

LEGISLATIVE ASSEMBLY
RECORD
ELEVENTH ASSEMBLY

16 SEP 2025

MOP No.

Paper No.



ACT
Government

Project Business Case

Project name:	New Materials Recovery Facility
Tier:	Tier 1
Risk assessment (high/med/low):	High
Total estimated project capital cost (P90, \$m, nominal):	\$138.73M
Whole-of-life cashflow (P90, \$m, nominal):	\$370.356M
Funding requested (\$m):	\$370.356M
Recommended delivery model:	BOOT (Build, Operate, Own, Transfer)
Sponsoring Agency:	ACT NoWaste, Transport Canberra and City Services Directorate
Sponsoring Minister:	Minister Tara Cheyne
Contact officer:	Bruce Fitzgerald
Business Case advisors:	ARUP

Sign-off

Sponsoring Agency:

<i>Print Name</i>	
<i>Signature</i>	

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Basis of authority for consideration in 2024-25 Budget: Construction of a new recycling facility is listed as a priority in the Chief Minister's letter dated 23 January 2024. This business case is essential to enter into a contract for the design, construction and operation of a new Material Recovery Facility for the Territory.

Brief Description: The proposal would fund a 20 year contract for the design, construction and operation of a new Materials Recovery Facility (MRF) for the Territory.

Wellbeing domain 1: Environment and climate

Wellbeing domain 2: Economy

Wellbeing Framework priority target group(s): (Multiple categories can be ticked)

- | | | | |
|---|---|--|---|
| ☐ Older Canberrans | ☐ Women and/or gender diverse people | ☐ LGBTIQ+ | ☐ Carers |
| ☐ Culturally and linguistically diverse people | ☐ Children and young people | ☐ Aboriginal and Torres Strait Islander Peoples | ☐ People with disability |

Priority alignment: (Multiple categories can be ticked)

- | | | | |
|---|--|---|---|
| ☐ <u>PAGA Appendix 1 or 2 item</u> | ☐ Other Election commitment | ☐ <u>National Agreement on Closing the Gap</u> | ☐ <u>ACT Aboriginal and Torres Strait Islander Agreement 2019-2028</u> |
| ☐ Housing | ☐ Mental health | ☐ Early years | ☐ Women and/or the <u>ACT Women's Plan 2016-2026</u> |

Electorate: All

Existing projects or program(s): The project will replace the MRF which was destroyed by fire in 2022.

Year to cease funding or ongoing: The proposal seeks ongoing funding over 20 years for the design, construction, and operation of the new MRF.

Link to Budget consultation: No.

New Material Recovery Facility (MRF) - Hume

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Business Case Authorisations

Lead Minister

Ministerial Endorsement	Signature and date or evidence of endorsement
Lead Minister: Cheyne	
Portfolio: City Services	15/5/24

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1. Executive summary

1.1 Introduction

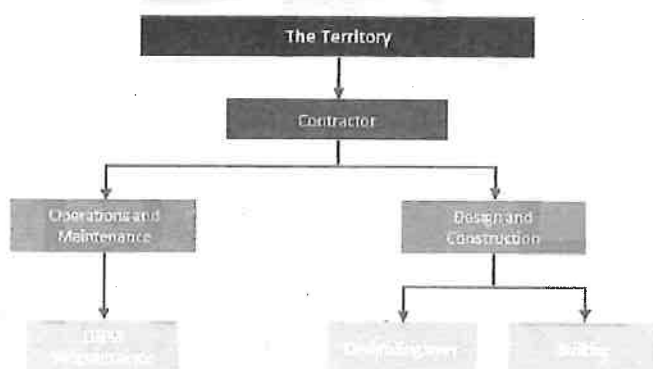
The ACT Government requires a new fit-for-purpose modern Materials Recovery Facility (MRF) for the processing of recyclables in the ACT and to deliver on the Government commitment in creating a Circular Economy. The Facility will include new technology to deliver the capacity to sort, separate, and process materials for the whole Canberra region, creating higher quality resources with higher value uses.

In December 2022 the existing MRF at the Hume site was destroyed by fire. As a result, the Territory requires the demolition of the existing MRF and the design and construction of a new MRF. Since the fire, the contracted MRF operator has implemented its business continuity plan to manage recyclables. This has involved the temporary storing of and transfer of recyclables to MRFs in other interstate locations in New South Wales and Victoria. This has resulted in significant cost increases, almost double the costs under the previous MRF arrangement, due to the requirement for transport and higher gate rates for interstate MRFs in comparison to the contracted cost prior to the fire. Given the associated environmental, emissions and economic costs of interstate logistics, the ACT Government has initiated a one-stage Request For Proposal (RFP) procurement approach to accelerate the delivery of a new MRF. This aims to accelerate construction of the facility and reduce environmental and economic impacts from the interstate transport of recyclable materials. The acceleration of construction would be dependent on the planning pathway of approvals and authorisations.

The new MRF will be delivered and operated as a Public Private Partnership (PPP). The successful contractor will be required to design, deliver, operate, maintain, and finance the funding shortfall over the Territory capital contribution. The contractor will interface with other Territory contractors relevant to the resource recovery value chain, in particular the household collections contractor and operate the MRF facility for a 20-year contract term. The contractor will handover the MRF to the Territory with a minimum operational life of 5 years.

The new contract is based on a build, own, operate, transfer (BOOT) contracting model, as illustrated below in **Figure 1**. The BOOT structure enables the Territory to have a relatively small upfront capital investment towards a major facility, and ongoing costs are offset by a revenue share arrangement from processed outputs and potential for third-party gate fees.

Figure 1: Hume MRF contracting structure definition



The Territory has entered into the negotiation phase of the procurement process and has an imperative for contract signing by July 2024, ahead of the caretaker period. The negotiation to contract execution period is an accelerated and ambitious schedule and is subject to the risk of delay. Contract execution after the caretaker period would further delay the commencement of the new build and may potentially result in cost escalations.

The purpose of the business case is to:

- a) seek agreement to the recommended solution for managing the Territory's recyclables, including:
 - i. agreement for the Territory to execute a contract to build and operate a new MRF,
 - ii. in principle agreement for recurrent funding to the new MRF contract, noting that TCCS will submit a business case with cost certainty for the FY2026-27 budget,
 - iii. agreement to additional recurrent funding for the Interim MRF Solution until the new MRF is operational,
- b) present the costs, benefits, and risks,
- c) present the current status of the project, and
- d) present the project schedule.

1.2 Needs Analysis

Since the fire in December 2022, the ACT does not have an operating MRF. Recyclable material is being stockpiled and transported interstate. The MRF is a critical piece of waste infrastructure that underpins the delivery of waste services to ACT residents, businesses and surrounding Local Government Areas.

The ACT Circular Economy Strategy and Action Plan 2023-2030, the Waste Feasibility Study Roadmap and Recommendations 2018, the 2019-20 Budget Papers for Transport Canberra and City Services, and the ACT Climate Change Strategy 2019-2025 have all identified the need for better rates of resource recovery, emissions reductions, and a move towards a circular economy. A major focus is the minimisation of waste to landfill.

In addition, the Council of Australian Governments (COAG) established export bans on waste plastic, paper, glass, and tyres (the Ban), supported by the Recycling Modernisation Fund (RMF) which was established as a national initiative to improve recycling capacity. The Territory were successful in an application for Commonwealth funding through the RMF to upgrade the existing facility in Hume before it was destroyed by fire.

The construction of a new MRF will address the Territory's need for a facility in the ACT and provides an opportunity to use improved technology to improve resource recovery rates and meet COAG waste export ban requirements. It will also preserve the Territory's primary landfill at Mugga Lane by diverting materials, providing longer term landfill capacity.

The interim solution currently in place comes at substantial cost of approximately \$11m per annum to the Territory, presents risks associated with interstate capacity and transport and has environmental impacts associated with transport emissions. The resource recovery rate is also lower compared to a MRF in the Territory due to the exposure of stockpiles to weather decreasing the quality of materials.

In addition to the benefits of meeting COAG waste export ban requirements and preserving landfill capacity, a new facility will also improve community satisfaction with waste disposal practices, reduce emissions associated with the current interim solution of transporting waste interstate and emissions from landfilling material and support a more circular economy for the Territory which has environmental and economic benefits.

1.3 Strategic and Policy Alignment

The new MRF project has been identified as a priority project for the ACT Government. Refer to correspondence on 22 January 2024, from the Chief Minister to the incoming Minister for City Services on priority projects for the ACT Government, noting, "You should continue to construct a new recycling facility for Canberra as a matter of priority, following the accidental fire and destruction of the old facility" (Attachment O).

The new MRF project has obligations under the National Partnership Agreement and the Recycling Modernisation Fund, and is aligned with the following policies and priorities:

- a. *ACT Circular Economy Strategy and Action Plan 2023-2030*, that outlines action to build a new Materials Recovery Facility (MRF) to improve the quality and capacity of recycling in the ACT,
- b. *ACT Waste Management Strategy 2011-2025*, which sets out the ACT Government's strategy to managing waste towards achieving full resource recovery; a cleaner environment; and a carbon neutral waste sector,
- c. *Transport Canberra and City Services Strategic Plan 2021-2024*, which describes commitments for delivery of customer centric community outcomes; improvement of safety in delivery of services; and upholding good governance,
- d. ACT Circular Economy reform package which sets out requirements for recycling material separation,
- e. *National Waste Policy 2018* and the principle of improving resource recovery through improvements in material collection and processing systems,
- f. *National Waste Policy Action Plan 2019*, which consists of seven targets and 80 actions to improve waste management in Australia. The MRF will contribute to two targets of the action plan, specifically: Target 1 (Ban on export of waste plastic, paper, glass, and tyres, that commenced in the second half of 2020) and Target 3 (80% average resource recovery rate from all waste streams following the waste hierarchy by 2030),
- g. *Recycling and Waste Reduction Act 2020*, which prescribes the rules to exporting waste material.

The new MRF will support cooperative arrangements with regional local governments (Canberra Region Joint Organisation or CRJO).

1.4 Options Analysis

There are three proposed options listed below, more information can be found at Section 5 Options Analysis.

Option 1 – Construction of a New MRF under PPP (BOOT Model)

Option 2 – Not proceed with the MRF RFP and continue the Interim Solution on a long term.

Option 3 – Not proceed with MRF RFP and landfill recycling.

1.5 Project Scope

The deliverables of the MRF project include the following:

- a. deliver a fit for purpose contemporary facility aligning with Territory priorities and best practices for recycling,
- b. maximise resource recovery and divert waste from landfill,
- c. sustainable and long-term processing of recyclable materials in the Canberra region,
- d. production of high-quality marketable material streams compliant with export bans and the National Partnerships Agreement,
- e. reduce carbon emissions involved in recyclables processing,
- f. a design enabling effective and safe management of materials and fire.

The contractor will be required to maintain the facility to a standard that enables the Territory to operate the facility for a further five years following contract expiry.

1.6 Risk Analysis

The risk analysis process identified and quantified key risks for the delivery model through a number of workshops with relevant stakeholders.

The key risks for the delivery models include:

- Pre-contract risks in the procurement planning and obtainment of approvals or permits,
- Site risks such as geotechnical or environmental conditions and cultural significance,
- The MRF interim operations contractor moving to an alternate site to enable the works to commence on the Hume site,
- Design and construction risks to meet the output specifications and management of costs and potential delays,
- Operating risks for management of contamination, environmental impacts, and fire safety
- Financial risks relating to availability of funds, unforeseen fluctuations in financing costs, and inflationary impacts,
- Sponsor risks in special purpose vehicles or sub-contractors fulfilling contractual obligations,
- Regulatory risks from change in law affecting the operations, and

- Political risks from a change in government.

1.7 Delivery Model Analysis

Several workshops were conducted with departmental stakeholders, including Major Projects Canberra and various sections of ACT Treasury (ICA) in developing the proposed solution. Workshops followed the procedure outlined in the ACT Capital Framework, including the draft Delivery Model Guidelines.

In a BOOT structure, the government would award a contract to a private sector entity to design, finance, build, own, operate, and transfer the facility back to the government. The BOOT Contractor would bear the responsibility of raising the remaining finance over the Territory capital contribution and would seek to recoup its capital investment and operational costs through a fixed and variable monthly fee for the contract term. These fixed and variable monthly fees are the government payments required by the BOOT contractor for its capital contribution and operating and maintenance expenses over the term of the contract.

In comparison to a DCOM model (design, construct, operate, maintain), the BOOT approach enables the Territory to have a relatively small up front capital investment, and provides opportunity to transfer risks associated with financing and project performance to the contractor.

1.8 Financial Analysis

Financial analysis of the options has been undertaken to examine the financial impacts to Government. The preferred option is for a contemporary new MRF to be built through a BOOT contract model, consisting of an initial construction phase and a twenty-year operating term to accept the Territory's recyclables.

In comparison to the current interim arrangements for transporting recyclables for interstate processing, the new MRF is marginally more expensive but provides the Territory with an asset at the conclusion of the 20 year term. The new MRF enables the Territory to have greater certainty in managing its recyclables in comparison to relying on interstate facility availability.

A procurement for the new MRF is currently being undertaken and negotiations are in progress. The new MRF is estimated to be operational in February 2027 and the management of the Territory's recyclables will continue under an interim arrangement for stockpiling and transportation of that material to interstate recycling facilities.

Under the BOOT contract model, the Territory and Commonwealth (through the Recycling Modernisation Fund) will contribute \$15.5m and \$10.5m respectively in an upfront capital contribution during the construction phase. Contractor fees (fixed and variable) payable by the Territory will commence during the operational phase.

The fees will cover the contractor's costs for debt service, operating costs and returns on equity investment. The fees will be offset by revenue generated by the operation, including – a share of revenue from the sale of products (e.g. glass, plastics, paper, cardboard) benefited from Territory recycling materials, container deposit scheme material, and gate fees that the contractor receive from third-parties that send materials to the MRF.

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Table 1 shows the financial impact summary of construction for the new MRF (\$'m)

	2024-25	2025-26	2026-27	2027-28	2028-29	Total (FY25 to FY29)	Total (FY30 to FY47)	Total
Capital impacts								
Total Capital Project Cost (indexed)	55.23	76.14	19.79	-	-	151.16		151.16
Project On Costs	2.63	0.74	2.03	-	-	5.40		5.40
Offset Contractor Contribution	-40.15	-63.40	-21.62			-125.17		-125.17
Offset Upgrading the ACT Material Recovery Facility (Commonwealth Contribution) *	-4.76	-5.00				-9.76		-9.76
Offset Upgrading the ACT Material Recovery Facility (ACT Contribution)*	-3.56	-8.18				-11.73		-11.73
Offset Managing Waste Better*	-3.42	-0.30	-0.20			-3.92		-3.92
Offset ACTIA Facility Payout	-5.97					-5.97		-5.97
Monthly Fixed Payments			2.61	6.26	6.26	15.13	109.30	124.43
MPC Fee	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Expense impacts								
Interim Arrangement Expense	14.17	10.84	6.64	-	-	31.65	-	31.65
Monthly Variable Payments			4.13	14.14	15.07	33.34	458.92	492.26
Contingency	0.66	0.91	0.35	0.16	0.17	2.25	4.46	6.71
Depreciation	-	-	3.15	7.56	7.56	18.27	130.39	148.66
Revenue/Offsets (Operating Activities)								
Contractor Contribution and Resource recovery Group			-0.64	-1.24	-1.28	-3.16	-33.24	-36.40
Revenue Share	-	-	-3.40	-6.44	-6.95	-16.99	-185.20	-202.19
Offsets (Insurance payout)	-19.98	-	-	-	-	-19.98	-	-19.98
Offsets (Treasury provision)	-10.38					-10.38	-	-10.38

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Offsets (Base Funding)	-0.53	-0.54	-0.55	-0.57	-0.57	-2.76	-13.34	-16.10
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*2024-25 Offset amounts have been adjusted to include the remaining unspent balances of the budgeted 2023-24 amounts.

1.9 Economic Appraisal

The project realises a number of key benefits for economic, social and environmental benefits.

The economic analysis used a P50 value estimate of the project and a discount rate of 7% over a 20-year operational term. The benefit cost ratio is estimated to be 0.37 and is based on the estimated value of the project are \$241.7m, and the estimated benefit value is \$89.6m. The new MRF asset is handed over to the Territory at the end of the term.

The economic benefits include delayed landfill investment and reduced costs of landfill management in the long term. The social and environmental benefits include reduced greenhouse gas emissions, improved water quality, reduce pollution, employment, health and wellbeing, contribution to the circular economy, and supports combatting climate change.

The project is estimated to create 60 construction jobs during the build phase and 20 full time equivalent jobs during the operation phase.

1.10 Project Governance

The MRF project's complexities, values, and inter-relationships with other waste projects and Commonwealth and ACT Government initiatives, demands a governance structure which supports timely, accountable, well-informed decision making. There are a range of key stakeholder across government that support project delivery, including Major Projects Canberra, ACT Treasury, ACT NoWaste, Delivery TCCS legal and ACT Government Solicitor. External specialist advisors are engaged and support the project by providing specialist probity legal and technical advice and commercial support to inform the complex procurement.

The established governance structure includes the TCCS Director General as the approving officer and is supported by an Executive Steering Committee, Project Control Group, and the Project Delivery Team. The detailed governance structure and the roles and responsibilities of key stakeholders is described in Section 11.

1.11 Stakeholder Engagement Plan

ACT NoWaste has worked with multiple stakeholders to prepare various documents including a Development Application, EIS Scoping Document's and more.

Targeted stakeholder engagement will continue to proceed in the design and delivery phases of the MRF. Further information on stakeholder engagement can be found in Section 12.

1.12 Advisor Engagement Plan

The project has identified specialist areas to support deliverables and outputs as outlined below. Further details are outlined in Section 13.

- Legal

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- Probity
- Financial and commercial
- Technical design and engineering
- Transactions and procurement management, and
- Environmental and planning

1.13 Timeline

The project has 6 key steps or milestones that need to be achieved by the specified dates (Section 14.2) and to complete the construction by February 2027. These key milestones are:

- Contract execution
- Final design complete
- Development Application approval
- Foundation and civil works completed
- Construction completion
- Operational readiness

2. Introduction

2.1 Overview

Transport Canberra and City Services (TCCS) Directorate requires a new fit-for-purpose modern MRF for the processing of recyclables at the site of its existing operations in Hume.

It is intended that the Facility will be one of the first advanced facilities in Australia with the capacity to sort, separate, and process materials for the Canberra region, creating higher quality resources with higher value uses including remanufacturing. The Territory also requires the Facility to be able to undertake primary sorting as well as secondary processing of material, if commercially viable at the scale and location proposed, such as plastic washing and glass crushing. The Facility is to produce higher quality recycled product that adds value and reduces the amount of waste ending up in landfill.

The Facility is to be delivered as a priority. The Territory has already committed \$26m of capital contribution to the facility and requires the Contractor to supply all additional financing for the difference to ensure the delivery of the Facility. The \$26m includes \$10.5m contribution from the Commonwealth through Recycling Modernisation Fund initiative.

2.2 Project objectives

The key objectives of the project are:

- Provide critical recyclable processing infrastructure to enhance recycling and implement glass fines processing under the recommendations within the ACT Waste Feasibility Study
- Divert recoverable waste from landfill and reduce greenhouse gas emissions
- Recover recyclables to create products that may be sold on for further use, and thereby strengthen the Territory's circular economy
- Support key Territory and Federal Government resource recovery and landfill diversion targets including:
 - The ACT Waste Management Strategy 2011-25 target of increasing the rate of resource recovery to over 90% by 2025, with no recoverable waste sent to landfill
 - Develop markets for recyclable materials and strengthening regional connections

2.3 Project background

The Territory's Materials Recovery Facility (MRF) in Hume has been in operations since 2003 and received and processed around 63,000 tonnes per annum of recyclables from the Territory's households, commercial operators, six other regional NSW councils and materials from the Container Deposit Scheme (CDS). The MRF is an essential and critical component of the Territory's waste program to recover resources and divert material from the Mugga Lane landfill.

