓	✓			✓					
Nerriga	Nerriga									✓	
Burra District	Royalla	✓	✓								
	Burra	✓	✓								
	Urila	✓(select areas)	✓(select areas)				✓				
	Williamsdale	✓(select areas)	✓								
Queanbeyan	Urban	✓	✓		✓				✓		✓**
	Rural	✓	✓						✓		✓***

**Rural recycling station*
*** kerbside on-call*
**** fixed date*

Figure 6 Waste facilities and waste services in the QPRC LGA



5.3 Council Waste Infrastructure

The former Palerang Council has been undertaking a staged plan to close rural unlicensed landfills servicing the former Palerang waste catchments. Table 6 details the planned closure and rehabilitation dates for these facilities, and the proposed alternative waste management practices which will service the communities over the next 30 years. The former QCC does not have any operating landfill therefore has not been considered in this table.

The closure of these rural landfills will reduce the potential long term environmental liabilities for Council although there are significant costs associated with closing these facilities.

In place of the landfill sites, the former Palerang Council has implemented a plan to construct a series of RRCs, WTSs and bin compounds to service the former Palerang residents. Construction of the RRCs and WTSs will also improve council's ability to track waste generation and resource recovery rates and therefore assist council to develop programs to increase diversion from landfill. Table 7 provides an overview of the key waste infrastructure projects undertaken by QPRC.

Table 6 Completed and planned changes to former Palerang unlicensed landfills

Landfill	Est. Closure Date	Rehabilitation Date	Proposed/Implemented Waste Management Practice	Landfill Rehabilitation Cost
Araluen	Closed	2019/20	Kerbside waste collection service supplemented by a bin compound	$500,000 (estimated)
Bungendore	Closed	2018/19	Bungendore RRC and WTS opened in December 2014	$1,500,000 (estimated)
Braidwood	Closed	2020/21	Braidwood RRC and WTS opened in November 2019	$2,000,000 (estimated)
Captains Flat	Closed	2015/16	Captains Flat WTS	$500,000 (actual)
Collector	-	-	Landfill to remain open for foreseeable future. Operated by Upper Lachlan Shire	-
Macs Reef	Closed	2018/19	Macs Reef WTS	$1,500,000 (actual)
Majors Creek	Closed	2019/20	Kerbside waste collection service supplemented by a bin compound	$500,000 (estimated)
Nerriga	2020/21	2020/21	In association with closure of the landfill an alternative waste management service will be investigated through consultation with the community	$500,000 (estimated)

Table 7 Key Waste Facility Projects

Facility	Description	Approximate Cost
Braidwood WTS	Facility accepting residual waste, recyclables and organics from municipal, commercial & industrial and construction & demolition sources	$5,500,000
Bungendore RRC and WTS	Largest facility in LGA. Facility accepting residual waste, recyclables and organics from municipal, commercial & industrial and construction & demolition sources	$4,500,000
Captains Flat WTS	Local facility accepting mainly residential waste streams	$400,000
Macs Reef Road WTS	Local facility accepting residential waste streams	$2,000,000
Queanbeyan Waste Minimisation Centre (WAMI)	Purchase of new mulcher	$1,000,000
	Construction of a Community Recycling Centre	$200,000

Macs Reef Waste Transfer Station

Issue: Collection and management of data differs between waste facilities. This makes assessment and reporting of waste generation and diversions rates problematic.

5.3.1 Waste Facility Staffing Levels

Each waste facility has different staffing requirements. Differences relate to the size of the facility, the number of waste types received at the facility, the number of people on the site at any one time and over the day and the environmental and public safety requirements. The current staffing levels at each facility are outlined below.

Table 8 Staffing Levels at Waste Facilities

Facility	Number of Staff	Sufficient Staffing to Cover Environmental & Public Safety Risk	Sufficient Staffing to Cover Staff Absences
Braidwood WTS	2	No	No
Bungendore RRC	3	No	No
Captains Flat WTS	1	Yes	No
Macs Reef Road WTS	1	Yes	No
Queanbeyan WAMI	4	Yes	Yes

Issue: Staffing levels at many waste facilities does not provide sufficient coverage of staff sickness and leave which results in additional exposure to public safety and environmental risks

5.3.2 Rural Recycling Stations

There are a number of rural recycling stations (sometimes referred to as a 'bank of bins') located across the former Palerang LGA. Usage of the stations is variable with some stations used correctly on a consistent basis, while others are routinely misused. Common misuse includes disposal of residual or bulky waste in the bins and overfilling of bins. This misuse presents an environmental and safety risk to Council and facility users.

Issue: On-going misuse of some rural recycling stations.

5.4 Commercial Waste Services

Businesses located in the former QCC LGA can access the following QPRC waste services:

- 1 x 240L residual waste bin
- 240L co-mingled recycling bins provided based on need and storage space available
- 240L GO bins provided based on need and storage space available

If they generate more residual waste than this, they are required to organise their own waste services.

The former Palerang LGA provides approximately 123 services to the commercial and non-residential sector as identified in the 2016-17 WARR survey.

The services currently offered to businesses in the region are summarised in Table 9.

Table 9 Council provided waste services for local businesses

Service	Former Palerang LGA	Former Queanbeyan LGA
Residual	Yes	Yes
Recycling	Yes	Yes
FOGO	No	No
GO	No	Yes
Bulky good drop off	Yes	No
Waste reduction education	Yes	Yes

Issue: The fees and charges levied are different between the former LGAs.

5.4.1 Business Recycling Programs

Within the former QCC LGA, QPRC has been supporting business participation in the ACTSmart business recycling program[5] since 2012. Approximately 20-30 new businesses have participated in the program each year, with some 32 choosing to remain accredited in the system – voluntarily recording and sharing waste and recycling data. Access to the ACTSmart business recycling program has been extended to the whole QPRC LGA.

A further 76 former QCC LGA businesses have participated in the NSW EPA Bin Trim[6] program. Further Bin Trim funding was recently allocated to the region and local businesses are being encouraged to participate.

Recycling and waste reduction programs for businesses have been shown to significantly reduce waste to landfill from participating businesses. However, the participation rate remains a relatively small portion of the 4,500 or so business in the QPRC area[7]. Hence, the overall impact of these programs on resource recovery in the QPRC at their current participation rates is likely to be modest.

Issue: The business waste diversion programs are not well utilised. It is unclear if this is due to a lack of awareness of the programs or if they are considered too difficult to be involved in.

5.4.2 Food Rescue

QPRC recently received a funding grant through the EPA Waste Less, Recycle More program to help reduce food waste and rescue food for provision to vulnerable groups via OzHarvest. A Food Rescue Project Officer was appointed in 2018. The officer worked with QPRC businesses and OzHarvest to divert approximately 39 tonnes of food waste from landfill between July 2018 and December 2019. This program has now been completed.

While the quantities of waste diverted through food rescue tend to be relatively small, they provide significant social benefits to disadvantaged members of the community, educational benefits for all involved and often provide economic benefits to the participating businesses.

Issue: Reliance on grant funding means that waste diversion momentum is lost at the end of the program.

[5] https://www.actsmart.act.gov.au/what-can-i-do/business/recycling
[6] https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/business-government-recycling/bin-trim
[7] http://stat.abs.gov.au/itt/r.jsp?RegionSummary&region=10102&dataset=ABS_REGIONAL_ASGS&geoconcept=REGION&measure=MEASURE&datasetASGS=ABS_REGIONAL_ASGS&datasetLGA=ABS_NRP9_LGA&regionLGA=REGION&regionASGS=REGION

5.5 Construction and Demolition Waste

C&D waste is generally managed by private industry with minimal involvement from local government.

C&D waste from the former QCC LGA is taken to the ACT C&D MRF at Mugga Lane or the Capital Concrete Recycling (CCR) Facility at Pialligo. Soil is also taken to the CCR facility.

Building operations in the former Palerang LGA take C&D waste to the Bungendore WTS. C&D businesses are encouraged to separate materials through pricing mechanisms. Concrete and metals are sent to appropriate facilities for recycling, and residual waste is transported to Woodlawn for disposal. A relatively small amount of C&D waste is also received at the Braidwood WTS.

The largest new area of development in the QPRC is the Googong estate which is expected to grow from 892 to 3,748 households by 2031[8]. C&D waste from this area is currently transported approximately 20 km to the Re.Group MRF in Canberra through Jerrabomberra, or to CCR through Karabar and Queanbeyan.

5.6 Other Waste Management Services

5.6.1 Education

Education activities are currently limited within the QPRC LGA and often occur in an adhoc fashion. QPRC funds Keep NSW Beautiful to run the EnviroMentors program[9] in local primary schools. In March 2018 five local primary schools chose to participate. The Bournda Environmental Education program[10] also runs waste education activities for QPRC schools (via the CRJO). Bournda helped two QPRC schools undertake waste audits in 2017-18.

QPRC staff also provides presentations to local schools, if requested, on an adhoc basis. In addition, QPRC staff also attends community events such as local shows to provide community education and undertake occasional bin inspection programs.

Issue: Education activities are sporadic and/or ad-hoc, are not well targeted and are not sufficiently resourced to be effective.

[8] .idcommunity (2018), Googong: Population, households and dwellings. <https://forecast.id.com.au/queanbeyan-palerang/population-households-dwellings?WebID=150 >
[9] http://knswb.org.au/our-programs/enviromentors/
[10] http://bourndaeec.nsw.edu.au/

5.6.2 Illegal Dumping

Under Section 115 of the POEO Act it is an offence to dump waste in a manner that harms or is likely to harm the environment. Council may issue an on the spot fine to an individual for illegal dumping up to a maximum of $1,500, or up to $5,000 for corporations. Following a report of dumped waste, Council staff will investigate for evidence of where it may have come from. Where it can be identified who dumped the waste the offender will be prosecuted. An individual may be fined up to $1,000,000 and/or 7 years' imprisonment, in the case of a corporation a fine of up to $5,000,000 (s.119, POEO Act).

In reality, insufficient Council resources to undertake investigations leads to many illegal dumping cases not being investigated. In these instances, Council staff arrange the clean up of the waste dumping and costs are borne by all ratepayers. In some instances, clean up activities diverts Council resources from routine operations such as litter collection.

QPRC actively participates in the Regional Illegal Dumping Squad. In 2017/18 financial year Council spent approximately $20,725[11] on managing roadside litter and illegal dumping. Council have reviewed a number of options for minimising these issues as part of this Strategy, to limit illegal dumping and littering in public spaces, on roads and at QPRC waste management facilities.

Issue: There are insufficient resources to adequately investigate illegal dumping events in a timely manner. As a result, illegal dumping events are often cleaned up with no investigation.

Issue: There are insufficient resources to safely manage illegal dumping collections and to undertake roadside litter collection across the LGA.

5.6.3 Clean Up Australia Day

Currently the Council participates in Clean Up Australia Day as a means of managing litter and to educate the community on illegal dumping.

The operation of the Clean Up Australia Day event has been criticised in recent years. A review of the risks associated with clean up events on rural roads has resulted in Council more stringently applying the rules established by the national organisers of Clean Up Australia Day. This has resulted in some long-standing events no longer occurring.

Council has resolved to receive waste from any resident for free on Clean Up Australia Day. This exposes Council to the possibility of a large influx of waste from private properties. This is contrary to the intention of Clean Up Australia Day and is also an unfunded commitment.

Issue: Free disposal of waste on Clean Up Australia Day risks large volumes of private waste and is unfunded. The practice also potentially diverts residents from cleaning up public spaces to cleaning up private property.

[11] QPRC 2017/18 WARR Report- Survey Answers

5.6.4 Roadside litter collection

Roadside litter is a frequent cause of concern for residents. Council currently employs one dedicated team of two people to undertake roadside litter collection within the former Queanbeyan LGA. This team is also tasked with public bin waste collection. As such, the team is fully committed and is unable to provide additional coverage. In addition, there is no spare capacity in other suitable teams to provide assistance to this team.

Issue: Roadside litter collection does not have sufficient resources to cover the whole LGA.

5.6.5 Natural disaster management

During times of natural disaster, it is common for large volumes of waste material to be created in a short period of time. Following the immediate aftermath, residents often wish to remove waste from their properties in a timely fashion. It is also becoming common for Council's to waive fees for these materials. On some of these occasions, funding is provided from the State Government to cover these costs.

Natural disasters can impose significant strain on waste facilities. This strain may manifest in large volumes of material stockpiled on the site, a large influx of residents to the site or extended operating hours. It is prudent to develop an overarching policy to manage waste generated by natural disasters. A policy will provide clear guidance for Councillors, staff and residents on how waste from natural disasters is to be managed.

Issue: Council does not have a policy for the management of waste generated by natural disasters.

6 Waste Management Options

A number of integrated scenarios were identified as alternatives to the BAU. These were based on common themes found in the shortlisted options, feedback received during community consultation and issues identified with the current waste management services as highlighted in Section 5.

The following scenarios of waste management in the LGA were assessed:

BAU	Current waste management
Scenario 1	Improve litter and illegal dumping in the LGA
Scenario 2	Improve waste education in the LGA
Scenario 3	Improve management of organics collection and processing
Scenario 4	Increase diversion from landfill for C&I and C&D streams
Scenario 5	Improve all keys areas of waste management in the LGA, including general waste, recycling, organic and bulky waste streams, and associated infrastructure

The individual services which make up each option are listed in Table 10. Each of these services has been included in the financial modelling for each scenario.

6.1 Scenarios modelled

Table 10 provides an overview of the services provided under the BAU and each alternative options. The service offering of each option was used to calculate the potential waste diversion and capital and operational costs of each option.

The financial model has been designed on a “user pays” basis. The model provides for a series of funding paths including the Domestic Waste Management charge, Business Waste Management and/or General Waste Charge and facility gate fees.

There are potential opportunities for government grants to support the key actions of the Waste Strategy under Waste Less, Recycle More and more recent Federal funding to support the export of recyclables. As it is not certain if Council would be successful in gaining financial assistance, the financial model has been developed on the assumption that it is fully self-funding. Any grants gained will be reflected in future updates of this Strategy.

