

Edward River Council Waste Strategy 2019-2049

A submission to Edward River Council

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Strategy at a glance

Supporting Information

This report was developed in conjunction with supporting information and contributions by Edward River Council staff, together with a separate study prepared by MRA Consulting Group “*Edward River Waste: Summary of Strategic Waste Management Options*”, 27 September 2018.

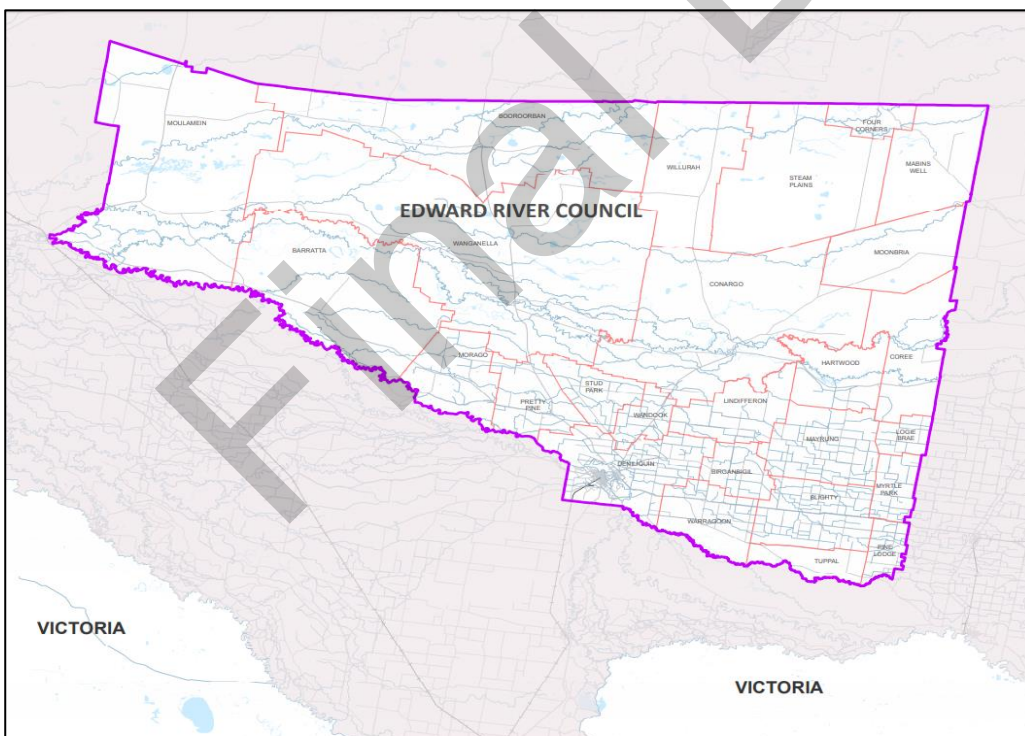
Where are we today?

Overview

Edward River Council (ERC) was established in May 2016 through the merger of the former Conargo Shire Council and Deniliquin Council.

The ERC region is located between Adelaide, Melbourne and Sydney, and borders the Murrumbidgee, Murray River, Hay and Berrigan local government area. It is a member of the Riverina and Murray Joint Organisation (RAMJO), a group of 18 LGAs located along the Murray River throughout the south west of NSW.

The ERC supports a population of 8,900 across an area of 8,881 square kilometres including the town of Deniliquin and surrounding rural towns of Blighty, Boorooban, Conargo, Mayrung, Pretty Pine and Wanganella. The largest industry sectors in the Edward River region are agriculture, forestry and fishing, and irrigated agriculture.