On 9 August 2019, the Council of Australian Governments (COAG) agreed to establish export bans on waste plastic, paper, glass, and tyres (the Ban). Amongst the strategies for Environment Ministers to deliver on COAG's commitment, the Recycling Modernisation Fund was established as a national initiative to improve recycling capacity.

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In August 2020, Transport Canberra, and City Services (TCCS) were successful in its application for Commonwealth funding through the Recycling Modernisation Fund (RMF) to upgrade the existing facility in Hume. The contribution sought was for \$10.5m from the Commonwealth with the Territory matching the funding with a further \$12.7m for the project (Refer to Cabinet 20/102, 20/333 and 20/388).

The upgrade would provide the Territory with improved recyclables processing capabilities for the whole ACT region. This included improving the quality of outputs for paper and cardboard plastics washing and flaking circuit, and glass crushing and washing circuit. The improvements in quality outputs would enable the Territory to meet requirements under the COAG export bans.

On 30 March 2022, TCCS sought Cabinet agreement for a change of project scope. Rather than upgrading the existing MRF facility through a managing contractor-operations contract procurement model, Cabinet agreed to single contractor approach to construct a new facility on the adjacent block (Refer to Cabinet 22/17).

On 26 December 2022, the existing MRF in Hume was destroyed by fire. The contracted operator implemented its business continuity plan to manage recyclables. This involved the temporary storing of and transfer of recyclables to MRFs in other interstate locations. This has resulted in doubling the costs for managing recycling due to the requirement to transport the material and higher gate rates for interstate MRFs with limited capacity.

The storage of recyclables has required the use of the undeveloped part of the block, and a solution would be required to support the ongoing business continuity arrangements during the build of the new MRF. To facilitate this and to test the market for value for money the Territory undertook a procurement process and is nearing completion of the "Interim Solution for Recyclables Processing" (Interim Solution) tender which sought an optimal solution to storing and transfer of recyclables, and a changeover location to enable the new MRF to be built on the current Hume site.

The ACT Insurance Authority (ACTIA) has paid \$5.97 million in asset insurance monies from the building destroyed by the fire incident. Consequential loss insurance component is yet to be determined pending the outcome of the Interim Solution procurement.

The business continuity arrangement and Interim Solution are not sustainable or efficient solutions due to risks in availability and stockpile management. The interstate facilities engaged by the contractor are subject to competing demands and exposes the Territory to volatility and uncertainty. This may require the Territory to seek more distant facilities to accept recycling and has the potential to increase costs for transport, increase exposure to fuel price variations and different gate fees.

It should be noted, the business continuity/ Interim Solution arrangements have a lower degree of resource recovery when compared to a MRF located in the Territory. This is due to the exposure time of recycling stockpiles to weather conditions decreasing the quality of the material and reducing the ability for interstate facilities to recover resources. Additionally, recycling stockpiles sizes at the Hume site need to be managed to minimise the risk of fire and be compliant to ACT Environment Protection Authority (EPA) requirements.

As a result of the fire, the Territory has adopted an accelerated procurement approach with a single stage Request For Proposal (RFP) to deliver the new MRF, which would reduce the impacts of the environmental and economic costs from the interstate transport of kerbside recyclable materials.

The RFP will deliver a new fit-for-purpose modern MRF for the processing of recyclables at the site of its existing operations in Hume. The new MRF will occupy the area of the existing MRF on former Block 6 and extending over part of Block 10, Section 25 Hume, which has been amalgamated to form one block, Block 12 Section 25 Hume which is now the entire site.

It is intended that the RFP will deliver one of the first advanced MRFs in Australia with the capacity to sort, separate, and process materials for the Canberra region, creating higher quality resources with higher value uses including remanufacturing. The MRF will undertake primary sorting as well as secondary processing of material, if commercially viable at the scale and location proposed, such as glass crushing. The MRF will produce higher quality recycled product with lower contamination that adds value and reduces the amount of waste ending up in landfill.

The RFP for the new MRF was released by the Territory on 29 August 2023 and closed on 23 January 2024.

2.4 Current state

Due to the former MRF being destroyed by fire, the Territory has adopted an accelerated procurement approach with a single stage Request For Proposal (RFP) to deliver the new MRF. The RFP will deliver a new fit-for-purpose modern MRF for the processing of recyclables.

The new MRF is being delivered and operated as a Public Private Partnership (PPP). The successful contractor will be required to design, deliver, operate, maintain, and finance the funding shortfall provide the remaining finance for the MRF over the Territory capital contribution. The contractor will interface with other Territory contractors relevant to the resource recovery value chain, particularly the household yellow bin collections contractor. The operational term of the contract is 20 years.

The RFP was released by the Territory on 29 August 2023 and closed on 23 January 2024. Currently the Territory has entered into the negotiation phase and has an imperative for contract signing by July 2024, well ahead of the caretaker period. The negotiation to contract signing period is conducted under an accelerated and ambitious schedule and is subject to the risk of delay.

A contract signing being completed after the caretaker period would further postpone the commencement of the new build and may potentially introduce cost variations to the negotiations.

The ongoing recurrent funding allocation for the MRF is \$0.5 million. In 2023-24 mid-year review the Government provisionally allocated a further \$2.7m per annum until 2026-27. This additional funding was to cover the cost of the interim MRF operations net of insurance claim monies for consequential loss as a result of the fire.

3. Needs Analysis

3.1 Problem (or opportunity) and strategic responses

The former MRF in Hume received and processed around 63,000 tonnes per annum of recyclables from the Territory's households, commercial operators, six other regional NSW councils and materials from the Container Deposit Scheme (CDS). The MRF is an essential and critical component of the Territory's waste program to recover resources and divert material from the Mugga Lane landfill.

On 9 August 2019, the Council of Australian Governments (COAG) agreed to establish export bans on waste plastic, paper, glass, and tyres (the Ban). Amongst the strategies for Environment Ministers to deliver on COAG's commitment, the Recycling Modernisation Fund was established as a national initiative to improve recycling capacity.

In August 2020, Transport Canberra and City Services (TCCS) were successful in an application for Commonwealth funding for \$10.5m through the Recycling Modernisation Fund (RMF) to upgrade the existing facility in Hume on the proviso the Territory matched the funding with \$12.7m.

The upgrade would have provided the Territory with improved recyclable processing capabilities for the whole ACT region. This included improving the quality of outputs for paper and cardboard plastics washing and flaking circuit, and glass crushing and washing circuit. The improvements in quality outputs would have enabled the Territory to meet requirements under the COAG export bans.

Since the MRF was destroyed by fire in December 2022 these improvements were not realised. The interim solution in place involves recyclable material being stockpiled and transported interstate. This comes at substantial cost to the Territory, presents risks associated with interstate capacity and stockpiling and has environmental impacts associated with transport emissions. The resource recovery rate is also lower compared to a MRF in the Territory due to the exposure of stockpiles to weather decreasing the quality of materials.

The construction of a new facility addresses the Territory's need for a facility in the ACT and provides an opportunity to use new technology to improve resource recovery rates and meet COAG requirements. It will also preserve the Territory's landfill by diverting materials, reducing the rate at which landfill capacity is used.

The two alternative options to building the new facility, namely sending recyclables to landfill or continuing with the interim solution of stockpiling and transporting material interstate do not achieve the same environmental benefits as building the new MRF. The transporting of recycling materials would cost the Territory less than construction and operation of the new facility with much more risk. Whilst landfill, although less costly is environmentally and politically unacceptable and would conflict against the national and Territory policies for waste management.

3.2 Benefits

The project presents the Territory with an opportunity to develop an advanced facility to increase resource recovery rates and to meet COAG requirements.

An Investment Logic Map (ILM) has not been prepared for the MRF project however anticipated the opportunities and benefits have been identified below. In addition, the findings from the Food Organics and Garden Organics (FOGO) facility project ILM identified some benefits which are also applicable to this proposal.

Benefit 1: Community satisfaction with services provided

One of the issues identified through the Draft EIS public consultation is the growing awareness of the community towards the need for more sustainable waste disposal practices. The community in the ACT is generally educated and transient, and is seeking better resource

recovery solutions, similar to what they have experienced in other states. The proposed approach, which will result in higher resource recovery rates, will recognise, and respond to their concerns.

Improving community satisfaction with waste disposal practices can help to create a sense of trust in the ACT Government, as it will demonstrate clear actions and initiatives in place to help meet the Territory's aggressive climate change targets.

Benefit 2: Improving the natural environment and meeting COAG requirements

The government is committed to best practice waste management and the reduction of emissions to support a better environment for future generations to live in Canberra.

In August 2020, before the MRF was destroyed by fire, TCCS were successful in an application for Commonwealth funding through the Recycling Modernisation Fund (RMF) to upgrade the existing facility in Hume. The upgrade would have provided the Territory with improved recyclable processing capabilities for the whole ACT region. The improvement in outputs would enable the Territory to meet requirements under COAG export bans.

The construction of a new facility provides the Territory with an opportunity to realise the benefits which would have been achieved through those upgrades, in particular meeting COAG requirements, improved resource recovery rates and reduced extraction and manufacturing of new materials. The new facility will provide additional benefits once interim arrangements are terminated, in particular a reduction in transport emissions.

Benefit 3: Preserving the Mugga Lane landfill

The Territory's landfill has a finite capacity and is estimated that the facility will reach capacity in 2047 under current landfilling practices. If the Territory's 35,000 tonnes per annum of household recycling is sent to landfill, this would significantly reduce the operating life of the landfill.

The construction of a new MRF will allow the landfill's capacity to be preserved, delaying the need for expansion and ensuring capacity to receive waste is maintained.

Benefit 4: Creating value from waste streams

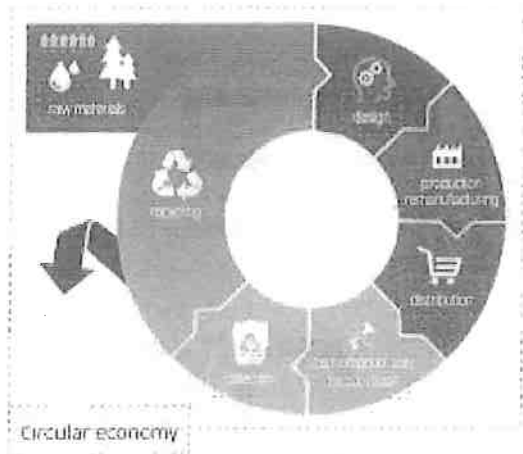
The circular economy is about preserving / maximising the value of resources. It does this through long-standing sustainability concepts, including life-cycle thinking and resource efficiency, and it complements the waste hierarchy.

A circular economy aims to keep materials and energy circulating in the economy for as long as possible. A circular economy presents opportunities for increased local recycling activity. Local solutions create local jobs and minimise the costs and impacts of unnecessary transport.

Recovering recyclable material locally will contribute to the development of a circular economy and towards the economization and the appreciation of waste as an inefficiency.

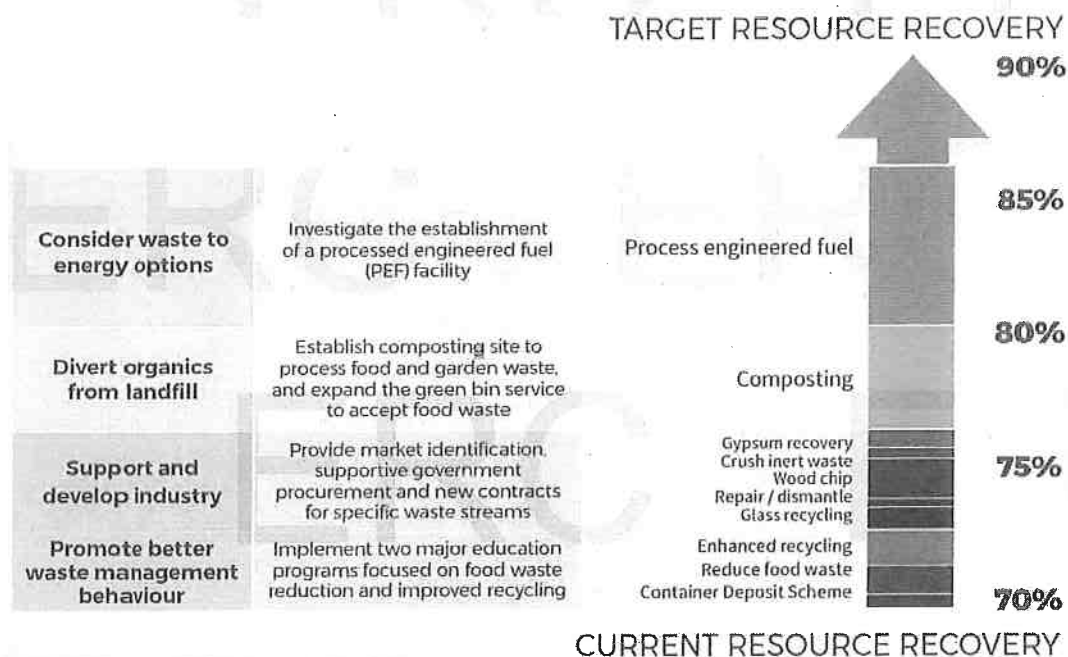
Waste can be used in numerous ways by developing circular solutions that lead to local productive reuse. The National Waste Policy action plan states, "For every 10,000 tonnes of waste that is recycled, 9.2 jobs are created, compared with only 2.8 jobs if the same amount goes to landfill. Further, if we increase Australia's resource recovery rate to 80%, an extra 15 million tonnes of material will be recovered every year².

Figure 2: Circular Economy



Additionally, as outlined in the 2018 Waste Feasibility Study Roadmap to Improved Resource Recovery (Figure 3), diverting recyclables from landfill helps set the path to achieving the Territory's 90% resource recovery target.

Figure 3: Snapshot of the roadmap initiatives towards 90% resource recovery



4. Strategic and Policy Alignment

4.1 Alignment with Government commitments and policies

Diverting recyclable material from landfill is an important priority for the ACT government and is reflected in the ACT Climate Change Strategy and the commitments in the Parliamentary and Governing Agreement of the 10th Legislative Assembly. The Parliamentary Agreement reinforces the ACT Government's commitment to divert recyclable material from landfill and to improve household and business waste reduction and recycling practices.

In addition, the new MRF was identified as a priority project for the ACT Government in correspondence sent by the Chief Minister to the incoming Minister for City Services in January 2024 on priority projects for the ACT Government. The correspondence stated "you should continue to construct a new recycling facility for Canberra as a matter of priority, following the accidental fire and destruction of the old facility".

The new MRF project has obligations under the National Partnership Agreement and the Recycling Modernisation Fund.

The project is aligned with UN Sustainable Development Goal 12, which is Responsible Consumption and Production that includes a specific target to *reduce waste generation through prevention, reduction, recycling and reuse*. Additionally, the proposed project would be consistent with global best practice, such as the EU Circular Economy Directive which supports source separation and aims to establish a circular economy by 2050.

The project alignment with key policy, planning documents and political commitments is outlined below in Table 2.

Table 2: Project alignment with key planning policies

Policy	Alignment with project and ability to enhance current ACT Policy or deliver new ones
ACT Climate Change Strategy 2019-2025, <i>The Environment, Planning and Sustainable Development Directorate (EPSDD)</i>	ACT Climate Change strategy 2019 – 2025, produced by EPSDD includes a goal to <i>implement the Actsmart programs and household waste education programs to reduce waste generation and increase recycling.</i> This business case and its implementation align well with this goal and the aims of the strategy by providing a facility to receive and process the recyclable material.
2018 Waste Feasibility Study Roadmap and Recommendations, <i>ACT NoWaste</i>	The Roadmap recommends initiatives to move closer to 90% resource recovery through best practice waste management. The targets focus on providing appropriate infrastructure, services and education to improve recycling rates. The construction of a new MRF will support this initiative by providing a processing facility.

Policy

Alignment with project and ability to enhance current ACT Policy or deliver new ones

**ACT Waste Management Strategy 2011 – 2025,
Environment and Sustainable Development
Directorate**

The goal is to achieve full resource recovery and a carbon neutral waste sector. Outcome 2 and 4 states *Full Resource Recovery* and *Carbon Neutral Waste Sector* respectively with targets that align with this project and is listed below:

Outcome 2 Targets:

The rate of resource recovery increases over 80% by 2015.

- over 85% by 2020.
- over 90% by 2025.

Strategies

2.10 Disincentives to landfill including appropriate pricing and regulation.

Outcome 4 Targets:

The ACT Waste Sector is carbon neutral by 2020

- energy generated from waste doubling by 2020.
- waste resources are recovered for carbon sequestration by 2020.

Strategies

4.4 Increase recycling to avoid greenhouse gas emissions.

4.5 Ensure energy efficient waste collection and transport solutions.

**Transport Canberra and City Services Strategic
Plan 2021-2024, TCCS**

Describes commitments for delivery of customer centric community outcomes; improvement of safety in delivery of services; and upholding good governance. Aims to deliver fit for purpose and sustainable infrastructure for the city. The proposed new MRF provides a fit for purpose Facility with improved technology to support a sustainable city.

**ACT Circular Economy Strategy and Action Plan
2023-2030**

The circular economy refers to a cyclical, regenerative system that minimizes resource inputs, waste, emissions and energy. It aims to stop waste from being produced in the first place, and replace the dominant 'take-make-dispose' economic system with one that is resource efficient and regenerative by keeping resources in continuous use at their highest possible value. By making changes across the entire material lifecycle, the circular economy can support us in achieving sustainable consumption and production.

The three principles of the circular economy are designing out waste and pollution, keeping products and materials in use at their highest value, avoiding negative impacts on the environment and regenerating natural systems.

The plan includes an ambition to create *a circular economy prioritising reuse, recovery and recycling in our growing built environment, with influence to develop innovative and adaptive building and planning policies and practices.*

The new MRF, with increased processing capacity and new technology, will support the implementation of the action plan.

**Australia's Climate Change Strategy,
Department of Industry, Science, Energy and
Resources**

The Federal Climate Change Strategy is a national strategy to act on climate change, and is informed by the Foreign Policy White Paper, Australia's Aid policy and the Sustainable Development Goals.

Specifically, **Strategy 4.3 - Supporting business and industry to innovate and adopt smarter practices and technologies** emphasises the need for new industries, practices and technologies that are more sustainable, particularly in the management of resources.

The construction of a new MRF with improved technology endorses the adaptation of smarter waste practices along with a sustainable approach towards waste management, particularly when compared to landfilling.

National Waste Policy 2018, Department of Agriculture, Water and Environment

The 2018 National Waste Policy was prepared collaboratively by the Australian Government, state and territory governments and the Australian Local Government Association. It provides a framework for collective action by businesses, governments, communities and individuals until 2030. The principles and strategies that align with this project are:

Principle 2: Improve Resource Recovery

Improve material collection systems and processes for recycling.

The new MRF supports this principle as it will provide improved recycling for Canberra.

National Waste Policy Action Plan 2019

National Waste Policy Action Plan 2019, which consists of seven targets and 80 actions to improve waste management in Australia. The MRF will contribute to two targets in the action plan, specifically: Target 1 (Ban on export of waste plastic, paper, glass and tyres, that commenced in the second half of 2020) and Target 3 (80% average resource recovery rate from all waste streams following the waste hierarchy by 2030).

Policy

Alignment with project and ability to enhance current ACT Policy or deliver new ones

Parliamentary Agreement Policies 2020
Agreement between Labor party and Greens, represents the parties' shared commitment to serve people of ACT

Policy Issue 1 - The Government will seek advice on the best way to facilitate the outcomes contained in the Government's Waste Strategy to locate waste processing facilities in Hume.

References to Hume in the *ACT Waste management Strategy 2011-2025* focus on developing the Hume Resource Recovery Estate (HRRE), and co-locating resource recovery facilities within HRRE.

Previous attempts to attract private sector waste processing businesses to HRRE are documented in the HRRE Master Plan 2012 but have not been successful. As a result, land remains undeveloped in HRRE as of 2020. This vacant land has been identified as the confirmed location for Material Recovery Facility (MRF) upgrades and the preferred location for the FOGO processing facility, which is consistent with the intended use of HRRE to co-locate resource recovery operations.

