

10.17.NSROC Regional Waste Strategy

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CSP LINK	1. Our Living Environment 1.1 Protected, enhanced and biodiverse natural environment

PURPOSE:

The purpose of this report is to provide an outline of the Northern Sydney Regional Organisation of Councils (NSROC) Regional Waste Strategy and to seek its adoption by Council.

EXECUTIVE SUMMARY:

- NSROC has worked collaboratively over many years on waste management issues, including the development of a regional waste procurement contract and the development of a regional waste strategy.
- The State Government 20-year Waste and Sustainable Materials Strategy 2041 (WASM) represents a 20-year outlook for waste management and resource recovery for NSW, requiring all regional council groups to prepare new waste strategies of their own.
- The NSROC Regional Waste Strategy was developed in response to the WASM requirements. It provides a framework for the eight participating councils to work collectively to support and deliver regional waste management practices which are consistent with an overarching framework but allows for individual council priorities.
- It is recommended that Council endorse the Regional Waste Strategy for the following reasons:
 - potential savings for joint procurement/economies of scale;
 - sharing regional resources for education, data, and infrastructure;
 - provides access to additional EPA funding for projects that are consistent with the regional strategy;
 - shared risk for potential infrastructure development;
 - meets community expectations for resource recovery and environmental outcomes; and
 - It is consistent with the objectives of NSC's Community Strategic Plan and Delivery Program (2022-2026) as well as the Environmental Sustainability Strategy 2030.

RECOMMENDATION:

- 1. THAT** Council resolves to adopt the 2022 NSROC Regional Waste Strategy.

Background

The Northern Sydney Regional Organisation of Councils (NSROC) has worked collaboratively over many years on waste management issues. In 2012, as part of the Waste Avoidance and Resource Recovery Strategy, the NSW Environment Protection Authority (EPA) introduced a new 5-year funding model for councils under the Waste Less, Recycle More initiative. In 2014 NSROC obtained funding to appoint a Regional Waste Management Coordinator whose role was, in part, to develop and implement a regional waste management strategy. The Regional Waste Strategy 2014 was adopted by the seven NSROC member councils (Mosman Council subsequently joined NSROC in 2017 and adopted the Strategy). The EPA funding conditions at the time required a review of the Strategy, which was undertaken in 2017.

The NSROC Waste Strategy 2017 provided the background for member councils to develop and implement future policies to minimise waste disposal and increase resource recovery. In essence, the NSROC Waste Strategy 2017 set a primary objective of 70% waste diversion from landfill by 2021. However, subsequent major policy changes that impacted on the waste industry made this target unachievable. The industry was impacted by the following:

- China Sword which saw China ban the importation of waste streams, primarily used plastics;
- the introduction of the NSW Container Deposit Scheme which had a significant impact on yellow bin recycling;
- Federal Government bans on exporting waste streams; and
- the revocation in NSW of the Resource Recovery Order and Exemption for the application of Mixed Waste Organic Outputs (MWOO) to land which essentially stopped red-bin processing and redirected putrescible waste collected at kerbside by councils to landfill.

To further enhance the Waste and Resource Recovery (WARR) Act, which encourages the most efficient use of resources and promotes resource recovery, the NSW Government announced its 20-year Waste and Sustainable Materials Strategy 2041 (WASM) in 2021. In response to WASM, the NSW EPA required all regional council groups to prepare revised waste strategies. Consequently, in 2022 NSROC engaged a waste consultant to assist in the development of a new NSROC Regional Waste Strategy. Funding for this consultation was obtained from the EPA. Although the EPA established guidelines for the Regional Waste Strategy, the NSROC member councils agreed that it should reflect regional priorities while maintaining consistency with the EPA requirements.

In order to consult with NSROC stakeholders facilitated workshops with General Managers, Directors and Waste Managers occurred in 2022. The Regional Waste Strategy was finalised and adopted by the NSROC General Managers Group (GMAC) and its Board in November 2022. The Strategy focusses on initiatives for the 5-year period from 2022- 2027 and how progress against these objectives will be monitored.

Report

WASM represents a 20-year outlook for waste management resource recovery for NSW with a focus on resource recovery, meeting future infrastructure requirements and reducing carbon emissions. The strategy established new industry targets for waste management in NSW; these include the following:

- reduce total waste generated by 10% per capita by 2030;
- achieve an 80% average resource recovery rate from all waste streams by 2030;
- reduce overall litter by 60% by 2030;
- reduce plastic litter by 30% by 2025 and triple the plastics recycling rate by 2030;
- halve the amount of organic waste sent to landfill by 2030; and
- achieve net zero emissions from organics to landfill by 2030.

Framework of the Strategy

NSROC had developed the following overarching vision to guide its long-term direction:

A collaborative alliance of councils investigating and delivering balanced outcomes to recover resources, protect the environment and enhance community well-being.

To achieve this vision, NSROC built on its previous two waste strategies and developed a new waste management framework that incorporates five themes which are consistent with WASM's objectives. These themes are:

1. avoid and reduce waste;
2. recover resources;
3. protect the environment;
4. strategic collaboration; and
5. education and engagement.

Additionally, the WASM priority areas are:

1. reducing carbon emissions;
2. future infrastructure and service needs. and
3. protect environment and human health.

After engaging with the member councils, NSROC 's new Strategy framework outlines regional objectives and outcomes, including priority rankings and success indicators, as they align to the WASM priorities and funding areas. The Strategy is intended to be a high-level framework aimed at achieving regional waste management objectives for the mutual benefit of the broader NSROC community. As such, the framework was developed to be flexible which would allow individual councils to achieve local priorities within a broader regional delivery context.

Although WASM established certain industry targets, such as achieving an 80% average resource recovery rate from all waste streams by 2030, these were considered unachievable

and were not included in the NSROC Strategy; however, the Strategy acknowledges that councils will have a significant role in achieving government targets through their waste management practices and services. The Strategy also recognised that there will be limited government funding available to achieve the objectives and that a move towards the circular economy and reducing emissions will lead to increased costs for the provision of future waste management services. Meeting the desired outcomes will be heavily influenced by external factors such as government policies and the commercial sector’s willingness to develop and implement innovative waste processing and resource recovery options. Additionally, the strategy relies heavily on the broader community to accept and adopt industry best practices for the reduction of waste generation. In order to achieve this, enhanced waste education is essential.

Landfill space is rapidly depleting. It is estimated that there will be no landfill space within the Sydney Metropolitan Area by 2036. Currently, there are impediments to increasing landfill diversion, such as the revocation of the Resource Recovery Order and Exemption for the application of Mixed Waste Organic Outputs to land and the lack of end-markets for recovered plastics. To increase resource recovery, the waste industry needs to address these issues and governments need to provide a conducive long-term environmental surety.

Achievement of the NSROC Waste Strategy targets will be governed by delivery timeframes and success indicators as established by an Annual Action Plan revision process. Annual reviews of the Strategy are integral for its success and for on-going relevance to the region and individual councils.

Options

Council has the following options in relation to this matter:

1. Resolve to not adopt the NSROC Regional Waste Strategy
2. Resolve to adopt select/specific projects in the Regional Waste Strategy
3. Resolve to adopt the NSROC Regional Waste Strategy

These options are assessed in the table below.

Option	Finance/Resourcing	Risk/Opportunity	Consultation
1.	Forgo any funding opportunities offered by the EPA for regional initiatives	Missed funding opportunities. Missed opportunities for regional collaboration on procurements initiatives. Higher waste management charges for procured services. Weaker environmental outcomes for resource	Would require community acceptance as this appears to be contrary to expectations.

Option	Finance/Resourcing	Risk/Opportunity	Consultation
		recovery and carbon emissions. Not consistent with the objectives and desired outcomes of NSC's Community Strategic Plan.	
2.	Partial funding model. Would not have full access to external funding/ resources.	Limited, if any, decision making capability/management control. Higher waste management charges. Failure to leverage off regional initiatives.	Would require community acceptance as this appears to be contrary to expectations.
3.	Shared funding model. Potential savings for joint procurement. Collaborate on regional resources for education, data, and infrastructure. Economies of scale for services. Provides access to additional EPA funding for projects that are consistent with the regional strategy.	Shared risk model for infrastructure development. Flexible strategy gives Council ability to prioritise programs. Enables consistent waste management messaging across the region. Enables for improved environmental outcomes such as increased resource recovery and lower carbon emissions. Risk is higher waste management charges, but this could be dispersed across the region.	Consistent with community feedback regarding environmental outcomes. Community will not accept a reduction to current services provided. Meets community expectations for resource recovery and environmental outcomes.

Option 3 is recommended for the following reasons:

- potential savings for joint procurement/economies of scale;
- sharing regional resources for education, data, and infrastructure;
- provides access to additional EPA funding for projects that are consistent with the regional strategy;
- shared risk for infrastructure development;

- meets community expectations for resource recovery and environmental outcomes;
- consistent with the objectives of NSC's Community Strategic Plan and Delivery Program (2022-2026); and
- consistent with objectives outlined in the Environmental Sustainability Strategy 2030.

Consultation requirements

In preparing the NSROC Waste Strategy 2022, NSROC engaged a consultant who facilitated a workshop for General Managers, Directors, and Waste Managers. As a result, the NSROC Regional Waste Strategy template was produced for adoption by the eight member councils.

Community engagement is not required.

Financial/Resource Implications

The adoption of the NSROC Waste Strategy will have no immediate direct financial implications. NSROC does not envisage to be seeking financial contributions from each member council following the Strategy's adoption by that council; however, for regional projects, NSROC may seek funding contributions from member councils where future EPA allocations are not made available or are insufficient.

The NSROC Waste Strategy is flexible and does not bind Council to programs of a low priority. In essence, NSROC will cost regional programs and seek either external funding or a contribution from each member council. NSC can adopt the Strategy but may also reject contributing to the project should it deem that it fails to meet local requirements. Council will only be asked to consider funding for projects that it deems to be important and relevant to the North Sydney LGA.

Legislation

The Strategy was developed in context to the following regulatory environment:

- the NSW Protection of the Environment Operations Act 1997 is the State Government's principal environmental protection legislation and regulates the waste industry;
- the NSW Waste Avoidance and Resource Recovery Act 2001 promotes resource recovery and waste avoidance;
- the NSW Waste and Sustainable Materials Strategy 2041 (WASM), introduced in July 2021; this policy replaced the NSW Waste and Resource Recovery Strategy 2014-21 (released in December 2014) and the Waste Less, Recycle More Initiative (provided funding to councils from 2012 to 2022). WASM currently provides the framework for waste management in NSW;

- under WASM, the NSW Government mandated that councils must provide a food and garden waste collections service by 2030 and set a target of reducing carbon emissions by 35% by 2030;
- the NSW Circular Economy Policy Statement 2019 was developed to provide clear directions for the transition to a circular economy; and
- the National Waste Policy Action Plan 2019, which supplements the National Waste Policy 2018, established targets and actions to guide investment and national efforts. The Action Plan targeted areas such as waste exports, waste generation per capita, resource recovery and organic waste.