Waste Management Services

ERC delivers a range of waste services that includes;

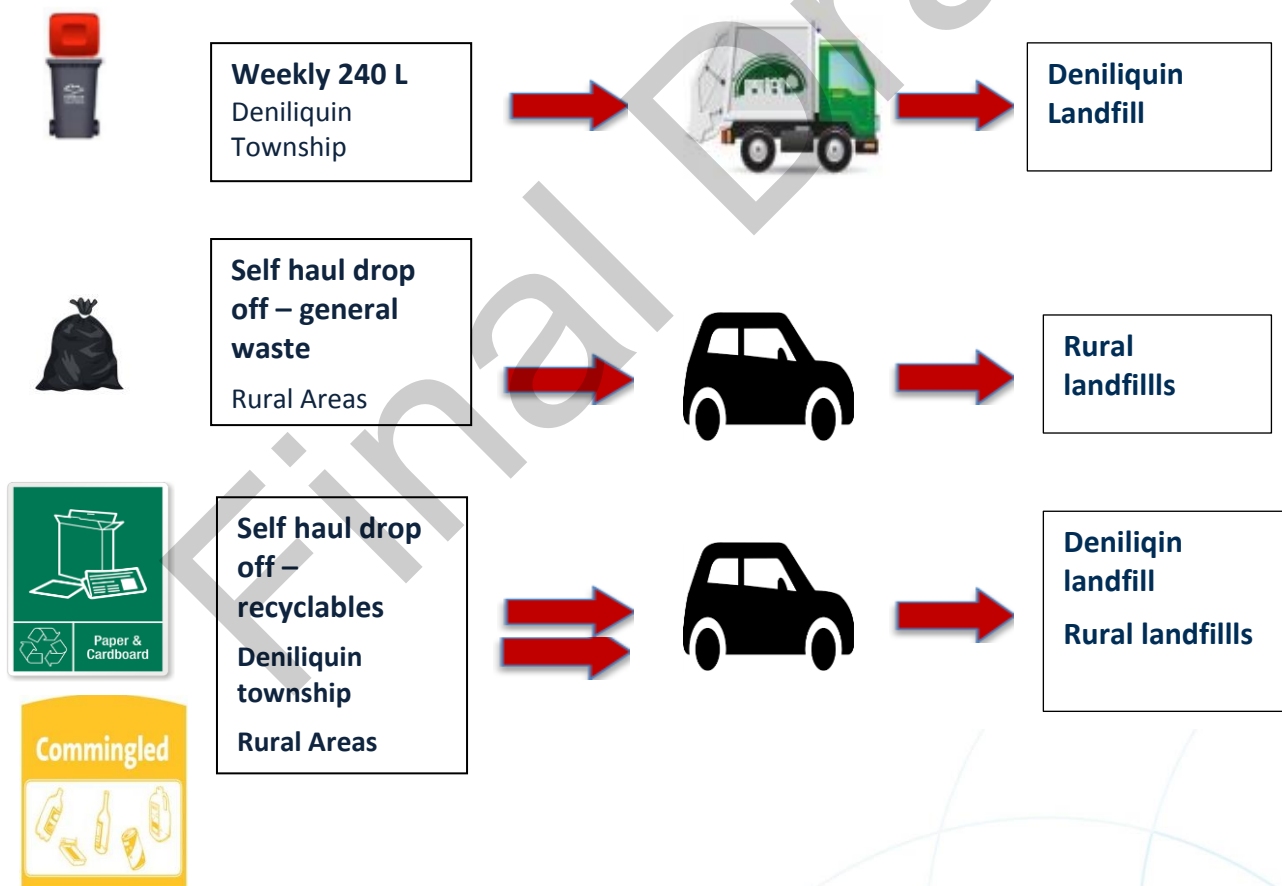
- Kerbside waste collection;
- community recycling centres;
- drop off points for comingled and paper and cardboard recycling, and waste oil;

- street sweeping and public place cleansing;
- illegal dumping management and compliance.

Residents that live within the Deniliquin township area are provided with a single general waste bin for weekly kerbside collection. This service covers 3,712 rateable households including both residential and commercial dwellings. Outside the service area, rural residents have access to five local unlicensed rural landfill facilities for self-haul waste disposal. These sites are free of charge for all residents.