Create circular economy legislation to, amongst other things, phase out single use plastics and require businesses to have a separate collection for co-mingled recycling and organic waste collection and a food waste reduction plan from 2023" under legislative reforms

Policy

Alignment with project and ability to enhance current ACT Policy or deliver new ones

Greens policy platform -

Set targets in ACT Government procurement for zero waste consumption and minimum amounts of recycled content

The Strategic Waste Infrastructure Plan (SWIP) developed by NoWaste, advocates government procurement of recycled content as an important lever for supporting investment in resource recovery infrastructure that is not directly controlled by the ACT Government, particularly C&D recycling.

4.2 Wellbeing Impact Assessment

A Wellbeing Impact Assessment has been prepared for this business case ([Attachment A](#)). The key domains affected are environment and climate and economy. The assessment concluded that the MRF will have positive impacts on wellbeing as a result of diversion of waste from landfill and reduced emissions. It also found there will be cost impacts to the community to construct the facility, but these will be offset in the long term by the benefits of delaying expansion of the Mugga Lane landfill.

The impacts of this proposal will affect the entire Canberra community, they are not targeted at any particular groups. Impacts will be felt across the 20+ years of operation of the facility.

4.3 Alignment with other projects, Programs and Precincts

The Territory Waste Management System

The new MRF reinstate local recycling processing capability and will form part of the Territory's waste management system (as detailed in the Background Section 2.3) and contribute to the Territory reaching its resource recovery target and extending the life of the Mugga Lane landfill.

Under the priorities of ACT Circular Economy Strategy and Action Plan 2023 – 2030, the ACT has introduced legislation to require businesses have food waste reduction plans, food waste separation and recycling. The MRF will form part of the mix of recycling systems for the ACT region to offer recycling solutions to enable the city's businesses and community to realise and comply with the legislation.

Household Waste Collection Service

The household waste collection service (household) will be responsible for the feedstock of household recycling or "yellow bin" material delivered to the MRF. The household contract has just been executed in Q2 of 2024 and has been structured to provide the Territory with collection service commencement flexibility and alignment with the operational readiness of the new MRF.

SWIP and Hume Masterplan

This draft Strategic Waste Infrastructure Plan (SWIP) (in-development) examines the constraints, drivers for change and opportunities for waste infrastructure development within the ACT waste and resource recovery sector.

The following key principles guide the development of the draft SWIP:

- establish strategic vision as a key driver for determining waste infrastructure development.
- increase the diversion of waste from landfill.
- improve resource recovery outcomes.
- support and provide for a sustainable and high-performing resource recovery sector through market development and innovation.
- enable essential waste services to be efficiently provided to Territory residents and businesses by optimising service and coverage, considering the importance of transport networks and land-use planning.

- support evidence-based decision-making using data sources to inform analysis and modelling, as well as identifying opportunities for improved data collection.

4.4 Consideration of Commonwealth Government policies and priorities

The Commonwealth Government established the \$190m Recycling Modernisation Fund (RMF) to leverage \$600m of investment in infrastructure Australia-wide to increase domestic value-added processing and reuse of waste streams covered by the waste export bans. In the National Partnership Agreement on Recycling Infrastructure (NPA), the Commonwealth agreed to provide \$10.5m and the ACT agreed to match the amount through contributing \$12.7m in capital funding for this project.

The funds secured through the Commonwealth grant will only make up a portion of the capital funding required to complete the project. This involves a portion of funding from the Commonwealth (\$10.5m), a portion of funding from the Territory (\$10.5m matching grant funding + \$5m in insurance proceeds) and the remaining funding by the successful contractor.

The project aligns with The National Waste Policy, ACT Circular Economy Strategy and Action Plan 2023-2030 and the ACT Climate Change Strategy.

5. Options Analysis

5.1 'Do minimum' Base Case

The Base Case assumes that the ACT Government does not build a new MRF and does not continue the interim solution of transporting recyclable materials interstate. The base case assumes recyclable material is instead sent to landfill.

In this case, yellow bin recyclables would not be diverted for materials recovery, but instead would be sent to landfill reducing the capacity of the Mugga Lane landfill and increasing emissions. This approach would not be consistent with ACT and national policies, would not achieve COAG requirements in relation to meeting export ban criteria and would not meet community expectations.

The ACT community is generally environmentally conscious and wants better waste management solutions. If a new MRF is not built, this will affect community satisfaction and trust in the ACT Government that clear actions and initiatives will be put in place to help meet the Territory's aggressive climate change targets.

5.2 Strategic solutions

The management of household or co-mingled recyclables is an established practice in waste management in Australia for a number of decades. The previous MRF in Hume was operational since 2003 and has provided the Territory with capacity to processing co-mingled recycling as a category of waste. The previously planned MRF upgrade would have provided the Territory with the capability to meet export ban criteria and improve resource recovery outcomes.

Since the fire which destroy the MRF, the Territory has limited options in effectively managing recyclables. The project has a focus on re-instating local processing of recyclables in the Territory and deliver on the outcomes set out in the *ACT Waste Management Strategy 2011 – 2025*, *Waste Feasibility Study 2018*, *ACT Circular Economy Strategy 2023 – 2030* and the *National Waste Policy 2018*.

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In addition to the new MRF, the Territory's management of recycling would also include:

- the continued implementation of community engagement and education programs to avoid and reduce waste,
- promotional campaigns to improve participation in the Territory's waste program such as better practices for household and business source separation,
- newly passed circular economy legislation for businesses to source separate recyclables and direct these materials to a processing facility.

Recommended strategic solution

The recommended strategic solution is to re-establish local capability and capacity to process recyclables. This would enable the Territory to reliably manage the Territory's recyclables and provide the capacity for businesses to be compliant to new Circular Economy legislation.

Option 1 – Construction of a New MRF under PPP (BOOT Model)

- 1) Under the preferred option, the Territory will proceed with the construction of the new MRF under a PPP framework and BOOT contract model. During the construction, the Territory will continue with the provision of the Interim Solution for recycling and transition the processing of recycling to the new MRF when it is operational. The timeframe for the completion of the build and operational readiness is estimated to be in February 2027.
- 2) The Territory and Commonwealth will contribute \$26 million in capital contributions in the form of milestone payments to the contractor during the Construction Phase. The contractor will be responsible for the financing of the remaining capital costs of the new MRF.
- 3) During the 20-year operational term, the Territory will make monthly payments comprising of a monthly fixed payment to recover the capital costs and other fixed expenses and a monthly variable payment in relation to the volumes of recyclables received for processing. This is elaborated from the financial framework in section A.5.3 Attachment L.
- 4) At the end of the term, the contractor will handover the facility to the Territory with a minimum five year operational life.

Option 2 – Not proceed with the MRF RFP and continue the Interim Solution on a long term.

- 1) Under this option, the Territory will continue with the current business continuity recycling processing arrangements it has in place. The Territory has approached the market for ongoing solutions to transporting recyclables. The successful Interim Solution contractor will establish an alternate site to consolidate recyclables and bulk transport the recycling from the Territory to interstate facilities for processing.
- 2) Under this arrangement, the Territory has little to no control over the pricing and may be exposed to volatilities in the availability of interstate facilities. This would impact on costs from transport distances, fuel increases, and gate fees, and increase the pressures on stockpile management at Hume. There is also limited capacity within available MRFs to accept our recycling which is being sent to NSW and Vic for processing. Should there be an increase in product generally then ability to accept the ACT's materials might be reduced.
- 3) The Interim Solution has a focus on recyclables from Territory households only and does not provide the Territory's businesses with a sustainable solution to manage recyclables.

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- 4) This option is not consistent with the obligations under the National Partnership Agreement for the Commonwealth funding from the Recycling Modernisation Fund.

Option 3 – Not proceed with MRF RFP and landfill recycling.

- 1) This is the least preferred option available to the Territory. This option carries the most significant political risk as it is inconsistent with the Territory's policies and priorities as well as the obligations under the National Partnership Agreement for the Commonwealth funding from the Recycling Modernisation Fund.
- 2) The Territory's landfill has a finite amount of capacity and is estimated that the facility will reach capacity in 2047 under current landfilling practices. By sending the 35,000 tonnes per annum of ACT household recycling to landfill will significantly reduce to operating life of the landfill.
- 3) The reduction in the Mugga Lane landfill's capacity from not diverting recyclables foregoes the Territory's opportunity to generate revenue from gate fees which would have otherwise been available for waste that must be landfilled.

Evaluation criteria

Refer to MCA at Section 8.4

Project options

- Build of a new MRF in Hume to enable local processing of Territory recyclables (preferred)
- Transportation of unprocessed recyclables to interstate facilities (risk of unsustainable reliance on interstate facilities)
- Landfilling of recyclables (waste and environmental issues to conserving landfill capacity, and does not meet community expectations)

Recommended project option(s)

Building a new MRF in Hume with state-of-the-art modern equipment to meet the export ban criteria is the preferred option. Reinstating local recycling processing capability will enable the Territory to sustainably deliver on the waste program.

5.3 Staging analysis

The project is not seeking a stage approach.

6. Project Scope

6.1 Scope of works

The proposed MRF seeks to process household co-mingled recycling. The service is expected to recover up to 65,000 tpa of recycling feedstock initially from households and other regions. The facility will be sized for up to a maximum allowable 115,000tpa of processing capacity depending on respondents arrangements with third parties such as NSW LGA's.

ACT NoWaste has identified a viable project site, block 12 section 25 Hume (Figure 4). To support the project a draft Environmental Impact Statement (EIS) has been prepared, been on public exhibition and is the project team is currently responding to Authority and public feedback. It is key to note that the anticipated delivery model is a PPP BOOT which will see the successful contractor complete the EIS process based on their individual design.

The site with a maximum allowable capacity for a 115,000tpa processing facility, will provide the contractor the opportunity to accept additional third party volumes and improve its commercial viability with the economies of scale created. This will assist the Territory in recouping the capital outlaid through receiving a share of the third party gate fee. This opportunity would provide the Territory with improved value for money outcomes and offset some of the capital costs of the project.

The procurement is seeking proposals on how prospective contractors will design, deliver, operate, maintain and provide the remaining finance for the facility to process, at a minimum, all of the Recycling generated within the Territory during the term.

The proposal is defined as the demolition of the existing MRF and construction and operation of a new MRF with capacity to receive up to 115,000 tonnes per year of recyclables for processing, including:

- Receival hall
- Processing hall
- Bale storage area (with compliant fire walls)
- Glass washing station
- Plastic processing area
- Water treatment area
- Stormwater capture and processing

Ancillary supporting infrastructure including:

- Administration building
- Machinery shed/workshop
- Weighbridges
- Access roads
- Hardstand parking
- Fire and water storage tanks
- Educational facility

Figure 4: Proposed site location Block 12 Section 25 Hume



Figure 5: Draft EIS Concept Design

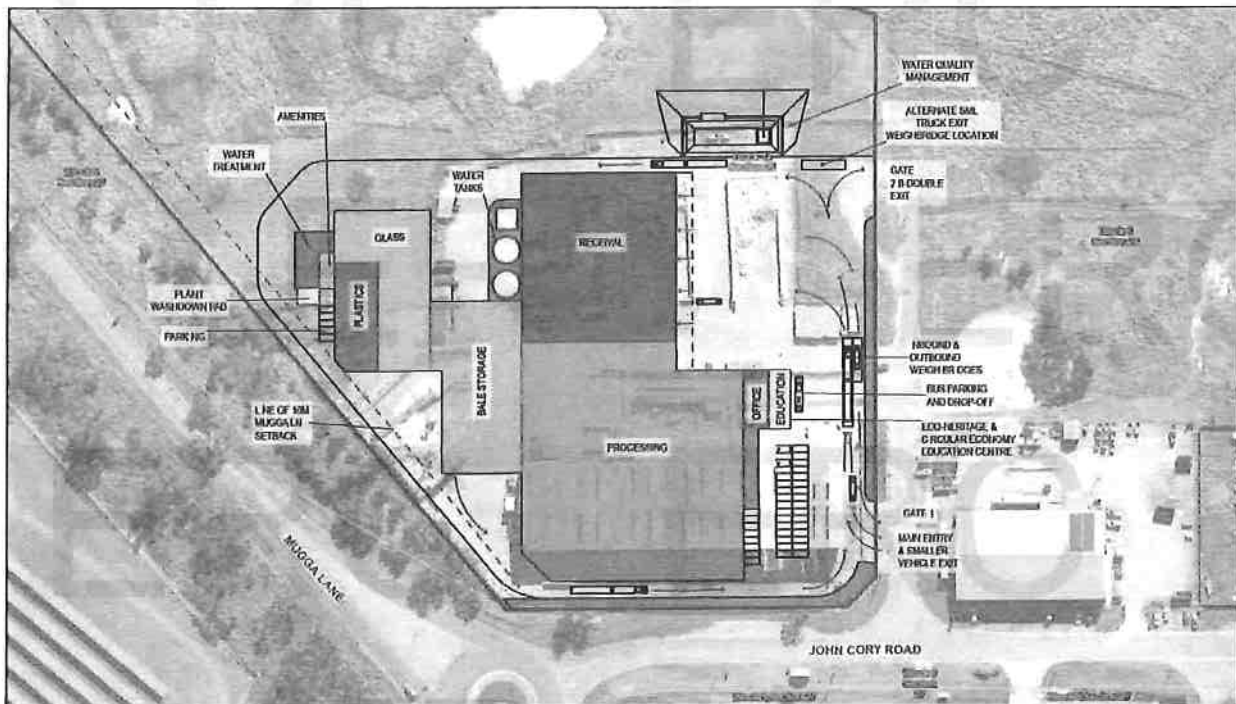


Figure 6: Proposed view from Mugga Lane as per EIS design



6.2 Scope of services

This scope of services includes the delivery of MRF, delivered through a BOOT. The proposed services include:

- Demolition of the existing MRF.
- Design and construction of a fit for purpose MRF.
- Long-term private sector operations and maintenance of the facility.

6.3 Project interdependencies

Financial and economic modelling conducted to support this business case has assumed the following key parameters:

- Total capacity of up to 115,000tpa,

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- Historical data for the composition and volumes of recyclables, including volumes from RDOCs and container deposit scheme,
- A project term of approximately 22 years, comprising of an estimated 18-24 month construction term and 20-year operating period,
- The project would be developed on ACT NoWaste's identified site (Block 12 Section 25 Hume),
- The Territory is responsible for the collection of household recyclables and this is delivered under the recently executed household contract. Household recyclables are disposed into yellow lidded bins and collected fortnightly,
- Revenues from the sale of processed recycled commodity products by the contractor,
- For the purpose of the value for money analysis, a BOOT contractual delivery model, integrating the construction and operations into one contractual arrangement with a project developer,

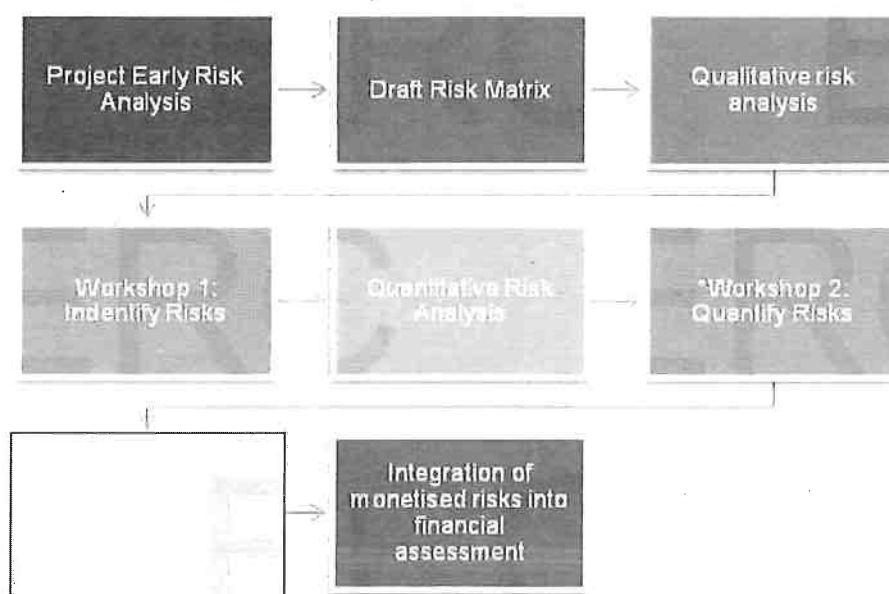
7. Risk Analysis

7.1 Risk analysis process

This chapter explores the viable delivery model options available for implementation of the project. The analysis involved developing an understanding of project risks, how they could be managed or mitigated, and the level of risk transfer that may be achieved under the procurement models under consideration. The process undertaken with respect to analysis of risk management is summarised in Figure 7 below. This process included holding risk workshops and undertaking qualitative and quantitative assessments to assess the risks involved in pursuing the project.

These risks have been used to quantify delivery model contingency outlined in Appendix C – Risk Register. This is the value of retained risks and the impact to cost. For this project, these contingencies have been applied into the delivery model options and traditional Government Procurement, with total quantified risk, not just retained risk, applied to the Government Procurement alternative. Additionally, this risk assessment, and resultant cost implications have been used in the assessment of delivery models, integrated into the Value for Money Assessment (Financial Analysis) outlined in Section 9 below.

Figure 7: Risk Management process



7.2 Key project risks

A summary of the project risks is provided in Table 3 below. The project identified risks through the ACTIA risk matrix and this is provided in Table 2 below.

Table 3: Project Risk Summary

Risk	Cause	Consequence
Procurement process risk	- Gate fee thresholds being set too low - Aggressive risk transfer to the private sector - Unrealistic targets imposed on private sector	Procurement process could experience any of the following: - failure to attract sufficient qualified bidders and/or responsive offers - prolonged and expensive negotiations - collapse of negotiations
Permits and approvals (after financial close)	Delay / untimely obtainment of permits and approvals	Additional cost and prolonged delay to the project
Site conditions	Discovery of unpredictable geotechnical conditions, asbestos or other conditions or structures	Additional construction cost and / or cause construction delays
Land availability	Land available is not suitable for its intended use.	Need to find a new site for the MRF facility, resulting in delays
Urban encroachment risk	Urban development in close proximity to the site	Development impacts viability of the site (complaints, compliance, operation costs)
Site clearance, access and usage	Risk that the site is not fully cleared (e.g. any existing occupants refuse to relocate)	Delay in the implementation of the Project
Environmental liabilities existing prior to project	Site is contaminated	Additional remediation expense and process time
Indigenous cultural heritage	Site has cultural significance	Additional costs and delays associated with impacting culturally significant sites
Design risk	The design does not consider adequately the output specification, odour management, maintenance requirement, safety and other key design requirements	Increased operating costs to meet the project needs, additional capex to alter the project, reduced asset life, environmental impacts to the detriment of the project

Utilities connection risk	The utilities supply in the area is not sufficient to serve the project.	Increased capex costs to connect to utilities.
Cost overruns and delay risks relating to construction	Events occurring during construction period such as the contract has not planned adequately, a	The MRF isn't being delivered on time and within budget
Risk	Cause	Consequence
	lack of provision for unforeseen conditions, or a lack of consideration for contingency	
Delay risk	Externalities such as Covid 19/ other global risks	Delay in the design and / or construction
Subcontractor failure	A subcontractor provider fails financially or may fail to provide contracted service to the Contractor	Delay in the design and / or construction depending on the contractor. If Plumbing / Electricians fail, these could be replaced, however a technology contractor could be difficult to procure.
Sufficiency of end markets	There is insufficient demand for the recycled products	There is insufficient demand for the end products generated by the MRF, resulting in lower than anticipated revenues.
Environmental permitting risk	The permit application is delayed, or unable to be complied with.	Time delays leading to project delivery overrun and cost increases.
Recycling feedstock supply - volume risk	The insufficient supply of recycling from the Territory or Third party users of the facility	The project is not financially feasible due to lack of gate fee revenue.
Recycling feedstock supply - quality risk	There is contamination of the feedstock due to lack of engagement, ineffective education, and poor interface management between contractor and the ACT Government. The quality of the supplied waste does not satisfy the conditions agreed in the agreement	The contamination increases operating costs for the contractor beyond the facilities design limits. Reduced quality of salable recyclable product outputs reduces the anticipated revenue of sales.