The final Strategy for waste management and resource recovery in the LGA would be rolled out to resident and business annual rates.

BAU Scenario

The BAU scenario does have some changes that will be undertaken to provide efficiencies and cost-savings following the amalgamation. These changes generally do not affect service delivery. The BAU scenario also reflects substantial changes in commingled recycling gate fees and the introduction of Council’s Activity Cost Attribution and Distribution of Governance Policy.

Table 10 Waste management and resource recovery options – breakdown of individual services

Aspect	Short listed options	BAU	S1	S2	S3	S4	S5
Contract	• Former QCC contract collection services to a private contractor • Former Palerang provide collection services in house	✓	✓	✓	✓	✓	✓
	Undertake an analysis of the two collection providers to determine the best value provider (in-house or private) collection		✓	✓	✓	✓	✓
Collection	MSW kerbside collection (urban) • Former QCC residents have a residual, recyclables and GO kerbside bin. • Some areas of the former Palerang LGA have kerbside collection comprising a combination of residual, recyclables and FOGO collections. MSW collection (rural) • Former QCC Not applicable • Former Palerang provide rural recycling stations, bin compounds (for landfill & recyclables) and drop off at WTS for residents	✓	✓	✓	✓	✓	✓
	Purchase and staff new collection trucks as necessary as the area grows	✓	✓	✓	✓	✓	✓
	Expansion of the QCC GO collection to include FO				✓		✓
	Develop and/or implement a bin contamination policy which can revoke recycling services where there is serious and continuous contamination		✓	✓	✓		✓
Disposal	Dispose of residual waste at Woodlawn by road for QPRC LGA		✓	✓	✓	✓	✓
Council Facilities	Rehabilitate Bungendore, Braidwood, Majors Creek and Araluen Landfills	✓	✓	✓	✓	✓	✓
	Close and rehabilitate Nerriga Landfill	✓	✓	✓	✓	✓	✓
	Maintain and operate existing waste facilities	✓	✓	✓	✓	✓	✓
	Monitor and maintain closed landfills	✓	✓	✓	✓	✓	✓
	Construct and operate of a centralised organics composting facility (FOGO) to service the whole LGA				✓		✓
	Rehabilitate and close existing composting site at Oaks Estate following the construction of a new GO/FOGO facility				✓		✓
	Design and construct a replacement facility for Nerriga and surrounding localities	✓	✓	✓	✓	✓	✓
	Upgrade bin compounds at Majors Creek and Araluen with concrete pads, security fencing and cameras		✓	✓	✓	✓	✓
C&I	Former QCC provide C&I waste collection services via a private contractor Former Palerang provide C&I collection services in house	✓	✓	✓	✓	✓	✓
C&D	Former QCC - ACT facilities (no cost to Council) Former Palerang - C&D disposal (drop off) at the Bungendore WTS for a gate fee. Materials are sorted for recycling/disposal	✓	✓	✓	✓	✓	✓
	Undertake an analysis of the business case to construct and operate a C&D MRF in the LGA					✓	✓

Aspect	Short listed options	BAU	S1	S2	S3	S4	S5
Education and resources	Undertake regular bin audits to ascertain current generation rates, contamination rates and problem areas. Results to be incorporated into education programs	✓	✓	✓	✓	✓	✓
	Hire an additional staff member to operate the Braidwood WTS	✓	✓	✓	✓	✓	✓
	Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and fund initiatives identified in the strategy		✓	✓	✓	✓	✓
	Hire a dedicated Waste Officer to implement education and engagement program		✓	✓	✓	✓	✓
	Implement an education and routine inspection program to reduce contamination rates in kerbside collection		✓	✓	✓		✓
	Hire additional staff to undertake litter collection activities in the LGA and cover illness/leave in collection and facilities areas		✓				✓
	Expand the ACTSmart or BinTrim business waste education programs to cover the entire LGA			✓		✓	✓
	Undertake waste audits at QPRC waste facilities to identify waste generation and composition of self-haul materials		✓	✓	✓	✓	✓
	Conduct a bin audit of C&I customers in LGA to determine approximate volume of waste generated by sector and recycling rates. Following audit, develop and implement program to increase diversion					✓	
	Improve digital media which provides information on the QPRC waste services available to the community		✓	✓	✓	✓	✓
Bulky waste	Former QCC - two kerbside clean-ups per financial year for SUDs, or two collections on set dates for MUDs and rural areas Former Palerang - No bulky waste collection provided. Self-haul to WTS available to residents	✓		✓	✓	✓	
	Cease provision of bulky waste collection service to LGA. Provide a voucher system to pensioners to have discounted collection from their household. Remaining residents are given access to a free self-haul (i.e. voucher) to an existing RRC – 1 or 2 per property with similar arrangements in terms of size/volume as collections (say 1 trailer load) All areas pay General Waste Charge		✓				✓
Problem Waste	Drop off for various problem wastes provided by former QCC and former Palerang Councils, including chemical waste clean-out, mattress drop off at Bungendore and collection by Soft Landing, tyres, e-waste, fluorescent tubes	✓	✓	✓	✓	✓	✓
	Improvements to and expansion of Council's litter management programs		✓	✓			✓
	Recruit an additional illegal dumping officer to monitor, investigate and prosecute illegal dumping activities		✓	✓			✓
Public	Bins provided in public areas with the contents taken to landfill	✓	✓	✓	✓	✓	✓
Other	Modifications to the Bungendore WTS to improve efficiencies with design and operation / staffing		✓	✓	✓	✓	✓
	Develop and implement an online booking and payment portal for waste related activities e.g. tours, kerbside clean-ups, missed collections		✓	✓	✓	✓	✓

6.2 Council Funding

Council has a number of different fees and charges which are applicable depending on the location of the property and the kind of kerbside collection service they receive. The following sections provide an overview of the charges reviewed in preparation of the QPRC Waste Strategy.

6.2.1 Domestic Waste Management Charge

In accordance with Section 496 of the *Local Government Act*, Council must make and levy an annual charge for the provision of domestic waste management services for each parcel of rateable land for which the service is available, referred to below as the Domestic Waste Management charge.

Domestic Waste Management charges are applied to residents with a kerbside waste collection. A summary of the Domestic Waste Management charge types is shown in Table 11. The Domestic Waste Management charge for dwellings which request additional bins or larger sized bins has not been modelled. The full Revenue Policy is available from Council's website.

Table 11 QPRC Domestic Waste Management Charge Types 2018-19

	Type	Description
Former Queanbeyan	DW1	Individual Servicing (Domestic Waste 140L waste bin, 240L recycling and 240L green waste)
	DW7 DW8	Shared Servicing - Where Bins Are Shared by Two or More Units at Those Premises
	DW10	Vacant Domestic Waste Charge (i.e. properties without a dwelling)
	DW11	Rural Waste Availability Charge - Where a rural domestic waste collection service is available but not used by the customer, that customer will be charged a single 'rural waste availability charge'.
	DW15 DW17	Rural Domestic Waste Collection Service
Former Palerang	DWP1	Domestic Waste Urban (140L Residual, 240L recycling, 240L green waste)
	DWP4	Domestic Waste Rural (240L)
	DWP6	Domestic Waste Rural – Bin compound (240L)
	DWP8	240L Recycling Bin collected fortnightly
	DWP12	Vacant Land (urban)

**Note: Service categories which include an additional bin or larger sized bins have not been modelled, including DW2, DW3-6, DW9, DW12-14, DW21, DW22, DWP3, DWP5, DWP7, DWP9, DWP10, DWP11 and DWP14-23.*

The Domestic Waste Management charge covers the costs associated with management of residential waste as provided in Table 12.

Recommendation: Combine the two Domestic Waste Management funds into a single fund covering all domestic waste services.

6.2.2 Council Working Fund General Waste Charge

The majority of residents and businesses in the rural and urban areas of the former Palerang LGA pay the General Waste Charge. This charge funds the following components of Council's waste management activities listed in Table 12.

Table 12 General Waste Charge and Domestic Waste Management capital and operating costs

General Waste Charge Costs	Domestic Waste Management Costs
Litter Management	Vehicle operational and maintenance costs, including purchase of new garbage trucks as required
Wages of operational and management staff	Preparation and implementation of an Education Strategy
Monitor / maintain closed landfills	Review of collections contracts
Education activities	Education activities
Community Events	Bulky waste servicing
Problem waste management	Waste collection
Public waste management	Gate fee at QPRC waste facilities (paid to the General Waste Charge). The Gate Fee is calculated based on the costs highlighted
Corporate overheads	Corporate overheads
Rehabilitation of closed landfills	
Design and construction costs for new facilities and upgrades / improvements to existing facilities	
Preparing the QPRC Waste Strategy	
Conducting waste audits	
Loan repayments	
Operational and maintenance costs of council waste facilities: • Bungendore • WAMI • FOGO Plant (as required) • Education Facility (as required)	
**Operational and maintenance costs of council waste facilities: • Braidwood • Captains Flat • Macs Reef • Nerriga Landfill / WTS	

Recommendation: Expand the General Waste Charge to cover all QPRC residential properties and non-business properties and move all costs and assets related to waste (other than domestic or

6.2.3 Landfills Charge (former Palerang LGA)

Any property issued with a landfill pass within the former Palerang LGA pays the Landfill Charge. This charge covers the cost of disposing of waste at landfills within the former Palerang LGA, for those rural residents who don't receive a kerbside collection service. This cost is separated from the General Waste Charge following a ruling by the Australian Taxation Office.

The Landfill Charge is $52 for the 2018/19 financial year. Following the closure of Braidwood landfill, this cost can now be removed.

Recommendation: Cease charging the Landfills Charge on all properties in the former Palerang LGA

6.2.4 Business Waste Management Charge (former QCC LGA)

Council recognises that many businesses operate private waste removal services because of the nature of their manufacturing or business processes. In these premises Council's waste service is not required. However, Council incurs costs in the administration and provision of the waste and recycling bins in business premises. As a result, Council imposes a mandatory charge for businesses in the former QCC LGA for the availability of the service and an optional charge if the owner chooses to have a waste or recycling bin collected from the premises. The business waste management charge covers the following costs:

- Access to the ACTSmart business and office recycling program
- Loan repayments
- Insurance
- Depreciation
- Wages
- Overheads
- Vehicles costs
- Waste Contracts
- Purchase of bins and other assets

Recommendation: Expand the Business Waste Management Charge to all properties rated as business in the LGA.

The volume and type of waste streams generated in businesses is hard to generalise. As such, it is difficult to determine reasonable assumptions for waste disposal costs in the model. In addition, the current practice of discounting waste disposal for businesses through the Palerang GWC results in businesses and residential properties subsidising waste disposal by larger waste-producing businesses. Discounting waste disposal for businesses also distorts recycling markets and results in reduced waste diversion from landfill.

As such, it is recommended that discounted disposal of waste generated by businesses in the LGA is discontinued and the overall BWC fee be amended to reflect this.

Recommendation: Cease discounting waste disposal for business and commercial waste

6.3 Modelling Methodology and Assumptions

In order for Council to understand the financial impacts of the waste management scenarios which might be implemented across the LGA, a financial model was prepared which looks at capital and operating costs anticipated by Council over the next 30 years. The financial model has been used to assess the impacts of each scenario to the Council, and the residential waste charges required to offset the cost of operation and disposal of waste.

The following assumptions were made in the model:

Table 13 Modelling Assumptions

Costs	Assumptions
General Waste Charge and Business Waste Management	The General Waste Charge is payable by all dwellings in QPRC LGA
	The annual charge is based on the 2019 rate plus CPI for each year + a set cash reserve value of $200,000 for each year (General Waste Charge) and $25,000 for Business Waste Management. To reflect the higher input costs associated with Scenarios 3 and 5, an additional 0.8% increase has been placed on top of the CPI.
Domestic Waste Management	Domestic Waste Management Charge is assumed to increase by 4%[12] per year to cover costs each year
	The Domestic Waste Management pays a gate fee to the General Waste Charge for management and disposal of waste, recycling and organics (as provide in Table 12)
	Council Domestic Waste Management types have been defined to incorporate all QPRC residents i.e. they are no longer Former QCC and Former Palerang types
	All alternative scenarios have kerbside waste disposed at Woodlawn via Bungendore WTS
General	The modelling undertaken assumes that the Landfill Charge is no longer applicable
	Includes 18% distribution and attribution on all operational costs
	Includes 4% capital works project fee – fund Projects and Contracts Unit (excluding business charges)
	CPI at 2% - low point of RBA target range
	Costs per year are nominal
	Costs are based on 2018/19 dollars
	General waste fund includes provision for debt servicing for new Council building

6.4 Modelling Results

The following section provides the results of the modelling for each scenario for:

- Waste diversion, refer to Table 14
- Cost to Domestic Waste Management Charge, refer to Table 15
- Cost to General Waste Charge, refer to Table 16
- Cost to Business Waste Management Charge, refer to Table 17

[12] The 4% increase is required to cover the increased costs for the provision of waste management services across the LGA. If this percentage increase is reduced the Council will not have sufficient funds available to service the QPRC communities waste services.

6.4.1 Waste Diversion

Table 14 Waste Diversion

	BAU	Scenario 1	Scenario 2	Scenario 3	Scenario 4	Scenario 5
Diversion Rate - 2019	47%					
Diversion Rate - 2029	45%	54%	53%	62%	53%	63%
Diversion Rate - 2050	45%	54%	53%	63%	53%	63%

6.4.2 Domestic Waste Management Charge

The Domestic Waste Management Charge in 2020/21 is provided below in comparison to the previous charge included in the QPRC Revenue Policy 2019/2020. The BAU cost is greater than the cost currently included in the QPRC Revenue Policy as previously discussed. It is assumed to increase by 4% per year to cover costs each year.