There is no available weight data¹ to which defines the rate of waste generation in Edward River. For the purposes of this strategy, it has been assumed that the rate will be similar to neighbouring Murray River Council. A waste audit undertaken in 2014² showed Murray River generated 185 kg of waste per capita. This is significantly less than the national average (2018) of 560 kg per capita per annum³ and the NSW average (2014) of 488 kg per capita per annum⁴.

Residents and businesses can dispose of problem wastes at community recycling centres co-located at Deniliquin and Blighty landfill. Separate gate fees are charged for disposing of self-hauled bulk waste, commercial and industrial, and construction and demolition waste at Deniliquin landfill.



¹ Edward River Council currently collects regular volumetric data related to waste and recyclables at all of its rural landfills and at the Deniliquin landfill.

² MRA Consulting, 2014, Murray River Council – Murray Shire Waste Audits

³ Blue Environment, 2018, National Waste Report 2018 – prepared for the Department of the Environment and Energy

⁴ NSW EPA, 2014, Local Government Waste and Resource Recovery Data Report: As reported by councils

Why we need a strategy?

Outcome 3 of Council's *Community Strategic Plan* notes that Council and the community "will work together to tackle littering, increase recycling", and Council's role is to improve waste management and recycling options. This in turn will empower the community to dispose of waste thoughtfully.

A waste strategy is required to set a roadmap for Council's provision of better waste management and recycling options.

The overall objective for the Strategy is to provide comprehensive, cost effective waste services for the local community and businesses, and ensure long term landfill security through increased waste diversion.

Strategic waste planning is a dynamic process, and this strategy should be reviewed every five years to ensure it keeps up with industry developments and continues to serve the ERC community.

Current Challenges

Edward River faces a number of challenges in improving waste management and recycling within the shire:

- The NSW Government has established state-wide landfill diversion targets. Although these targets are not mandatory, Council has recognised the need to act towards their achievement, as reflected in Council's *Community Strategic Plan*. Improved landfill diversion would have the added benefit of prolonging the life of the Deniliquin landfill and deferring the capital expenditure required to develop a new site.
- The Deniliquin landfill is reaching critical capacity whilst serving as the main licenced waste disposal site for the LGA. The extension of Deniliquin landfill to the South West and North West is prohibited by the close proximity to residents.
- ERC does not provide additional kerbside services that support source separation of comingled recyclables or food and garden organics. Relatively small volumes of paper and cardboard recycling are captured via a self-haul drop off point at all waste facilities, and comingled recycling can be dropped off at either Blighty and Deniliquin Community Recycling centres.
- Landfills can pose a wide range of risks to the environment, human health and amenity. ERC's unlicensed landfill facilities including Blighty, Boooroban, Conargo, Pretty Pine and Wanganella all require operational plans to mitigate environmental risks through provisions for improved site management, and site closure and rehabilitation. At present these landfills are insufficiently resourced and within a changing future regulatory landscape, such sites might be mandated to close with no likely access to government support packages.
- The amount of greenhouse gas emissions from the breakdown of food and garden organics in landfill is significant and can be mitigated through the recovery and recycling of these organics into compost and other products.
- There will be additional costs to households associated with the introduction of additional kerbside services to divert recyclables, food and garden organics from Deniliquin Landfill.

Potential Solutions

There is immediate potential to extend the landfill to the North East and gain additional disposal capacity, approximately ten years that could be increased through landfill diversion activities. Further extension to the

North East may be possible, however extension to the South West and North West is precluded by the close proximity to residents.

The risks from the unlicensed landfills can be minimised through better practice landfill design, operation, management and rehabilitation. The rationalisation of the rural landfills would enable ERC to channel limited resources into better managing a smaller number of waste facilities, reduce the risk of environmental harm, and adequately plan for long-term controls and measures.

The introduction of additional kerbside services to divert recyclables and food and garden organics could, if supported by the residents, significantly reduce the quantity of waste to be disposed at Deniliquin Landfill.

Where do we want to get to?