Fire safety risk	Fire risk from incompatible wastes such as lithium ion batteries etc igniting stockpiles	Risk of damage and /or inability to process material.
Odour / air pollution risk	Possible contamination and environmental impacts such as odour, dust, leachate, noise and other environmental emissions	Impact on sensitive receptors and the need to retrofit the plant.
Risk	Cause	Consequence
Environmental risks – existing	Existing site contamination	Increased development costs and time overruns
Operations and maintenance risk	Risk of assets / facilities not being maintained in accordance with good industry practices	Increasing operating and maintenance costs
Technology obsolescence risk	Emergence of new technologies	Reduced efficiency and competitiveness leading to reduced profitability of the facility.
Financing risk	Risk of unforeseen fluctuation in financing costs, particularly upon refinancing of initial debt facilities at their maturity	Risk of unforeseen fluctuation in financing costs, particularly upon refinancing of initial debt facilities at their maturity
Financing unavailable	Unavailability of sufficient funds at anticipated time, cost and terms	Risks of delayed financial closure
Exchange rate	Exchange rate fluctuation during operations	Impact envisaged costs of imported materials or equipment and affecting the Contractor's ability to pay foreign denominated debt
Risk of inflation in inputs costs	Project costs are impacted by the price of equipment or labour	Risks that Project costs are impacted by greater than anticipated movements in inflation
Change in law / policy (except output product specific - see below)	Change in applicable laws or decisions / approvals of the authorities resulting	Material adverse effect on the operation of the Project.

Change in law / policy (specific to output compost product)	Changes in applicable laws or decisions / approvals of authorities relating to the output compost product	Material adverse effect on the operation of the Project.
Expropriation / compulsory acquisition	The assets and rights of the Project is expropriated by the Government for public interest purposes.	Compensation to the Contractor necessary.

Risk	Cause	Consequence
Insurable Force majeure risk	Insurable force majeure events (e.g. bushfires, floods etc.)	Risks of not meeting contracted service delivery (over Contract term)
Uninsurable Force majeure risk	Uninsurable force majeure events (e.g. terrorism acts, war, civil unrest, etc.	Risks of not meeting contracted service delivery (over Contract term)
Default by the Contractor	Poor or non-performance or other material breach of Contract	The Contractor is in default of the Contract, resulting in the need for a replacement to the contractor or the need for termination.

Commentary on risk

The risk workshop considered potential future risks based on the current known information. There are a variety of mitigating measures that will be implemented prior to project contractual close to mitigate certain project risks as far as is practical. Identified mitigation / management measures are presented in the Risk Register. Project risk will be mitigated through the contracting philosophy. As far as reasonably practicable, risk mitigation will be undertaken prior to contractual close, before significant capex is incurred. As is typical for any capital works project, some risks will have to continue to be managed through construction, and for such mitigation measures, associated project development cost has been included in the financial modelling.

Much of the risk under the shortlisted delivery models analysed are anticipated to be transferred to the chosen private sector developer / contractor. The mitigation measures set out in the risk register assume that the contractor would be willing to accept a level of risk that is in line with general market practice and therefore considered reasonable. The risk appetite of contractors may change over time as they undertake due diligence and investigations and therefore final risk positions are expected to be commercially agreed within the contracts during the project's procurement stage.

An example of changing risk appetite is ground risk (mainly centred around contamination). Typically, contractors are willing to take some ground risk where suitable ground investigation studies have been carried out. It is however unlikely a contractor will take ground risk without any prior knowledge of ground conditions. In addition, a contractor taking ground risk will likely build a premium into its cost proposal depending on the level of risk it perceives. Thus, contract pricing would be adjusted depending on where such risk is allocated. The final contract cost therefore will be driven in part by the amount of risk that is transferred to the contractor.

8. Delivery Model Analysis

8.1 Overview of delivery model assessment process

The key components for the delivery of a recycling service to ACT households not only covers capital and operational expenditure for a facility but aspects of the collection service that will deliver the feedstock to the facility.

Some of the key elements for the capital expenditure of the MRF in Hume are outlined below:

- Demolition of the existing MRF
- Construction of Recycling Road
- Main processing facility and product storage areas.
- Secondary Glass and Plastic processing facility (subject to commercial viability)
- Fire protection systems
- Leachate and trade waste management systems
- Administration building and education facility
- Plant washbay and workshop
- Safe working conditions for staff
- Storm and waste water management systems
- Two weighbridges
- Mobile plant and equipment
- Solar panels and rain water capture and reuse

The key elements for the household collection service and RDOCs to deliver the feedstock to the facility are set out below:

- A fortnightly collection service of the yellow lidded bins for co-mingled recycling,
- Local community drop off locations for co-mingled recycling, CDS material and paper and cardboard,
- Community and household education on use of waste services.

8.2 Project characteristics

The ACT Government seeks to maintain an appropriate level of investment in its infrastructure. In order to support this objective, the Capital Framework sets out the approach to project delivery in the ACT. The approach encompasses investments of any type, complexity or cost through rigorous internal public sector processes for assessing proposed and new projects.

As an extension to the Capital Framework, the Guidelines for Public Private Partnerships (or "PPP Guidelines") provides guidelines for projects with a high-level of private sector involvement. Through these guidelines, the ACT Government aims to facilitate private sector investment in infrastructure where value for money can be clearly demonstrated by way of efficient and innovative delivery approaches.

The PPP approach to procurement has been determined as the best approach for the delivery of this project. A PPP is suitable for a contract of up to 30 years between the public and private sector to deliver public infrastructure projects and related services. This project will have a term of 20 years. PPPs can be effective for

projects where opportunities for significant risk transfer between the public and private sector exist and when this can be clearly defined and measured.

Typically, PPPs lend themselves well to:

- **social infrastructure and related services**, for example, hospitals, prisons, schools etc.; and
- **economic infrastructure and related services**, for example, roads, bridges, tunnels, ports, utilities, rail etc.

The *PPP Guidelines* applies to four of the delivery models in the *Capital Framework*:

- **Availability Payment PPP** – under this model, the private sector finances all or part of the upfront cost of the infrastructure and receives payment over an operating period if it meets both its service and performance obligations. Government make this payment during the operating period to PPP Project Company (“**Project Co**”) under the Availability Payment PPP model;
- **User Charge PPP (“BOOT” Build, Own, Operate, Transfer)** – under this model, the private sector not only finance the upfront cost of the infrastructure but they also fund the project over time through the tolls and / or other revenues that they receive from the end user. The private sector bear the demand risk associated with the receipt of those project revenues;
- **Design, Construct, Maintain, Operate (“DCOM”)** – under this model, the private sector are contractually obliged to undertake design, construction, maintenance and operations. In this case, Project Co do not finance the upfront cost of the infrastructure; and
- **Design, Construct, Maintain (“DCM”)** – The DCM model (or DCM LT model¹) is similar to the DCOM model. As with DCOM, the private sector is responsible for construction and maintenance activities and they do not finance the upfront costs of the project. In contrast to DCOM, the focus of a DCM during the operations phase is on the maintenance of the new asset rather than the operation of the core public services.

Prior to this business case, two PPP models were considered for the MRF project based on the Treasury’s preference towards the Capital contribution required to procure the facility up front. The two models were the **DCOM** and **BOOT** delivery models.

Given the significant increase in capital costs of construction the project proceeded with a **BOOT** delivery model considering the Territory could only contribute partial capital contribution whilst sourcing the remaining finance required from the industry. This **BOOT** contracting model has been sent to Treasury for consideration more recently through the **FOGO** business case.

Comparison of DCOM vs BOOT Procurement Models

Table 4: Comparing both PPPs, the DCOM procurement model against the BOOT

3.	4. Traditional - e.g. D&C, O&M	5. Private ownership e.g. BOOT, PPP
6. Overview	7. Term “traditional” captures many contractual delivery models including, Construct only, Design and Construct, Operate and Maintain as well as Design, Construct, Operate and Maintain	11. Generally, such models involve the private sector building and owning the facility for the duration of a long-term contract, with the primary goal of recouping financing and construction

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3.	4. Traditional - e.g. D&C, O&M	5. Private ownership e.g. BOOT, PPP
	8. For example, under a "Construct Only" model, the Territory would produce a design and then call for tenders from private sector constructors to build the facility to that design for a fixed price. 9. Under a "Design and Construct (D&C)", instead of providing a design, the Territory would describe the outcomes that the facility must achieve and requirements it must meet and then call for tenderers to design and construct that facility that meets those requirements for a fixed price. 10. Under a "Design, Construct, Operate and Maintain (DCOM)" contract, the Territory requirements would also include a requirement to operate and maintain the facility for a specified period. As with a PPP/BOOT model, this incentivises the builder to construct a facility in a manner that will minimise the combined design, construction and ongoing maintenance costs. Maintenance payments can be linked to performance. Note that the DCOM model is considered a complex delivery model to which the ACT Government's PPP framework document <i>The Partnerships Framework: Guidelines for Public Private Partnerships</i> applies.	costs (and more) during the operational phase. 12. PPP or BOOT style contracts are better suited for complex and long-term infrastructure projects whereby outputs can be clearly defined and measured and there is scope for innovation. Whole-of-life asset management should be both achievable and cost-effective and ideally there is sufficient market interest to deliver a competitive tender process. 13. Facility ownership transfers to Territory at the end of the term. 14. This model is also suitable when governments have an infrastructure financing gap as the equity and commercial risk stays with the private sector for the length of the contract. Careful analysis is required at the outset to give confidence to the Territory that there will be a continuous revenue stream for the special purpose vehicle asset-owner through the life of the project.
15. Site and Approvals	16. Site identification and ongoing use normally fall within scope of Government although there is opportunity for the private sector to put forward alternate solutions. 17. Related approvals would normally be within the private sector scope to obtain but clearly the Government plays their role in providing such approvals.	19. Site identification and ongoing use normally fall within scope of Government although there is opportunity for private sector to put forward alternate solutions. 20. Related approvals would normally be within the private sector scope to obtain but clearly the Government play their role in providing such approvals.

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3.	4. Traditional - e.g. D&C, O&M	5. Private ownership e.g. BOOT, PPP
	18. Risk of approvals often remain with the private sector.	21. Risk of approvals often remain with the private sector.
22. Funding	23. Generally, there is no project specific private sector funding required. 24. Pricing for the Design and Construction is normally fixed and payments are made by the Government progressively to the contractor, often based on actual progress and / or achievement of pre-defined milestones.	25. Private sector will procure the necessary equity and debt funding, supported by a long-term contract with the Government. 26. Private ownership gives government access to a greater pool of capital - enabling more infrastructure projects to be undertaken (and hence more jobs), which may be relevant in the context of a post-COVID recovery.
27. Risk management	28. Price is fixed for specified scope, accounting for risks (actual and perceived). 29. A widely accepted and understood method of contracting where the Government is often best placed to manage most project risks. 30. Bidder analysis and selection process is relatively straight-forward.	31. The private ownership and funding approach can resolve many root causes of poor project performance on capital investments. 32. Whilst there are often complex risk profiles as well as the opportunity for risk transfer by Government, there is a need for very clear responsibilities between the parties involved - whereby risks are agreed and documented. 33. Government can maintain the benefits of asset ownership while transferring operating, maintenance, and financing risks to the part best able to manage them. 34. Government can set and enforce the necessary standards
35. Operational costs and efficiencies	36. There is often limited opportunity for bundling of services / maintenance, given the D&C and O&M are often undertaken by separate parties which can prevent the creation of whole-of-life efficiencies. 37. 38. By bundling both aspects, a DCOM model, addresses this limitation. However, as noted above, DCOM is considered by the Territory's PPP Guidelines to be a form of PPP and the	40. There is an ongoing focus on long term cost of ownership which, by default, provides incentive to be efficient with capital and O&M. Under traditional government procurement, the party that builds the facility does not always take into account the future cost of maintaining what gets built.

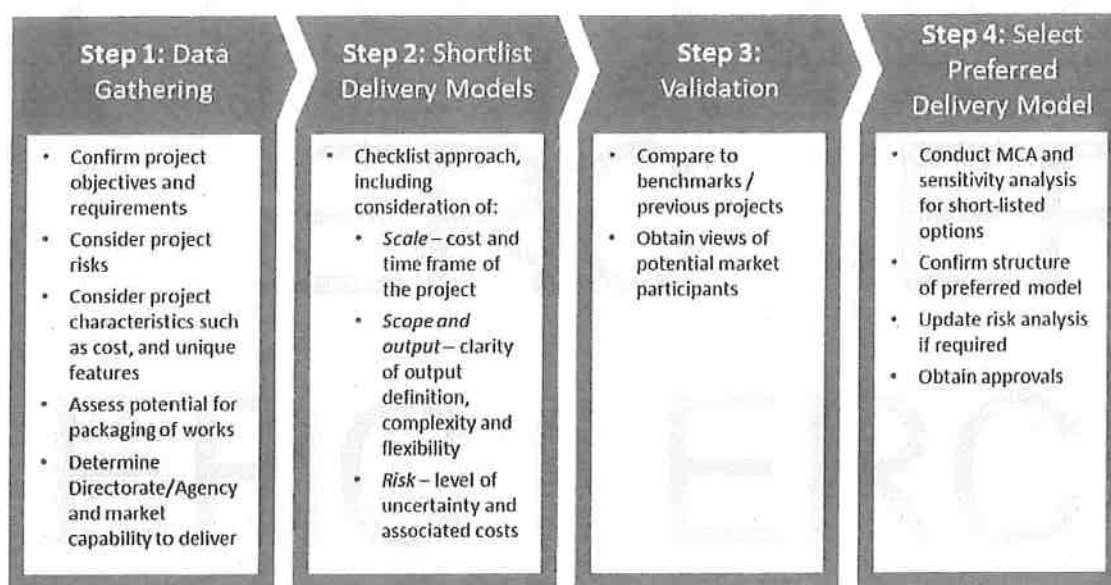
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3.	4. Traditional - e.g. D&C, O&M	5. Private ownership e.g. BOOT, PPP
	comment in the adjacent column applies. 39.	
41. Quality	42. Depends on standards prescribed in tender documentation and pricing expectations.	43. Private investors can bring greater efficiencies at a lower cost such as relying on learnings and personnel from similar investments and project undertakings in other countries. 44. Increased "ownership" mind-set in the delivery team. Ability to award delivery responsibility to a well-resourced team motivated to perform throughout the contract term.
45. Strategy	46. There is an upfront requirement for the Government to clearly articulate their specific needs and ensure these are embedded in the contractual framework. This process should align with the business strategy and therefore ensure the strategic objectives are achieved.	47. Greater alignment with the relevant business strategy, assuming there is one in place without risk of Government funding delay or deferral or reprioritisation. 48. Potential of increasing the optimisation of any key "project features."
49. Procurement Process	50. Generally cheaper and faster process to run than private ownership model.	51. Can take some time to document, which impacts on cost and time of completing the commercial arrangements as well as the actual project.

8.3 Delivery model assessment

The Delivery Model Assessment has been undertaken using both the ACT Government Capital Framework, and Delivery Model Analysis Guidelines. This approach includes shortlisting delivery models, and subsequent detailed delivery model analysis using the Commercial Principles in Section A.5.3 Financial framework (Appendix J) , based on the framework below set out in the guidelines.

Figure 7: Delivery Model Selection Framework



Packaging assessment / services bundling

The project recommends a BOOT approach to procuring the requirements. This would bundle and package the requirements for design, build, operations and maintenance of the site. This approach is anticipated to extract the efficiencies and benefits of a single contractor managing the services and the access to end-markets in the whole life cycle of the facility. The household collection services are not bundled into this project. The current collection services were expiring, and a procurement is has been undertaken to renew the services and awarded in Q2 2024.

Shortlisted delivery model options

The list of delivery models considered for delivery of the MRF Facility are detailed in the Appendix E – Delivery Model Shortlisting. These have been based on the *ACT Government Capital Framework, Draft Delivery Model Analysis Guidelines*, and grouped into the following four categories.

- Group 1: PPP, BOOT, DCOM
- Group 2: MC, Alliance, ECI, Delivery Partner
- Group 3: D&C, DCM
- Group 4: PMA, D then C, CM

Refer to Appendix E– Delivery Model Shortlisting for the results of the analysis and short-listing.

Validation

To select the most appropriate delivery model, the relative importance of a range of commercial principles has been considered. For the MRF, the commercial principles underpinning the proposal that are important to consider include the following criteria:

- Time to deliver
- Flexibility

- Level of Integration / Bundled Services
- Level of risk transfer
- Innovation and incentive
- Output specification
- Cost and level of complexity for Government
- Price certainty

These commercial principles have been used in a Multi-Criteria Analysis that was the basis of selecting the preferred delivery model, as outlined later in this chapter. A description of each of these principles based on the *ACT Government Capital Framework, Draft Delivery Model Analysis Guidelines* is summarised in 5 below.

Table 5: Definition of key commercial principles

Commercial Principle	Description
Time to deliver	The extent of time required to prepare and procure the project, and commence operations.
Flexibility	Operational flexibility: the extent to which the delivery model enables the Government to retain flexibility in terms of the project's operational profile. Future scope changes: the extent to which the delivery model assists the Government in managing and implementing changes to the functional requirements of the project over time (both during the design and construction stage and subsequently).
Level of integration / Bundled services	The level of integration between construction, ongoing maintenance, and facilities management.
Level of risk transfer	The extent to which the delivery model facilitates a transfer of project risks from the Government to the private sector contractor.
Innovation and incentive	The existence of opportunities and incentives within the delivery model to drive innovation.
Output specification	The Project Team clearly understands the output requirements from the project and can readily measure outputs. The easier this is to define, the more suitable to complex, integrated models.
Cost and level of complexity for Government	Level of cost and complexity of the procurement process, both for the public sector and for bidders. Additionally, the costs to establish and maintain relationships between the parties and level of ongoing Government involvement.
Price certainty	The importance of price certainty to the project, associated with the project risk profile and need for flexibility.

The relative importance of each criteria and level of consideration when selecting the most appropriate delivery model is outlined in the table below. Note that this relative importance is quantified later in this chapter.

Table 6: Commercial Principles

Criteria	Description
Time to deliver	Time to deliver the MRF is relatively important due to ongoing costs and risks associated with transporting of the Territory's recyclables interstate for processing Factors such as the technology and its potential obsolescence are not a driver or concern for this project.
Flexibility	Flexibility in the project and its delivery, in terms of ability to accommodate variability and uncertainty is concern for this project. The facility's size, quantity of waste and the required output is expected to be understood during the tender process. Additionally, the RFP has opportunities for respondents to demonstrate the ability to incorporate innovation and room for future expansion of the facility due to feedstock demands.
Level of Integration / Bundled Services	Level of integration and the ability bundle services is important for this project. This will help to ensure that the facility is designed and built to accommodate optimised operational procedures and can generate a compost output of the quality required. This is consistent with feedback during informal market sounding, where private sector parties emphasised the importance of integrating asset creation and operating activities, and limited interest in post development operating contracts. Additionally, as the operator is intended to be responsible for creating the market for processed and sorted recyclables produced, there is incentive for the developer to construct a facility that is fit and useful over the asset life.
Level of risk transfer	MRF processing facilities are a complex processing asset type, creating an opportunity for government to transfer risk to the private sector. A key project risk that requires private sector expertise to manage is the need to create a market for processed recyclables. The private sector has the capability to collaborate with other businesses and sectors to enter the market and create sufficient offtake. As the ACT Government is not mature or experienced in this type of investment, the delivery model should seek to encourage both local and international bidders to participate in any future procurement, and leverage previous learning and experience to reduce overall project risk.

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Innovation and Incentive	The delivery model should encourage the private sector to be innovative, creating the opportunity for a better solution for recycling sorting and processing. If allowed by their technologies or market relationships, bidders should be encouraged to demonstrate the ability to generate additional by-products that could be used to generate additional revenue streams and further develop the circular economy.
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Criteria	Description
Output Specification	The Output Specification would be limited to stipulating compliance with relevant COAG ban requirements, market standards and the required waste feedstock level being pre-defined. This lends to a model which would require detailed designs to be provided to bidders, particularly as there are options for bidders to deliver this project using various technology solutions for sorting and processing recycling.
Procurement cost and level of complexity for Government	This project requires balancing the need to leverage private sector know-how, capacity, and innovation potential, with minimising unnecessarily complex contractual arrangements. As the level of investment is estimated at approximately \$138.73M, transaction and legal costs should not be unnecessarily high if the complexity during procurement and contract management is managed well. This commercial principle is considered to have a medium level of importance given the project is small in scale and therefore less complex.
Price certainty	Price certainty is important for this project and is sought for most government projects. Given constraints in the ACT's current and future budgets, price certainty is of high importance for this project.