Table 15 Domestic Waste Charge 2020/21

Domestic Waste Management Code	Domestic Waste Management Charge 2020/2021*	Domestic Waste Charge 2020/2021						
		New QPRC Domestic Waste Management Code	BAU	S1	S2	S3	S4	S5
DWP1	$385	Urban - SUD - 3 Bin	$334	$310	$304	$315	$295	$326
DW1	$328							
DWP4	$311	Rural - SUD - 2 Bin	$218	$180	$190	$170	$184	$164
DW15	$355							
DW17	$181	Rural - SUD - 1 Bin	$97	$86	$87	$82	$85	$83
DWP8	$108							
DWP12	$26	Vacant - Urban & Rural	$28	$28	$28	$28	$28	$28
DW10	$26							
DW8	$328	Urban - MUD - 3 Bin	$334	$310	$304	$315	$295	$326
DWP6	$234	Rural - SUD - Bin Compound	$208	$170	$180	$160	$174	$154
DW7	$299	Urban - MUD - 2 Bin	$253	$213	$224	$205	$219	$197
DW11	$48	Moved to General Waste Charge	-	-	-	-	-	-

6.4.3 Council General Waste Charge

The General Waste Charge in 2020/21 is provided below in comparison to the charge included in the QPRC Revenue Policy 2019/20. The charge per dwelling reduces significantly because the Revenue Policy was based on only Former Palerang residents (7,938 dwellings) paying the charge. In the Strategy moving forward the General Waste Charge would be paid by all QPRC residents (27,729 dwellings) resulting in distribution of costs across the LGA. All QPRC residents would have access to the QPRC operated waste facilities.

Table 16 General Waste Charge 2020/21

	General Waste Charge 2020/2021*	General Waste Charge 2020/2021					
		BAU	S1	S2	S3	S4	S5
Former Palerang	$375-$416	$143	$198	$176	$196	$175	$227
Former Queanbeyan	$0						

6.4.4 Business Waste Management Charge

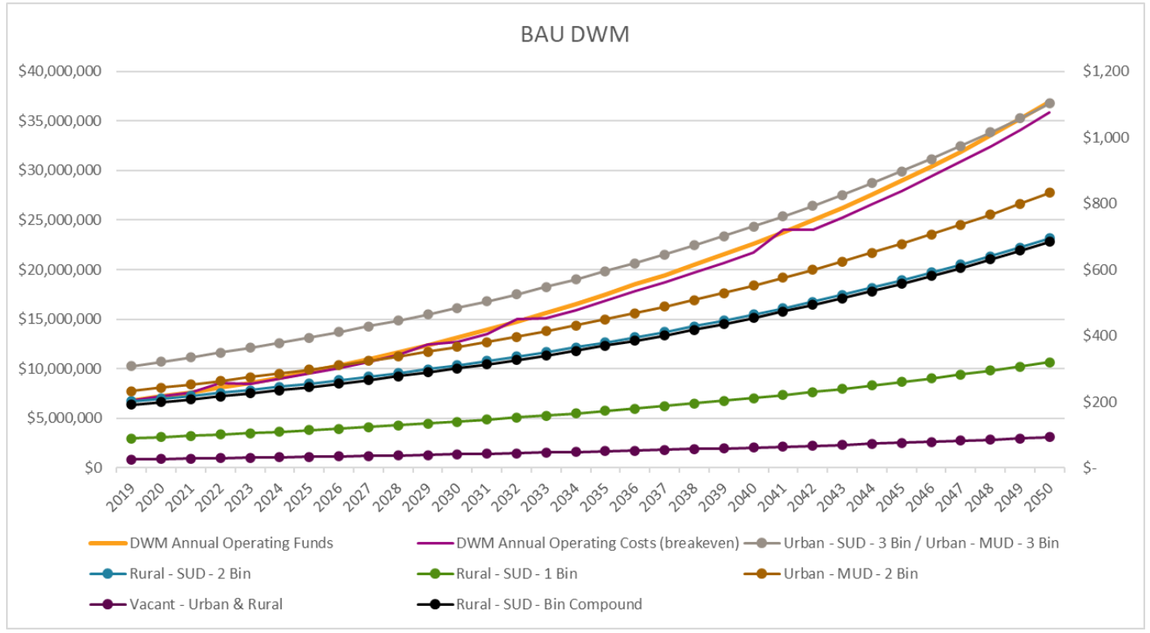
The Business Waste Charges in 2020/21 are provided below in comparison to the charge included in the QPRC Revenue Policy 2019/20. In the Strategy moving forward the Business Waste Availability Charge would be paid by all QPRC businesses resulting in distribution of costs across the LGA.

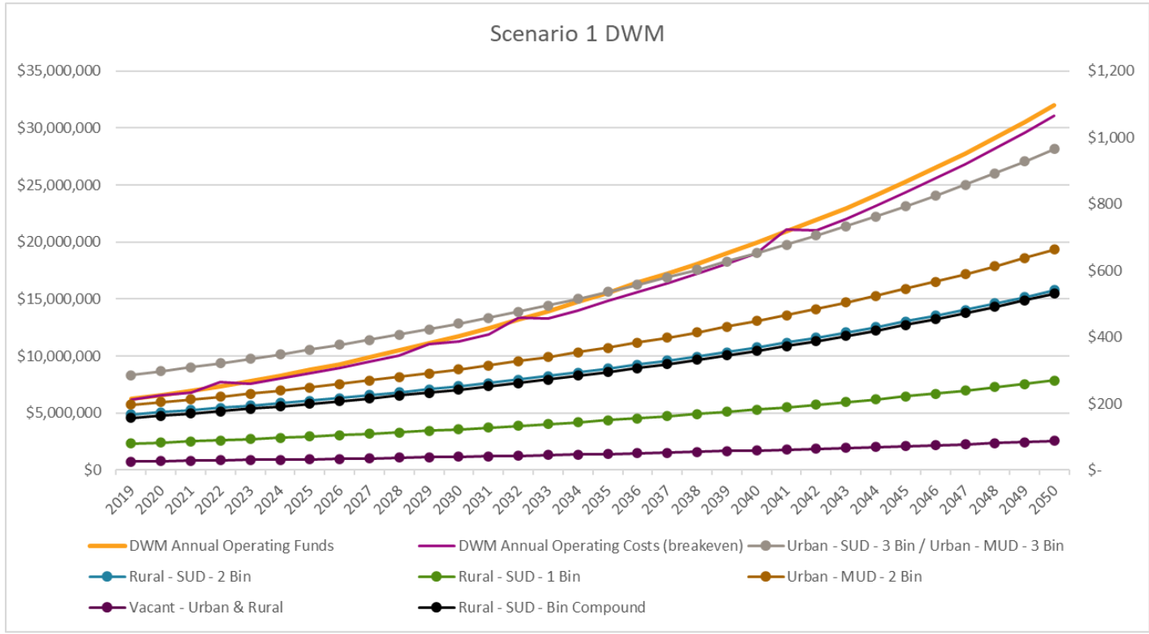
Charges have been modelled assuming CPI increase each year for services.

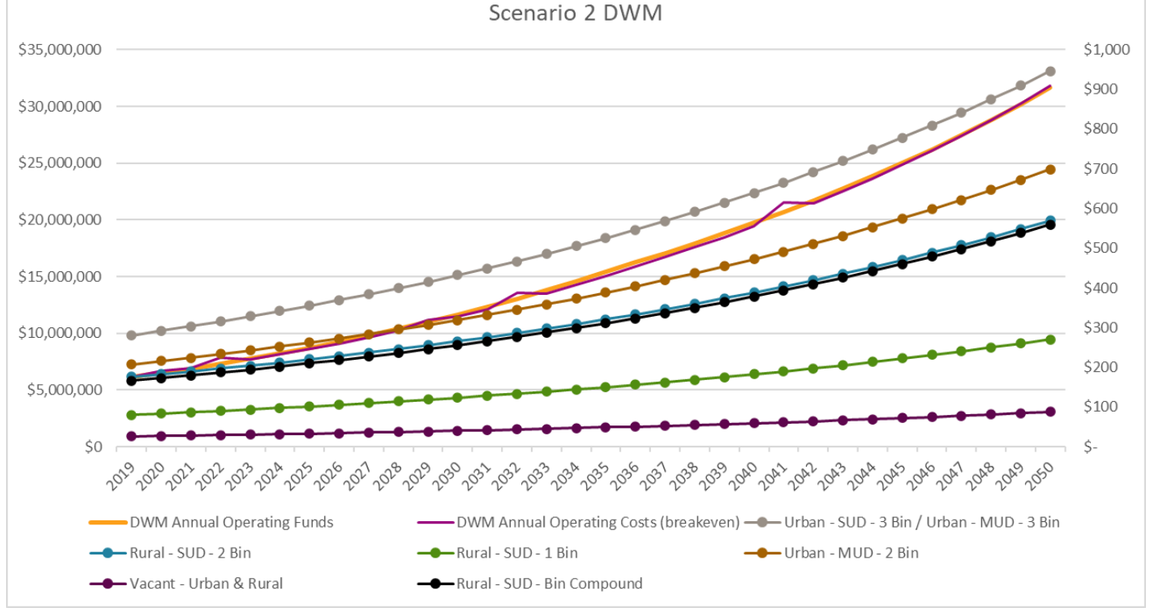
Table 17 General Waste Charge 2020/2021

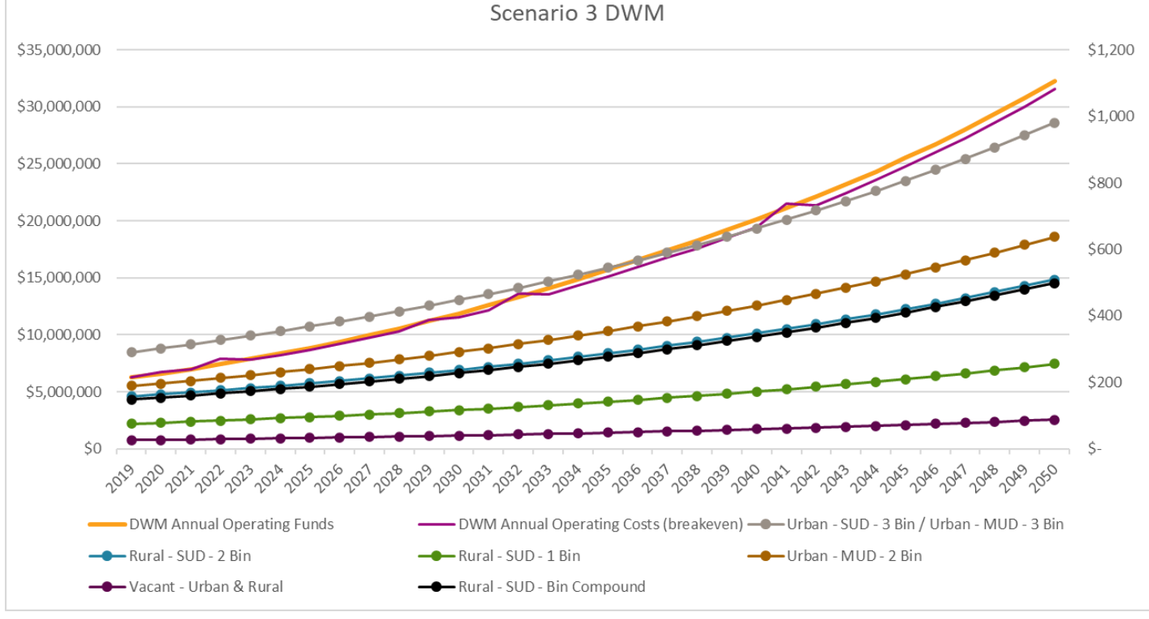
	QPRC Revenue Policy Business Waste Management Charge 2020/2021	Business Waste Management Charge 2020/21					
		BAU	S1	S2	S3	S4	S5
Red Bin (Residual)	$255	$169	$141	$142	$133	$138	$135
Yellow Bin (Recycling)	$92	$131	$103	$103	$94	$99	$97
Green Bin (GO)	$92	$109	$95	$95	$90	$93	$92
Availability Charge	$94	$78	$137	$137	$137	$137	$137

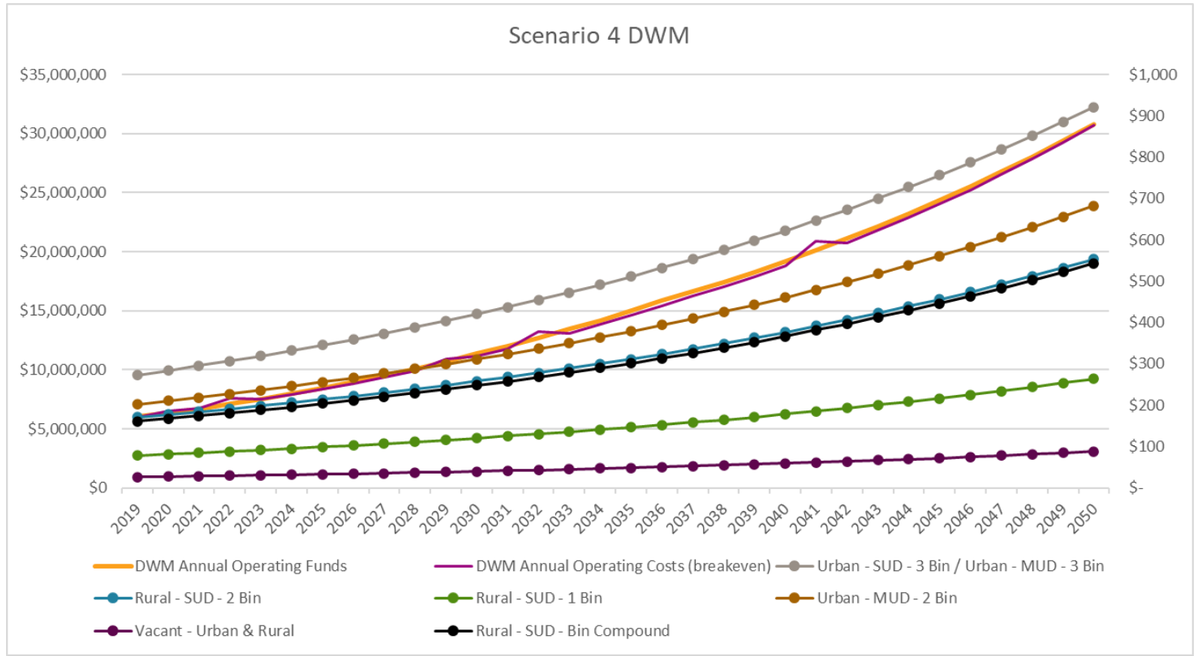
Figure 7 Domestic Waste Management Annual Funds, Cost, Charge and Cash Reserve