In December 2014, the NSW EPA released the NSW Waste and Resource Recovery Strategy 2014-21 that set six clear targets for 2021-22 to improve waste management across NSW. The key area of concern for ERC to address was the increased recycling rate targets for municipal solid waste to 70%, commercial and industrial waste to 70% and construction and demolition waste to 80%. There is also the target to increase waste diverted from landfill to 75%. ERC is committed to implementing an action plan in order to move towards achieving these targets.

ERC is undergoing a planned and collaborative approach to waste management which can achieve long term benefits that are cost effective, and supportive of the local community, environment and economy.

ERC's key waste management and resource recovery priorities are to;

- Maximise the life of landfill resources;
- Improve the environmental performance of all waste and resource recovery facilities;
- Provide cost effective waste and resource recovery services;
- Enhance Service Delivery and Performance Improvement.

ERC must introduce actions that can effectively divert waste from Deniliquin landfill, and progressively convert existing rural landfills to transfer stations whilst reducing budgetary impacts.

How are we going to get there?

This strategy is a roadmap that highlights the key priorities and activities that will be undertaken by ERC to divert waste from landfill and deliver sustainable waste management outcomes within the region.

1. Maximise the life of landfill resources

1.1 Expand kerbside services

Paper and cardboard recycling self-haul drop off facilities are available at all waste facilities except Wanganella and Boorooban, and comingled recycling drop-off is available at Blighty and Deniliquin Community Recycling centres. During 2016/7 the Deniliquin Waste Facility received approximately 28 tonnes of comingled, paper and cardboard recyclables through the self-haul collection system, which represents approximately only 4% of the material which could potentially be diverted from landfill.

Around 65% of all materials sent to landfill are organic in nature, therefore increasing recovery of food waste is an important factor in order to reduce the tonnes of material sent to landfill. Up to 15% of the average kerbside bin content are comingled recyclable materials. Overall, Kerbside recycling inclusive of food and garden organics could divert up to 80% of municipal waste from Deniliquin landfill.

Expanded kerbside collection services will incur an additional cost which will depend upon commercial negotiations with the processing service providers. Initial estimates indicate a food and organics collection service will result in an increased cost of approximately \$65.00 per household per year. A recycling collection service will cost approximately \$46.50 per household per year.

Actions

- Prepare and conduct tendering processes that supports the introduction of the following new kerbside services to township households:
 - Fortnightly 240 litre comingled recycling bin; and
 - Fortnightly Food and Garden Organics (FOGO) bin.
 - Roll out a fortnightly FOGO service and weekly garbage service in the short term and review collection frequency within the medium to long term.
- Investigate and implement strategies for recycling at all Council facilities and public places.



Image Source: Melville Talks (2019)

1.2 Expand community education and awareness

For the new waste services to be successful in achieving waste diversion from within the community, Council will strive towards achieving high community acceptance of the new services and ensure residents know how to use them. Community acceptance is a critical factor in achieving low contamination and high diversion rates.

Actions

- Undertake community and industry consultation, and produce an implementation package that addresses and supports;
 - Current recycling behaviours;
 - Attitudes towards recycling services;
 - Optimal messaging and service design;
 - Barriers or concerns regarding participation;
 - The potential effectiveness of available support tools;
 - Illegal dumping prevention.

- Design and implement a trial run before a full roll-out so as to help Council to identify challenges and prepare the community for the full roll-out;
- Develop general education initiatives to encourage waste diversion, including:
 - Develop and deliver awareness raising campaigns to increase public understanding and engagement regarding waste avoidance, service changes, relevant campaigns and feedback on achievements through the council website, social media channels and events;
 - Encourage the re-use/exchange of recyclable materials and goods through existing reuse stores and online marketplaces;
 - Identify partnerships to facilitate and encourage waste minimisation and recycling within the community;
 - Provide clear information on all Council waste and recycling services. Basic pictorial information of what to put in each bin, and what day bins go out is best displayed on or around kerbside bins. Bin Signage and stickers designed to consider language and accessibility (i.e. to be understood as clearly as possible by those with different abilities of vision, knowledge of the English language, intellectual ability and with other conditions);
 - Engage with businesses on waste avoidance and implement a business waste reduction program (e.g. Bin Trim, Halve Waste);
 - Expand and improve recycling at council run or supported events;
 - Support regional waste education campaigns.