Northern Sydney Regional Waste Strategy

A Regional Response to the NSW Waste and Sustainable Materials Strategy 2041

October 2022





Northern Sydney Regional Waste Strategy

Prepared for Northern Sydney Regional Organisation of Councils (NSROC)

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Disclaimer

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Acknowledgement of Country

NSROC and its member councils acknowledge the traditional custodians as the first protectors of the land, water, sea and sky on which we live and work, and pay our respects to Elders past, present and future.

We recognise the ongoing connection to their land, their waters and surrounding communities and acknowledge their ancient history here on this land.



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Executive Summary

This Northern Sydney Regional Waste Strategy (herein referred to as the Strategy) is the regional response to the New South Wales (NSW) Waste and Sustainable Materials Strategy 2041 (herein referred to as the WASM strategy). Regional waste groups, such as NSROC, are a key delivery partner for the WASM strategy.

Northern Sydney Regional Waste Strategy Purpose:

- Outline NSROC's regional priorities based on the needs and opportunities for member councils to work together;
- Set regional objectives and outcomes to be achieved;
- Guide the allocation of resources based on prioritisation of objectives;
- Communicate councils' and NSROC's priorities to send market signals and gain council buy-in for regional initiatives; and
- Provide a framework for NSROC to coordinate a regional approach to implement WASM.

NSROC Role in Strategy delivery:

- Advocacy;
- Collaboration;
- Research / investigation;
- Coordination; and
- Helping deliver better outcomes.

This Strategy provides a 20-year vision while focusing on the initiatives required in the 5-year period from 2022-2027 and how progress will be monitored. The document starts by setting out a summary of global and local waste industry changes which have an impact on the region, then moves onto present the new strategic priorities and objectives the region wants to achieve over the next 5 years and beyond.

A comprehensive consultation was undertaken with NSROC member councils, in the form of individual council interviews and several group workshops, to outline the Strategy's vision and to identify and prioritise key objectives and initiatives for the region. It is intended that each member council will endorse the Strategy document signifying their commitment to being part of its successful delivery, at a contribution level considerate of council size and local priorities.

Context

The national, state and local context for the development of this strategy is presented in Sections 2 and 3.1, and is underpinned by the drivers outlined in the WASM strategy. Of particular relevance to this Strategy is the NSW Government mandate for the councils to provide food and garden waste collections by 2030, the NSW target of reducing carbon emissions by 35% by 2030, and the limited space to dispose of residual waste within the Greater Sydney area in the next 15 years.

The total population for the NSROC region is expected to grow from 656,000 people in 2020 to 680,000 in 2027 and 752,000 in 2041. Waste generation is expected to grow alongside this from 268,000 tonnes in 2020, 278,000 tonnes in 2027 and 306,000 tonnes in 2041. Increases in the population and associated number of dwellings in the NSROC region will have a direct impact on domestic waste generation and the demand for waste collection and disposal services.

The majority of the NSROC councils do not have ownership or control over waste sites in their LGA and those that do, do not own, manage, or control waste transfer, processing, or disposal sites for municipal solid waste (MSW). There is a complete dependence on privately-owned waste service contractors.

In the future, all NSROC councils may benefit from a joint procurement of a waste processing service. Depending on the infrastructure, a regional approach would typically be required to achieve the necessary volumes and contract term to justify the capital cost of a new waste facility (such as a regional transfer station) and hence provide value to councils. Benefits can include increased recycling and/or diversion of waste from landfill, as well as innovation and potential influence over commercial activity.

Councils' willingness to invest in waste infrastructure in this region is demonstrated by the establishment of two CRCs for household problem waste. One is operated by Hornsby Council and the other by North Sydney Council on behalf of six NSROC member partners on a shared cost model. There are plans for a third CRC which is also likely to be operated on a shared cost model.

The Strategic Framework

NSROC / Northern Sydney Regional Waste Strategy

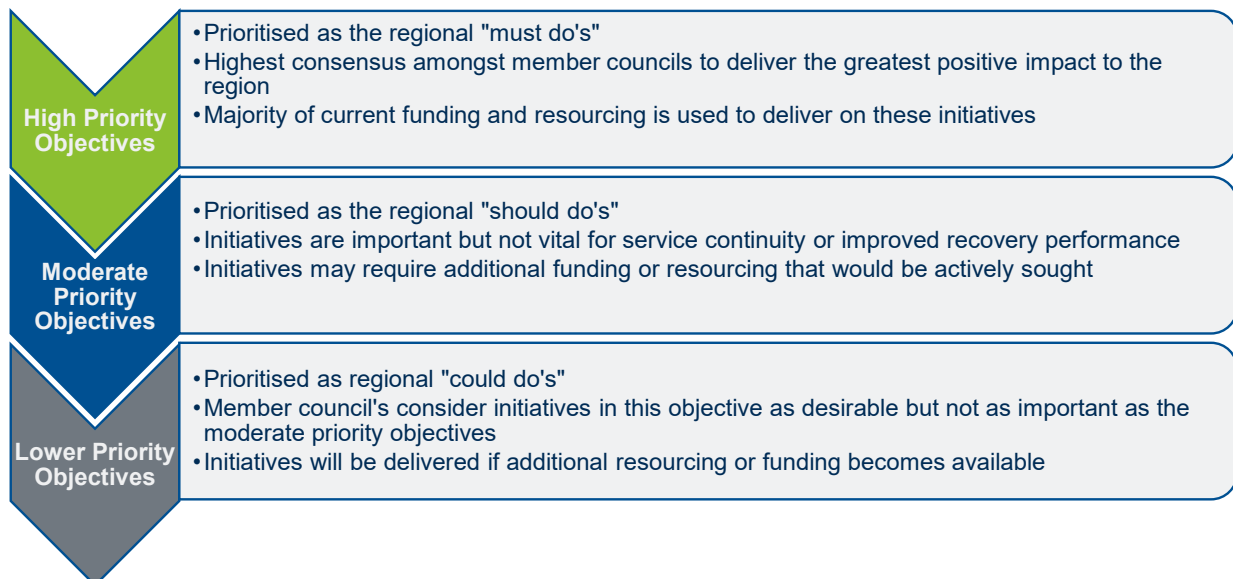


NSROC councils have developed a **vision** for this Strategy to guide the long-term direction and capture the overarching motivation for NSROC.

“A collaborative alliance of councils investigating and delivering balanced outcomes to recover resources, protect the environment and enhance community well-being.”

The table overleaf outlines the strategy themes, objectives and prioritisation category, as well as a summary of the initiatives which will deliver the desired outcomes. The more detailed tables in Section 5 also identify how each theme aligns with the WASM priority and potential funding areas, and also presents a timeline for NSROC to carry out the initiatives.

In order to prioritise the objectives, the member councils participated in an objective importance ranking exercise which generated the objective prioritisation results. The top three objectives also had the highest consensus amongst the councils. The prioritised objectives inform the level of importance the region places on the initiatives and actions for each objective, and can be summarised in the graphic below.



Implementation

The indicators of success for each objective, will be measured individually by each council, since NSROC does not have direct control over them. The success measures include quantitative elements such as tonnage/capita levels and recovery rates of certain waste streams, as well as softer measures such as member council participation in NSROC meetings and results of community surveys measuring improved knowledge.

Implementation of the strategy will be delivered via a yearly Action Plan where the scope and deliverables of each action are agreed by member councils. NSROC will engage member councils periodically to review and if necessary, re-prioritise the initiatives. This will allow NSROC and its member councils to respond to changes or announcements from government or the market, such as funding opportunities or processing technology becoming available.

Lastly, NSROC will stay abreast of the WASM Program Delivery grant programs and apply for funding specific to regional waste groups to deliver regional initiatives outlined in this Strategy. Where grant funding only applies to individual councils (i.e. regional groups cannot apply), NSROC will communicate these opportunities to member councils. Contribution of this grant funding to NSROC for implementation and delivery of regional initiatives is up to the discretion of each member council.

Theme	Objectives	Priority	Outcomes	Initiatives
1. Avoid & reduce waste	1.1 Embed circular economy principles	Moderate	Reduced total waste generated per capita	1.1a Guidelines to incorporate recycled content.
	1.2 Lead initiatives to reduce emissions	Moderate	Reduced carbon emissions	1.1b Coordinate circular economy initiatives 1.2a Cost Benefit analysis to reduce carbon emissions 1.2b Ensure tenders include consideration of carbon emissions
2. Recover Resources	2.1 Research a pathway to 80% recovery	High	Improved resource recovery outcomes	2.1a Cost Benefit analysis on pathway for region to reach 80% diversion
	2.2 Research organics recovery solutions	High	Majority of organic waste from landfill diverted	2.2a Organics collection & processing options analysis 2.2b Organics processing joint procurement assessment
	2.3 Lead initiatives to increase plastic recovery	Moderate	Improved plastics recovery across member councils	2.3a Plastics industry scan for opportunities to divert plastic
		Lower		2.3b Plastics social research to increase recycling 2.3c Research soft plastics kerbside collection options 2.3d Incorporate plastic waste management into the strategy
3. Protect the Environment	3.1 Improve usage, accessibility and recovery at CRCs	Moderate	Improved recovery of problem waste streams	3.1a Identify long term site for CRC
		Lower		3.1b Expansion of CRC accepted material 3.1c Establish third CRC in region
	3.2 Collaborate with other ROCs to reduce illegal dumping and litter	Lower	Reduced illegal dumping and litter	3.2a Research into management of bulky waste dumping in MUDs 3.2b Support NSW Litter Prevention and Illegal Dumping Strategies
4. Strategic Collaboration	4.1 Identify infrastructure needs and create roadmap	High	Regional infrastructure needs are met	4.1a Identification of potential infrastructure sites
	4.2 Identify opportunities for service collaboration	Moderate	Opportunities for regional collaboration are identified	4.2a Assessment of joint procurement options for waste processing/disposal

Theme	Objectives	Priority	Outcomes	Initiatives
	4.3 Build regional waste management resilience	Lower	Resilient waste management services	4.3a Build regional resilience improvement opportunities
5. Education & Engagement	5.1 Collaborate to implement a behaviour change program to divert waste from landfill	Moderate	An informed community	5.1a Regional data collation and visualisation
				5.1b Support councils undertake standardised community knowledge survey
				5.1c Develop a regional organics education strategy and community engagement plan
				5.1d Develop education resources on waste treatment technologies
				5.1e Develop education resources for bulky waste and recycling in MUDs
	5.2 Continual regional advocacy and knowledge sharing	Moderate	Strong advocacy of better waste management outcomes	5.2a Advocacy to State & Federal Government
				5.2b Advocacy and engagement with industry
				5.2c Advocacy and resources for engagement with councillors
				5.2d Engage with other regional waste management groups



1 Introduction

The Northern Sydney Regional Organisation of Councils (NSROC) is a voluntary organisation made up of the following member councils:

- City of Ryde Council (Ryde);
- Hornsby Shire Council (Hornsby);
- Hunter's Hill Council (Hunter's Hill);
- Ku-ring-gai Council (Ku-ring-gai);
- Lane Cove Council (Lane Cove);
- Mosman Council (Mosman);
- North Sydney Council (North Sydney); and
- Willoughby City Council (Willoughby).