Scenario 4 DWM
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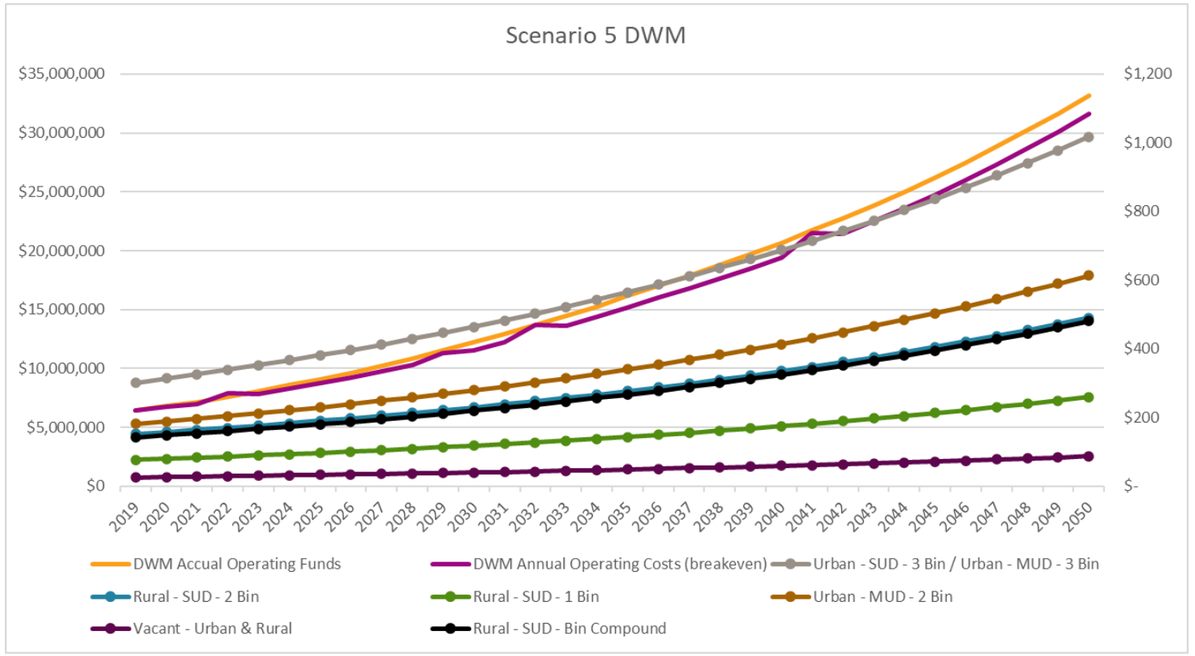
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$0
$1,000
$900
$800
$700
$600
$500
$400
$300
$200
$100
$-
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
DWM Annual Operating Funds
DWM Annual Operating Costs (breakeven)
Urban - SUD - 3 Bin / Urban - MUD - 3 Bin
Rural - SUD - 2 Bin
Rural - SUD - 1 Bin
Urban - MUD - 2 Bin
Vacant - Urban & Rural
Rural - SUD - Bin Compound


Scenario 5 DWM
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$15,000,000
$10,000,000
$5,000,000
$0
$1,200
$1,000
$800
$600
$400
$200
$-
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
DWM Accual Operating Funds
DWM Annual Operating Costs (breakeven)
Urban - SUD - 3 Bin / Urban - MUD - 3 Bin
Rural - SUD - 2 Bin
Rural - SUD - 1 Bin
Urban - MUD - 2 Bin
Vacant - Urban & Rural
Rural - SUD - Bin Compound

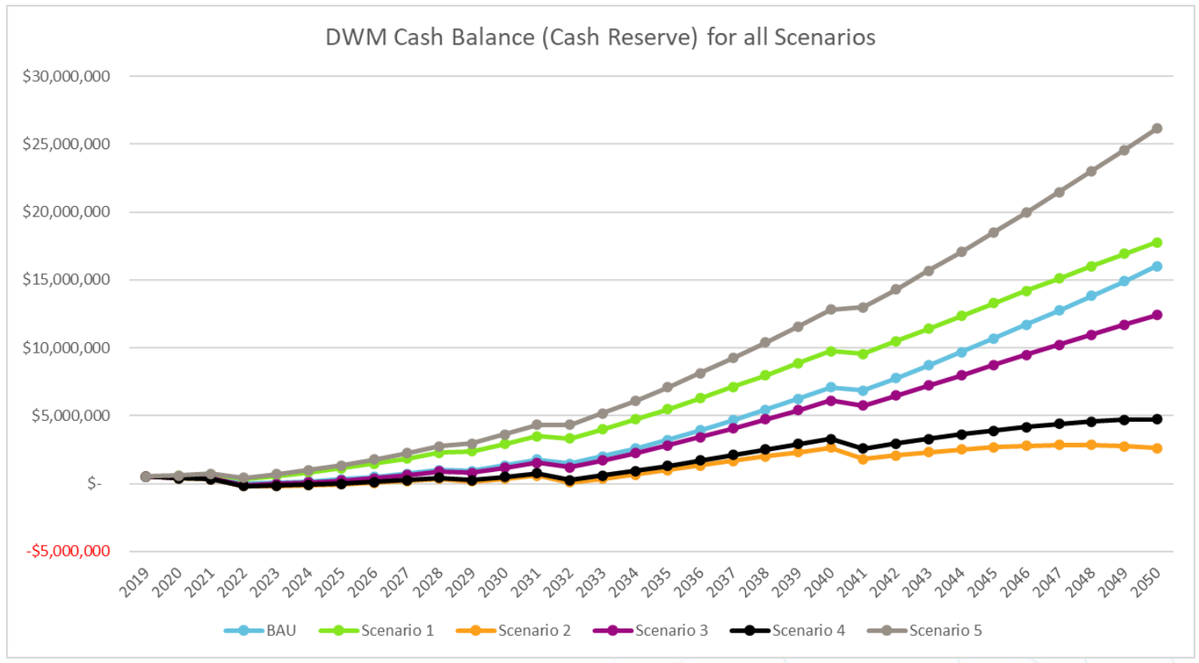
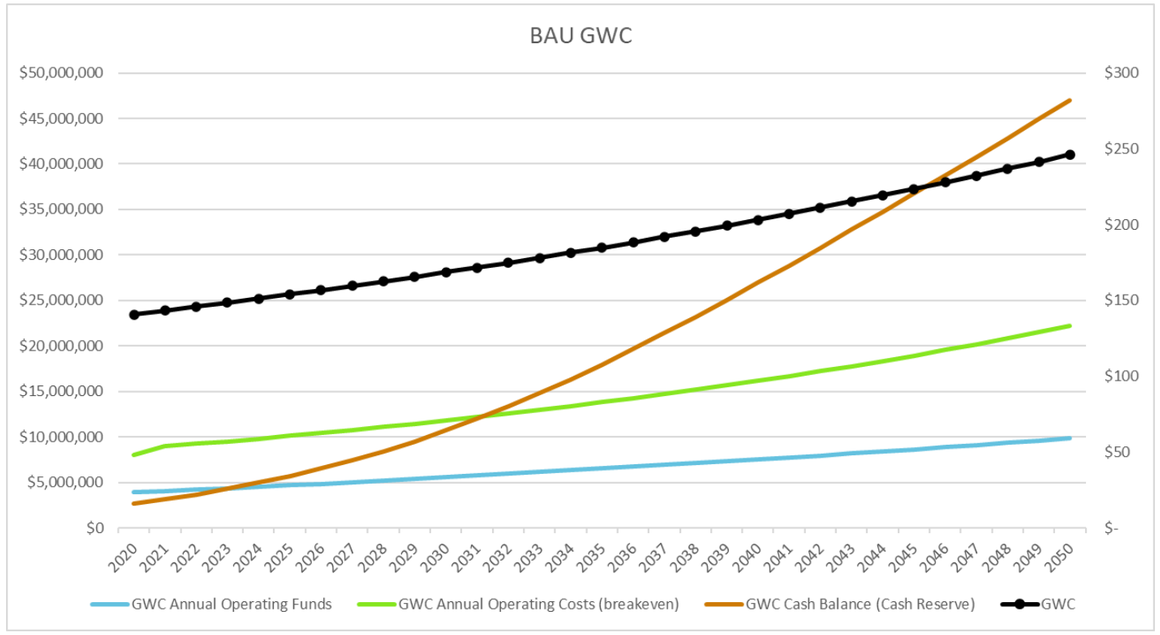
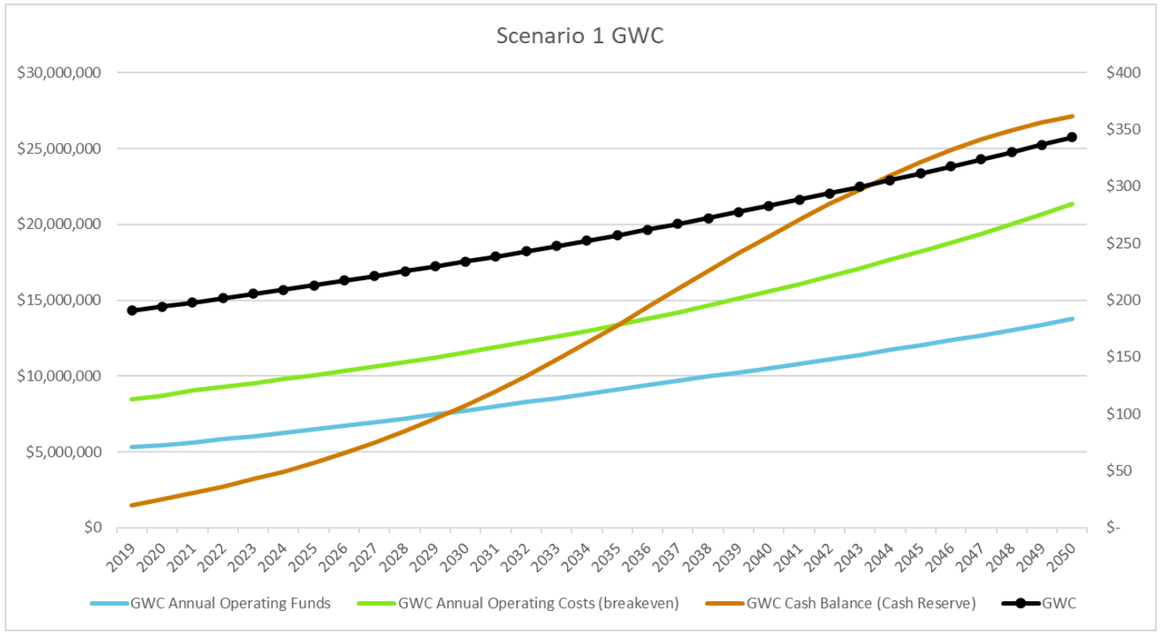
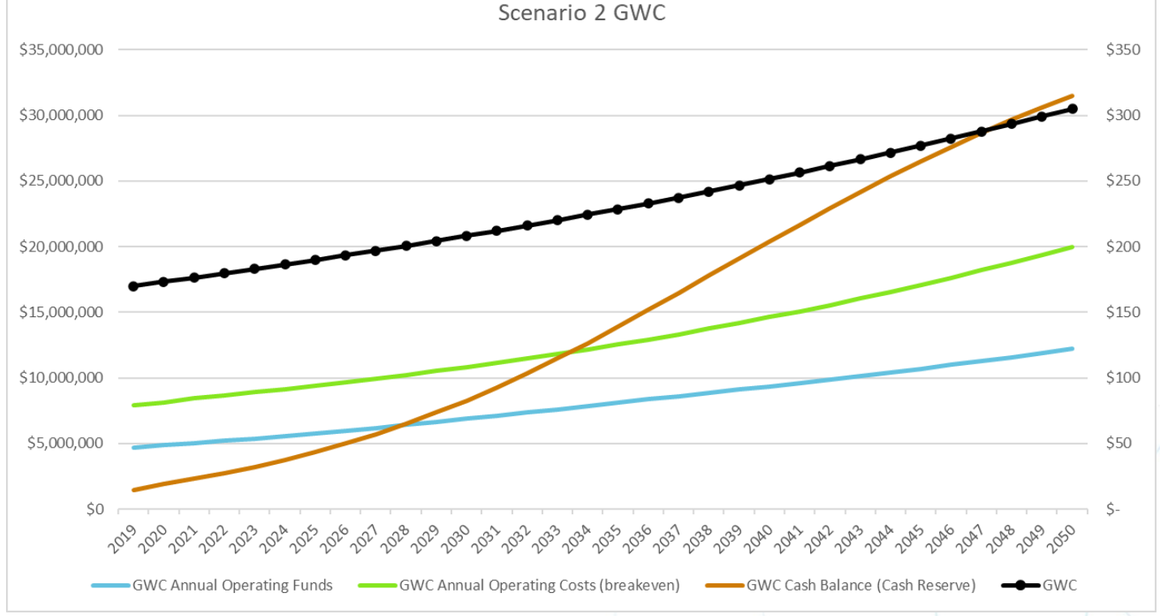
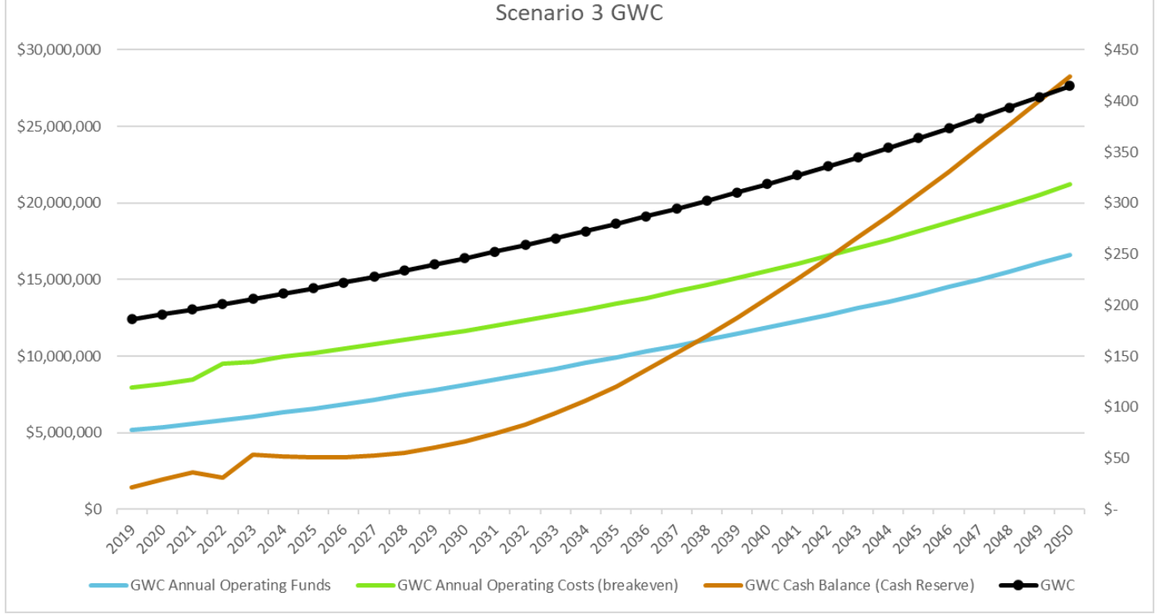