1.3 Optimise air space at the existing Deniliquin Landfill

The Deniliquin Landfill is sited upon an area which has been lined, and the original approval stipulates the broad geometry of the final shape. There is the potential to utilise additional airspace within the existing facility in order to maximise the benefit to the ERC community which the landfill provides.

Actions

- Determine the extent of the lined area;
- Obtain survey data for the existing landfill;
- Develop a design for the final form of the landfill in accordance with the site's approval; and
- Base on the above develop an estimate of the remaining landfill capacity.

1.4 Investigate feasibility of new cells at the Deniliquin Landfill

The area to the north of the existing landfill may afford two opportunities to extend the landfill and prolong its life. The first is to extend the facility into an area which lies within the boundary of the site. This would be subject to gaining appropriate approvals. The second would be to extend further into an adjoining area which forms part of the TSR. This would similarly be contingent upon gaining approvals, and also subject to ERC reaching an agreement with the TSR. A plan view of this possibility is presented in Appendix C.

Actions

- Undertake a constraints level ecological assessment of the two areas to determine if there are any obvious factors which would preclude expansion of the landfill into either of these areas;
- Should no constraint be identified, develop a concept design for the landfill in the first area which integrates into the final form of the current landfill;
- Develop a cost estimate for the landfill extension into the first area;

- Subject to the cost of the extension being satisfactory, prepare a development application, including an Environmental Impact Statement and appropriate specialist studies;
- Subject to the extension cost and remaining capacity of the enlarged landfill, ERC should determine if further extension into the TSR is warranted;
- If further extension is judged to be warranted, enter into negotiations with the TSR to secure the land, then undertake a design of the area and seek appropriate approvals.

1.5 Develop longer term waste disposal facilities for use by Edward River Council

The Deniliquin landfill has finite capacity. Reducing the amount of waste deposited there, and extending the landfill footprint will extend the life of the facility, however in the medium to long term other arrangements will need to be made. There are two primary options: identify another landfill site within ERC, enter into contractual arrangements with a larger regional facility for the disposal of ERC's waste. Further opportunities may become apparent to reduce the amount of waste to landfill, or to process materials locally, however there is always likely to be a need for a landfill to dispose of residuals or to manage waste in the event of a natural disaster or breakdown of processing equipment. In view of the relatively small quantity of waste generated in ERC, processing is unlikely to be a financially viable alternative.

Actions

- Identify potential sites within ERC LGA;
- Should a suitable site(s) be identified, undertake a constraints level ecological assessment for the preferred location to determine its suitability;
- Identify regional landfills which may be able to receive ERC's wastes;
- For both options, undertake a financial analysis (which would include transport costs) to determine the preferred approach;
- Should remote landfilling be preferred, enter into long term contract negotiations for the disposal of ERC's wastes; and
- Should a new local landfill be preferred, develop a design for the facility and prepare the requisite documentation for a Development Approval application.

2. Improve the environmental performance of waste facilities

ERC will provide the community with sustainable and lasting infrastructure for future waste management needs. This will involve over the longer term converting operations from land filling to transfer stations at all but the Deniliquin Landfill site. This will ensure residents in rural regions outside of the main towns continue to have access to a convenient site for waste disposal and recycling, without the attendant obligations and risk to Council in running and maintaining multiple landfills. It is important that a continuous disposal service is maintained, in the form of a transfer station, as the complete closure of waste services at the rural landfill sites may lead to an increase in illegal dumping, which, apart for the undesirable environmental impact, would cost to regulate and remediate.

ERC will continue building upon the successful establishment of two community recycling centres (CRC) for problem waste materials by continually promoting and expanding participation in responsible disposal and product stewardship (takeback) schemes at Council facilities.