The NSROC member councils regularly engage and collaborate on waste and resource recovery projects in the region that can provide more sustainable and valuable outcomes than if the councils were to work alone.

1.1 Purpose of the Strategy

This Northern Sydney Regional Waste Strategy (herein referred to as the Strategy) is the regional response to the New South Wales (NSW) Waste and Sustainable Materials Strategy 2041 (herein referred to as the WASM strategy). Regional waste groups, such as NSROC, are a key delivery partner for the WASM strategy. The purpose of this Strategy is to:

- Outline NSROC's regional priorities based on the needs and opportunities for member councils to work together;
- Set regional objectives and outcomes to be achieved;
- Guide the allocation of resources based on prioritisation of objectives;
- Communicate councils' and NSROC's priorities to send market signals and gain council buy-in for regional initiatives; and
- Provide a framework for NSROC to coordinate a regional approach to implement WASM.

The role of NSROC in delivering the initiatives within the Strategy will fall into five key activities:

1. Advocacy;
2. Collaboration;
3. Research / investigation;
4. Coordination; and
5. Helping deliver better outcomes.

This Strategy provides a 20-year vision while focusing on the initiatives required in the 5-year period from 2022-2027 and how progress will be monitored.

1.2 Development of the Strategy

This Strategy was prepared for NSROC by MRA Consulting Group (MRA) utilising the NSW Environment Protection Authority's (EPA) 'Taking a regional response to the Waste and Sustainable Materials Strategy Guidance Document 2022'. Comprehensive consultation was undertaken with NSROC member councils, in the form of individual council interviews and several group workshops, to outline the Strategy's vision and to identify and prioritise key objectives and initiatives for the region.

This Strategy document starts by setting out a summary of global and local waste industry changes which have an impact on the region, then moves on to present the new strategic priorities and objectives the region wants to achieve over the next 5 years and beyond.

It is intended that each member council will endorse the Strategy document signifying their commitment to being part of its successful delivery, at a contribution level considerate of council size and local priorities.

2 Context

This section provides the current policy and market context at the national and state level. Specific regional context for NSROC is provided in Section 3.1.

2.1 Key policy and market drivers

The key legislative and policy drivers for waste management in the region are largely outlined in the NSW WASM Strategy 2041, which also reflects the NSW Circular Economy Policy Statement¹, Net Zero Plan Stage 1: 2020-2030² and the National Waste Policy Action Plan³. A description of these documents and other relevant legislation and policies are provided in Appendix A.

As outlined in the WASM strategy and other relevant reports, the key national and state contextual matters, drivers and challenges include:

- A global push towards a circular economy;
- The global market for recyclable material has changed with some countries banning the import of some recyclable material and Australia banning the export of some recyclable material to expand our reprocessing infrastructure. This has led to reduced demand for recycled material;
- The NSW Government has committed to a target of reducing carbon emissions by 35% by 2030;
- The NSW Government has mandated the requirement for councils to provide food and garden waste collections to all NSW households by 2030;
- There is limited space to dispose of residual waste with landfills servicing Greater Sydney likely to reach capacity within 15 years; and
- Waste has a negative impact on the environment in the form of litter and illegal dumping or when not properly managed.

It is important for councils and the community to be aware that the impact of current market drivers and the waste management infrastructure crisis across the Sydney metro will cause rising costs, whilst transitioning away from landfill disposal and increasing resource recovery.

2.2 Alignment with national and state targets and strategies

The NSROC Strategy is written in the context of the NSW WASM Strategy 2041⁴, released in July 2021, replacing the previous NSW Waste Avoidance and Resource Recovery Strategy 2014-21⁵ and Waste Less, Recycle More initiative⁶. The WASM strategy represents a 20-year vision for waste management and resource recovery in NSW, including a focus on the circular economy, reducing carbon emissions and meeting infrastructure needs.

The WASM strategy outlines a number of targets⁷:

1. Reduce total waste generated by 10% per person by 2030;
2. Have an 80% average recovery rate from all waste streams by 2030;
3. Significantly increase the use of recycled content by governments and industry;
4. Phase out problematic and unnecessary plastics by 2025;
5. Halve the amount of organic waste sent to landfill by 2030;
6. Net zero emissions from organics to landfill by 2030; and
7. Reduce overall litter by 60% by 2030.

¹ NSW Circular Economy Policy Statement (2019)

² NSW Government, The Net Zero Plan Stage 1: 2020-2030 (2020).

³ National Waste Policy Action Plan (2019)

⁴ [Waste and Sustainable Materials Strategy 2041 Stage 1 2021-2027](#) (2021) NSW Government.

⁵ [NSW Waste and Resource Recovery Strategy 2014-21](#) (2014) NSW Government.

⁶ [Waste Less, Recycle More](#) initiative

⁷ Note: #1, #2, #3, #4 and #5 are also targets as set out in the National Waste Policy Action Plan (2019)



The WASM strategy also identified the same targets as set out in the NSW Plastics Action Plan:

- Triple the plastics recycling rate by 2030; and
- Reduce plastic litter by 30% by 2025.

The state government is responsible for pursuing the WASM targets and relies on the support of local councils through their management of waste and recycling services for households. NSROC's organisational goal is to support its member councils to implement strategic regional waste initiatives which are likely to contribute to the WASM targets.

The WASM strategy has three priority (or focus) areas:

1. Meeting our future infrastructure and service needs;
2. Reducing carbon emissions through better waste and materials management; and
3. Building on previous work to protect the environment and human health from waste pollution.

NSROC and its member councils support these priority areas and recognise that the alignment of the Strategy's strategic framework with these WASM priority areas will help ensure a level of consistency across regional groups in NSW (see Section 5.1 for further information). Furthermore, Section 5.1 also highlights the potential WASM strategy funding areas, which are expected to be aligned to relevant themes/objectives in this Strategy. However, at the time of writing, only limited information about grant and program funding has so far been provided by the NSW Government but is expected during 2022/23.

3 Where are we today?

This section provides specific regional context for the NSROC region including current waste and recovery performance, services and infrastructure, and an update on achievements through the previous strategy.

3.1 Regional context

The total population for the NSROC region is expected to grow from 656,000 people in 2020 to 680,000 in 2027 and 752,000 in 2041, see Figure 1⁸. Waste generation is expected to grow alongside this from 268,000 tonnes in 2020, 278,000 tonnes in 2027 and 306,000 tonnes in 2041.

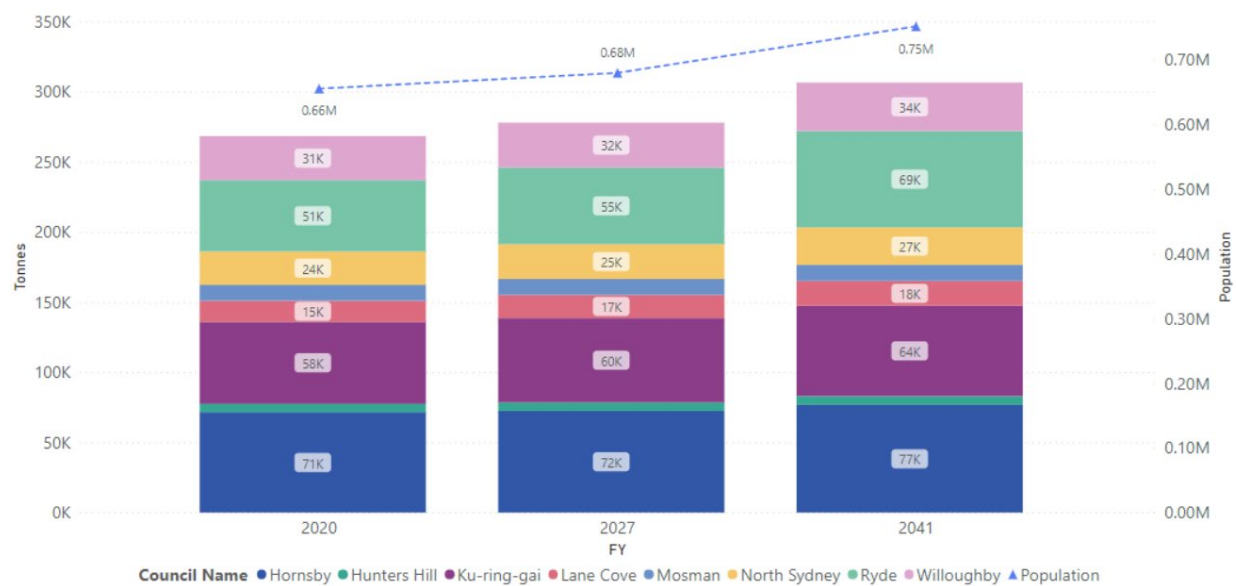


Figure 1 Population and waste generation forecasting to 2041

Increases in the population and associated number of dwellings in the NSROC region will have a direct impact on domestic waste generation and the demand for waste collection and disposal services. These new residents will be predominantly housed in multi-unit dwellings (MUDs). Resource recovery in MUDs is often significantly less than single-unit dwellings (SUDs) due to challenges such as reduced space for recycling and storage of waste, increased contamination, a lower volume of garden refuse and a more transient population.

The following local considerations also significantly impact member councils' management of waste and any resource recovery:

- **Infrastructure** (see Section 3.4): The majority of the NSROC councils do not have ownership or control over waste sites in their LGA and those that do, do not own, manage, or control waste transfer, processing, or disposal sites for municipal solid waste (MSW). There is a complete dependence on privately-owned waste service contractors. If councils do not secure long term processing contracts, they face uncertainty about service continuity and the costs for waste management. The result of this will be inability to meet state landfill diversion target and/or organics recovery mandate.
- **State Planning**: Although the planning priorities identified in the North District Plan (see Appendix A) incorporate both improved sustainability and waste infrastructure and management as priorities, the state government has not identified an implementation plan that would help deliver those priorities more cohesively than attempts by individual councils.