DWM Cash Balance (Cash Reserve) for all Scenarios
$30,000,000
$25,000,000
$20,000,000
$15,000,000
$10,000,000
$5,000,000
$-
-$5,000,000
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
BAU
Scenario 1
Scenario 2
Scenario 3
Scenario 4
Scenario 5

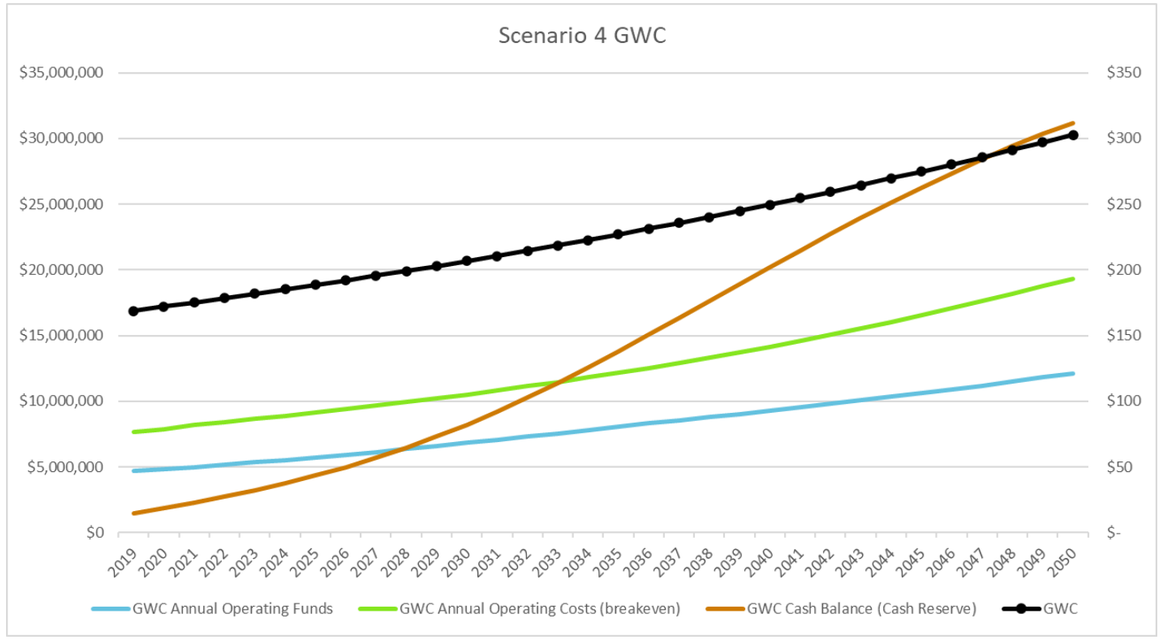
Figure 8 General Waste Charge Annual Funds, Cost, Cash Balance and Charge











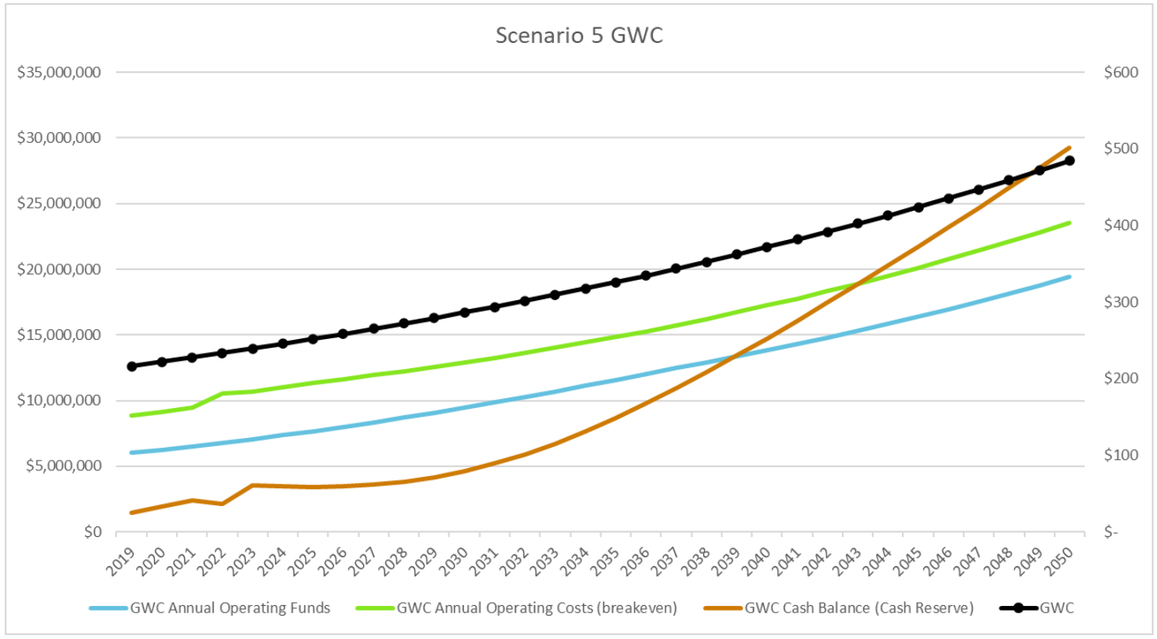
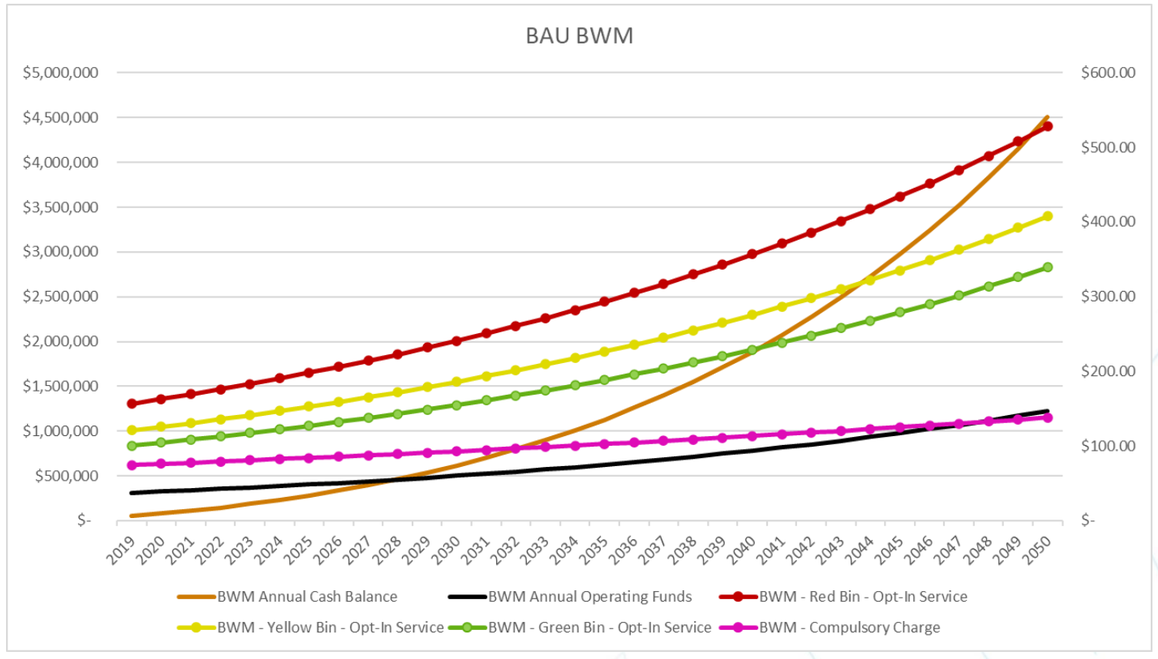
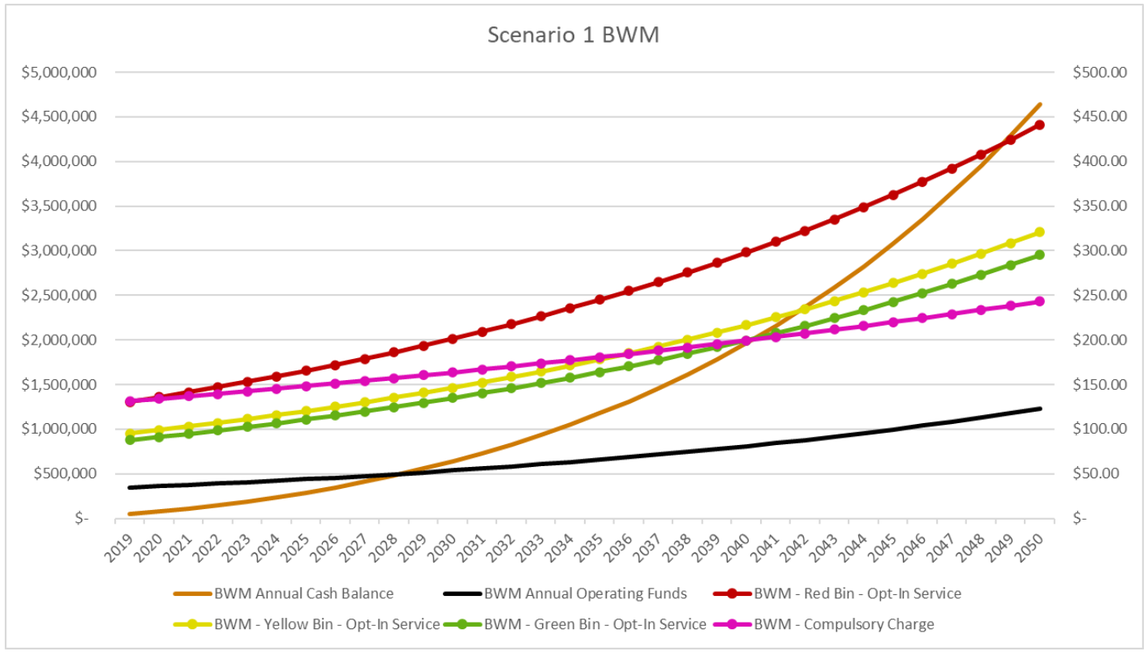
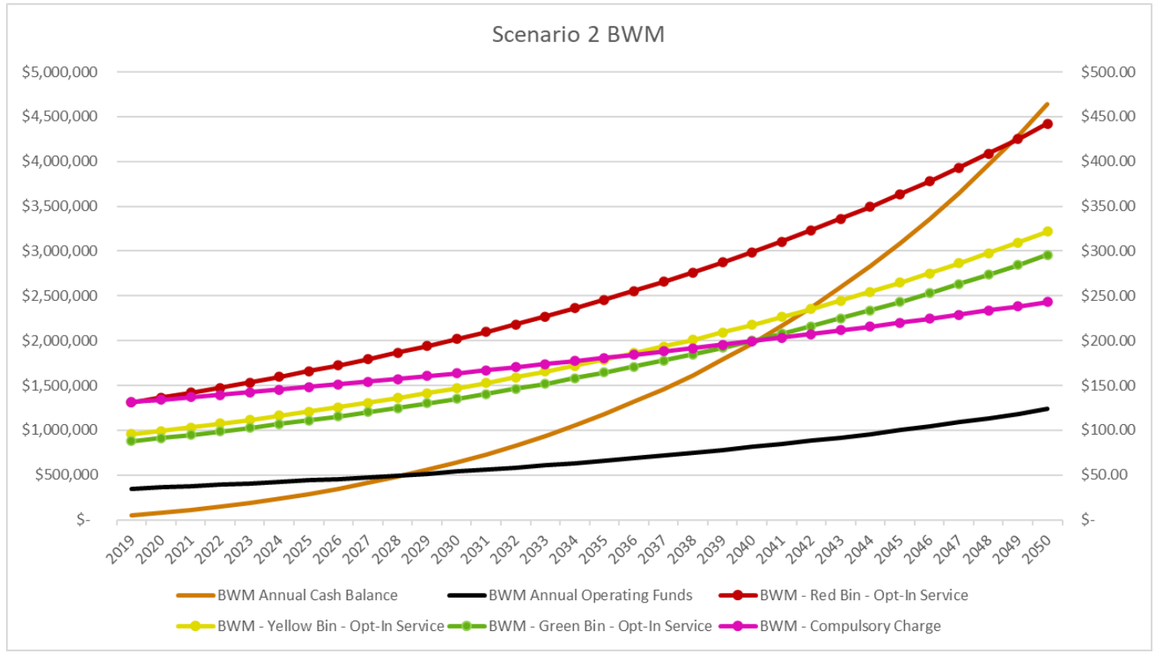