8.4 Recommended delivery model

From the outcomes of the MCA process, of the PPP comparison, a **DCOM** and **BOOT** model, the preferred Delivery Models for the MRF facility is a **BOOT**. A qualitative assessment of both models has been undertaken, taking into consideration the benefits of each model, the outcomes of the soft market sounding and preliminary consultation with stakeholders. This included stakeholders within ACT NoWaste, ACT Treasury and Major Projects Canberra, and Arup/Sphere's knowledge of the recycling and waste infrastructure market.

Depending on the whether the Treasury wants to contribute to the inflated capital costs of the project as identified through the GHD quantity surveyors report provided at Appendix D, given the increase, the **BOOT** model is the most appropriate contractual model for funding the project.

Table 7: Benefits/Disadvantages of DCOM vs BOOT

Delivery Model	Benefits	Disadvantages
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DCOM

- Significant level of risk can be transferred to contractor.
- Attracts a larger number of bidders who do not need to bring their own financing (maximises competitive tension).
- There are significant potential interface risks between design and operation for MRF processing and the ACT government is not well placed to manage these risks. The DCOM delivery model places responsibility with the contractor for managing this interface to achieve good long-term operational performance. Good operational performance substantially controls potential environmental and amenity risks, which are of high importance to the ACT.
- Allows realisation of efficiency and reduced interface risks by dealing with a single contractor; incentivises for whole-of-life cost savings for maintenance and operations
- There are significant commercial risks involved in establishing market outlets for the recovered compost product and the ACT government has limited ability
- ACT has limited input into design, build and long-term operations once contractual arrangements are finalised with contractor.
- ACT funds the project (may be a benefit or a risk depending on competing capital commitments)
- Can take longer to structure, document (i.e. contracts, RFP documents, etc.), negotiate and procure than traditional models, but generally less time than a BOOT given private debt and equity finance would not need to be raised and associated diligence and contracting activities would not need to be undertaken.

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Delivery Model	Benefits	Disadvantages
	to manage these risks. The DCOM substantially places these risks with the contractor, although some level of direct product procurement by the ACT may be appropriate. • MRF technology is well understood within the market and there is strong market appetite for delivery models which combine design and operations phases.	
BOOT	• The Territory does not have to contribute all of the capital upfront. • In addition to risk transfer as discussed for DCOM, decommissioning risks and costs can be transferred to private sector • Long-term arrangement with contractor • Asset creation and operating activities being linked can help ensure interfaces are well managed and the facility is operated optimally, incentivises for whole-of-life cost savings for maintenance and operations • Similar to DCOM, leverages private sector's ability to identify and/or create end markets for compost products • No upfront capital investment required by the ACT • MRF technology is well understood within the market and there is strong market appetite for delivery models which combine design and operations phases.	• ACT has limited input into design, build and long-term operations once contractual arrangements are finalised with contractor • Limited ability to innovate or upgrade over the life of the plant • Generally, takes a long time to structure, document, negotiate, procure and reach financial close, given the involvement of a number of different parties. • Facility transfers to ACT at the end of the term (could be a benefit or a risk) • Cost of BOOT may be higher due to a combination of higher bid costs resulting from additional due diligence to satisfy providers of private finance, additional project costs due to the use of private finance and the need to generate incremental returns required by providers of capital vs. the cost of capital for ACT Government (note, there is insufficient detail around incremental impact to risks or risk allocation at this time to more fully assess)

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From this, both models were identified as suitable for this project. Given the similarity in the MCA analysis outcomes between both models, we included an analysis of both in the Business Case.

However, due to the increased capital contributions to complete the project the BOOT model may be a more appropriate approach for a contractual model. This will allow the Territory to pay the capital contribution down over the 20 year operating term.

Service and quality standards for the operations of the facility will be agreed as part of the procurement process.

9. Financial Analysis

This section outlines the financial analysis undertaken on the project, and examines the financial outcomes to Government if a new MRF facility is delivered by a BOOT model contract. Given the timing of the business case preparation and development a financial analysis has only been prepared for the delivery of a new MRF. High level financial impact numbers for the interim arrangement and landfill of recyclables have been included in Table 14 & 15.

This chapter outlines:

- General assumptions
- Proposed risk allocation under a BOOT contract.
- The anticipated payments to a contractor under BOOT arrangement, and project revenues received from contractor contribution and the sale of recovered materials.
- Cost to Government under the preferred delivery model.

The aim of the financial analysis is to understand the financial viability of the project and to determine the impact on government budgets by analysing the net cashflow of the project.

Option 1 – Construction of a new MRF under PPP – (BOOT Model)

9.1 Estimated project capital cost

Section 9.1 and 9.2 consider the project's pre-risk adjusted financial outcomes. Assuming a discount rate of 5.20% (10-year ACT government bond rate), the estimated capital cost (excluding risk adjustment), in present value terms, for the project is shown in Table 8.

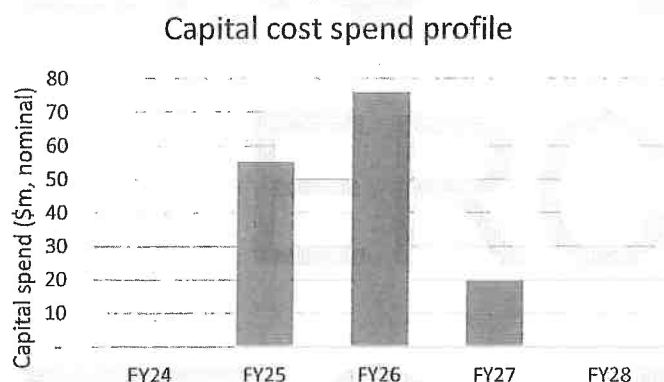
Table 8: Pre-risk adjusted total capital costs (\$m, NPV and nominal)

Item	NPV	Nominal
Development and construction capital costs	137.6	151.2
Total capital costs	137.6	151.2

The following graph shows the capital cost spend profile in nominal terms during the development and construction phase. The nominal calculation assumes a forecast CPI rate of 3.10%. The inflation rate was calculated utilising the RBA CPI forecast produced in November 2023. Using this RBA data, the CPI percentage change over each of December 2024 and December 2025 was extracted. The two percentage change data points were averaged to derive a 3.10% inflation rate.

The development and construction phase occurs from FY2025 to FY2027.

Figure 8: Capital cost spend profile (\$m, nominal)



9.2 Whole-of-life cashflows

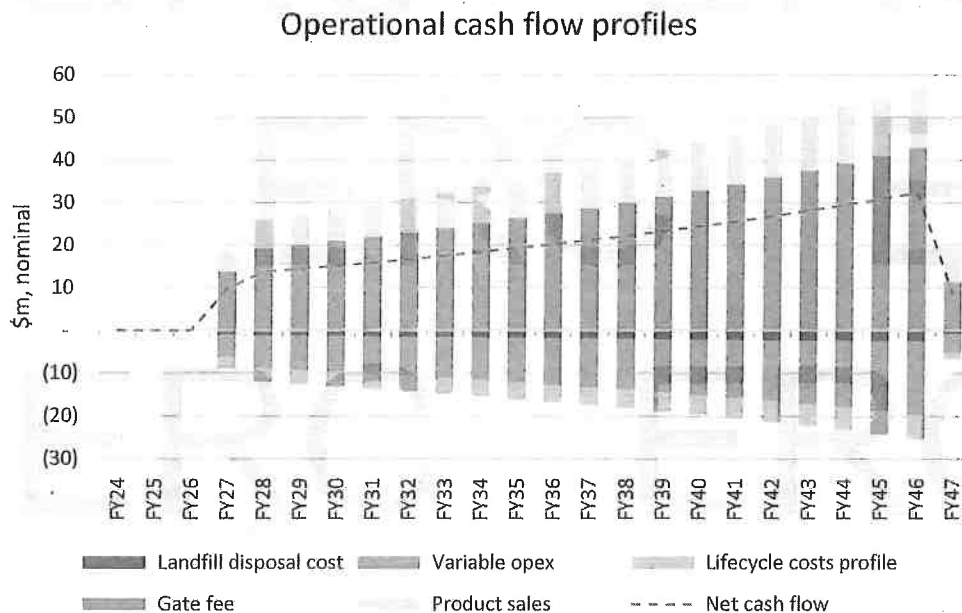
This section outlines the forecast cash flows (excluding risk adjustment) estimated for the operational period of 20 years from FY2027 to FY2047. Table 8 shows a summary of the total NPV and nominal cashflows across the operational period. The NPV calculation is based on a discount rate representing the 10-year ACT Government bond rate of 5.20%. The calculation of nominal values assumes a forecast CPI inflation rate of 3.10%. The inflation rate was calculated utilising the RBA CPI forecast produced in November 2023. The CPI percentage change over the year for December 2024 and December 2025 was extrapolated based on the RBA forecast and then averaged to derive a 3.10% inflation rate.

Table 9: Pre-risk adjusted whole-of-life cashflow (\$m, NPV and nominal)

Cost item – Total cashflow from FY27 to FY47	NPV	Nominal
Operating costs		
Operating costs	132.4	270.1
Lifecycle costs	43.2	85.9
Total operating costs	175.6	356.0
Revenues		
Gate fee revenue	287.8	587.0
Product sales revenue	99.8	203.5
Total revenues	387.5	790.5
Total operating cashflows / (outflow)	212.0	434.5

The following graph shows the net operating cashflow in nominal terms across the operational period of 20 years. Operating cash flows increase over the model period relative to growth in waste volumes and the CPI inflation rate.

Figure 9: Operational Cash Flow Profiles



Operating costs

Operating Costs

Operating costs have been modelled to vary according to throughput volume and would cover such items as utilities, staffing, and education. In the first full year of operations (FY28) the total operating cost for the year is \$7.6m. Waste throughput volume is expected to increase over time, so the variable components of operating costs (including landfill costs) are assumed to grow at the rate of waste volume growth. On top of this, all operating costs are assumed to grow at the rate of inflation over the facility's operating life.

In addition, an allowance has been made for "Contractor Contributions". Under local regulations in the ACT, private sector contractors in BOOT arrangements are required to make contributions to the implementing agency of government, which are intended to cover the cost of contract monitoring, meetings with contractors, and ongoing administrative effort. While a cost to the project, Contractor Contribution would be an income to ACT NoWaste.

Lifecycle costs

For modelling purposes, lifecycle costs for this facility have been accounted for via a maintenance reserve account, into which funds are added on a consistent annual basis. Based on technical benchmarks, the annual contribution to this maintenance reserve account has been assumed to equal 2% of upfront capex and escalated in line with inflation over the facility's operating life.

Landfill disposal costs

A portion of input waste volume is expected to be contaminated and unfit for recycling. This material would be sent to landfill and would incur a landfill disposal cost. This cost varies with waste volume growth and escalates in line with inflation over the facility's operating life.

Revenue

Product sales

The feedstock waste composition has been assumed to be the same as the historical composition of the Hume MRF. The offtake prices for each recovered material type are based on publicly available benchmarks and spot prices. Waste throughput volume is expected to increase over time, so revenue from product sales is assumed to grow at the rate of waste volume growth. On top of this, all revenues are assumed to grow at the rate of inflation over the facility's operating life.

Gate fee

As part of the anticipated BOOT contractual arrangement, it is expected the ACT Government would pay a gate fee to the Project Company to construct and operate the MRF and to receive and process the Territory's waste. For modelling purposes, this gate fee has been assumed to be an annual payment, escalated in line with inflation. The quantum of this gate fee has been calculated such that the equity IRR of the project reaches a target of 10%.

Third Party gate share fee

The RFP has requested that the BOOT contractor share a 30% portion of the gate fee for any third-party tonnes that will be processed through the facility. This payment to the Territory will be used to offset the Capital contribution made by the Territory and a portion of the fixed monthly payment that will be made over the 20 year term. For the purposes of the financial modelling estimation on this fee has not been modelled because it is dependant on the contracts other local LGA's enter with the contractor which is not known at this time.

Net project cost (pre-risk adjustment and pre-financing cost)

The summation of the above capital and operating costs, minus the commercial revenue from product sales, results in a net project cost of \$213.5m for the contractor. The gate fees payable by the Territory would go towards covering this project cost, as well as the contractor's cost of capital and debt service obligations.

Table 10: Net project cost – pre-risk adjustment and pre-financing cost (\$m, NPV)

Item	NPV
Total capital costs	(137.6)
Total operating costs	(175.6)
Product sales revenue	99.8
Net project cost	(213.5)

Sensitivity testing

To reflect the uncertainty associated with the project, sensitivities on selected key assumptions and inputs were undertaken. Sensitivity testing will allow the ACT NoWaste team to better understand how changes in key variables can influence analysis outcomes, and therefore parameters that may be of focus in evaluating bids during the procurement stage. The impact of each sensitivity test upon net present cost to government (which is expected to inform the Gate Fee payment) was modelled relative to the central case.

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Table 11 : Pre-risk adjusted net cost to government (\$m capex, lifecycle costs, opex, and material offtake revenue) (NPV)

Sensitivity	NPV, pre risk adjustment and excl. Gate Fee
Central Case (discount rate of 5.2%)	213.5
Discount rate at 3%	244.4
Discount rate at 7%	193.5
Capital costs (excl. lifecycle costs) +40%	268.5
Capital costs (excl. lifecycle costs) +20%	241.0
Capital costs (excl. lifecycle costs) -20%	185.9
Operating costs +20%	239.9

9.3 Project contingency

Contingencies have been added to both capital and operating cost items to reflect the possibility of risk events that may not be adequately mitigated by the measures outlined in the Risk Register included in Appendix C. A contingency of 16.08% has been added to capex items and 2.49% to opex items in line with the analysis for other similar waste projects in the Territory. The contingencies applied are intended to reflect P90 costs.

The impact of these contingencies is outlined in Table 12 below.

Table 12: Cost contingencies (\$m, NPV and nominal)

Item	NPV	Nominal
Capex	137.6	151.2
Capex contingency (16.08%)	22.1	24.3
Capex (incl. contingency)	159.8	175.5
Opex	175.6	356.0
Opex contingency (2.49%)	4.4	8.9
Opex (incl. contingency)	180.0	364.8

9.4 Summary assessment

The financial analysis had initially built up high-level baseline costs for the capital, operating, and lifecycle components for the MRF. These costs were based initial cost estimates undertaken by GHD, along with market intelligence and project experience. Estimated material offtake revenues were also modelled based anticipated throughput volumes and publicly available material spot prices. These costs and revenues were used to derive a

gate fee amount that would be required to be paid by the Territory to the contractor. This gate fee would comprise capital and operating components and would supplement the contractor's commercial revenue from material offtake.

Under this arrangement, the total cost to Government would be represented by the sum of these gate fee payments less any rebates back to the Territory. This is reflected in the table below.

Table 13: Net Present Value (P90, \$m, date)

Item	\$m
Net present cost to government (government payment required by contractor)	287.8
Retained contingency	4.0
Risk-adjusted net present cost to government	291.8

Note: Government Capital Contributions have resulted in reduced capital cost financing required of the Contractor, resulting in an overall reduced Gate Fee and 'cost to government'. However, the quantum of the Government Contribution has not been reflected in the above figures as a 'cost to government', and it is assumed these contributions are accounted for separately in other line items in Government's budgets.

9.5 Budget implications

The financial impacts for the preferred option of a new MRF have been financially modelled by Arup and are based on market intelligence and experience. The financial model uses a quantity surveyor's estimation of the capital costs of approximately \$138 million. Final financial impacts cannot be supplied as the procurement is currently in the parallel negotiation phase with bidders.

Whilst the financial model in this submission is an estimation, the project team is aiming to reach an agreed financial position with a preferred tenderer in June 2024. TCCS is currently progressing with the negotiation phase of the procurement and tendered costs are currently within the financial model presented in this business case. A number of uncertainties and its associated costs are to be clarified and finalised before a contract is signed. It should be noted, variations and costs during the construction phase will need to be included in the future business case for FY2026-27 budget.

Where possible, TCCS will provide an updated financial modelling based on the negotiated outcome to the Expenditure Review Committee for review. This will seek to advise on the most up to date financial implications of the estimated recurrent funding required at the commencement of the 20-year operational term following contract execution.

TCCS will update Treasury through the 2026-27 Budget process of the recurrent funding requirements following the completion of construction. At this time, the recurrent funding update will take into account any adjustments from additional capital injections required through variations during the construction phase.

The Territory will make capital contributions totalling \$26 million towards the construction. During this time the Interim Solution will be in place. This consists of \$10.5 million from the Territory, \$5 million from ACTIA insurance monies and \$10.5 million from Commonwealth funding. Milestone payments have been structured to incentivise early delivery and is provided in Table 11 Section A.5.3 Attachment J.

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The ACTIA insurance monies includes a further \$0.94 million which has been used by the project for resource costs of project management, legal and consultancies. For clarity, the total ACTIA insurance monies is \$5.94 million for the .

The payment mechanism for the new MRF will commence when the facility is operationally ready. The payment mechanism will have a “monthly fixed component” reflected in MRF Capex in Table 13; and a “monthly variable component” reflected in MRF Opex in Table 13. A summary of the payment mechanism is provided in Section A.5.3 Attachment J.

The financial impact summary has not included a revenue impact from the share of third-party gate fees. The new MRF contractor will have the opportunity to accept materials from nearby NSW regions and will be required to share those gate fees with the Territory. The recurrent funding update for 2026-27 budget will likely be able to reflect this revenue impact.

The new MRF contract will require contractor contributions for community education, which funds the Territory's programs for community education and engagement.

The financial impact summary has estimated offsets from the consequential loss insurance monies of \$19.976 million, which partially funds the Interim Solution. These insurance monies are paid in a lump sum covering a three year period from the fire incident (i.e from 27 December 2022 – 26 December 2025). Further funding is required to completely fund the Interim Solution.

The Territory currently provides base funding for the recurrent costs of the services of the previous fire destroyed MRF. This funding reflects a service which used existing infrastructure and did not require ongoing capex payments. The gate rate reflected a cost to the Territory of \$76 per tonne as there was no capital overheads considered in the rate before the fire. The MRF market can approximately charge anywhere between \$180- \$300 depending on where, capacity and competition in the market.

In Option 2, the summary only indicates the impacts for the Interim Solution and education fund. The submission emphasises this option is not sustainable or efficient in achieving resource recovery outcomes as it exposes the Territory to long term risks for facility availability and stockpile management.

A financial impact summary is provided for Option 3 below in Table 16 .as the Territory's provision of recycling services to the community would cease and is not an acceptable option.

Option 1 – Build Own Operate Transfer a New MRF

Table 14: Financial impacts summary (Option 1 New MRF)

	2024-25 \$'000	2025-26 \$'000	2026-27 \$'000	2027-28 \$'000	2028-29 \$'000	Total (FY25 to FY29) \$'000	Total (FY30 to FY47) \$'000	Total \$'000
Capital impacts								
Total Capital project Cost (indexed) ¹	55,235	76,139	19,786			151,160		151,160
Project Costs	2,630	740	2,030			5,400		5,400
Offset Contractor Contribution	-40,156	-63,402	-21,616			-125,174		-125,174

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Offset Upgrading the ACT Material Recovery Facility (Commonwealth Contribution)	-4,762	-5,000				-9,762		-9,762
Offset Upgrading the ACT Material Recovery Facility (ACT Contribution)	-3,557	-8,177				-11,734		-11,734
Offset Managing Waste Better	3,424	-300	-200			-3,920		-3,920
Offset ACTIA Facility Payout	-5,966					-5,966		-5,966
Monthly Fixed Payments			2,608	6,258	6,258	15,124	109,300	124,424
MPC Fee	TBA	TBA	TBA	TBA	TBA	TBA	TBA	TBA
Expense impacts								
Interim Arrangement	14,170	10,841	6,640	-	-	31,651	-	31,651
Variable costs ²	-	-	4,129	14,141	15,074	33,344	458,920	492,264
Contingency ³	657	906	352	163	170	2,248	4,460	6,708
Expenses – depreciation			3,149	7,558	7,558	18,265	130,391	148,656
Revenue/Offsets (Operating Activities)								
Revenue - Material Off take	-	-	(3,391)	(6,644)	(6,955)	(16,990)	(185,197)	(202,187)
Revenue – Contractor contribution	-	-	(644)	(1,239)	(1,275)	(3,158)	(33,240)	(36,398)
Savings								
Offsets	-	-	-	-	-	-	-	-
Offsets (Insurance payout) ⁴	(19,976)	-	-	-	-	(19,976)	-	(19,976)
Offsets (Treasury provision) ⁵	(10,378)	-	-	-	-	(10,378)	-	(10,378)
Offsets (Base funding) ⁵	(526)	(539)	(552)	(566)	(580)	(2,763)	(13,310)	(16,073)
Staffing impact⁶			1	1	1	1	1	1
Total additional FTEs (no.)								