⁸ Department of Planning and Environment LGA (ASGS 2020) 2022 CPA Population and Dwelling projections: <https://www.planning.nsw.gov.au/Research-and-Demography/Population-Projections/Explore-the-data>

- **IPART:** The current NSW Independent Pricing and Regulatory Tribunal (IPART) Review of the domestic waste management charge service charges 2021/22⁹ proposed two alternatives of either a waste peg or benchmarking of similar councils as the basis for future increases in the domestic waste management charge (DWMC) after 2022/23. Either alternative could have considerable bearing on the ability of councils to fund waste management initiatives and the delivery of strategic priorities. IPART received many submissions and expects to issue a final report in October 2022. However, it has agreed that it is not in the best interests of ratepayers and councils to implement a waste peg and supports the regulatory approach recommended by the NSW Office of Local Government (OLG). IPART has also recognised that it is OLG's role to address many of the issues identified throughout the review.
- **Funding:** The WASM strategy grant funding directly available to member councils has reduced by approximately 80% compared to the previous 2014-2021 Waste Less, Recycle More grant program and most will be offered on a contestable basis. This will further impact domestic waste management and councils' contributions towards WASM targets.

3.2 Previous Regional Achievements

Table 1 is a summary of some key regional achievement across the key themes and project areas of the previous regional Strategy.

Table 1 Summary Regional Achievements

Topic	2014-2017 Achievements	2018-2021 Achievements
Diversion from landfill	Increased from 51% to 53% but remained well below the 70% target.	Decreased from 53% to 49% in 2020/21. This is due to the China Sword, waste export regulations and the alternative waste treatment (AWT) ban.
Per capita waste generation	Increased by 2%	Decreased in 2020/21 to 409 kg/person/year which was 2.5% lower per capita than the baseline 2013/14.
Community Recycling Centres	Two community recycling centres (CRCs) had been established and Ku-ring-gai Council was investigating the feasibility of establishing another CRC facility.	The two CRCs at Artarmon and Thornleigh are both popular and busy. A third regional facility has been proposed at North Ryde once zoning issues are addressed.
Illegal dumping	Several councils had obtained good results with targeted illegal dumping programs. NSROC had been unsuccessful in persuading councils to adopt the EPA's Regional Illegal Dumping database and instead was seeking a mechanism for automated data transfers between councils' Customer Request Management systems and the EPA database.	A project was initially proposed to employ a regional ranger dedicated to litter and illegal dumping as a pilot, but this did not proceed because councils felt that the shared resource would be spread too thinly to be effective. The template Waste By law, if made a condition of development consent, could offer councils better control of illegal dumping near MUDs by placing responsibility on the owners corporation to control it.
Litter	A Regional Litter Plan and Implementation Plan was developed, and two public place regional litter projects undertaken.	Funding was obtained for a pilot study undertaken at the City of Ryde to identify the cost of litter management which other councils can use as a basis for identifying their own costs.

⁹ IPART <https://www.ipart.nsw.gov.au/Home/Industries/Local-Government/Reviews/Domestic-Waste-Management-Service-Charges/Review-of-domestic-waste-management-service-charges>

Topic	2014-2017 Achievements	2018-2021 Achievements
Community Participation	Active community participation in litter control had been achieved by both the regional litter projects as well as projects at individual councils. The state government introduced container deposit legislation into parliament as a litter reduction measure.	NSROC was unable to obtain EPA funding for the baseline survey on community behaviour.
Circular economy		A report was commissioned to identify companies and organisations undertaking circular activities in the region. Two pilot circular economy projects undertaken: <ul style="list-style-type: none"> • textile drop-off in partnership with Ku-ring-gai and • regional support for plastic-free July
Textiles		The Local Government Textile Action Plan which was developed in conjunction with other metropolitan regional organisation of councils. NSROC is represented on the Clothing Market Steering Group convened by Southern Sydney Regional Organisation of Councils (SSROC). Its goal is to increase source separated clothing collection and diversification of recovery markets..

Other projects/initiatives planned or currently underway for NSROC include:

- A joint research pilot involving five of the NSROC member councils into food organics collections across a range of dwelling types. North Sydney is also undertaking a trial of food organics collections in MUDs. The results of these projects will provide useful guidance on the future management of organic waste for all NSROC councils;
- Opportunities for improved plastic waste management will be considered for incorporation into this Strategy building on two planned projects involving social research and an industry scan which will highlight new potential opportunities for the region;
- An investigation is nearing completion identifying potential locations suitable for organics processing or aggregation and transfer in the region, and
- Scoping has commenced for an investigation of the full implications (both positive and negative) of the proposed food organics (FO)/food organics & garden organics (FOGO) mandate including emissions impacts and costs of offering a different service.

3.3 Current waste services and performance

All NSROC councils provide kerbside collection services for the following waste streams:

- Residual waste (red bin);
- Dry recyclables (yellow bin);
- Garden organics (green bin) (as an additional charge in some local government areas (LGAs)); and
- Bulky waste (as a clean-up service).

Some councils provide a separate bin for paper/cardboard recycling (blue bin).

The exact configuration of the waste and recycling services offered differs for each NSROC member council based on several factors, such as:

- The proportion of MUDs and SUDs in each council (for example MUDs make up 33% of residences in Ku-ring-gai, 40% in Hunter's Hill compared to 26% in Hornsby and 89% in North Sydney¹⁰); and
- The wide range in population densities across the councils (for example, Hornsby has 334 residents per square kilometre while North Sydney has 7,162 residents per square kilometre).

These differences mean that some residents in the region with larger properties have a higher demand for garden waste collections, while residents living in MUDs have a much lower requirement for green waste collection but a higher demand for bulky waste collection due to restrictions on waste storage space and the propensity for increased turnover in occupancy.

Figure 2 provides the tonnes generated in each waste stream for each NSROC council¹¹.

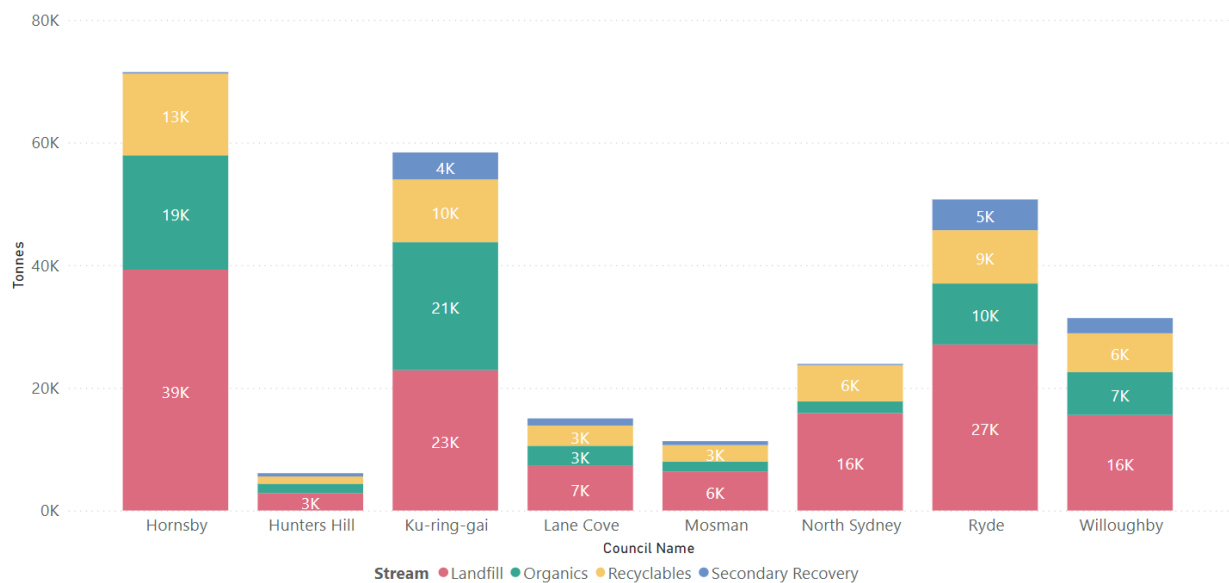


Figure 2 Comparison of tonnes generated for each waste stream by NSROC councils

The secondary recovery stream includes material recovered through AWT, and from drop-off or clean-up operations.

¹⁰ Australian Bureau of Statistics, Census of Population and Housing 2016 and 2021, compiled by .id (informed decisions)

¹¹ 2020-21 Local Government Waste and Resource Recovery (WARR) Data: <https://www.epa.nsw.gov.au/your-environment/recycling-and-reuse/warr-strategy/policy-makers/surveys>



Across these streams, NSROC councils achieved recycling rates ranging between 44% and 61% in 2020, see Figure 3 for recycling rates by council from 2017-2020. The steep decline of a 73% recycling rate in 2017 to 39% in 2018 for North Sydney can be attributed to the ban of application of mixed waste organic outputs (MWOO) to land.

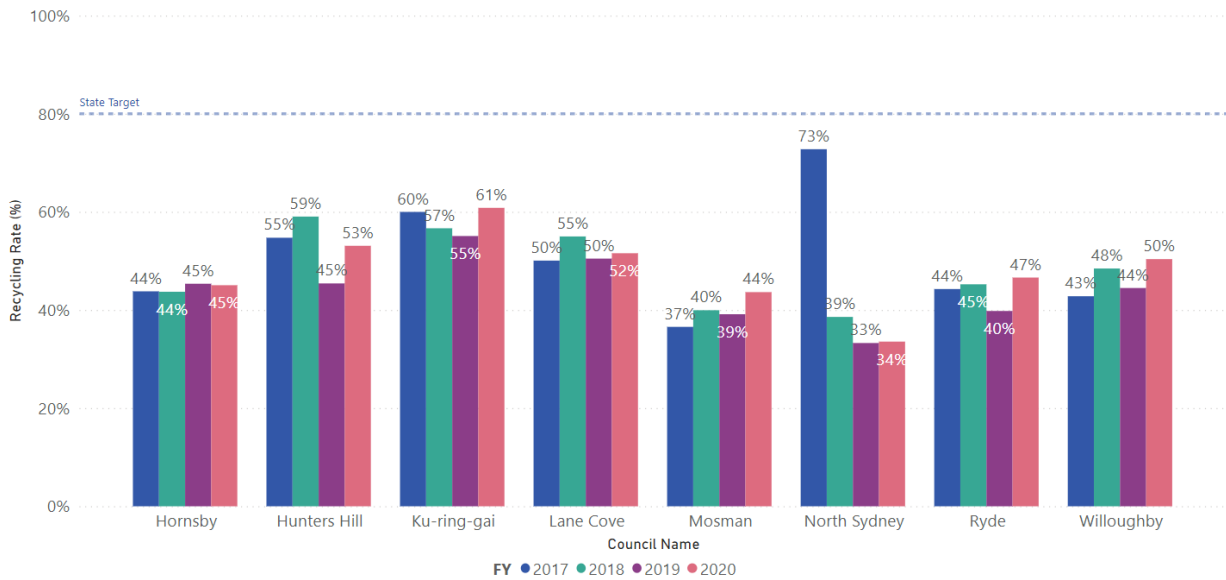


Figure 3 Recycling rates by council and year

Figure 4 compares NSROC recycling rates from 2017-2020 with the wider regions of New South Wales (NSW), Sydney Metropolitan Area (SMA) and Extended Regulated Area (ERA). In 2020, NSROC was leading with a recycling rate of 48% compared to 46% in all other wider regions.