Figure 9 **Business Waste Management Charge Annual Cost, Cash Balance and Charges**






Scenario 2 BWM
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$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
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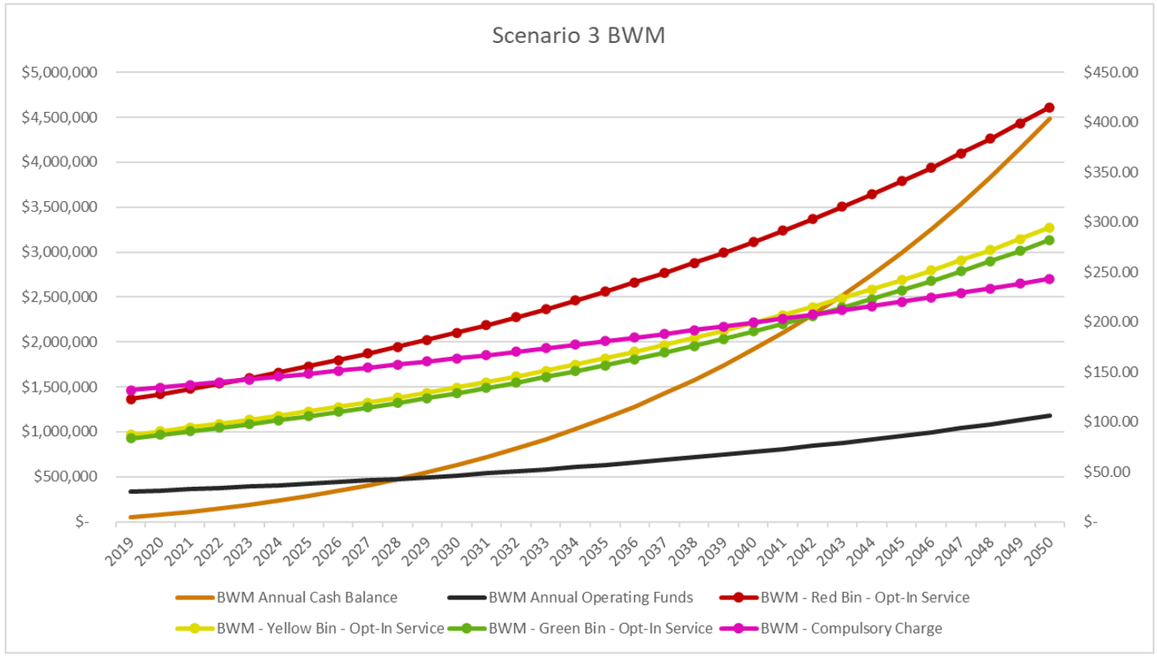
$-
$500.00
$450.00
$400.00
$350.00
$300.00
$250.00
$200.00
$150.00
$100.00
$50.00
$-
2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
BWM Annual Cash Balance
BWM Annual Operating Funds
BWM - Red Bin - Opt-In Service
BWM - Yellow Bin - Opt-In Service
BWM - Green Bin - Opt-In Service
BWM - Compulsory Charge


Scenario 3 BWM
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$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
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$-
$450.00
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$350.00
$300.00
$250.00
$200.00
$150.00
$100.00
$50.00
$-
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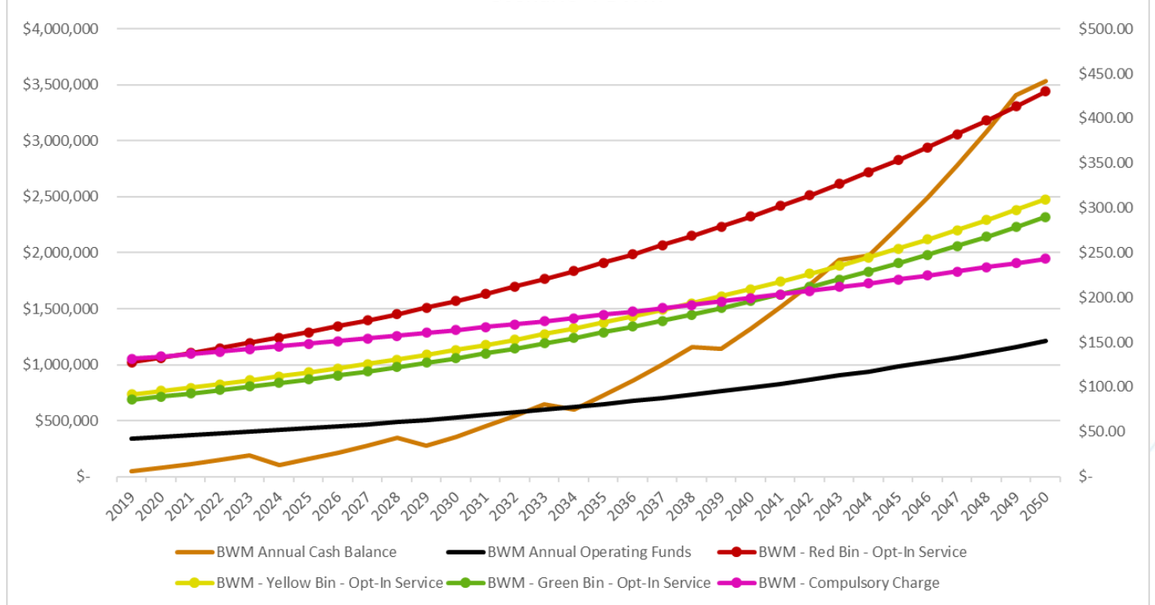
BWM Annual Cash Balance
BWM Annual Operating Funds
BWM - Red Bin - Opt-In Service
BWM - Yellow Bin - Opt-In Service
BWM - Green Bin - Opt-In Service
BWM - Compulsory Charge


Scenario 4 BWM
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$3,000,000
$2,500,000
$2,000,000
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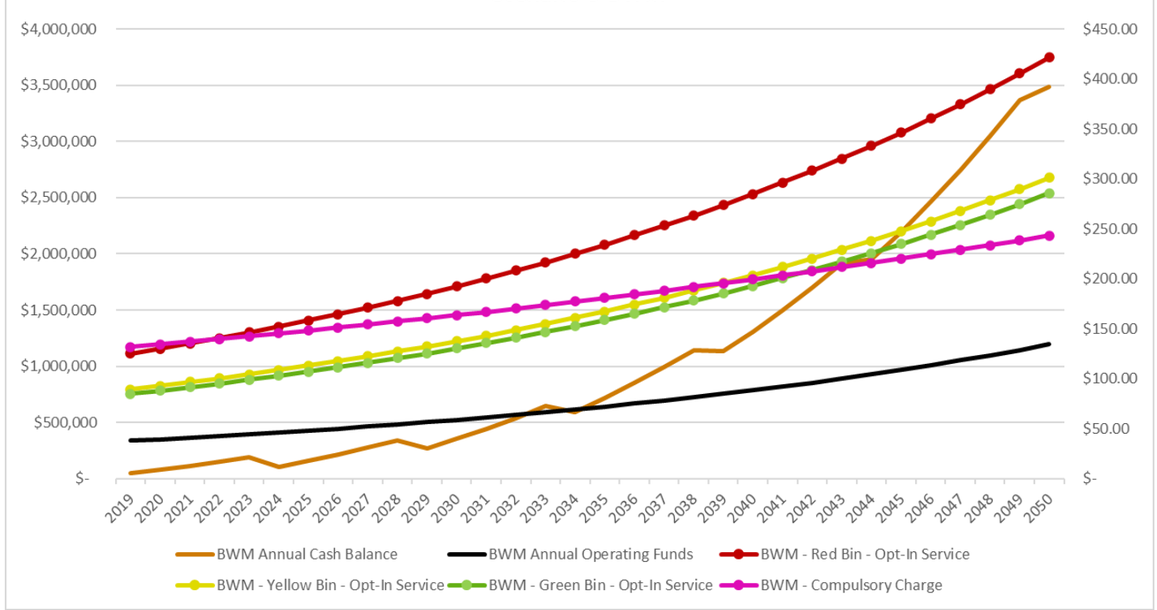
BWM Annual Cash Balance
BWM Annual Operating Funds
BWM - Red Bin - Opt-In Service
BWM - Yellow Bin - Opt-In Service
BWM - Green Bin - Opt-In Service
BWM - Compulsory Charge


Scenario 5 BWM
$4,000,000
$3,500,000
$3,000,000
$2,500,000
$2,000,000
$1,500,000
$1,000,000
$500,000
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$450.00
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2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050
BWM Annual Cash Balance
BWM Annual Operating Funds
BWM - Red Bin - Opt-In Service
BWM - Yellow Bin - Opt-In Service
BWM - Green Bin - Opt-In Service
BWM - Compulsory Charge

6.4.5 Net Present Value

NPV of each scenario over 30 years was modelled to review if the Domestic Waste Management Charge and General Waste Charge would provide a positive NPV and therefore cover capital and operating costs and build reserve over time for asset replacement and continuous investment. As shown below in Table 18 with the Domestic Waste Management charge and General Waste Charge provide in Table 15 and Table 16, respectively, are positive.

Table 18 Net Present Value over 30 years

Scenario	Domestic Waste Management Revenue	Domestic Waste Management Cashflow	General Waste Charge Revenue	General Waste Charge Cashflow
BAU	$130 M	$2.2 M	$54 M	$10.8 M
Scenario 1	$116 M	$3.2 M	$75 M	$7.1 M
Scenario 2	$115 M	$0.2 M	$67 M	$7.7 M
Scenario 3	$117 M	$1.7 M	$80 M	$5.5 M
Scenario 4	$112 M	$0.5 M	$67 M	$7.6 M
Scenario 5	$121 M	$4.5 M	$93 M	$5.8 M

7 Recommended Waste Management Strategy

To facilitate discussion, Council staff and consultants are recommending that Scenario 3 be adopted with some minor modifications. The recommendation is based on the modelled waste diversion rates, the financial model and the operational issues. Additional actions have been included where necessary to assist with understanding of interim arrangements or to make the overall strategy clear.

The options shown in Table 19 have been modified or removed from the recommended scenario.

Table 19 Options amended or modified in the Recommended Scenario

Option	Change	Reason for Change
Former QCC - two kerbside clean-ups per financial year for SUDs, or two collections on set dates for MUDs and rural areas Former Palerang - No bulky waste collection provided. Self-haul to WTS available to residents	Amended	To deliver a more simple fee structure, the service will be rolled out to all properties provided with an Urban – SUD – 3 Bin or Urban – MUD – 3 Bin

7.1.1 Why this scenario?

Scenario 3 has been recommended for the following reasons:

- It delivers the equal highest waste diversion over the life of the Strategy
- It balances costs to residents with delivering diversion targets
- It provides an equitable solution for all residents and businesses in the LGA
- It provides all residents with access to all QPRC waste facilities and reduced gate fees at our waste facilities
- It provides sufficient resources and funding to enable the identified actions to be undertaken

7.1.2 Domestic Waste Management

The strategy for domestic waste management is outlined below in Table 20. The 2021/22 charges are shown in Table 21

Table 20 Recommended Scenario – Domestic Waste Management Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Priority
DWM1.	Funding	Amalgamate the two existing Domestic Waste Management Funds into one fund	Separate funds resulting from Council amalgamations	High
DWM2.		Maintain a minimum $500,000 in the Domestic Waste Management Fund reserve to act as a buffer for future price shocks	Volatility in markets	On-going
DWM3.		Transfer remaining cash into the General Waste Management Fund to fund future works	Separate funds resulting from Council amalgamations	High
DWM4.		Levy a Domestic Waste Management charge in accordance with the adopted model	On-going funding of operations	On-going
DWM5.	Collection Contract	Continue the current DWM collection arrangements until an analysis of the two collection providers is completed to determine the best value (in-house or private) collection method	Determines the best-value solution for future contracts	High
DWM6.	Collections	Maintain the current gazetted DWM zone extents	Confirms DWM collection zones	N/A
DWM7.		Prepare a policy on collection from properties located on existing routes used by collection vehicles travelling between collection zones (for example, between Bungendore and Captains Flat)	Improves the existing ad-hoc arrangements in place in rural areas of the LGA	Medium
DWM8.		Once the policy is complete, introduce an optional collection zone along existing routes used by collection vehicles travelling between collection zones (for example, between Bungendore and Captains Flat)	Improves the existing ad-hoc arrangements in place in rural areas of the LGA	Medium
DWM9.		Maintain the current waste collection types in each zone, excluding matters covered in DWM8.	Confirms DWM waste collection types	N/A
DWM10.		Expand the Food Organics and Garden Organics collection to the urban areas of Queanbeyan (including Googong and Jerrabomberra) once an appropriate processing facility is completed	Low diversion of food waste	High
DWM11.		Develop and implement a bin contamination policy that permits removal of services for on-going/serious contamination	Recycling and FOGO contamination rates	High
DWM12.		Purchase and staff new collection trucks as necessary as the area grows (subject to the outcome of the DWM5)	Safe provision of collection services	Low
DWM13.	MUD and Mixed Use Developments	Liaise with Council's Planning sections about on-going review of the Development Control Plans related to multi-unit developments and mixed use developments	Safe provision of collection services	Medium
DWM14.		At mixed use properties where it is not possible to keep commercial and residential waste separate, require the property to arrange their own waste collection and charge a "Mixed Use" rate, which will be the same as a residential vacant land charge (per rateable property)	Effective provision of collection services	Medium

