

Waste and Resource Recovery Infrastructure Strategy

2017-2021
Draft for consultation

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1 Introduction

The population of NSW is expected to grow to over 8.2 million by 2021 and this will increase the amount of waste generated across the state. By 2021, it is expected NSW will need to process nearly 20 million tonnes of waste.

The NSW Environment Protection Authority's (EPA) [Waste Avoidance and Resource Recovery \(WARR\) Strategy 2014–21](#) sets targets for the diversion of waste from landfill, increasing from 63% in 2014/15 to 75% by 2021. To achieve this, significant investment is needed to develop infrastructure that will process this forecast increase in waste volume. This strategy was developed to assist councils and waste industry participants to understand the expected increase in waste streams and to plan sufficient infrastructure capacity to process projected volumes.

The NSW Government is investing a further \$168 million between 2017 and 2021 to stimulate investment in new waste processing technologies and capacity across NSW. This is part of the nine-year \$802.7 million [Waste Less, Recycle More](#) initiative.

Increased investment in resource recovery infrastructure is good for public health, the environment and the economy. It creates jobs and stimulates innovative technology. Successfully meeting our diversion targets would result in an estimated additional 1590 jobs in NSW; energy savings equivalent to the energy usage of 1.49 million households each year; water savings equivalent to 5392 Olympic-sized swimming pools each year and greenhouse gas benefits equivalent to removing 530,971 cars from the road.

The EPA recently finalised an infrastructure needs analysis to inform the development of this draft strategy. An accurate assessment of the needs of the state can only be developed by understanding the gap in existing capacity and the need for resource recovery facilities. It is anticipated that this strategy will aid ongoing development of regional waste and resource recovery implementation plans. Local governments and waste industry participants lead planning and investment in NSW's waste and resource recovery systems. This draft strategy has been developed to guide decision making to ensure NSW gets the correct mix of infrastructure to meet future needs.

The strategy is being circulated for input from stakeholders including local governments and waste industry participants. This consultation process is important – comments and opinions on the strategy's content and the data contained within it are sought.

This strategy makes projections to 2021. Some stakeholders have expressed the need for longer-term forecasts to help develop investment plans. The EPA is investigating the development of a web-based tool which will let users adjust many of the assumptions used (and outlined in section 3 below) and develop long term forecasts for their region or local government area. Comment and opinions on how useful this tool could be are being sought.

2 A snapshot of funding and available grants 2017–2021

The EPA will fund projects that enable councils, communities and businesses to meet the WARR target, to increase the amount of waste diverted from landfill from 63% (in 2010/11) to 75% by 2021. The EPA has partnered with NSW Environmental Trust to oversee delivery of some grant programs.

A total of \$168 million over four years will be made available to promote investment in NSW's waste and resource recovery infrastructure.

A calendar summarising when these grants will be open is available on the [EPA website](#).

Waste and Recycling Infrastructure Fund \$48 million over four years

- \$8 million for [resource recovery expansion and enhancement grants](#)
- \$25 million for [major resource recovery infrastructure grants](#), in partnership with the Environmental Trust
- \$14.5 million for auditing, education and support
- \$0.5 million for [weighbridges](#).

Organics Infrastructure Fund \$35.5 million over four years

- \$4.5 million for [organics market development](#) including \$3 million in grants
- \$7 million for food waste avoidance, including \$1.6 million in [Love food Hate Waste grants](#)
- \$14 million for [organics infrastructure grants](#), in partnership with the Environmental Trust
- \$10 million for [organics collection grants](#), in partnership with the Environmental Trust.

Household Problem Waste \$57 million over four years

- \$3 million for [community recycling centre infrastructure grants](#), in partnership with the Environmental Trust
- \$37 million for community recycling centre receptacles and processing
- \$9 million for household chemical collection and processing
- \$8 million for education, training and support for problem waste collection.

Business Recycling Program \$22.5 million over four years

- \$12.5 million [Bin Trim grants](#) and small scale equipment rebates
- \$5 million for [industrial ecology networks](#) in the commercial and industrial and construction and demolition sectors throughout NSW
- \$5 million for other business initiatives.

Recycling Innovation Fund \$5 million over four years

- \$5 million for Recycling Innovation Fund grants, in partnership with the Environmental Trust.

Waste and Recycling Infrastructure Fund

The [Waste and Recycling Infrastructure Fund](#) has already awarded over \$85 million to projects, leveraging an additional \$158.4 million in investment from the waste industry in new and expanded infrastructure. This will lead to an additional 1,000,000 tonnes of recycling capacity per year.

The extension of this fund with NSW Government investment of \$48 million in 2017–21 will provide on-going targeted support to councils, households, business, industry, not for profit organisations and charities to increase resource recovery, and to continue to build and upgrade essential infrastructure and services needed across NSW.

The priorities include:

- recovery of recyclables from sorted and unsorted waste from business and households
- reuse, recycling and reprocessing of recyclable materials such as plastics, timber, paper, cardboard, food and consumer packaging
- processing and stabilisation of residual business and household waste.