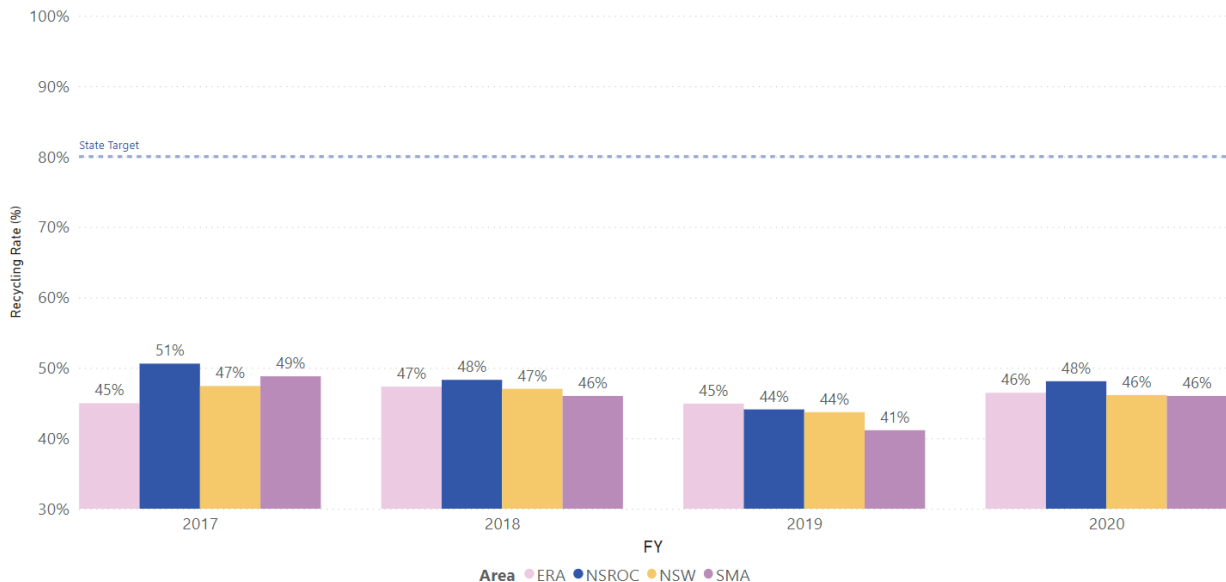


Figure 4 Recycling rate by year and region

These graphs show how challenging it will be to reach the state target of 80% diversion from landfill given the relative consistency over the four years.



3.4 Current waste infrastructure

The WASM Strategy indicates that for Greater Sydney, inert landfill capacity will be exceeded by 2028 and putrescible landfill capacity will be exceeded by 2036. Whether additional capacity becomes available or not, resource recovery should take precedence over landfilling material based on the philosophy of the waste hierarchy and targets currently set for the state. The WASM strategy identifies the need for increased recycling and recovery of waste to meet growing demands.

The majority of the NSROC councils do not have ownership or control over waste sites in their LGA and those that do, do not own, manage, or control waste transfer, processing, or disposal sites for municipal solid waste (MSW). There is a complete dependence on privately-owned waste service contractors. The annotated map of the region in Figure 5 highlights the location and type of infrastructure currently utilised by member councils.

Currently, five NSROC councils collectively known as the Northern Sydney Waste Alliance have a contract with Veolia to process 33,000 tonnes of residual waste each year with the contract ending December 2025 (with the option to extend for 5 years). Waste collected is taken to a transfer station facility in the region and sent to the Veolia Woodlawn facility. Hornsby, North Sydney, and Mosman councils are not included in the joint residual waste contract with Veolia.

In the future, all NSROC councils may benefit from a joint procurement of a waste processing service. Depending on the infrastructure, a regional approach would typically be required to achieve the necessary volumes and contract term to justify the capital cost of a new waste facility (such as a regional transfer station) and hence provide value to councils. Benefits can include increased recycling and/or diversion of waste from landfill, as well as innovation and potential influence over commercial activity.

Councils' willingness to invest in waste infrastructure in this region is demonstrated by the establishment of two CRCs for household problem waste. One is operated by Hornsby Council and the other by North Sydney Council on behalf of six NSROC member partners on a shared cost model. There are plans for a third CRC which is also likely to be operated on a shared cost model.

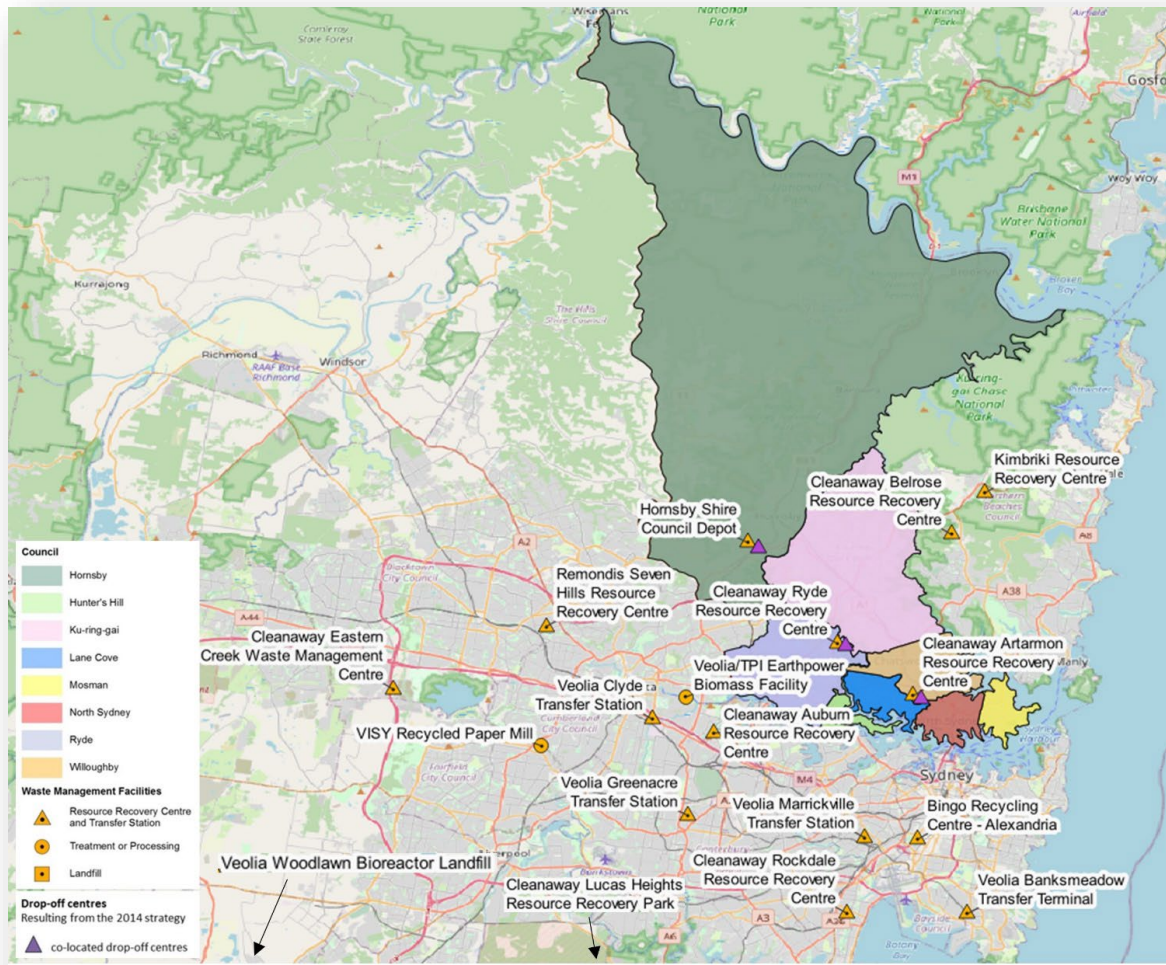


Figure 5 Existing infrastructure

3.4.1 Organics collection & processing

With the mandate requiring councils to provide kerbside collection of food and garden organics to households by 2030, changes will be required for the region in terms of organic collection services and processing infrastructure. Most council's existing waste contracts have several years remaining which provides an opportunity to better investigate available options. All councils have identified managing the organics mandate as a high priority and those councils participating in pilot research studies intend to share learnings to assist each other in organics management. NSROC is also liaising with other metropolitan regional waste groups to share its knowledge and experience on the pilot studies.

Table 2 is an extract from the "WASM: Guide to future infrastructure needs" and highlights the volume and type of organics infrastructure required in Greater Sydney. NSROC is currently identifying sites that may be appropriate for infrastructure for the transfer or processing of the region's organic waste (as well as the transfer of other waste streams).