Notes:

1 Based on estimate of milestone payment being achieved under normal conditions as per "b" in table 13 above

2 MRF OPEX includes expenses for Education contribution and the Resource Recovery Group.

3 Contingency based on 5%

4 Insurance cost are paid for three years from the fire incident as a lump sum. This is estimated as the difference between cost prior to fire vs post fire.

5 Offsets (Treasury & Base) indexed by 2.5% as per Treasury advice

6 1 FTEs are requested as part of this business case. FTEs are funded through the contractor contributions.

Option 2 – Not process with the MRF RFP and continue Interim Solution on a long term

Table 15: Financial impacts summary (Option 2 Interim arrangement)

	2024-25 \$'000	2025-26 \$'000	2026-27 \$'000	2027-28 \$'000	2028-29 \$'000	Total (FY25 to FY29) \$'000	Total (FY30 to FY47) \$'000	Total \$'000
Capital impacts								
Capital	-	-	-	-	-	-	-	-
Expense impacts								
– Interim Arrangement ¹	14,170	10,841	11,383	11,952	12,550	60,896	370,702	431,598
Expenses – depreciation	-	-	-	-	-	-	-	-

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Revenue/savings/offsets impacts								
Revenue (Education fund)	(1,170)	(1,205)	(1,241)	(1,278)	(1,317)	(55,993)	(34,071)	(40,282)
Savings	-	-	-	-	-	-	-	-
Offsets								
Offsets (Insurance payout) ²	(19,976)	-	-	-	-	(19,976)	-	(19,976)
Offsets (Treasury provision) ³	(10,378)	-	-	-	-	(10,378)	-	(10,378)
Offsets (Base funding) ³	(526)	(539)	(552)	(566)	(580)	(2,763)	(13,310)	(16,073)
Staffing impact	-	-	-	-	-	-	-	-
Total additional FTEs (no.)	-	-	-	-	-	-	-	-

Notes:

1 Includes Education contribution only – No RRG

2 Insurance cost are paid for three years from the fire incident as a lump sum. This is estimated as the difference between cost prior to fire vs post fire

3 Offsets (Treasury & Base) indexed by 2.5% as per Treasury advice

Option 3 – Not proceed with MRF RFP and landfill recycling.

Table 16: Financial impacts summary (Option 3 landfill recycling)

	2024-25 \$'000	2025-26 \$'000	2026-27 \$'000	2027-28 \$'000	2028-29 \$'000	Total (FY25 to FY29) \$'000	Total (FY30 to FY47) \$'000	Total \$'000
Capital impacts								
Capital	-	-	-	-	-	-	-	-
Expense impacts								
– Landfilling costs ^{1&2}	-	-	(9,260)	(9,739)	(10,235)	(29,234)	(278,993)	(308,227)
Expenses – depreciation	-	-	-	-	-	-	-	-
Revenue/savings/offsets impacts								
Revenue	-	-	-	-	-	-	-	-
Savings	-	-	-	-	-	-	-	-
Offsets	-	-	-	-	-	-	-	-
Staffing impact								
Total additional FTEs (no.)	-	-	-	-	-	-	-	-

Note:

1) Waste assumptions based on ACT only delivered material as per Volume 5 L1.21 MRF project feedstock assumptions

2) Landfill process are escalated a 2.5% per annum.

Under a BOOT approach, the BOOT Contractor is expected to finance the project in full, net of any capital contributions provided by the Territory. Capital investment and operational costs will be recouped by the contractor through a combination of product sales and gate fees. Gate fees via a fixed capital component and variable component monthly, would serve as the primary revenue stream paid by the government to ensure the BOOT Contractor meets its anticipated return on equity investment. Gate fee payments are expected to commence during the first year of operations, in February 2027.

The BOOT model also acknowledges there will be costs associated with Government and external lawyers. Cost associated with other technical and commercial advisors required for the development of the project are not included in the project capital costs. Once operational, staffing impacts will be minimal with only one full time employee being included in costing and required to ensure contractor performance and compliance as well as to facilitate payment.

Assumptions

The BOOT model assumes that a capital contribution will be made by the Territory (\$26m) and that the remaining capital costs will be financed by the BOOT Contractor, and the Government would make fixed and variable monthly payments during the operating term. In addition, the following assumptions have been applied:

- The BOOT Contractor would be paid monthly by the Government during the operating period only. The fixed and variable monthly fees would be set at a level that would allow them to cover operating expenses, service debt, and generate returns on the equity capital they invest. The assumed returns in the financial analysis are based on Arup's research of returns achieved by investors in similar asset classes in both the Australian market and internationally.
- Under the BOOT model, risks are allocated between government and the selected contractor. The analysis assumes this contract type will see the transfer of a significant proportion of risks, including financing risks, to the private sector in line with typical standard practice and this is articulated in the risk register in Appendix C.

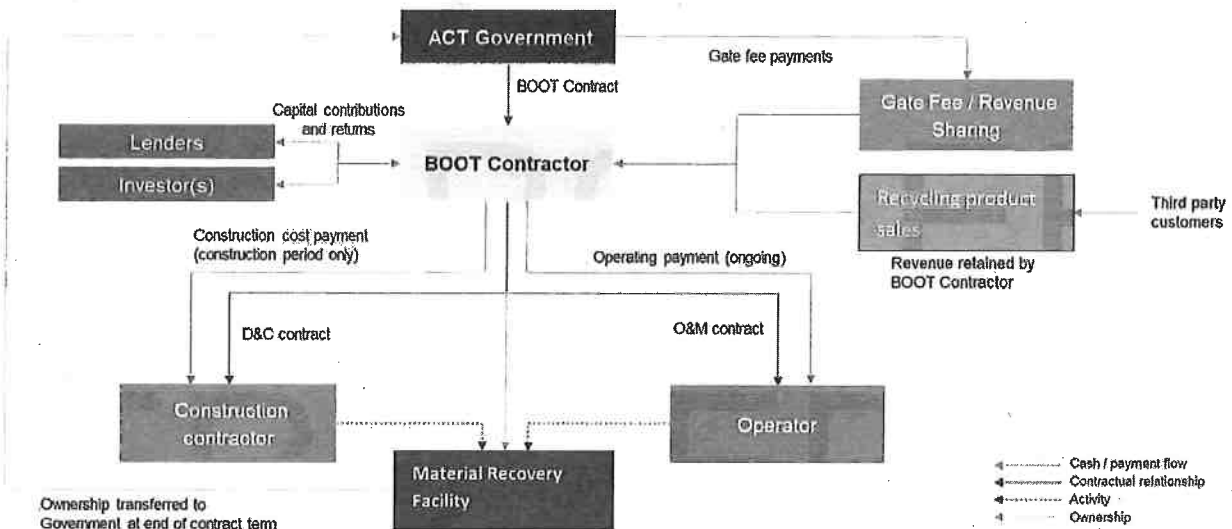
The Government would only fund capital and operating expenditures that align with the agreed allocation of risks and responsibilities. If a risk that is allocated to the contractor results in increased costs, the contractor would absorb any additional costs, either by seeking to reduce costs in other areas (without impacting service quality or breaching contractual obligations) or by accepting a lower level of return on equity.

9.6 Funding and financing strategy

The ACT Government has explored alternative delivery and financing options for the MRF, specifically considering Managing Contract- Operating Contract (MC-OC), Design-Construct-Maintain-Operate (DCOM) and Build-Own-Operate-Transfer and (BOOT) and models. With the exception of the MC-OC approach, these public-private partnership (PPP) approaches (DCOM & BOOT) aim to leverage private sector expertise. In the case of the preferred model (BOOT), financing, to deliver critical infrastructure while ensuring the facility's ownership and control remains with the contractor & government over the long term.

In a BOOT structure, the government would award a contract to a private sector entity (referred to as the "BOOT Contractor") to design, finance, build, own, operate, and ultimately transfer the facility back to the government at the end of the contract period. The BOOT Contractor would bear the responsibility of raising finance for the upfront capital cost of the project and would seek to recoup its capital investment and operational costs through a combination of recycling product sales revenue and gate fees. Gate fees would serve as the primary revenue stream, reflecting the government payment required by the BOOT contractor in order to meet its anticipated operating expenses, debt service obligations, and returns on its equity investment. Upon the expiration of the concession period, the BOOT Contractor would transfer ownership of the facility to the government in a well-maintained and operational condition.

Figure 10: BOOT Structure



The BOOT model assumes that any upfront and ongoing financing needs are covered by the BOOT contractor. For capital costs, Commonwealth and ACT government funding may be provided which would reduce the extent of cost to be financed by the BOOT contractor. The following government capital contribution scenarios have been assessed:

Table 17 Capital contribution - for BOOT (\$ Nominal, Million)

Capital contribution scenarios	Commonwealth Government funding	ACT Government funding
Option 1 New MRF Minimum Gov. contribution	10.5	15.5

In addition, the following key assumptions have been applied to the BOOT model:

- The BOOT contractor would require government payment throughout the operating period to ensure that its anticipated returns on equity investment can be met. A target IRR is used to inform the level of government payment required. Benchmarking of returns on infrastructure funds with waste sector exposure across Australia and internationally has been undertaken, and the average equity return observed was 10%. This has been assumed as the target IRR used to determine the government payment required by the BOOT contractor.
- It is assumed that the BOOT contractor would generate third party gate fees and product sales which the Territory would seek a share of.
- Under the BOOT delivery model, the BOOT contractor would be responsible for financing risks, such as availability of financing, interest rate fluctuations, and potential financing gaps. To address these, the risks are documented in the risk register and factored into the risk adjustment.

Contractor contribution

ACT NoWaste is expected to receive contractor contributions income, intended to contribute to the costs of project monitoring, administration and engagement with the BOOT contractor.

Specifically:

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- The Resource Recovery Group will contribute \$50,000 per annum to ACT NoWaste for the implementation of the Resource Recovery Program. The group will pay for and facilitate meetings with ACT NoWaste and the Contractor for Approved Processing Facilities to address the achievement of resource recovery targets. The Resource Recovery Group will pay an annual fee for the purposes of funding the delivery of proposals to improve Recovery outcomes.
- The BOOT contractor will provide Education Contributions of \$1.278m (CPI indexed annually) per annum to ACT NoWaste. The contribution is intended to cover the cost of 3 FTEs comprising a Contract Manager, Contract Inspector, and Education Officer. While income to ACT NoWaste, BOOT contractor contributions have been incorporated as an operating expense in project cash flows described in Section 9.2.

9.7 Assumptions

Table 18: Key assumptions

Item	Parameter	Source
Timeline	Development & construction period: 01 Oct 2024 to 30 Sep 2026	Assumption
	Operational period: 01 Feb 2027 to 30 Jan 2047 (20-year operational period)	
CPI	3.10% p.a.	Average of June 2024 and 2025 CPI forecast: RBA, <i>Forecast Table</i>
Government discount rate	Traditional government procurement: 5.20%	Calculated in accordance with the <i>National PPP Guidelines Volume 5 Discount Rate Methodology</i>
Pre-risk CAPEX costs (excluding GST)	\$139m (real, FY24)	GHD high-level cost plan (28 April 2023)
Pre-risk lifecycle costs (excluding GST)	2% of capex per year (total \$85.9m nominal across 20-year operational period)	Benchmarks
Pre-risk OPEX (excluding GST)	Total \$215.5m over 20-year operational period	Benchmarks
Risk adjustment on CAPEX BOOT	Risk adjustment of 16.08% on capital costs	In line with the analysis for other similar waste projects in the Territory.
Risk adjustment on OPEX BOOT	Risk adjustment of 2.49% on operational costs	

10. Economic Appraisal

The project realises a number of benefits, including economic, social and environmental benefits. To capture these the analyses have been undertaken.

- Cost Benefit Analysis
- Social Analysis
- Environmental Analysis
- Wider Economic Benefits

The following table summarises the key project benefits, with only the economic benefits assessed quantitatively.

Table 19: Project Benefits

Category	Benefits
Economic Benefits (CBA)	• Keeping resources within the economy • Delayed landfill investment • Reduced Greenhouse gas emissions • Reduction in leachate treatment costs
Social Benefits	• Employment • Health and wellbeing • Critical piece of waste infrastructure
Environmental Benefits	• Methane emissions reduced • Improved water quality
Wider Economic Benefits	• Contribution to the circular economy

10.1 Base Case

A Cost Benefit Analysis (CBA) captures the quantifiable economic, and social and environmental benefits of the project in measurable cash flows. The CBA assesses the economic costs and benefits, comparing the options against the base case so that the incremental costs and benefits can be identified.

The following table summarises the costs and benefits were included as part of the CBA for both the Base and Project Case.

Table 20: CBA Costs and Benefits

Costs	Construction Costs	No capital costs	
			• Design • Construction

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Operating and Maintenance Costs	No change in operating costs	• Staffing • Education costs • O&M Costs (Utilities, insurance, admin, etc.) • Lifecycle costs • Landfill costs
Benefits		• Reduced Greenhouse Gas Emissions (GHG) • Delayed landfill investment • Reduction in leachate

10.2 Assumptions and methodology

The CBA has been developed to be compliant with ACT Treasury Guidelines and integrates the National Greenhouse Accounts Factors on Greenhouse Gas Emissions. Table 21 summarises the key parameters that underpin this analysis.

Table 21: Key assumptions

Assumption	Detail
Discount year	FY 2024
Discount rate	7%
Price base year	FY 2024
Operations start date	01 February 2027
Evaluation period	20 years

10.3 Project costs

The following table shows the total project costs split between capital and operating costs. Capital costs include development capex, construction capex, and other capex. Operational costs are assumed to encompass O&M, staffing, education, lifecycle, and landfill costs. For the purpose of this economic analysis, the baseline costs are taken to represent P50 costs.

Table 22: Example project cost summary table (P50, \$m, real, discounted)

Cost item	\$m
Capital costs	132.2
Operation and maintenance costs	109.5
Total P50 project cost	241.7

10.4 Benefits and economic costs

This section outlines the methodology and key assumptions that were used to estimate the monetised economic benefits that were assessed across the project.

Methodology

Reduced Greenhouse Gas Emissions

The project's ability to reduce GHGs, specifically CO₂ and methane, was assessed and quantified.

The NSW EPA outlines the net reduction in CO₂ when one tonne of paper and cardboard, plastics, metals, and glass is each recycled. Meanwhile, the National Greenhouse Accounts Factors outline the amount of methane that is released when one tonne of paper and cardboard decomposes in landfill. The analysis assumes that at the landfill, 75% of methane is captured. This capture rate is assumed to be appropriate as insufficient information is available on the landfill. Additionally, it is difficult to estimate the capture rate over the whole of life of a landfill facility, and therefore a 75% capture rate is considered the most reasonable measure based on technical advice.

The aggregated reductions in CO₂ and methane, due to the MRF, were then costed and adopted as economic benefits. The social cost of carbon (SCCC) has been assumed as \$20/tonne in FY21, taken from the ACT Government Climate Change Strategy 2019-2025, and seen as an appropriate value given the project represents a Government initiative to reduce emissions. The social cost of carbon has been adjusted over the operating period of the MRF facility to consider the expected increase in the willingness to pay for carbon initiatives in the future, and the need to maintain zero net emissions. Taking the mid- point of \$65 / tonne reported in RepuTex modelling of the carbon offset price in 2040 (assumed to be \$30-100/tonne), a YOY growth rate of 6.4% to the cost of carbon has been applied. The social cost of methane (SCM) has been estimated as \$7,000/tonne in FY24, based on a SCM of 4,000 USD/tonne in 2020.²

Table 23: Greenhouse gas conversion factors for landfill

Item	Value	Source
Landfill – paper and cardboard	3.3	Australian National Greenhouse Accounts Factors (August 2023) – Table 6
Landfill – inert waste	0	Australian National Greenhouse Accounts Factors (August 2023) – Table 6
Capture rate	75%	Australian Clean Energy Regulator - NGER Technical guidelines for the estimation of emissions by facilities in Australia

Delayed landfill investment

This benefit monetises the variation in costs resultant from extending the Mugga Lane landfill life. This is a result of the diversion of waste to the new MRF, in turn deferring expansion / new landfill development. Based on the

² Azar, C., Martín, J.G., Johansson, D.J. *et al.* The social cost of methane. *Climatic Change* **176**, 71 (2023). <https://doi.org/10.1007/s10584-023-03540-1>

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proposed MRF facility capacity, if the construction of a new MRF does not proceed it has the potential to reduce the landfill life by five years to 2040.

This value of delayed investment is captured through discounting the landfill remediation and capital costs when incurred in 2050 or 2055. The cost of landfill closure has been taken from the 2009 Department of the Environment, Water, Heritage and the Arts paper on landfill costs, originally sourced from the WMAA National Landfill Division in 2006. Cell development has been used as a proxy of cell treatment during closure and rehabilitation, which has been added to capping and aftercare, bringing the total cost of closure to \$11 / tonne (2006). The total volume of feedstock has been used as proxy of total tonnes remaining in the Mugga Lane Landfill. It is key to note that this is not the total capacity of the landfill, as this is not provided, however, is used as a proxy to understand the potential economic value of delay.

Table 24: Estimated costs for large best practice landfill in Australia (Source: Waste Management Association of Australia (WMAA) National Landfill Division in PC 2006 and WCS unpublished)

Type of cost	Cost per tonne of waste (WMAA) - \$2006
Cell development	\$6.5
Capping and rehabilitation	\$2.5
Aftercare	\$2
Total Cost	\$11

Reduction of leachate

Leachate is a liquid that passes through solid waste, that has been contaminated by a range of compounds or toxins, which creates significant externality costs.²¹ By re-directing materials from landfill, this environmental impact can be mitigated and cost reduced. The external cost of leachate has been taken from the 2006 Australian Productivity Commission Report, accounting for the risk that leachate will damage human health and the environment. This external cost has been taken as \$1 per tonne (2006) and escalated to 2024 values for the economic analysis.

Benefits

Table 25 summarises the results from the Cost Benefit Analysis between constructing a new MRF and landfilling as shown in Option 3. The economic analysis shows that the project is anticipated to create \$89.6 million in economic benefits. The majority of the benefits come from GHG benefits.

Table 25: Total benefits (\$m, discounted, FY 2024)

Benefits	Option 1 (recommended option)
GHG Benefit	88.2
Landfill closing delay saving	0.24

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Benefits	Option 1 (recommended option)
Leachate saving	1.19
Total project benefits and economic costs	89.6

10.5 Non-monetised benefits and economic costs

Improved water quality

The implementation of this project positively impacts the environment through creating an activated waste sector. Benefits include:

The primary method of waste disposal in ACT is landfill which has negative environmental impacts through leachate discharges, greenhouse gas emissions, loss of visual amenity, foul odours and harbouring of disease-carrying pests. The other alternative that is often used is incineration which can produce toxic emissions if not controlled properly. Preventing waste going into landfill has the potential to reduce the potency of leachate infiltrating into the groundwater and impacting water quality.

Contribution to the circular economy

Numerous studies and reports have highlighted the economic benefits of increasing Australia's recycling capabilities and moving towards a more circular economy. Not only does diversion of waste from landfill by recycling reduce the greenhouse gas emitted by landfills, it also reduces the embodied carbon and costs associated with the manufacturing of new materials and products from recovered waste.