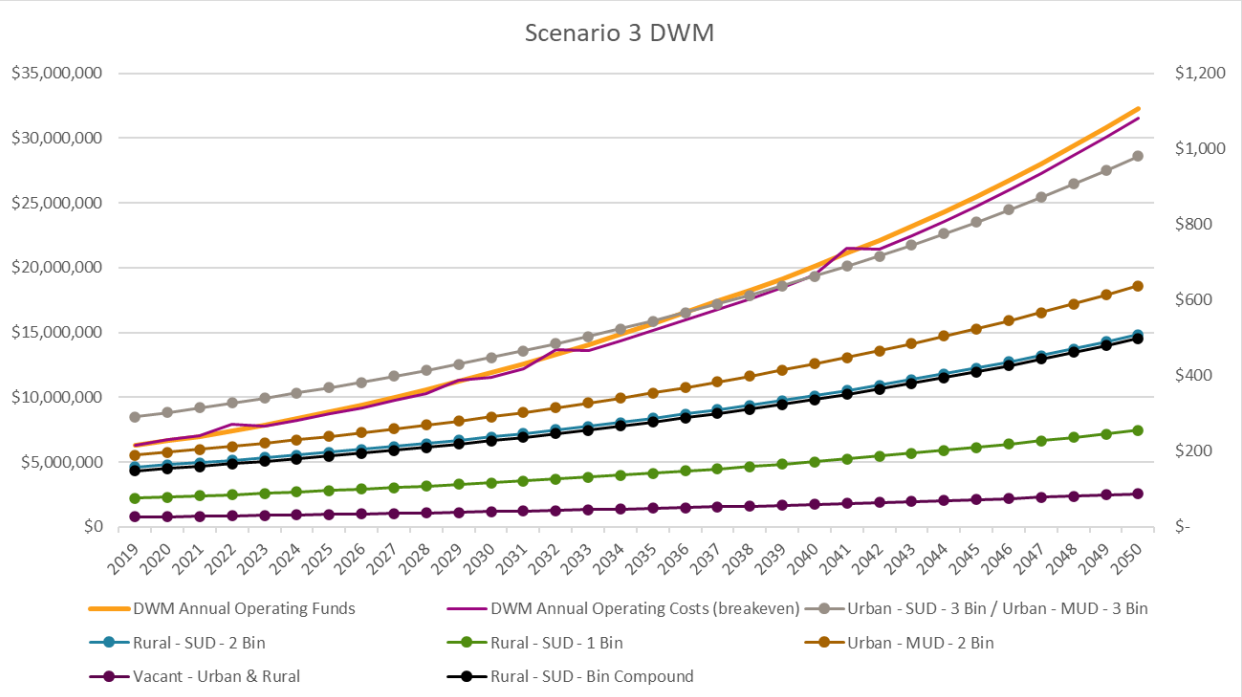
Number	Aspect	Action	What problem is this solving?	Priority
DWM15.	Waste Disposal	Continue to use Hume Materials Recovery Facility for commingled recyclables collected by both Council and Contractor-operated collection vehicles until a new contract is prepared and awarded	Appropriate disposal of collected waste	N/A
DWM16.		Continue to use Bungendore Resource Recovery Facility for residual waste from areas serviced by Council-operated collection vehicles	Appropriate disposal of collected waste	N/A
DWM17.		Continue to use Mugga Lane for residual waste from areas serviced by Contractor-operated collection vehicles until Bungendore Resource Recovery Facility is upgraded	Appropriate disposal of collected waste	N/A
DWM18.		Once Bungendore Resource Recovery Facility is upgraded, and subject to satisfactory contractual arrangements, use Bungendore Resource Recovery Facility for residual waste from areas serviced by Contractor-operated collection vehicles	Appropriate disposal of collected waste	Following facility upgrade
DWM19.		Continue to use Bungendore Resource Recovery Facility for FOGO waste from areas serviced by Council-operated collection vehicles	Appropriate disposal of collected waste	N/A
DWM20.		Continue to use WAMI for collected GO waste from areas serviced by Contractor-operated collection vehicles until Bungendore Resource Recovery Facility is upgraded	Appropriate disposal of collected waste	N/A
DWM21.		Once a new FOGO facility is constructed, divert all FOGO collections to the new facility	Appropriate disposal of collected waste	Following facility upgrade
DWM22.	Education	Hire a dedicated Waste Officer to implement education and engagement program (Shared with GWM39 and BWM12)	Insufficient resources to undertake tasks identified in the Strategy	High
DWM23.		Develop and implement a routine bin inspection program to reduce contamination rates in kerbside collection. (Shared with GWM40 and BWM13)	Recycling / FOGO contamination rates, ad-hoc education activities and closing data gaps	High
DWM24.		Undertake regular bin audits to ascertain current generation rates, contamination rates and problem areas. Results to be incorporated into education programs	Recycling and FOGO contamination rates and closing data gaps	High
DWM25.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with GWM41 and BWM14)	Ad-hoc education activities	Medium
DWM26.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and initiatives identified in the strategy. (Shared with GWM42 and BWM15)	Ad-hoc education activities	High
DWM27.	Bulky Waste	Expand the existing bulky waste collection to all properties provided with an an Urban – SUD – 3 Bin, Urban – MUD – 3 Bin or Urban – MUD – 2 Bin service.	Managing bulky waste collections	Medium
DWM28.		Cease the bulky waste collection program (including rural collections) for all other properties	Managing bulky waste collections	High

	Shared costs/resources with DWM, GWM

Table 21 Recommended Scenario – Domestic Waste Management Annual Charges

Domestic Waste Management Code	Domestic Waste Management Charge 2019/2020*	Domestic Waste Charge 2020/2021		
		New QPRC Domestic Waste Management Code	BAU	S3
DWP1	$385	Urban - SUD - 3 Bin	$334	$315
DW1	$328			
DWP4	$311	Rural - SUD - 2 Bin	$218	$170
DW15	$355			
DW17	$181	Rural - SUD - 1 Bin	$97	$82
DWP8	$108			
DWP12	$26	Vacant - Urban & Rural	$28	$28
DW10	$26			
DW8	$328	Urban - MUD - 3 Bin	$334	$315
DWP6	$234	Rural - SUD - Bin Compound	$208	$160
DW7	$299	Urban - MUD - 2 Bin	$253	$205
DW11	$48	Moved to General Waste Charge		-
Not Applicable	Note Applicable	Mixed-Use – No Service	As per Vacant Rate	

Figure 10 Recommended Scenario - Domestic Waste Management Charge



7.1.3 General Waste Management

The strategy for general waste management is outlined below in Table 22. The 2021/22 charges are shown in Table 23.

The charge will be levied on all properties and businesses in the LGA.

Table 22 Recommended Scenario – General Waste Management Annual Charges Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Priority
GWM1.	Funding	Create and maintain an internally restricted General Waste fund	Creates a transparent fund to provide certainty to ratepayers that income is being used for the agreed purpose	High
GWM2.		Levy a General Waste Management charge to all residential and non-commercial properties within the LGA	Confirms extent of GWM zone and provides on-going funding	On-going
GWM3.		Remove the 50% rebate for all properties that pay the General Waste Charge	Equity of the user pays model	On-going
GWM4.		Cease providing refunds to residents using Collector and Tarago waste facilities operated by neighbouring properties	Equity of the user pays model	High
GWM5.		Move all costs and income related to Council operated waste facilities to the General Waste Fund	Improves tracking of income and expenditure and provides certainty to ratepayers that income is being used for the agreed purpose	High
GWM6.		Maintain a minimum $1,000,000 in the General Waste Management Fund reserve to act as a buffer for future price shocks and changes in regulatory requirements	Volatility of markets and regulatory changes	On-going
GWM7.	Facilities	Maintain and operate existing waste facilities including the current opening hours and accepted wastes unless specifically noted elsewhere in this strategy	Provides certainty for residents of the operations of waste facilities	On-going
GWM8.		Consolidate the Bungendore RRF as the primary waste management facility in the LGA	Efficiency of operations at facilities and safety of facility users	On-going
GWM9.		Continue to operate the Community Recycling Centres at Queanbeyan WAMI and Bungendore RRF	Provides certainty for residents of the operations of waste facilities	On-going
GWM10.		Reduce the public operating hours of the Queanbeyan WAMI to 4 days per week	Efficiency of operations at facilities and safety of facility users	On-going
GWM11.		Modify the Bungendore RRF to improve management of the site	Efficiency of operations at facilities and safety of facility users	High
GWM12.		Investigate the feasibility of a Council owned and operated centralised FOGO facility for the processing and treatment of all FOGO and GO materials received in the LGA. Relocate two staff from the Queanbeyan WAMI to the new facility.	Appropriate disposal of collected waste	High
GWM13.		Consult with the Nerriga community regarding their preferred replacement waste facility – either a staffed small waste	Improved regulatory and environmental outcomes	High

Number	Aspect	Action	What problem is this solving?	Priority
		transfer station similar to Macs Reef WTS or an unstaffed bin compound with access control		
GWM14.		Design and construct a replacement facility for Nerriga and surrounding localities based on the outcome of GWM13	Improved regulatory and environmental outcomes	High
GWM15.		Upgrade bin compound at Majors Creek	Improved regulatory and environmental outcomes	High
GWM16.		Upgrade bin compound at Araluen	Improved regulatory and environmental outcomes	High
GWM17.		Cease collection of GO at Araluen Bin Compound	Not operating in accordance with regulatory requirements	High
GWM18.		Cease collection of GO at Majors Creek Bin Compound	Not operating in accordance with regulatory requirements	High
GWM19.		Routinely monitor usage/patronage at facilities to review their on-going viability and that they are delivering value for money for ratepayers	Efficiency of operations at facilities and safety of facility users	On-going
GWM20.	Waste Facility Rehabilitation	Rehabilitate and close existing composting site at Oaks Estate following the construction of a new GO/FOGO facility. Existing staff to be divided between replacement FOGO facility and WAMI.	Environmental management and regulatory compliance	Medium
GWM21.		Rehabilitate Bungendore Landfill	Environmental management and regulatory compliance	High
GWM22.		Rehabilitate Braidwood Landfill	Environmental management and regulatory compliance	High
GWM23.		Rehabilitate Majors Creek Landfill	Environmental management and regulatory compliance	Medium
GWM24.		Rehabilitate Araluen Landfill	Environmental management and regulatory compliance	Medium
GWM25.		Close and rehabilitate Nerriga Landfill following the construction of a new facility in Nerriga	Environmental management and regulatory compliance	High
GWM26.		Monitor and maintain closed landfills	Environmental management and regulatory compliance	On-going
GWM27.	Operations	Provide all properties that pay the General Waste Charge with a “General Waste Card” as part of their rates notice	Ensuring only eligible people/businesses have accesses to the subsidised waste disposal rates	On-going

Number	Aspect	Action	What problem is this solving?	Priority
GWM28.		Cease free waste disposal at Council waste facilities on Clean Up Australia Day unless waste is generated from a registered Clean Up Australia Day event	Supports the original intention of the Clean Up Australia Day	High
GWM29.		Undertake waste audits at QPRC waste facilities to identify waste generation and composition of self-haul materials.	Improves data and knowledge of waste streams	Medium
GWM30.		Following engagement of staff identified in GWM35, expand Council's litter management programs to cover the entire LGA	Environmental management and regulatory compliance	Medium
GWM31.	Disposal	Prepare and award a Tender for the disposal of residual waste delivered to Council waste facilities	Procurement not currently in compliance with the Local Government Act	High
GWM32.		Prepare and award a Tender for the disposal of commingled recyclables delivered to Council waste facilities	Procurement not currently in compliance with the Local Government Act	High
GWM33.		Once new FOGO facility is completed, deliver all FOGO and GO waste to centralised facility for processing and treatment	Appropriate disposal of collected waste	High
GWM34.	Staffing	Hire one additional full time equivalent (FTE) to assist operations at Braidwood WTS	Insufficient resources to undertake tasks identified in the Strategy	High
GWM35.		Hire two additional FTE to undertake litter collection activities in the LGA and cover illness/leave in collection and facilities areas.	Insufficient resources to undertake tasks identified in the Strategy	High
GWM36.	Public Bins	Continue to place and service litter bins in public areas	Appropriate provision of services	On-going
GWM37.		Due to ongoing contamination issues, only provide residual waste bins in public areas	Recycling contamination rates	On-going
GWM38.		Undertake regular bin audits of public bins to ascertain current generation rates and materials composition.	Recycling contamination rates	On-going
GWM39.	Education	Hire a dedicated Waste Officer to implement education and engagement program (combined with DWM22 and BWM12)	Insufficient resources to undertake tasks identified in the Strategy	High
GWM40.		Develop an education and routine inspection program to reduce contamination rates at waste facilities. (Shared with DWM23 and BWM13)	Recycling and FOGO contamination rates, ad-hoc education activities and closing data gaps	High
GWM41.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with DWM25 and BWM14)	Ad-hoc education activities	Medium
GWM42.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry,	Ad-hoc education activities	High