Organics Infrastructure Fund and Program

The [Organics Infrastructure Fund](#) supports programs that will expand collection and processing of organic waste and develop new markets.

The fund provides \$35.5 million over four years to build infrastructure and equipment to reduce landfill of food and garden organic waste.

Household problem waste

A total of \$57 million is allocated over four years to support community recycling centres and the [Chemical CleanOut](#) program. These programs make it easy and convenient to recycle or safely dispose of wastes such as paint, gas bottles, fire extinguishers, motor and cooking oils, car and household batteries, fluorescent tubes and globes, and smoke detectors.

Business Recycling Program

The [Business Recycling Program](#) will build on significant gains from working with tens of thousands of businesses, to garner positive waste and recycling outcomes through Waste Less, Recycle More.

The Bin Trim Business Grants Program has already facilitated waste assessments for 22,000 small and medium-sized businesses in NSW, with an average increase in the recycling rate of 13%.

The \$22.5 million Business Recycling Fund will continue to support the commercial and industrial sector to increase waste avoidance and resource recovery, and achieve our waste and recycling targets.

The Business Recycling Program is managed by the EPA.

Priorities include:

- funding to support business recycling through a variety of advisory services and programs
- support for small-scale recycling infrastructure in NSW businesses
- expanding the NSW EPA's industrial ecology program, [Circulate](#), to support medium to large enterprises achieve improved environmental practice.

Recycling Innovation Fund

The [Recycling Innovation Fund](#) has already allocated \$15 million to more than 23 projects creating new recycling infrastructure solutions, establishing or expanding recycling material markets through research and development and also increasing the efficiency of recycling facilities for specific targeted wastes.

An additional \$5 million over four years will provide opportunities for industry, councils, not for profit organisations and charities through contestable grant funding. This will further develop projects that provide innovative solutions to targeted waste types and include infrastructure and research.

3 Assumptions

Forecast numbers used in the report are based on assumptions and it is important to become familiar with these and understand the likely implications for the accuracy of projections.

Recommendations on the number of waste facilities needed in specific regions have been calculated assuming waste is treated within or close to the area it is generated. This minimises waste transportation.

3.1 Processing capacity

- This report assumes that all facilities with development approval will be built. There is no guarantee of this. Facilities currently in the early stages of planning, and have not yet received development approval, have not been included in the capacity figures.
- The number of new facilities required is indicative only and based on the average processing capacity of similar facilities. The actual number of facilities to meet projected need will depend on their processing capacity. Tonnages are therefore a more accurate indicator of the shortfall in processing capacity.
- The [Waste and Resource Reporting Portal](#) (WAARP) data focus on waste processed. An assessment of the industry's future infrastructure needs depends on an accurate understanding of the capacity of existing and planned resources. These data are not currently collected by the EPA. This report relies on potentially less accurate information from self-reported surveys and estimates from consultants operating in the waste industry.

3.2 Waste and recycling processed

- Reporting requirements for licensed waste facilities were recently introduced to garner more accurate reporting of the quantity of waste processed. These data are reported to the EPA using WARRP. Where these data are available they are included in this draft strategy. However, as the reporting requirements have only been recently introduced, gaps in the data remain. To protect privacy where the number of facilities operating in a market sector is low (less than three), WARRP data have not been used. A large portion of information included in this strategy was voluntarily reported by owners/operators. Potentially less accurate information, gathered from self-reported surveys and estimates from consultants operating in the waste industry, was used to replace missing data. The EPA is committed to working with stakeholders to improve the quality of data available to industry participants.

3.3 Waste generated

- 2011 census data were used to generate population forecasts. In July 2017, the 2016 census data was released and this is currently being used to update population forecasts. Revised numbers will be included in the final version of this strategy.
- 2010/11 waste generation data were used to forecast waste volumes. 2014/15 data have recently been made available and the more recent numbers will be used to revise forecasts for the final version of this strategy.
- For the purposes of this report the amount of waste generated per person has been assumed constant from 2011–2021. Efforts to encourage waste avoidance are assumed to be balanced out by factors that increase waste generation. This is consistent with the EPA's position as stated in WARR suggests that waste generation rates may have