Per a 2023 report by the Australian Council of Recycling, the country's recycling industry contributed almost \$19 billion to the Australian economy in FY2022.³ Looking ahead, a circular economy model for Australia could generate \$1,860 billion in direct economic benefits over 20 years and save 165 million tonnes of CO2 per year by 2040.⁴ While Australia's resource recovery rate has been trending upwards, reaching 61% in FY2017⁵, there remain many opportunities for improvement. The recycling of e-waste presents an important opportunity for growth, as does the recovery of PET and HDPE plastics. Indeed, an economic value of \$419 million is lost each year by not recovering all PET and HDPE plastics from landfill.⁶

³ Australian Council of Recycling, "FACT SHEET: ECONOMIC CONTRIBUTION OF THE AUSTRALIAN RECYCLING INDUSTRY", 2023

⁴ PWC, "Building a more circular Australia", 2021

⁵ DCCEEW, "Australia's latest waste figures in new report", 2022

⁶ DCCEEW, National Plastics Plan, 2021

10.6 Distributional analysis

Studies regarding the social aspects of a circular economy, in this case employing a waste recovery strategy, have identified several social benefits. Employment being the primary impact on the community, followed by health and wellbeing.

Employment

Investment in the MRF will create employment opportunities during construction and operations. Based on a 2009 NSW Treasury Paper, for every \$1m spent in Construction Trade services, there are 7.2 jobs created.⁷ For a \$150m level of investment, this could result in over 1,000 construction jobs.

Additionally, as the government invests in greener policies, supports circular-based economies, and creates better waste management systems, additional jobs are expected to be created during the operating phase. Based on analysis of the proposed facility and its operations has an estimated additional 20 Full Time Equivalent (FTE) jobs (to be confirmed as a part of the procurement process), as well as 3 FTE for the Territory which include an education officer, contract manager and a contract inspector are expected to be realised through the project.

These employment opportunities, higher in the waste hierarchy, create opportunities for higher skilled work in ACT in the waste sector. This transition will be reliant on upskilling of workers through providing necessary skills and training.

Health and wellbeing

Diverting waste from landfill has the potential to improve the quality and wellbeing of the public through the improvement of air quality – by subsequent reduction of air pollution and GHG production – as well as the reduction of leachate production.

Depending on local circumstances, leachate can find its way into the water table, which can result in considerable damage to community health. As such, by investing in diverting waste away from landfill, there is a significant reduction in risk to these water supplies.

10.7 Results

Table 26 summarises the results from the Cost Benefit Analysis. The economic analysis shows that the project is anticipated to create economic value for the Territory, with a BCR of 0.37 with a 7% discount rate. This indicates that the project does have some economic benefits, but they do not outweigh the costs of the project. However, it is key to note that the project has a number of non-quantifiable benefits that should be considered in tandem with the outcomes of this CBA.

⁷ NSW Treasury, Employment support estimates – methodological framework, 2009

Table 26: Example results summary table (P50, \$m, real, discounted)

Benefit category	recommended option
Project costs	
Total costs	(241.7)
Benefits	
Total benefits	89.6
Economic costs	
Results	
NPV	(152.1)
BCR	0.37

10.8 Sensitivity analysis

Due to the high-level nature of this economic analysis, a sensitivity analysis has been completed to understand the impact that uncertainties around the Project and its parameters may have on its economic impact.

Error! Reference source not found.²⁷ summarises the sensitivity analysis undertaken for the preferred option with respect to the Central Case. The Central Case is the results for the preferred option, with no sensitivities applied, using a discount rate of 7%.

Table 27: Sensitivities (P50, \$m, real, discounted)

Category	recommended option	
	NPV	BCR
Economic results		
Central case	(152.1)	0.37
Sensitivities – discount rate		
3% discount rate	(163.3)	0.45
10% discount rate	(143.6)	0.30
Sensitivities – benefits		
+20% benefits	(134.2)	0.44
-20% benefits	(170.0)	0.30
Sensitivities – costs		

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Category	recommended option	
	NPV	BCR
+20% capital costs	(178.6)	0.33
-20% capital costs	(125.7)	0.42
+20% operational costs	(174.0)	0.34
-20% operational costs	(130.2)	0.41

11. Project Governance

11.1 Recommended governance structure

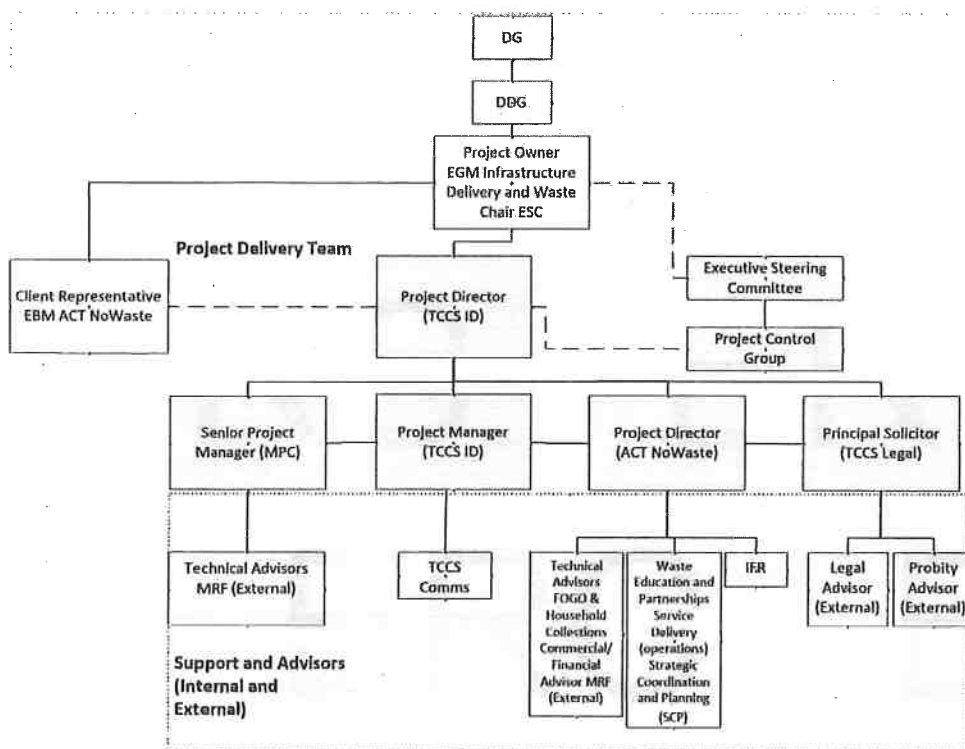
A single contractor delivery model has been selected for the MRF project. As this facility will be delivered through a single contractor arrangement, a specialist and multidisciplinary project team with an experienced project director and appropriate legal and commercial advisory support will be required.

A hybrid Governance and Delivery model for the MRF, is in place and will continue through the phases of the project.

The MRF projects complexities, values, and inter-relationships with other waste projects and Government initiatives demands a governance structure which supports timely, accountable, well-informed decision making. The following diagram depicts the proposed governance structure.

As the financial value of the project exceeds the delegates approval limits, the Director-General, TCCS, will be the approving officer for the project.

Figure 11: Proposed Governance Structure



11.2 Key bodies

There are a range of key bodies and groups that are involved in the MRF Governance structure.

Project Specific Executive Steering committee (Major Waste Steering Committee)

A project specific Executive Steering Committee (ESC) has been established to support the project and deal with key issues to be raised to the Delegate for decision. The Committee will provide leadership and oversight with a focus on key commercial, technical, planning and policy issues.

The approach is consistent with the PPP Guidelines and adapted and scaled to address the unique requirements and complexity of the MRF & FOGO projects. As is the case currently, experienced officers from Infrastructure and Commercial Advice (ICA) will be included on the committee to contribute knowledge of the handling of commercial, financial and process issues arising from the single contractor or SPV contractual arrangements. External commercial advisors will also be available to support the commercial and financial components of the project.

The members of the ESC should include only Government decision makers from TCCS, ICA, CMTEDD, MPC, Legal and Finance; however, external stakeholders may provide advice or information and other internal stakeholders may also provide support and assistance e.g. Procurement ACT. These roles and responsibilities are set out below.

Table 28: Key Stakeholders, Interests and Role

Stakeholder	Interest and Role	
Minister	Overall government sponsor for the project.	Minister for Recycling and Waste Reduction / Transport
Steering Committee		
Project Sponsor (Chair)	Typically, the senior responsible person in the Requesting Directorate. Undertakes the role of Chair of the Steering Committee and is responsible for briefing the Minister on the progress of the MRF Facility. Responsible for: • The role of Chair of the Steering Committee • Responsible for briefing the Minister on the progress of the project	Executive Group Manager, TCCS Executive Branch Manager ACT NoWaste, TCCS Executive Branch Manager, Infrastructure Delivery, TCCS Executive Branch Manager, Civil Infrastructure Branch, Major Projects Canberra

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Treasury	Senior responsible person / decision maker Treasury. Responsible for:	Executive Branch Manager, Infrastructure Commercial Assistance Division - Treasury
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Stakeholder	Interest and Role	
	Provides input to the Steering Committee where required.	
Advisors	Engaged on an as required basis. Provide specialised/technical input to the Steering Committee where required.	
		Relevant advisors –
		ACT NoWaste
		External consultancy – Arup Australia Pty Ltd
		WorkSafe, ACT ESA and ACT EPA and EPSDD
		MPC / TCCS ID
		Any other External SMEs identified and required to deliver the project.

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- Progress invoices & maintain budgets

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Stakeholder	Interest and Role	
Project Director (Chair)	Typically, from the Requesting Directorate. The PD has a highly developed project management and commercial skills and knowledge of government processes. Responsible for: • Day to day management of the project. • Management of the project team & advisors. • Provide periodical progress updates to the Steering Committee/ Project Sponsor. • Ensure project objectives are being met. • Overall responsibility for financial management & reporting. • Overall responsibility for contracts management. • Overall responsibility for time/schedule management	Senior Director, Infrastructure Delivery, TCCS
Relevant Advisors	Engaged on an as required basis. Provide specialised/technical input to the PCG where required.	ACT EPA Senior Director, Infrastructure Finance & Reform Division - Treasury
Probity Advisor	Should be engaged where required during the project. Observe and review the competitive bid process and establish whether the procedures have been administered fairly and impartially to all parties.	External Legal Services and GSO Probity Advisor – To be confirmed

11.3 Governance roles and responsibilities

A summary of the key stakeholders and the roles and responsibilities is presented in Table 29 below.

Table 29 Stakeholder, Roles, and Responsibilities

Role	Description	Responsibility
Senior Executive Representative and Chair	Acting Executive Group Manager, Infrastructure Delivery and NoWaste TCCS	- Chairs the ESC - Responsible for briefing the TCCS DDG and relevant Minister(s) on the progress of the project(s) Provide input to the ESC where required particularly representing the client's interests on aspects of waste and delivery.
MPC representative	EGM MPC EBM MPC Senior Director MPC	- Provides input to the ESC where required - MPC is responsible for procurement and contract management activities particularly in relation to the infrastructure and construction of facilities component.
Treasury representative	EGM Infrastructure Finance and Reform and Senior Director and Director EGM Commercial Engagement Governance	- Provide input to the ESC where required, particularly in relation to commercial and financial issues. - Inform Under Treasurer's reporting to the Treasurer.
Client Representative	EBM No Waste Senior Director No Waste	Provide input to the ESC where required particularly representing the client's interests particularly waste services and infrastructure.
Delivery Representative	EBM Infrastructure Delivery	Provide input to the ESC where required particularly representing delivery aspects.
Legal Representative	EBM TCCS Legal	Provide input to the ESC where required particularly legal support.
Finance Representative	Senior Director TCCS Finance	Provide input to the ESC where required particularly finance and budget support.

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Role	Description	Responsibility
Other Government representatives	Other senior officials with an interest in the project and who can contribute to the specific aspects of the project (e.g. EPSDD, Procurement ACT, CMTEDD).	Provide input as required particularly with support around environmental and planning approvals, services procurement, and finance.

• Observing attendees		
Other observers as relevant	- Project Director - Senior officials from TCCS, MPC and NoWaste etc	Provide input to the ESC where required

Project Control Group

A Project Control Group (PCG) will be established beneath the Executive Steering Committee.

Project Control Group

PCG established to review and approve or, for more material matters, advise on in-scope changes in the project and risk expenditure within the project's contingency allowance, prior to consideration by higher level oversight governance committees, Delegate, and then Cabinet, if required.

The PCG will be chaired by the Project Director and report through to the Project Executive Steering Committee which consists of representatives from the Project Delivery Team and relevant internal and external advisors, with probity advisors attending when required. Other relevant stakeholders may attend as required.

Table 30: PCG Structure

PCG		
The PCG's role is to oversee the delivery of the project.		
Role	Description	Responsibility
Project Director (PD)	The Project Director will chair the PCG, which will consist of representatives from across the relevant areas TCCS, NW, legal, commercial, ICA and MPC.	- Day to day management of the project; - Management of the project team & advisors; - Provide periodic progress updates to the ESC/ Project Sponsor; - Ensure project objectives are being met;

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	Report to the ESC and the EGM Infrastructure and Waste as required.	• Overall responsibility for financial management & reporting; • Overall responsibility for contracts management; • Overall responsibility for time/schedule management • Management reporting and mitigation of risks throughout the project. •
Project Delivery Team	Made up of officers from TCCS, NW, legal, commercial, ICA and MPC. Team members will ideally have subject matter, project management and contracts management experience.	• Develop positions on a range of policy, commercial and administrative matters to be considered by the PCG and ESC; • Manage the advisors/the project to ensure satisfactory performance, deliverables are achieved; • Manage the competitive bid process; • Manage stakeholder relations and community consultation; • Provide advice and assistance to the evaluation committee on its assessment of expressions of interest and binding bids. • Manage contract administration • Monitor project programme • Monitor project budget • Undertake all reporting requirements budget, schedule, and scope. • Seek and manage commercial advice and inputs from the broader team and manage risk collaboratively. • Preparation of all Commonwealth milestone reporting and payment claims

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TCCSID Project Manager, TCCSID		• Be a conduit between team members and external support to manage the project in accordance with agreed scope and program. • Ensuring the physical aspects of the project are developed in accordance with government's requirements. • Manage the project to ensure satisfactory performance, deliverables are achieved; • Manage stakeholder relations and community consultation; • Monitor project programme • Monitor project budget • Undertake all reporting requirements budget, schedule, and scope.
MPC Senior Project Manager, MPC		• The procurement manager would have oversight of, and responsibility for, the procurement and contract management aspects of the construction. • Manage contract administration up until handover at construction completion. MPC not involved in operation and maintenance of the facility.
TCCS Legal Principal Solicitor		• Provide legal support and advice. • Contract manager for external legal and probity. • Be a conduit between the team and external legal and probity support.

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ACT NoWaste Project Director, ACT NoWaste		• primary responsibility for ensuring that the project's operational and commercial requirements are addressed, including the services to be provided by the private sector. • develop the output specifications for the services to be delivered. • Contract management of the operations and management of the facility after handover of construction component. • Seek and manage commercial advice and inputs from the broader team and manage risk collaboratively. • Preparation of all Commonwealth milestone reporting and payment claims • Plus many other things.
Relevant Advisors		• Provide specialised/technical input to the PCG where required. • Client side representation
Probity Advisor	Should be engaged where required.	• Observe and review the competitive bid process and establish whether the procedures have been administered fairly and impartially to all parties.

Project Delivery Team (Project Team)

A team for this project including a dedicated Project Director and appropriate team structure with clear lines of accountability would be established.

Project Director

The Project Director is the key resource, recruited and responsible for delivering all critical elements of the project. This is a dedicated role, with overall responsibility for delivery of the project and management of the procurement team, including external advisors and consultants.

Senior Project Manager - MPC

The procurement manager would have oversight of, and responsibility for, the procurement and contract management aspects of the transaction..

Project Manager - TCCSID

An experienced project manager will be required to manage the physical aspects of the project are developed in accordance with government's requirements.

This role includes coordinating the project and providing a conduit and structure to develop the EIS, design, evaluation, and communication. The role requires strong project management experience and stakeholder engagement skills to capture the operational learnings from the client and operational considerations from technical advisor input and proposals received from tenderers and an understanding of the interface between the technical elements and the overall commercial framework.

TCCSID will coordinate the community engagement aspects through TCCS communications team.

Project Director –ACT NoWaste

The position has primary responsibility for ensuring that the project's operational and commercial requirements are addressed, including the services to be provided by the private sector. The position will coordinate the requirements of key stakeholders and provide technical input into the procurement. This would include ensuring ACT NoWaste operational requirements are delivered through design, documentation, construction, and project delivery. This includes coordinating input from internal teams, including Service Delivery, Strategic Coordination and Planning and Waste Educations and Partnerships.

ACT NoWaste holds the contract with external technical and commercial advisors for MRF and FOGO.

The Project Delivery Team would be supported by the following key external and internal advisors:

Legal advisor: TCCS Legal and GSO are heavily involved and coordinated by the Project Director NoWaste. TCCS Legal/GSO manage the contract with external legal and probity advisors with input from the Project Team.

Commercial/financial advisor: An external commercial advisor managed by NoWaste will provide knowledge and experience in the commercial aspects of the project. This will be supported by the various areas of government.

Communication: Communications to be supported by TCCS Communications. Project internal communications to be managed by Project Director (with team support).

Client Representative: EBM - ACT NoWaste. The client representative will be ensuring ACT NoWaste operational and long-term asset requirements are delivered through design, construction and ongoing operation and maintenance of the facility. Will bring expertise and client requirements on the three major projects.

12. Stakeholder Engagement Plan

12.1 Stakeholder identification

Consultation during the Feasibility, EIS Scoping, RFP, Business Case stages of the project was limited to key stakeholders whose input was required to inform into the project planning and design.

Targeted stakeholder engagement will proceed in the future phases of the project's planning and delivery. Key government stakeholders have participated in critical workshops, received regular updates, and provided reviews of project deliverables.

Key Stakeholders for the project include:

- Territory Departments:
 - ACT NoWaste
 - TCCS Infrastructure Delivery
 - ICA
 - ACT Treasury
 - Major Projects Canberra
 - EPSDD
 - Procurement ACT
- GHD Canberra
- Arup
- Sphere Infrastructure Partners
- Potential bidders
- Local community
- Adjacent tenant
- Special interest groups
- Collections contractor(s)
- Indigenous communities

12.2 Outcome of stakeholder engagement to date

A Stakeholder Engagement Plan has been created to outline the identified stakeholder groups, their impact / interest in the project and the consultation done to date, as well as that planned for the future. See Appendix H.

12.3 Communication Strategy

The stakeholders for this project have been identified in the Stakeholder Engagement Plan (refer Appendix H). The plan outlines the impacts, benefits, and communication strategy to the identified stakeholders.

For the purposes of the business case, the plan has separately identified the outcomes to the relevant stakeholders for the requested key questions of the business case:

- a) at the time of this business case, and
- b) the later stages of the project.

13. Advisor Engagement Plan

Specialist advisors for the project are detailed in Table 31 below.

Table 31: Advisors

Legal	Maddocks (External) Government Solicitors Office TCCS Legal and Contracts
Probity	Sparke Helmore (External)
Financial and Commercial	ARUP (External) Sphere Infrastructure Partners (External) ICA Treasury
Technical Design and Engineering	GHD – Design and Construct ARUP – Operations and Maintenance
Transactions and Procurement Management	Major Projects Canberra
Other Specialists	GHD – Environmental Impact Statement EPSDD – Planning advice

13.1 Legal

The delivery of the project will be through a Public Private Partnership or PPP. In the ACT Governments PPP guidelines there are different types of PPP models. The contractual arrangements for PPP's are specific to the project and very specialised.

The project team has engaged the service of an experienced legal firm, Maddocks who have a speciality in waste infrastructure. They have both experience and understanding on how to advise on PPP's, in particular the complex BOOT contractual delivery model.

The project team is also supported by the ACT Government Solicitor's Office and the TCCS Legal and Contracts team experienced with advising on contracts that are unique to the waste program.