A summary of the estimated costs to transition the rural landfills to transfer stations is presented in Appendix B.

Operation of the Deniliquin Landfill and rural transfer stations

Improve the operation and environmental impact of ERC's waste facilities while maintaining the level of service available to residents.

Actions

- Prepare closure and rehabilitation plans for rural landfills and develop alternative rural transfer stations with secure waste and recycling drop off points;
- Investigate and apply for grant opportunities to fund landfill closure and development of transfer stations;
- Progressively rehabilitate sites in accordance with the rehabilitation plan and EPA requirements;
- Develop transfer stations on former landfill sites that improve waste separation, and safety and amenity for the community;
- Encourage full uptake of CRC services by monitoring and reviewing usage at both sites, and identify opportunities to increase capture and transfer of problem wastes;
- Host e-waste collection days at Blighty and Deniliquin CRC's, and either transfer stockpiles to an approved processor or partner with an approved provider of the National Television and Computer Recycling Scheme;
- Identify and monitor potential hot spots for illegal dumping (e.g. RID on-line).

3. Provide cost effective waste and resource recovery services

Providing improved waste services to a recently amalgamated council region can be challenging and is further complicated by the dispersed rural geography. Services need to be cost effective for Council, whilst being equitable and accessible. Financial costs will be continually balanced with acceptable levels of service.

Actions

- Review and identify opportunities for developing a full cost recovery waste service model that uses a combination of gate fees and rates, and covers landfill operations, closure, rehabilitation and monitoring, infrastructure development and equipment purchases;
- Investigate availability of grant funding through government and industry bodies;
- Work with surrounding councils and regional waste bodies to maximise resource sharing and investigate joint tendering opportunities.

4. Enhance Service Delivery and Performance Improvement

ERC will ensure waste management services are appropriate, efficient and can be sustainably delivered through planning, review, monitoring, and improvement processes.

ERC could introduce new kerbside services to trial areas before expanding the services to the whole LGA in order to streamline the correct use of the service by residents and to manage any operational issues initially at the small scale.

It is essential that all decisions made by Council are informed and based upon accurate baseline and ongoing data. This data will assist Council ensure it is undertaking the most environmentally and financially sustainable waste management practices possible.

The need for accurate and timely data collection will require the development of both internal data capturing processes and suitable requirements within all of Council tenders that relate to the collection and processing of Council's waste materials. For example, Council could consider the installation of weighbridge facilities.

It is essential that ERC develop key performance indicators to measure and monitor progress towards achieving priority goals as part of this Strategy.

Actions

- Review Council's internal waste management processes that include service delivery and accountability;
- Implement a weighbridge and waste data system to record and report key performance indicators, inform decision making and provide feedback to the community on improvements;
- Develop and review data collection systems;
- Work towards undertaking a landfill audit at Deniliquin landfill to obtain more detailed information on types of commercial and industrial, construction and demolition materials entering the facilities, and domestic waste bin audits including composition and bin fullness;
- Develop tender documents with appropriate requirements for collection and processing;
- Develop service delivery plans for operations at waste facilities, transfer stations, and kerbside collection services in consultation with stakeholders, and consistent with the objectives of this strategy;
- Develop and regularly review key performance indicators to monitor against strategic waste management targets;
- Work with kerbside collection staff or contractors to obtain data on contamination rates and total materials recovered;
- Review externally provided services to continually improve the performance of contracts and service delivery.