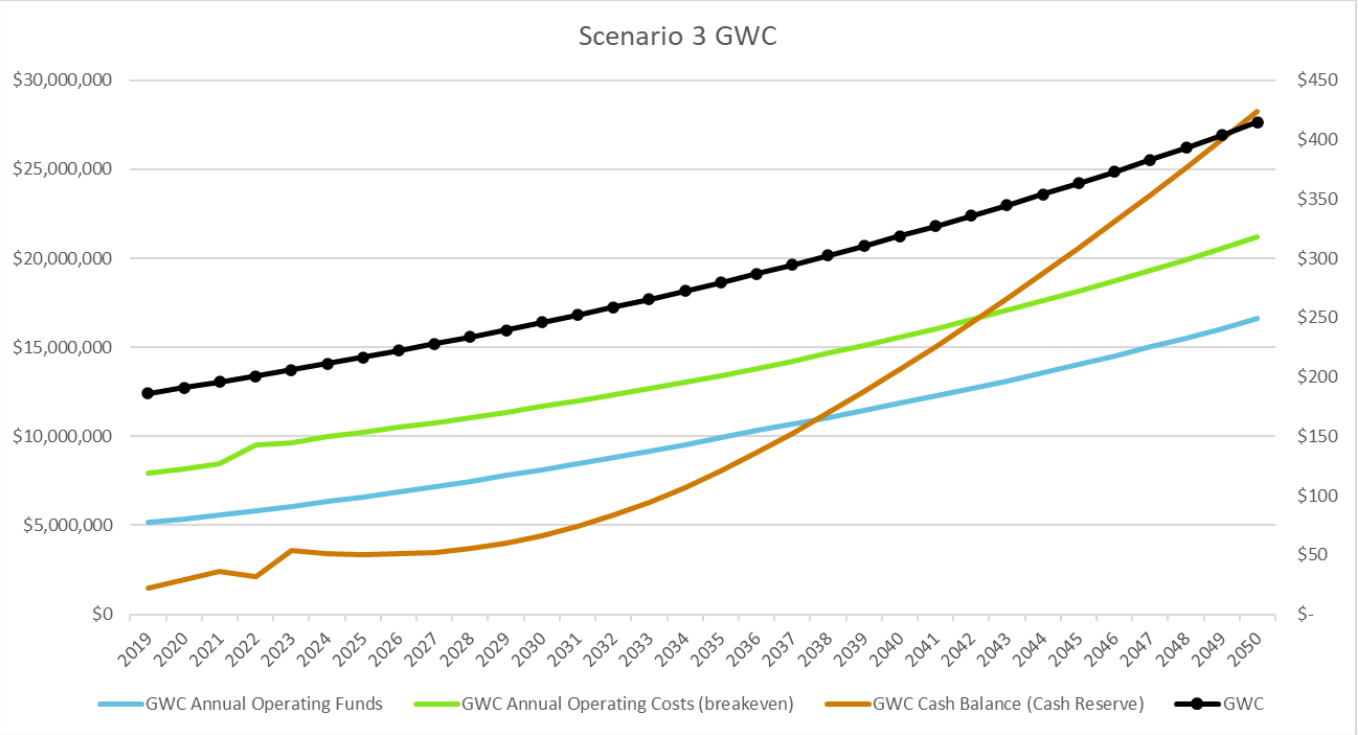
Number	Aspect	Action	What problem is this solving?	Priority
		and initiatives identified in the strategy. (Shared with DWM26 and BWM15)		
GWM43.	General	Develop and implement an online booking and payment portal for waste related activities	Inefficiencies in processes	High

	Shared costs/resources with DWM and GWM

Table 23 Recommended Scenario – General Waste Management Annual Charges

	General Waste Charge 2019/2020*	General Waste Charge 2020/2021	
		BAU	S3
Former Palerang	$375-$416	$143	$196
Former Queanbeyan	$0		

Figure 11 General Waste Management Charge – Recommended Scenario



Expected gate fees payable at waste facilities are shown in Table 24. Not all facilities will accept all waste types and eligibility requirements and limitations apply in some instances.

Table 24 Recommended Scenario – General Waste Management Facility Gate Fees

Waste Type	Amount	Charge (GST Inclusive) – with General Waste Card	Charge (GST Inclusive) – without General Waste Card
General Mixed Waste	1 x 240L Bin	$10	$10
	Trailer or Ute	$112	$112
	Per tonne	$145	$145
Household recycling	Any	Free	$10/cubic metre
Residential greenwaste	Any	Free	$10/cubic metre
Mattresses	Per mattress	$53	$53
CRC Eligible Materials	Per item	Free	Free
Household E-waste		Free	Free

7.1.4 Business Waste Management

The strategy for business waste management is outlined below in Table 25. The 2021/22 charges are shown in Table 26.

Table 25 Recommended Scenario – Business Waste Management Actions and Timeframe

Number	Aspect	Action	What problem is this solving?	Timeframe
BWM1.	Funding	Maintain a minimum $25,000 in the Business Waste Management Fund reserve to act as a buffer for future price shocks	Volatility in markets	On-going
BWM2.		Transfer remaining cash into the General Waste Management Fund to fund future works	Separate funds resulting from Council amalgamations	High
BWM3.		Levy a Business Waste Availability Charge on all business properties in the LGA	On-going funding of operations	On-going
BWM4.		Levy collection charges (on a per bin basis) in accordance with the adopted model for businesses that opt-in to collection services	Businesses only pay for the services they require	On-going
BWM5.	Collections	Provide weekly residual waste collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis.	Businesses only pay for the services they require	On-going
BWM6.		Provide fortnightly commingled recyclables collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis	Businesses only pay for the services they require	On-going
BWM7.		Provide fortnightly garden organics collection (via 240L MGB within existing domestic waste collection zones) to businesses on an optional basis	Businesses only pay for the services they require	On-going
BWM8.		Encourage businesses with larger waste generation rates or requiring more frequent collections to explore private collection contracts	Council does not incur large expenditure to service a small number of businesses	On-going
BWM9.	Education	Expand and promote the ACTSmart or BinTrim business waste education programs to cover the entire LGA	Equal service provision to all businesses	On-going
BWM10.		Conduct a bin audit of C&I customers in LGA to determine approximate volume of waste generated by sector and recycling rates.	Improvement in waste data	On-going
BWM11.		Following the audit identified in BWM10, develop and implement program to increase diversion	Improvement in waste diversion	Medium
BWM12.		Hire a dedicated Waste Officer to implement education and engagement program (Shared with DWM22 and GWM39)	Insufficient resources to undertake tasks identified in the Strategy	High
BWM13.		Develop and implement a routine bin inspection program to reduce contamination rates in kerbside collection. (Shared with DWM23 and GWM40)	Recycling and FOGO contamination rates, ad-hoc education activities and closing data gaps	High

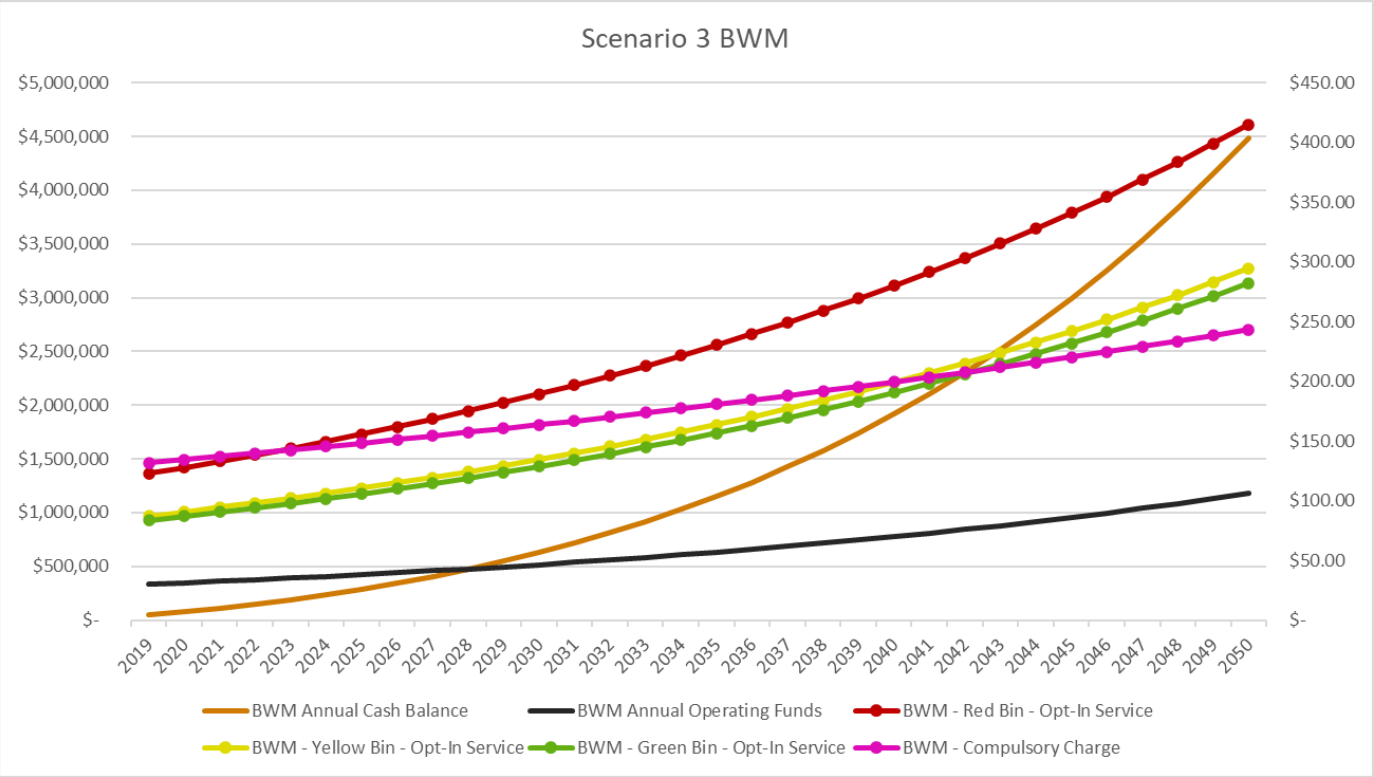
Number	Aspect	Action	What problem is this solving?	Timeframe
BWM14.		Improve digital media which provides information on the QPRC waste services available to the community (Shared with DWM25 and GWM41)	Ad-hoc education activities	Medium
BWM15.		Prepare and implement a Community Waste Education Strategy covering schools, general public, business/industry, and initiatives identified in the strategy. (Shared with DWM26 and GWM42)	Ad-hoc education activities	High

	Shared costs/resources with DWM and GWM

Table 26 Recommended Scenario – Business Waste Management Annual Charge

Opt-in Service	QPRC Revenue Policy Business Waste Management Charge 2020/21	Business Waste Management Charge 2020/21	
		BAU	S3
Red Bin (Residual)	$262	$169	$133
Yellow Bin (Recycling)	$94	$131	$94
Green Bin (GO)	$94	$109	$90
Compulsory Charge – all businesses	$96	$78	$137

Figure 12 Recommended Scenario – Business Waste Management Charge



7.1.5 Total Annual Waste Management Charges

The summary of charges for residential and business properties are outlined in Table 27.

Table 27 Recommended Scenario – Summary Annual Waste Management Charges

Waste Management Charge	Type	Scenario 3
Domestic Waste Management	Urban - SUD - 3 Bin	$315
	Rural - SUD - 2 Bin	$170
	Rural - SUD - 1 Bin	$82
	Vacant - Urban & Rural	$28
	Urban - MUD - 3 Bin	$315
	Rural - SUD - Bin Compound	$160
	Urban - MUD - 2 Bin	$205
	Moved to General Waste Charge	
	Mixed-Use – No Service	$28
General Waste Management	ALL QPRC residential and non-commercial properties	$196
Business Waste Management	Red Bin (Residual)	$133
	Yellow Bin (Recycling)	$94
	Green Bin (GO)	$90
	All QPRC Businesses	$137

The total waste management cost for residential properties is shown in Table 28 and total waste management costs for businesses is shown in Table 29.

Table 28 Recommended Scenario – Summary of Total Annual Waste Management Charges - Residential

Domestic Waste Management Code	New QPRC Domestic Waste Management Code	Total Waste Management Costs	Change from BAU
DWP1	Urban - SUD - 3 Bin	$510	-$275
DW1			$173
DWP4	Rural - SUD - 2 Bin	$366	-$335
DW15			$2
DW17	Rural - SUD - 1 Bin	$278	$92
DWP8			-$223
DWP12	Vacant - Urban & Rural	$224	-$193
DW10			$197
DW8	Urban - MUD - 3 Bin	$510	$173
DWP6	Rural - SUD - Bin Compound	$356	-$274
DW7	Urban - MUD - 2 Bin	$400	+$93
DW11	Moved to General Waste Charge	-	-
Not Applicable	Mixed-Use – No Service	$224	+$224
N/A	No DWM Service	$196	-$194

Table 29 Recommended Scenario – Summary of Total Annual Waste Management Charges - Business

New QPRC Business Waste Service	Total Waste Management Costs	Change from BAU
Compulsory Charge – Former QBN	$137	+$41
Compulsory Charge – Former Palerang	$137	-$253
Red Bin (Residual)	$133	-$129
Yellow Bin (Recycling)	$94	No change
Green Bin (GO)	$90	-$4

8 Next Steps

To finalise the QPRC Waste Strategy the following steps are required:

- Review feedback received from the Waste Strategy Working Group and the community during public exhibition of the recommended scenario
- Finalise the Strategy based on the scenario selected
- Put forward the Strategy to Council to adopt.
- Rates and charges (2021/2022)

9 Limitations

MRA Consulting Group (MRA) has prepared this report in accordance with the usual care and thoroughness of the consulting profession for the use of Queanbeyan-Palerang City Council and only those third parties who have been authorised in writing by MRA to rely on this Report.

It is based on generally accepted practices and standards at the time it was prepared. No other warranty, expressed or implied, is made as to the professional advice included in this Report.

It is prepared in accordance with the scope of work and for the purpose outlined in the proposal dated 2 March 2018.

Where this Report indicates that information has been provided to MRA by third parties, MRA has made no independent verification of this information except as expressly stated in the Report. MRA assumes no liability for any inaccuracies in or omissions to that information.

This Report was prepared between 1 November 2018 to 21 July 2020 and is based on the conditions encountered and information reviewed at the time of preparation. MRA disclaims responsibility for any changes that may have occurred after this time.

This Report should be read in full. No responsibility is accepted for use of any part of this report in any other context or for any other purpose or by third parties. This Report does not purport to give legal advice. Legal advice can only be given by qualified legal practitioners.

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It is the responsibility of third parties to independently make inquiries or seek advice in relation to their particular requirements and proposed use of the site.

Any estimates of potential costs which have been provided are presented as estimates only as at the date of the Report. Any cost estimates that have been provided may therefore vary from actual costs at the time of expenditure.

Appendix A Community Consultation Report

Appendix B Long List of Options

Appendix C Waste Strategy Briefing Paper