The external legal advisors will review, draft, and advise in relation to the following documentation and processes:

1. Commercial BOOT style contract accompanied Request for Proposal ("RFP") documents; including the functional specification requirements for the Project. Note the functional specification will be created by NoWaste with the assistance of the technical advisors;
2. Any related side deeds relating to the Project and/or BOOT Contract;
3. Summary sheets for all contracts.

4. Invitation letter and instructions to Bidders, to be prepared in conjunction with the ACT and its advisors.
5. Discussion with the ACT and its financial/commercial and technical advisers to incorporate comments on the documents prior to release to the Bidders.

13.2 Financial, commercial and procurement

The project consists of not only the demolition, and construction of the facility but a 20 year operating contract. Financial and commercial advisors were sought so assist with the complex financial and commercial models that accompany both aspects of the project. This external assistance has been delivered through ARUP and Sphere infrastructure partners with extensive experience in delivering PPP's with a focus on BOOT models.

Treasury through ICA will also assist on providing Commercial and Financial advice to the project as specialists in PPP's. They will advise and work with the External contractors to ensure that the delivery model, payment mechanism and ongoing operation contractual obligations represent the best value for money proposition for the Territory.

13.3 Technical design and engineering

GHD will also be assisting as the Technical Design and Engineering Advisor in the preparation of the detail design and construction scope and the operating and maintenance aspect of the procurement will be assisted by ARUP.

13.4 Probity

The project is part of a "program" of high value infrastructure and services projects being delivered by ACT NoWaste in the next 12 – 18 months. The project has a high probity risk due to a highly competitive market and high levels of interest from political, government and industry stakeholders. Additionally, the ACT NoWaste branch, as part of its normal course of business, liaise or operate with incumbent or prospective suppliers to this project.

An external probity advisor, Sparke Helmore Lawyers, has been appointed through the ACT Government Solicitor's Office. A probity framework has been developed for the program, setting out principles and a consistent approach to manage probity.

A probity plan has been prepared for this project. All project personnel have completed deeds of confidentiality and declarations of conflict of interest. A probity briefing has been delivered to project personnel, delegates, and the Minister's Office. The project has restricted file access privileges to project personnel, and a separate inbox has been prepared to support the reporting and escalation of probity incidents.

To date, the probity advisor has been engaged throughout the procurement, including as an advisor during industry engagements, interactive tender sessions, and negotiations.

13.5 Stakeholder management and communication

Stakeholder Management and Consultation will be undertaken by ARUP, Sphere, ACT NoWaste and Infrastructure Delivery. Transactions management

13.6 Environment and sustainability

The project has engaged environmental advisors with specialisation in waste facilities. The project has engaged GHD to prepare a draft environmental impact statement for public consultation inclusive of concept design. The final construction design will be completed by the successful Contractor as a part of the development application process. The project has engaged the services of Arup and Sphere Infrastructure as technical and commercial advisors, including the preparation of the design, construct, operations, and maintenance specifications.

13.7 Other specialists

Consultation was conducted with EPSDD who confirmed that an environmental impact statement (EIS) is required for development of a MRF anywhere in the ACT. This process has commenced based on a concept design prepared by GHD for a 115,000 tonne per annum facility on block 12 Section 25 in Hume. The draft EIS is complete and has been submitted to the Authority for assessment. The Draft went out for public consultation on 28 August 2023 and closed on 16 October 2023.

14. Timeline

14.1 Project timeline

The project is split into three phases, that being:

- a. Demolition, Approval and Construction phase
- b. Operational phase
- c. Asset handback phase

From contract execution the project team has estimated that phase one will take approximately 31 months to complete. This will require demolition of the existing fire damaged MRF, site preparation, completion of final design, Environmental Impact Statement (EIS) and Development Application (DA) process complete and construction completion. Phase two, the operational phase will be for a term of 20 years from construction completion and operational readiness. This will see the contractor operating and maintain the facility over the 20 year term.

Table 32: Implementation milestones and timeframes

Milestones	Date to be completed
1. Contract Execution	31 July 2024
2. Final Design complete	31 November 2024
3. Development application approval	31 May 2025
4. Foundation and Civil works completed	31 May 2026
5. Construction completion	30 January 2027
6. Operational readiness	28 February 2027
Final completion date: (Asset Handback)	1 March 2048

14.2 Project decision points

There are a number of key decision points that are required to complete the procurement of the MRF. The key decision points are outlined below in order of sequence according to the project teams estimated timeline:

1. Contract execution (July 2024)

The project will require the contract to be executed in July, prior to Caretaker's Period.

2. Final design complete (November 2024)
3. Development Application approval (May 2025)
4. Foundation and Civil works completed (May 2026)
5. Construction completion (January 2027)
6. Operational readiness (February 2028)

14.3 Recommended float

There has been a small float allowed in the Development application process. Statutory approval usually take 2 months however realistically due to the complexity of the build the project team has allocated and additional 4 months for the contractor to acquire the Development application approval.

14.4 Project timeline risks, dependencies, constraints and/or deadlines

The key project constraint is ensuring the contract is executed prior to Caretaker's period. All other deadlines are dependent on the EIS and the Development application process.

Key milestones are summarised in table 26 (table above).

Detailed project timeline has been included in Appendix I.

14.5 Project timeline assumptions

The project timeline that has been specified in section 14.1 and detailed in Appendix I is based on the following assumptions:

1. The Contract is executed before Caretakers period.
2. The EIS is approved before December 2024.
3. The Development application process takes 6 months to obtain.
4. There has been 4 months allocated to obtain building approvals.
5. Construction completion takes 18 months.

Appendices

The Project Team are recommended to include the following appendices. Where the Project Team has undertaken further analysis, they should append this additional information to the Business Case.

Appendix A - Wellbeing Impact Assessment

Appendix B - Functional Design Brief

Appendix C - Risk Register MRF

Appendix D - Detailed cost estimates

Appendix E - Delivery Model Shortlisting

Appendix F - Cashflow and cost modelling (Tier 1)

Appendix G - L1.21 New Hume MRF Project Feedstock Volume Data Pack

Appendix H - Stakeholder Engagement Plan and Communication Strategy (Tier 1 and Tier 2)

Appendix I - Project timeline

Appendix J - RFP Volume 1 Overview

Appendix K - RFP Output Specification – Introduction

Appendix L - RFP Output Specification – Design & Construction

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Appendix M -RFP Output Specification – Operations & Maintenance

Appendix N - MRF Facility Agreement

Appendix O - Chief minister to Minister Cheyne – 2024 Priorities



WELLBEING IMPACT ASSESSMENT

Attachment A

<Delete any grey explanatory text prior to finalisation of the WIA. Please refer to the WIA Drafting Guide and the [Wellbeing Toolkit](#) for tips to complete a WIA.>

Cabinet number	24/XXX
Materials Recovery Facility (MRF)	TCCS
Purpose of proposal	
- To provide Cabinet with an update on the Materials Recovery Facility (MRF) procurement and its related financial impact. - The new MRF procurement has entered into the negotiation phase and requires Cabinet agreement to execute the contract. Funding for the new MRF will not be required until operation commences in 2027. - The project has identified a contract execution date of 31 July 2024 (on or about), in advance of the caretaker period.	
Impact description	
Environmental impacts - From an environmental perspective, a MRF is a critical facility in a city's waste management program. It is essential for recovering valuable materials and diverting these materials from landfill. The new MRF is anticipated to receive approximately 63,000 tonnes per annum from Territory households and will further support the surrounding NSW regions as an option for managing household recyclables. - The new MRF will enable the Territory to sort and process mixed recycling to a standard that meets the national waste export criteria and in turn enable broader remanufacturing markets to access the valuable processed commodities. - The benefits of a MRF are consistent with the principles of a circular economy. Instead of recyclable materials being landfilled, the materials can be re-used and retain their value in the economy. This creates a more sustainable approach to manufacturing and reduces the need for extraction of new materials from the environment. The process of extracting materials from the environment, in general, is not sustainable, negatively impacting the environment and contributing to emissions. The site - The MRF is proposed to be built on the site of the former MRF and an adjacent block. The facility will be larger and will result in a small area of grassland being cleared (<1ha). However, ecological assessments consider it unlikely threatened species will be disturbed. Current interim arrangements - The ACT is currently stockpiling and then transporting consolidated recycling to interstate MRFs as a business continuity arrangement. This interim solution is not sustainable as it exposes the Territory to risks, such as MRF availability and stockpile management issues which can have significant costs. - If current interstate MRFs have reduced capacity due to prioritising local demand, ACT waste may need to be transported to facilities further away, resulting in additional costs to the Territory from fuel price variations and higher gate fees. In addition, emissions from transporting the material have an environmental cost. - Stockpiling waste before it can be transported can result in degradation of recyclables when they are exposed to weather, which reduces resource recovery rates. It can also result in higher gate fee costs due to higher levels of contamination and less recoverable materials. - The Territory may also encounter times where stockpiling becomes excessive from a lack of interstate MRF availability. This creates a risk of a greater impact from any fires to the Mugga Lane area. - The Territory currently incurs costs to manage household recycling through an interim business continuity arrangement of transporting materials to interstate facilities. The "interim arrangement" will be required until the new facility is operational. - Alternatively, the Territory may elect to consume landfill capacity by directing recyclables to landfill. This would shorten the life of the landfill and require the Territory to seek a landfill solution at an earlier time. Consuming landfill capacity would forego the opportunity for the Territory to receive revenue from gate fees for waste. It should be noted, it is unlikely a future landfill location can be identified within the ACT. - The Territory will incur costs of the new facility through an initial capital contribution during the construction phase. The Commonwealth will provide a further capital contribution from the Recycling Modernisation Fund.	

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- The Territory will incur ongoing costs to the contractor (MRF operator) when the facility is operational (estimated in February 2027). The Territory will pay ongoing monthly fees to the contractor comprising of a monthly fixed payment and monthly variable payment over a 20 year term.
- Monthly payments to the MRF will be offset by commercial share arrangements with the MRF operator for the revenue from Container Deposit Scheme, product sales on commodity markets and third-party gate fees for recyclables from clients other than the Territory.
- Under the previous arrangement with existing MRF, the Territory only incurred gate fee costs based on the amount of recycling materials delivered to the MRF.
- The monthly fixed payment has a basis on the MRF operator's costs to finance the remaining capital amount required of the build. The monthly variable payment has a basis on the costs to process the Territory's recycling.
- It is noted, in the previous arrangement, the Territory's existing MRF infrastructure did not require MRF operator fees to have a capital component.

Magnitude of impact

There is a major positive environmental impact for the Territory associated with building this facility as a result of the diversion of recyclable material from landfill and to remove interim arrangements where waste is being transported elsewhere. The MRF will provide a facility for all Canberran residents that will process their recycling for the next 20 years.

Cost

The initial capital contribution by the Territory will be \$15.5m and the Commonwealth contribution will be \$10.5m.

Over the term, the new MRF is estimated to cost less revenue received by the Territory is \$372.704m payable to the contractor in monthly payments over twenty years. This includes offsets of \$291.55m from commercial share arrangements, contractor contributions and insurance payouts. The cost of the Interim Arrangement leading up to the operations of the new MRF is \$31.65m.

Alternatively, the Interim Arrangement used in the long term would cost \$431.598m over the next twenty years. Contractor contributions and the insurance payout could offset the costs for the Interim Arrangement by \$60.26m. This Interim Arrangement has high risks associated with interstate facility availability and potential for greater transportation distances for further available facilities. However, the risk in transportation cost increase has not been factored in nor the risk of market capacity for processing which is currently limited.

If the Territory elects to direct recyclables to landfill, the opportunity cost of foregone gate fee revenues over the 20-year period will be \$308.23m. This cost impact does not include the earlier need to construct a new landfill in the ACT or transport waste interstate. This option is not acceptable from an environmental and political perspective.

Will the proposal have an impact on Climate Change?

- The new MRF will increase resource recovery rates and reduce greenhouse gas emissions from more efficient operations and diversion of putrescible material from landfill.
- The proposal will reduce emissions by diverting recyclable materials from landfill. Recyclables such as paper and cardboard are putrescible and will generate methane gas if landfilled.
- Additionally, the new MRF will be constructed to a higher standard than the previous MRF, which includes renewable energy sources to support sustainable operations. The new MRF will be using state of the art plant and equipment; and tender responses have shown the efficiency of the operation can be calibrated against solar energy generation at the site. It is anticipated the facility will have a minimal reliance on gas.
- The impact of the new MRF on transport emissions is less known. It is likely the new MRF will provide a marginal improvement to transport associated emissions by improving the quality of sorted recycling products and slightly reducing transport and handling of recycling products that has greater purity (less contamination). The new MRF will remove the need to transport waste interstate, which will reduce emissions associated with the inefficiencies of that arrangement.
- The new MRF will enable higher standard recycling outputs, which will enable greater resource recovery and better utilisation as a manufacturing input. This will reduce the need to extract new resources from the environment for manufacturing.
- The new MRF is a key asset for government in managing climate change risks. This facility directly contributes to the circular economy by diverting materials from landfill. This would reduce the emissions from extracting raw materials from the environment and during manufacturing into products.
- The Mugga Lane landfill has an estimated life until the mid-2040s. If 63,000 tonnes per annum of recycling were sent to landfill, the capacity at Mugga Lane would be significantly reduced. Constructing landfill cells requires significant resources and its associated emissions which could be better expended for waste materials that must be landfilled rather than recyclables that can be kept within the economy.

Who is affected?

The new MRF will benefit all Canberrans, with recyclable material being processed in the ACT. This has financial benefits for Canberrans as waste will no longer be transported interstate and it will reduce demand for landfill, meaning Mugga Lane will not reach capacity as quickly and require expansion.

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The quality of recyclables is diminished, by weather, with the stockpile and transport arrangement. In comparison, sorting recyclables in the ACT will maintain material quality and maximise the Territory's resource recovery rates.

The new MRF is expected to benefit the Canberra community by providing a recycling service to meet community expectations, protecting the environment by supporting a more circular economy and diverting materials from landfill.

Will the proposal have a disproportionate impact (positive or negative) on specific groups?

- No, the new MRF will replace the existing MRF and provide benefits to all Canberrans.

Impacts on Aboriginal and Torres Strait Islander people

- Respondents to the Request for Proposal (RFP) for the MRF were required to demonstrate their commitment to reconciliation and methods to embedding Aboriginal and Torres Strait Islander culture into the delivery of the Project through a commitment to a Reconciliation Action Plan.
- The new contract includes a focus area of employment and economic participation for Aboriginal and Torres Strait Islander peoples in the Canberra Region.
- This will be more detailed in the Social Inclusion Plan that will be required from respondents as this will be a part of the evaluation criteria for the RFP.

Impacts on future generations

- The MRF will have a positive impact on wellbeing for the Canberra community over the next 20+ years by diverting valuable materials from landfill. This will reduce emissions, delay the need to expand the landfill and reduce the need to create new resources for manufacturing. The environmental and climate change benefits will continue over the life of the facility, supporting a more circular economy.
- Although there will be costs of paying for the facility, the benefits of the facility will be fully realised over its lifespan.

Wellbeing domain

Environment and climate	Relevant indicator: Climate-resilient environment and community <i>'Climate mitigation and adaptation will become increasingly important to track as they contribute to both personal wellbeing, the wellbeing of the economy, and society as a whole. This indicator will measure climate mitigation and adaptation by tracking greenhouse gas emissions, tree canopy coverage, waste, and community preparedness for climate change impacts and extreme weather events.'</i>
	The new MRF will support a more sustainable and more climate resilient economy by recycling rather than creation of new materials and diverting recyclable materials from landfill.
	Although the primary wellbeing domain addressed is environment and climate, the economy domain is also relevant. The new MRF will support an economy that recycles and will provide recycled materials to make new products that can benefit the Canberra community.
	Landfilling is a key requirement for the city's economy by providing a safe and hygienic location to dispose of waste from the city's economic activities. The new MRF will enable the life of the landfill to be extended and better enable the city's population and businesses to operate.

Timeframe

Five years plus	The facility will operate for 20+ years and this budget bid is for recurrent funding for the next 20 years. Wellbeing impacts will occur over the life of the facility.
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Evidence base and data

What do we know?

- The current MRF receives approximately 63,000 tonnes of recyclables per annum. This includes approximately 35,000 tonnes per annum from the Territory's households. Current MRF impacts are evidenced from the audit data for recyclables and current MRF input and output material data, which is summarised in the MRF RFP package – Volume 5.
- Approximately 14% of what is collected from ACT Residents is contamination and cannot be recycled destined for landfill. This equates to approximately 30,100 tonnes of recycling that is diverted from the Mugga lane landfill every year. This recovered recycling products are then sent on for further processing so they can be made into new goods.

What do we need to know?

- The new MRF will have contractual reporting arrangements for the input of Territory and third party material, the purity of processed outputs, waste outputs and recycling in waste outputs; input compositions; commodity prices; facility performance and maintenance schedules; environment and safety reporting. The facility will operate with weighbridge and SCADA data.
- The new MRF data will better support the Territory in determining the performance of the facility in recovering resources and in managing contractor compliance to the contract. Material composition audits will be conducted to support the operation and verifying reports. Composition data will also enable the Territory to estimate diversion of putrescible materials and provide report to greenhouse gas emission reductions.

Collaboration and Engagement

Consultation during the feasibility, EIS scoping and business case stages of the project was limited to key stakeholders whose input was required to inform project planning and design. Key government stakeholders have participated in critical workshops, received regular updates and provided reviews of project deliverables.

Targeted stakeholder engagement will proceed in future phases of the project's planning and delivery. A stakeholder register has been developed as part of the Stakeholder Engagement Plan.

Key stakeholders for the project include:

- Territory Directorates
- ACT NoWaste
- TCCS Infrastructure Delivery
- ACT Treasury
- Major Projects Canberra
- EPSDD
- EPA
- Procurement ACT
- WorkSafe
- Potential bidders
- Local community
- Adjacent tenant
- Special interest groups
- Collections contractor(s)
- Indigenous communities

Measures of success

How will the Government know this proposal has been successful?

- Measure of success: procurement for the MRF is complete and signed off.
- How it will be measured: completion of project milestones on time and procurement complete.
- Measure of success: the MRF is built on time and within budget.
- How it will be measured: completion of project milestones on time and operation of the MRF on schedule.
- Measure of success: the MRF provides recycling services for the agreed 20 years without the need for waste to be diverted interstate or to landfill.
- How it will be measured: delivery of recycling services occurs as per contract.

Monthly reporting from the contractor will be required for the Territory to monitor the progress of the project right through the 20-year operating term.

How will the Government know this proposal has achieved the anticipated wellbeing impacts?

As above. Through the successful completion of the procurement and then through monthly reporting required for the 20-year operating term of the contract.

In addition, calculations of the emissions avoided from diverting material from landfill will provide evidence of the environmental benefits of the facility.

Planned Evaluation

Information about evaluation, including how to identify whether your proposal should have an evaluation plan, is available through the wellbeing toolkit resource: [Evaluation in Wellbeing Impact Assessments](#).

- The primary policies relating to the MRF are the *ACT Waste Management Strategy 2011 – 2025* and the *National Waste Policy 2018's* targets for resource recovery; the *ACT Circular Economy Strategy and Action Plan 2023-2030* and associated legislation; and TCCS Strategic Plan 2021-24.
- ACT NoWaste currently reports to the Territory and Commonwealth agencies on resource recovery for specific MRF resource recovery outcomes and overall Territory waste program outcomes. The new MRF and contemporary contract is expected to provide more robust, specific and higher quality data on resource recovery outcomes.
- The new MRF will enable the Territory to enact the Circular Economy legislation to require businesses to source separate and direct recyclables to processing facility. Ongoing data collection of the implementation and performance of the MRF will be collected from the contractor. Additionally, MRF input and output data for third party materials will enable measuring of the Circular Economy legislation impacts.
- Customer satisfaction surveys conducted annually by TCCS include measures on for the Territory's waste program. The new

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MRF will re-establish the Territory's capacity for locally processed recyclables and meet community expectations.

- A specific wellbeing impact assessment evaluation plan has not been developed for this business case due to timing.