Final Draft

Appendix A Waste Management Strategy - Action Plan

Table 1: ERC Waste Management Strategy Action Plan (2019-2049)

Key Target Areas		Short term goals	Medium term goals	Long term goals
1. Maximise the life of landfill resources	1.1 Expand kerbside services	<ul style="list-style-type: none"> Prepare and conduct tendering processes that supports the introduction of the following new kerbside services to township households: <ul style="list-style-type: none"> Fortnightly 240 litre comingled recycling bin; Fortnightly Food and Garden Organics (FOGO) bin; Roll out a fortnightly FOGO service and weekly garbage service in the short term. 	<ul style="list-style-type: none"> Roll out fortnightly FOGO/Co-mingled recycling service and weekly garbage service; Review collection frequency of fortnightly FOGO and weekly garbage service; Investigate strategies for recycling at all Council facilities and public places. 	<ul style="list-style-type: none"> Review collection frequency of fortnightly FOGO/co-mingled recycling and weekly garbage service; Investigate strategies for recycling at all Council facilities and public places.
	1.2 Expand community education and awareness	<ul style="list-style-type: none"> Undertake community and industry consultation, and produce an implementation package that addresses and supports; <ul style="list-style-type: none"> Current recycling behaviours; Attitudes towards recycling services; Optimal messaging and service design; Barriers or concerns regarding participation; 	<ul style="list-style-type: none"> Encouraging the re-use/exchange of recyclable materials and goods through existing reuse stores and online marketplaces; Identifying partnerships to facilitate and encourage waste minimisation and recycling within the community; Engaging with businesses on waste avoidance and 	

Key Target Areas		Short term goals	Medium term goals	Long term goals
		<ul style="list-style-type: none"> The potential effectiveness of available support tools; Illegal dumping prevention; Design and implement a trial run before a full roll-out so as to help Council to identify challenges and prepare the community for the full roll-out; Developing and delivering awareness raising campaigns to increase public understanding and engagement concerning waste avoidance, service changes, relevant campaigns and feedback on achievements through the council website, social media channels and events; Providing clear information on all of Council's waste and recycling services, such as basic pictorial information of what to put in each bin, and what day bins go out is best displayed on or around kerbside bins. Bin Signage and stickers designed to consider language and accessibility (i.e. to be understood as clearly as possible by those with different abilities of vision, knowledge of the English language, intellectual ability and with other conditions). 	<ul style="list-style-type: none"> implementing a business waste reduction program (e.g. Bin Trim3 , Halve Waste4); Expanding and improving recycling at council run or supported events; Supporting regional waste education campaigns. 	

Key Target Areas		Short term goals	Medium term goals	Long term goals
	1.3 Optimise air space at the existing Deniliquin Landfill	<ul style="list-style-type: none"> Design optimal airspace and capping for the know lined areas 		
	1.4 Investigate feasibility of new cells at the Deniliquin Landfill	<ul style="list-style-type: none"> Investigate feasibility of constructing cells at the existing north-eastern area of the site 	<ul style="list-style-type: none"> If feasible, design, cost and construct new lined cells at the north-east area. 	
	1.5. Develop longer term waste disposal facilities for use by Edward River Council	<ul style="list-style-type: none"> Identify and determine relative suitability of possible landfill sites. 	<ul style="list-style-type: none"> Determine a business case and concept designs for at least two of the 'most suitable' sites; compare with any other means of disposing waste 	<ul style="list-style-type: none"> If a suitable site is agreed upon, secure the site and design and construct. If other means of disposal is determined, seek to secure it..
2.Improve the environmental performance of waste facilities		<ul style="list-style-type: none"> Prepare closure and rehabilitation plans for rural landfills and develop alternative rural transfer stations with secure waste and recycling drop off points; Investigate and apply for grant opportunities to fund landfill closure and development of transfer stations; Host e-waste collection days at Blighty and Deniliquin CRC's, and either transfer stockpiles to an approved processor or partner with an approved 	<ul style="list-style-type: none"> Develop transfer stations on former landfill sites that improve waste separation, and safety and amenity for the community; Encourage full uptake of CRC services by monitoring and reviewing usage at both sites and identify opportunities to increase capture and transfer of problem wastes. 	<ul style="list-style-type: none"> Progressively rehabilitate sites in accordance with the rehabilitation plan and EPA requirements.