Table 2 WASM Organics Infrastructure Need¹²

Capacity Gap 2030 <i>(assumes all existing pipeline facilities are brought online)</i>	1.1 million tpa in FOGO/FO processing capacity required (capacity deficit) to service the MLA. May include new facilities as well as conversion of existing AWT and GO processing capacity. This estimate incorporates the assumption that it is mandatory for all councils to provide kerbside FOGO services to all households by 2030 and mandatory food waste collection for select businesses by 2025.
Capacity gap 2040 <i>(assumes all infrastructure needs to meet capacity gap 2030 are brought online)</i>	-233,000 tpa (capacity deficit*) *This is only to process source-separated organics.
Infrastructure Needs 2030 <i>(assumes all existing pipeline facilities are brought online)</i>	To service Greater Sydney (which includes NSROC): <ul style="list-style-type: none"> - 2 x medium in vessel composting (IVC) systems (FOGO, minor FO) (20,000 tpa to 70,000 tpa per site) - 6 x large IVC (FOGO, minor FO) (70,000 tpa to 100,000 tpa per site) or 12 x large outdoor aerated composting (>50,000 tpa per site) - 2 x medium anaerobic digestion (AD) systems (FO) (30,000 tpa) - 4 x large AD (FO) (50,000 tpa per site) - Potentially up to 250,000 tpa of transfer stations to transfer Sydney organics to regional processing
Infrastructure Needs 2040 <i>(assumes all infrastructure needs to meet capacity gap 2030 are brought online)</i>	To service Greater Sydney (which includes NSROC): <ul style="list-style-type: none"> - 2 x medium outdoor composting for C&I non-food organics (10,000 tpa to 50,000 tpa per site) - 1 x medium IVC (20,000 tpa to 70,000 tpa) or 1 outdoor aerated compost (FOGO, minor FO) (10,000 tpa to 50,000 tpa) - 1 x large IVC (70,000 tpa to 100,000 tpa) or 2 x large outdoor aerated compost (FOGO, minor FO) (>50,000 tpa) - 1 x large AD (FO) (50,000 tpa)

¹² DPIE (2021) NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs
NSROC / Northern Sydney Regional Waste Strategy

4 Where do we want to get to?

This section outlines the long-term vision as well as the strategic framework. The strategic framework is made up of 5 themes which are consistent with the WASM and state goals. The objectives and long term-outcomes under each theme demonstrate where we want to get to.

4.1 Strategy vision

NSROC councils have developed a vision for this Strategy to guide the long-term direction and capture the overarching motivation for NSROC.

VISION

A collaborative alliance of councils investigating and delivering balanced outcomes to recover resources, protect the environment and enhance community well-being.

This vision will be achieved by pursuing regional objectives and long-term outcomes.

4.2 Strategic framework

In addition to the four WASM themes:

- Theme 1: avoid or reduce
- Theme 2: recover resources
- Theme 3: protect the environment
- Theme 4: strategic collaboration

The NSROC Strategy includes a 5th theme (Education & Engagement) to reflect the importance of advocacy and engagement.

Figure 6 illustrates where the region's objectives and desired long-term outcomes sit under the five themes and how they align with the WASM priority and funding areas. The objectives, describing what we want to achieve, and the long-term outcomes, describing what success will look like are provided in detail in Section 5.

NSROC Regional Strategic Plan - Purpose and Vision Statements				
WASM Theme 1 Avoid & Reduce Waste	WASM Theme 2 Recover Resources	WASM Theme 3 Protect the Environment	WASM Theme 4 Strategic Collaboration	NSROC Theme 5 Education & Engagement
<p>NSROC Objective 1.1 - Long Term Outcome 1.1 - Initiatives 1.1a, 1.1b... - Success Indicator 1.1</p> <p>Repeat for Objective 1.2 etc..</p>	<p>NSROC Objective 2.1 - Long Term Outcome 2.1 - Initiatives 2.1a, 2.1b... - Success Indicator 2.1</p> <p>Repeat for Objective 2.2 etc..</p>	<p>NSROC Objective 3.1 - Long Term Outcome 3.1 - Initiatives 3.1a, 3.1b... - Success Indicator 3.1</p> <p>Repeat for Objective 3.2 etc..</p>	<p>NSROC Objective 4.1 - Long Term Outcome 4.1 - Initiatives 4.1a, 4.1b... - Success Indicator 4.1</p> <p>Repeat for Objective 4.2 etc..</p>	<p>NSROC Objective 5.1 - Long Term Outcome 5.1 - Initiatives 5.1a, 5.1b... - Success Indicator 5.1</p> <p>Repeat for Objective 5.2 etc..</p>
<p>WASM Priority Areas- e.g.</p> <ul style="list-style-type: none"> reducing carbon emissions 	<p>WASM Priority Area- e.g.:</p> <ul style="list-style-type: none"> future infrastructure & Service needs reducing carbon emissions 	<p>WASM Priority Areas- e.g.</p> <ul style="list-style-type: none"> Protect environment & human health 	<p>WASM Priority Areas-e.g.</p> <ul style="list-style-type: none"> future infrastructure & Service needs 	<p>WASM Priority Areas- e.g.</p> <ul style="list-style-type: none"> future infrastructure & Service needs
<p>WASM Funding Areas- e.g.</p> <ul style="list-style-type: none"> Circular Materials Fund \$13m 	<p>WASM Funding Areas- e.g.</p> <ul style="list-style-type: none"> Diverting organics from landfill \$69m 	<p>WASM Funding Areas- e.g.</p> <ul style="list-style-type: none"> Preventing illegal dumping \$16m Household problem wastes \$66m 	<p>WASM Funding Areas- e.g.</p> <ul style="list-style-type: none"> Strategic infrastructure investment fund \$24m Facilitating joint council procurement of waste services \$16m 	<p>WASM Funding Areas- e.g.</p> <ul style="list-style-type: none"> Diverting organics from landfill \$69 million

Figure 6 NSROC Strategic Framework and link to WASM regional strategy requirements

5 How are we going to get there?

This section outlines the objectives for each theme and the initiatives required to achieve them as well as the desired long-term outcomes. The objectives are numbered to reflect the theme numbering and prioritised for the region by NSROC member councils. For each objective, there are success indicators that can be used to measure how NSROC, and the member councils, are tracking.

5.1 Themes, Objectives, Outcomes, and Initiatives

The following tables outline the objectives, outcomes, and initiatives for each theme as well as how they align with the WASM priority and funding areas. A timeline for NSROC to carry out the initiatives is provided in Table 8.

The WASM priority areas include:

1. Meeting our future infrastructure and service needs
2. Reducing carbon emissions through better waste and materials management.
3. Building on our work to protect the environment and human health from waste pollution.

Each theme has been aligned to one or more WASM priority areas. This is demonstrated in the summary tables below.

THEME 1: Avoid & Reduce

Adopting a circular economy approach will reduce the region's carbon emissions through design considerations and efficient production to minimise waste. Table 3 outlines the objectives, outcomes, initiatives and WASM funding areas for this theme.

Table 3 Theme 1: Avoid or Reduce objectives, outcomes & initiatives

Objective	Long-term outcome	Initiatives	WASM Priority Area alignment			Funding area
			1	2	3	
1.1: Embed circular economy principles (incl recycled content procurement) to encourage upstream solutions that will reduce waste.	Reduced total waste generated per capita	1.1a Provide pragmatic guidelines and education for councils to incorporate more recycled content and innovative products.				Circular Innovation Fund \$13 million
		1.1b Coordinate regional Circular Economy initiatives, workshops, webinars, and resources for repairing and avoiding waste generation				
1.2: Lead initiatives and share learnings to reduce emissions related to waste in the region.	Reduced carbon emissions	1.2a Cost Benefit Analysis (link 2.1a) for reducing carbon emissions (incl. carbon credits, social impacts)		✓		Circular Innovation Fund \$13 million
		1.2b Ensure all collections or processing tenders from NSROC or member councils include weighting or consideration of carbon emission associated with transport, processing etc to ensure Climate Change is embedded in decision making.				

THEME 2: Recover Resources

The Federal and State recovery target has been set at 80% across all waste streams by 2030 with sub-targets focused on tripling plastics recycling and halving the amount of organics sent to landfill. Table 4 outlines the objectives, outcomes, initiatives and WASM funding areas for this theme.

Table 4 Theme 2: Recover Resources objectives, outcomes & initiatives

Objective	Long-term outcome	Initiatives	WASM Priority Area alignment			Funding area
			1	2	3	
2.1: Undertake research to allow councils to make informed decisions on a pathway to 80% recovery.	Improved resource recovery outcomes	2.1a High level Cost Benefit Analysis on pathway for region to reach 80% diversion (incl industry engagement (link 5.2b), social impacts, options for bulky waste recovery)				None identified
2.2: Undertake research to allow councils to make informed decisions on implementing organics recovery solutions.	Majority of organic waste from landfill diverted	2.2a: Organics Collection & Processing Options Analysis incl literature review, technology options, collection performance, carbon emissions & cost modelling, risk assessment (incl regulations/legislation changes)				Diverting organics from landfill \$69 million
		2.2b: Organics Processing Joint Procurement and Governance assessment, including industry engagement (link 5.2b), & Organics Implementation Roadmap	✓	✓	✓	
2.3: Lead initiatives and share learnings to increase plastic recovery.	Improved plastics recovery across member councils	2.3a Plastics Industry Scan to examine current and future opportunities for councils to divert plastics from landfill (kerbside and CRC)				Circular Materials Fund \$10 million
		2.3b Plastics Social Research to look at how plastic recycling can be increased, and contamination decreased by residents utilising the knowledge gained through the Plastic Industry Scan.				Education program for single-use plastic phase outs \$1 million
		2.3c Research into soft plastics kerbside collection options incl industry engagement (link 5.2b)				
		2.3d Incorporate plastic waste management into the Strategy to reduce and manage plastic waste, aligned to NSW Plastics Plan				

THEME 3: Protect the Environment

Poor waste management will damage our natural environment and/or impact human health and community well-being. A regionally coordinated approach plays an important role in protecting the environment. Table 5 outlines the objectives, outcomes, initiatives and WASM funding areas for this theme.

Table 5 Theme 3: Protect the Environment objectives, outcomes & initiatives

Objective	Long-term outcome	Initiatives	WASM Priority Area alignment			Funding area
			1	2	3	
3.1: Identify and implement opportunities of increased usage and accessibility to CRCs, and improved material recovery.	Improved recovery of problem waste streams	3.1a Identify long term site for the CRC in lower part of region	✓		✓	Household problem waste \$66 million
		3.1b Expansion of CRC accepted material collected and processed				
		3.1c Support establishment of the third CRC in region				
3.2: Collaborate with other ROCs to reduce illegally dumped material (incl asbestos) and litter.	Reduced illegal dumping and litter	3.2a Desktop research summary into best practice management of bulky waste dumping from MUDs (link to 5.2d)	✓		✓	Preventing illegal dumping \$16 million Litter prevention \$38 million
		3.2b Support councils to deliver the NSW Litter Prevention Strategy and Illegal Dumping Strategy				

THEME 4: Strategic Collaboration

One of the key roles of NSROC is to identify opportunities for strategic collaboration, such as joint procurement, to deliver efficiencies that member councils would not be able to achieve alone. This provides value to councils that can be put towards achieving higher resource recovery outcomes. Table 6 outlines the objectives, outcomes, initiatives, WASM funding areas for this theme.