Key Target Areas	Short term goals	Medium term goals	Long term goals
	provider of the National Television and Computer Recycling Scheme; <ul style="list-style-type: none"> Identify and monitor potential hot spots for illegal dumping. 		
3. Provide cost effective waste and resource recovery services	<ul style="list-style-type: none"> Investigate availability of grant funding through government and industry bodies. 	<ul style="list-style-type: none"> Review and identify opportunities for developing a full cost recovery waste service model that uses a combination of gate fees and rates, and covers landfill operations, closure, rehabilitation and monitoring, infrastructure development and equipment purchases; Work with surrounding councils and regional waste bodies to maximise resource sharing and investigate joint tendering opportunities. 	
4. Enhance Service Delivery and Performance Improvement	<ul style="list-style-type: none"> Develop and review data collection systems; 	<ul style="list-style-type: none"> Review Council's internal waste management processes that include service delivery and accountability; Implement a weighbridge and waste data system to record and report key performance indicators, inform decision making and provide feedback 	<ul style="list-style-type: none"> Review externally provided services to continually improve the performance of contracts and service delivery.

Key Target Areas	Short term goals	Medium term goals	Long term goals
		<p>to the community on improvements;</p> <ul style="list-style-type: none"> • Work towards undertaking a landfill audit at Deniliquin landfill to obtain more detailed information on types of commercial and industrial, construction and demolition materials entering the facilities, and domestic waste bin audits including composition and bin fullness; • Develop tender documents with appropriate requirements for collection and processing; • Develop service delivery plans for operations at waste facilities, transfer stations, and kerbside collection services in consultation with stakeholders, and consistent with the objectives of this strategy; • Develop and regularly review key performance indicators to monitor against strategic waste management targets; • Work with kerbside collection contractors to obtain data on 	

Key Target Areas	Short term goals	Medium term goals	Long term goals
		contamination rates and total materials recovered.	

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Appendix B Cost Summary to Convert Rural Landfills to Transfer Stations

Operational Expenses

Although there is no available budget data to estimate annual operating costs for ERC rural landfills, as part of the 2015 Conargo Waste Strategy, Impact Environmental estimated it would cost \$38.20 per tonne for disposal. However, this cost does not include costs for site closure, rehabilitation and post-closure.

ERC disposed 642 tonnes in 2016/17 at rural landfill sites, which means ERC spent approximately \$24,524 on annual rural landfill operations.

MRA has estimated it could cost \$16,704 per year to operate transfer stations, which would result in an annual savings of \$7,820.

Capital Expenses

MRA estimates it would cost \$1,509,982 in one off capital expenses to close rural landfills and open transfer stations

NSW EPA competitive capital grants are available up to a maximum of \$200,000 per project to support closure of landfills and establishment of transfer stations. The grants will cover up to 70 per cent of the total cost with the remainder being met by council contributions.

Table 2: Summary of estimated costs to transition rural landfills to transfer stations

Indicative Landfill Closure and Remediation Costs	Estimated Cost Landfill Closure	Estimated Cost to Establish Transfer Station	Total Cost (excl GST)	Potential Grant Contribution
Blighty	\$273,788	\$170,000	\$443,788	\$310,652
Booorooban	\$29,915	\$170,000	\$199,915	\$139,941
Conargo	\$58,920	\$170,000	\$228,920	\$160,244
Pretty Pine	\$252,980	\$170,000	\$422,980	\$296,086
Wanganella	\$44,379	\$170,000	\$214,379	\$150,065
TOTAL COST	\$659,982	\$850,000	\$1,509,982	\$1,056,988

Taking this into account, ERC would have to cover \$452,994.60 of remaining cost if likely to win full grants.

The net cost is \$89.70 across all 5,050 rateable properties within ERC.

Council may choose to apply costs to the 1,338 rural households who do not currently have access to kerbside waste collection services, and would be major beneficiary of the service. It would cost \$ 338.56 as a total sum, which equates to \$33.86 per annum for each rural household over ten-years not accounting for depreciation and inflation.

Appendix C Possible Expansion of the Deniliquin Landfill

Deniliquin Landfill Map