Table 6 Theme 4: Strategic Collaboration objectives, outcomes & initiatives

Objective	Long-term outcome	Initiatives	WASM Priority Area alignment			Funding area
			1	2	3	
4.1: Identify infrastructure needs and opportunities and create a roadmap for implementation.	Regional infrastructure needs are met	4.1a Identification of potential sites for a waste transfer station and organics processing				Regional Coordination and Strategy Program \$15.6 million Strategic infrastructure investment fund \$24 million
		4.1b Options analysis for regional infrastructure needs (waste transfer, processing, and disposal) incl joint procurement options				
4.2: Identify and coordinate opportunities for regional collaboration to meet service needs.	Opportunities for regional collaboration are identified	4.2a Research Report to assess joint procurement options for waste processing / disposal				
4.3: Build regional waste management resilience and collaborate to implement solutions.	Resilient waste management services	4.3a Assess and build regional resilience improvement opportunities to extreme weather events incl. regional continuity planning and regional disaster management plans (incl supporting SSROC grant application 2022 for resilience project				Strategic infrastructure investment fund \$24 million

THEME 5: Education & Engagement

Education and continual engagement are necessary for the effective adoption of waste and resource recovery services across the region. An ongoing program will foster behaviour change to increase service participation, improve recovery, reduce waste generated, and foster collaboration and knowledge sharing. Table 7 outlines the objectives, outcomes, initiatives and WASM funding areas for this Theme.

Table 7 Theme 5: Education & Engagement objectives, outcomes & initiatives

Objective	Long-term outcome	Initiatives	WASM Priority Area			Funding area
			1	2	3	
5.1: Collaborate with councils on implementing a long-term behaviour change program to improve diversion of waste from landfill.	An informed community	5.1a Regional data collation and visualisation to support councils to engage with community				Diverting organics from landfill \$69 million
		5.1b Support councils to undertake community knowledge survey with standardised questions for regional aggregation				
		5.1c Develop a regional organics education strategy and community engagement plan				
		5.1d Develop regional community education resources for waste treatment technologies to support a social licence (e.g. energy from waste, advanced recycling & composting)				
		5.1e Develop regional community education resources for bulky waste and recycling contamination in MUDs				
5.2: Continual regional advocacy and knowledge sharing.	Strong advocacy of better waste management outcomes	5.2a Advocacy to State /Federal Gov (e.g. for specific funding streams incl. caddy liners, local recovered material end market development, strategic planning support for local waste infrastructure, levy hypothecation, DWMC capping, Department of Planning and Environment (DPIE) planning legislation)	✓	✓	✓	None identified
		5.2b Advocacy and engagement with industry to support councils with informed decision making (incl around waste infrastructure, plastic packaging alternatives)				
		5.2c Advocacy and development of resources for engaging with all member councils' councillors (incl. energy from waste (EfW) political acceptance and organics collections)				
		5.2d Engage with other regional waste management groups to share relevant information and resources				

5.2 Outcome of prioritisation

The member councils participated in an objective importance ranking exercise which generated the objective prioritisation results. The top three objectives also had the highest consensus amongst the councils.

The prioritised objectives inform the level of importance the region places on the initiatives and actions for each objective. A summary of how each priority objective is classified and the associated objectives is summarised in Figure 7 below.

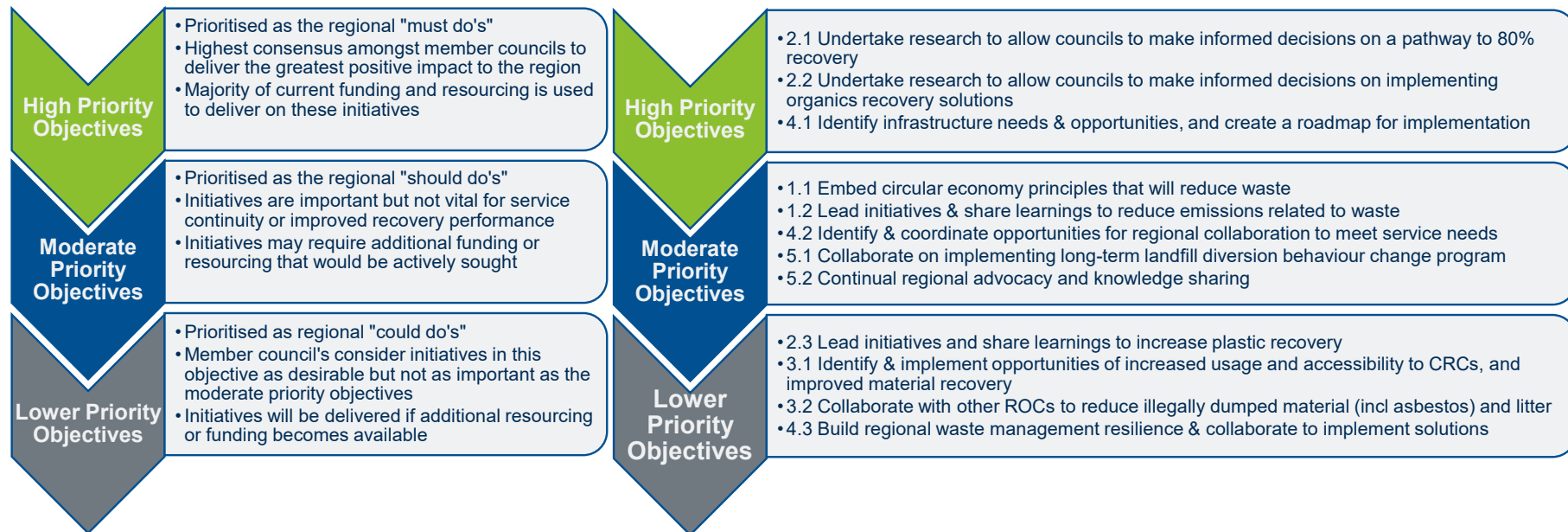


Figure 7 NSROC Prioritised Objectives and high, moderate and lower priority categorisation explanation

5.3 Timeline for initiatives

A high-level timeline for undertaking the initiatives in Section 5.1 is shown in Table 8. This timeline will be further refined into annual Action Plans so that the Strategy remains flexible and adaptive as funding opportunities arise and priorities change over time.

Table 8 Timeline for initiatives

Theme	Objective	Priority	Initiatives ¹³				
			2022-23	2023-24	2024-25	2025-26	2026-27
Theme 1: Avoid & Reduce	1.1: Embed circular economy principles (incl recycled content procurement) to encourage upstream solutions that will reduce waste.	Moderate			1.1a	1.1b	
	1.2: Lead initiatives and share learnings to reduce emissions related to waste in the region.	Moderate		1.2a 1.2b (ongoing)			
Theme 2: Recover Resources	2.1: Undertake research to allow councils to make informed decisions on a pathway to 80% recovery.	High	2.1a				
	2.2: Undertake research to allow councils to make informed decisions on implementing organics recovery solutions.	High	2.2a	2.2b			
	2.3: Lead initiatives and share learnings to increase plastic recovery.	Moderate Lower	2.3a	2.3b	2.3c	2.3d	
Theme 3: Protect the Environment	3.1: Identify and implement opportunities of increased usage and accessibility to CRCs, and improved material recovery.	Moderate Lower	3.1a				3.1c
	3.2: Collaborate with other ROCs to reduce illegally dumped material (incl asbestos) and litter.	Lower			3.2a	3.2b	
Theme 4: Strategic Collaboration	4.1: Identify infrastructure needs and opportunities and create a roadmap for implementation.	High	4.1a	4.1b			
	4.2: Identify and coordinate opportunities for regional collaboration to meet service needs.	Moderate	4.2a				
	4.3: Build regional waste management resilience and collaborate to implement solutions.	Lower				4.3a	
Theme 5: Education & Engagement	5.1: Collaborate with councils on implementing a long-term behaviour change program to improve diversion of waste from landfill.	Moderate		5.1a	5.1b	5.1c 5.1d	5.1e
	5.2: Continual regional advocacy and knowledge sharing.	Moderate	5.2a (ongoing) 5.2d (ongoing)	5.2b		5.2c	

¹³ Refer to Section 5.1 for Initiative references
 NSROC / Northern Sydney Regional Waste Strategy

5.4 How we will measure success

To monitor and evaluate progress against the Strategy themes, objectives and long-term outcomes, council success indicators have been identified as shown in Table 9 below. These indicators should be measured individually by each council as NSROC does not have direct control over them.

Table 9 Success indicators

Theme	Objective	Long-term outcome	Member council success indicators
Theme 1: Avoid & Reduce	1.1: Embed circular economy principles (incl recycled content procurement) to encourage upstream solutions that will reduce waste.	Reduced total waste generated per capita	Waste tonnage/capita - LGA WARR Report
	1.2: Lead initiatives and share learnings to reduce emissions related to waste in the region.	Reduced carbon emissions	Carbon dioxide equivalent (CO ₂ e) tonnes - <i>baseline yet to be determined</i>
Theme 2: Recover Resources	2.1: Undertake research to allow councils to make informed decisions on a pathway to 80% recovery.	Improved resource recovery outcomes	Overall Recovery % Rate - LGA WARR Report
	2.2: Undertake research to allow councils to make informed decisions on implementing organics recovery solutions.	Majority of organic waste from landfill diverted	Organics Recovery Rate (%) - LGA WARR Report
	2.3: Lead initiatives and share learnings to increase plastic recovery.	Improved plastics recovery across member councils	Plastics recovery rate (%) - <i>Baseline yet to be determined</i>
Theme 3: Protect the Environment	3.1: Identify and implement opportunities of increased usage and accessibility to CRCs, and improved material recovery.	Improved recovery of problem waste streams	CRC tonnes & recovery rates
	3.2: Collaborate with other ROCs to reduce illegally dumped material (incl asbestos) and litter.	Reduced illegal dumping and litter	Illegal Dumping Incidents Litter Volumes
Theme 4: Strategic Collaboration	4.1: Identify infrastructure needs and opportunities and create a roadmap for implementation.	Regional infrastructure needs are met	Member council participation in NSROC meetings across all initiatives, and number of sub regional working groups
	4.2: Identify and coordinate opportunities for regional collaboration to meet service needs.	Opportunities for regional collaboration are identified	
	4.3: Build regional waste management resilience and collaborate to implement solutions.	Resilient waste management services	
Theme 5: Education & Engagement	5.1: Collaborate with councils on implementing a long-term behaviour change program to improve diversion of waste from landfill.	An informed community	Community Surveys - number of participants, improved knowledge metric
	5.2: Continual regional advocacy and knowledge sharing.	Strong advocacy of better waste management outcomes	Number of NSROC meetings/workshops with industry, government, councillors, other regional groups



5.5 How will the strategy be delivered?

1. NSROC to develop an annual Action Plan with timeframes to deliver on the Strategy objectives and initiatives. The Action Plan will outline the expected actions, the responsible organisations involved in their delivery, and success indicators, or KPIs. The Action Plan will be updated annually to allow for adjustment to projects or timelines for delivery;
2. NSROC to develop scope of NSROC initiatives/projects and seek input and agreement by member councils;
3. NSROC to stay abreast of WASM Program Delivery grant programs and apply for funding specific to regional waste groups to deliver regional initiatives outlined in this Strategy. Where grant funding only applies to individual councils (i.e. regional groups cannot apply), NSROC is to communicate these opportunities to member councils. Contribution of this grant funding to NSROC for implementation and delivery of regional initiatives is up to the discretion of the member councils; and
4. NSROC to engage member councils periodically for the review and prioritisation of initiatives – during consultation for this Strategy, it was noted by member councils that they would value an opportunity for periodic reviews of initiatives and re-prioritisation as appropriate. This would allow NSROC and its member councils to respond to changes or announcements from government or the market, such as funding opportunities or processing technology becoming available.

Glossary

Terminology	Definition
AWT	Alternative waste treatment
CO ₂ e	Carbon dioxide equivalent
CRC	Community Recycling Centre
DPIE	Department of Planning and Environment
DWMC	Domestic waste management charge
EfW	Energy from Waste
EPA	Environment Protection Authority
ERA	Extended Regulated Area
FO	Food organics
FOGO	Food organics & garden organics
IPART	Independent Pricing and Regulatory Tribunal
LGA	Local government areas
MRA	MRA Consulting Group
MSW	Municipal solid waste
MUD	Multi-unit dwelling
MWOO	Mixed waste organic outputs
NSROC	Northern Sydney Regional Organisation of Councils
NSW	New South Wales
ROC	Regional Organisation of Councils
SMA	Sydney Metropolitan Area
SSROC	Southern Sydney Regional Organisation of Councils
SUD	Single-unit dwelling
WARR	Waste and Resource Recovery
WASM strategy	NSW Waste and Sustainable Materials Strategy 2041

Appendix A Relevant policies and reports

Table 10: Current legislation and government policies and reports

Legislation / Policy / Report	Short Description / Relevance
Australian Government (Commonwealth)	
National Waste Policy Action Plan 2019	<p>The Action Plan supplements the 2018 National Waste Policy, setting targets and actions to guide investment and national efforts. The targets relevant to NSROC include:</p> <ul style="list-style-type: none"> Ban the export of waste plastic, paper, glass, and tyres, commencing in the second half of 2020, Reduce total waste generated in Australia by 10% per person by 2030, 80% average recovery rate from all waste streams by 2030, Significantly increase the use of recycled content by governments and industry, Phase out problematic and unnecessary plastics by 2025, Halve the amount of organic waste sent to landfill by 2030, and <p>Make comprehensive, economy-wide, and timely data publicly available to support better consumer, investment, and policy decisions.</p>
<i>Recycling and Waste Reduction Act 2020</i>	<p>The Commonwealth Government has outlined a timeline to regulate the export of waste plastic, paper, glass, and tyres, that have not been processed into value added materials:</p> <ul style="list-style-type: none"> All waste glass from January 2021; Mixed waste plastics from July 2021 and unprocessed single plastic polymers from July 2022; All whole tyres including baled tyres from December 2021; and Mixed paper and cardboard from July 2024. <p>The Commonwealth Government is partnering with state and territory governments and investing \$190 million through the Recycling Modernisation Fund to build Australia's domestic capacity to process these wastes into value added materials.</p>
New South Wales (State)	
<i>Protection of the Environment Operations (POEO) Act 1997</i>	<p>The POEO Act is the state's principal environmental protection legislation. The Act defines 'waste' for regulatory purposes, lays out management and licensing requirements for waste operations and establishes offences. The associated Regulation includes Resource Recovery Exemptions and Orders to support the reuse of permitted waste for alternative purposes.</p>
<i>NSW Waste Avoidance and Resource Recovery Act 2001 (WARR Act)</i>	<p>The WARR Act is the primary Act governing resource recovery in NSW. The objectives of the WARR Act are to promote:</p> <ul style="list-style-type: none"> The most efficient use of resources, including resource recovery and waste avoidance; A reduction in environmental harm, including pollution through waste; A reconsideration of the resource management hierarchy through avoidance of unnecessary resource consumption and disposal; and Resource recovery, which includes reuse, reprocessing, recycling, and energy recovery. <p>The WARR Act defines the Waste Hierarchy, which ranks waste management options in order of general environmental desirability. The waste hierarchy is intended for use alongside other assessment tools, such as cost benefit analysis, to guide decision-making.</p>
NSW Waste and Sustainable Materials Strategy 2041	<p>The new NSW Waste and Sustainable Materials Strategy provides a framework for waste management in NSW. The strategy outlines four key directions for the future of waste management:</p>

Legislation / Policy / Report	Short Description / Relevance
(Stage 1: 2021-2027)	<ol style="list-style-type: none"> 1. Generate less waste by avoiding and 'designing out' waste, to keep materials circulating in the economy; 2. Improve collection and sorting to maximise circular economy outcomes and lower costs; 3. Plan for future infrastructure by ensuring the right infrastructure is located in the right place and at the right time; and 4. Create end markets by fostering demand for recycled products in NSW (particularly glass, paper, organics, plastics, and metals) so that recovered materials re-enter our economy and drive business and employment opportunities. <p>The initial Stage 1 targets have been set to be achieved by 2030:</p> <ul style="list-style-type: none"> • Reduce total waste generated by 10% per person; • Have an 80% average recovery rate from all waste streams; • Phase out problematic and unnecessary plastics while tripling plastics recycling rates; • Halve the amount of organic waste sent to landfill and achieve net zero emissions from organics sent to landfill, and • Overall litter reduction target of 60% <p>The NSW Strategy guides the development of council's resource recovery targets, especially for organic waste through mandating Food Organics Garden Organics (FOGO) services for all of NSW by 2030.</p>
NSW Waste and Sustainable Materials Strategy: A guide to future infrastructure needs	<p>The guide to future infrastructure needs supplements the NSW WASM Strategy 2041 and outlines the infrastructure needs for the state's waste and circular economy network based on expected material flows, current and planned capacity and policy changes proposed in the WASM Strategy.</p> <p>The guide focuses on infrastructure needs for the MSW and C&I waste streams for the following materials: plastics, organics, glass, paper and cardboard, tyres, residual waste, MRFs and hazardous waste.</p>
NSW Waste from Energy Policy Statement 2015	<p>The Energy from Waste (EfW) Policy Statement outlines the policy framework that applies to facilities that thermally treat waste for energy recovery in NSW. Facilities seeking to recover energy by thermally treating waste or waste-derived materials must ensure the process:</p> <ul style="list-style-type: none"> • Poses minimal risk to human health and the environment; • Is not prioritised over waste management options higher up on the waste hierarchy, i.e. avoid, reuse or recycling options; and <p>Meets international best practice techniques.</p>
Energy from Waste Infrastructure Plan: supporting the NSW WASM Strategy 2041	<p>The Energy from Waste Infrastructure Plan states that "the NSW Government supports thermal energy recovery as a residual waste management option where it can deliver positive outcomes for the community while protecting human health and the environment".</p> <p>The document outlines the role of EfW in NSW and guides strategic planning for future infrastructure so that it meets the needs of the state, and it maximises efficiencies for waste management and energy recovery (i.e. co-locating EfW, resource recovery and waste facilities).</p>
<i>Local Government Act 1993</i>	<p>Defines how councils may exercise their powers and the manner in which councils are managed and financed. With respect to waste management, councils must make and levy an annual charge for the provision of domestic waste management services (s. 496). Council charges for domestic waste management must be calculated so as to not exceed the reasonable cost to the council of providing those services.</p>

Legislation / Policy / Report	Short Description / Relevance
Waste Less Recycle More Initiative (WLRM) 2014-2021	<p>The WLRM grant program provided funding for organisations, including councils, to improve their management of waste and recovery of resources.</p> <p>Phase 1 of WLRM provided \$465.7 million over the period July 2012 to June 2017, focusing on funding new, large-scale waste and recycling infrastructure, recycling facility upgrades, drop off centres, food and garden organics processing and recycling innovations. Phase 2 of WLRM commenced on 1 July 2017, with the capacity to award \$337 million over four years. Additional grants are planned to be released following the 2021 publication of the 20-Year NSW Waste and Sustainable Materials Strategy 2041.</p>
NSW Circular Economy Policy Statement: Too Good To Waste 2019	<p>The NSW Circular Economy Policy Statement was developed by the NSW Government to provide clear directions and principles to direct the NSW economy's transition to a circular economy. The NSW Circular Economy Policy Statement lists seven key principles to lead the transition towards a circular economy in NSW:</p> <ul style="list-style-type: none"> • Sustainable management of all resources; • Valuing resource productivity; • Designing out waste and pollution; • Maintaining the value of products and materials; • Developing new solutions for resource efficiency; • Creating new circular economy jobs; and • Fostering behaviour change through education and engagement. <p>The Circular Economy Policy Statement provides a framework for NSROC to review and transition operations to meet circular economy goals.</p>
NSW Illegal Dumping Strategy 2017-21	<p>The NSW Illegal Dumping Strategy 2017-21 provides a framework for the NSW EPA and partner organisations (including local councils) to reduce illegal dumping in NSW by 30% by 2020. The NSW EPA updated the Illegal Dumping Strategy action table to provide a revised set of actions to achieve the set targets in the last two years of the Strategy (2020-21).</p>
Changes to the use of Mixed Waste Organic Outputs (MWOO)	<p>Alternative Waste Treatment (AWT) facilities process mixed waste or garbage to produce a compost-like material known as 'mixed waste organic outputs' (MWOO), which was applied to land as a soil amendment under strict controls (as well as in mine rehabilitation and other uses).</p> <p>In October 2018, the EPA changed its regulations to prohibit the application of MWOO to land due to risks associated with physical and chemical contaminants.</p> <p>Previously, six of NSROC's councils used AWT to achieve previous state diversion targets. The revocation of the MWOO Resource Recovery Order and Exemption has impacted council recycling rates.</p>
North District Plan	<p>NSROC councils are part of the North District region: one of the five districts that make up Greater Sydney. The North District Plan sets out the planning priorities for the North District region with a focus on infrastructure, liveability, productivity, and sustainability. It is a guide for implementing the Greater Sydney Region Plan¹⁴ and provides a 20-year plan to achieve the 40-year vision. Reducing carbon emissions and managing energy, water and waste efficiently is one of the planning priorities to improve sustainability and the plan lists actions for councils to identify new locations for waste recycling and management; and support innovative solutions to reduce the volume of waste and reduce waste transport requirements.</p>

¹⁴ Greater Sydney Region Plan: A Metropolis of Three Cities (2018) Greater Sydney Commission.