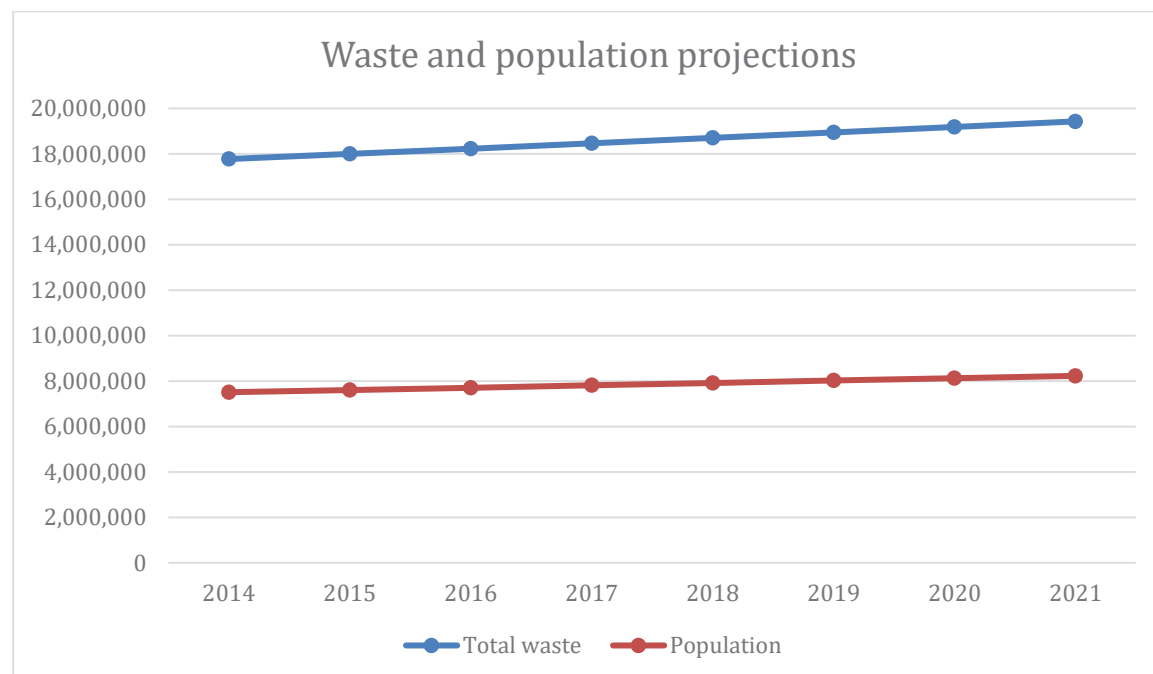
become more closely related to economic activity than population growth: that is, waste generation is outstripping population growth ... given this relative divergence from population growth, WARR retains an ambitious target to reduce the rate of waste generated in NSW per capita. The new target for reducing waste generation by 2021–22 is an aspirational goal, given the current growth in waste, but one that should remain an important focus.” Reduction in waste generation per capita could significantly impact on estimates of waste generated and infrastructure needed.

3.4 Waste diverted

- The WARR sets an ambitious goal of achieving a landfill diversion target of 75% by 2021. In 2014/15 NSW achieved a diversion rate of 63%. Failure to meet the 2021 target could result in significant increased demand for landfill capacity and an accompanying decrease in demand for resource recovery facilities.
- As a result of the diversion assumption this model projects that 4,600,000 tonnes/year of waste will be landfilled in 2021. Approximately 6,000,000 tonnes were landfilled in 2014/15 therefore the target assumes demand for landfill space will fall by over 20% during the period of this projection. Failure to meet this target will increase demand for landfill capacity.
- Relatively high levels of source separation have been assumed: moderate (metro) to high (regional).
- This report assumes waste generated in NSW is treated within the state. Transfer of waste to other states for disposal or treatment reduces demand for waste treatment facilities within NSW. Freedom of trade between the states is enshrined in the Australian Constitution. The EPA seeks to discourage the long-distance transport of waste between states. There is a strong will and intention to close down the long-distance transport of waste between states and expectation of finding a solution that does not offend the Constitution.
- This report focuses on “first point of receipt” and does not consider the importance of secondary value-adding infrastructure.

4 NSW – Waste and resource recovery projected needs

The projected population growth is assumed to be the major driver for an increase in waste generated across the state.



The table below summarises the known expected capacity and projected throughput for waste facilities across NSW in 2021.

	Putre- scible Landfill	Non- putre- scible Landfill	Mixed Waste Treatment	Energy Recovery Facility	Non- putre- scible Waste MRF	C&D Waste Process	Packaging MRF	Garden Organics Process	Putre- scible Organics Process
2021 Known capacity ('000 tpa)	3180	2924	763	143	3765	5242	1299	1133	972
2021 Projected throughput ('000 tpa)	2438	2165	1768	478	2669	4342	1583	1520	984
2021 Gap ('000 tpa)	742	759	-1005	-336	1096	900	-284	-387	-12

Numbers shown in red indicate the shortfall of available capacity projected by 2021. It is important to note that statewide summary data show only the needs for the state in total. The results by region (discussed below) show significant variations from the overall results – regions may lack processing capacity in a category despite sufficient capacity at state level.

Landfill

Assuming the 2021 resource recovery diversion target is met, NSW will have sufficient existing (or planned and approved) landfill capacity. As stated in the assumptions section should the 75% target for resource recovery diversion not be met demand for landfill will increase.

Mixed Waste Treatment/ Alternative Waste Treatment (AWT)

With a projected shortfall of just over one million tonnes there is an apparent need for up to nine more mixed waste treatment facilities. It takes a long time to gain planning consent and develop these. In addition, the EPA has commissioned independent scientific studies to identify environmental, agricultural and public health implications of using AWT outputs. The findings of these studies may impact on policy settings, which may affect demand for mixed waste treatment facilities.

Energy Recovery Facilities (ERF)

Calculating the need for ERF assumes that the need for capacity to process (combust) non-eligible fuels (as defined by EPA's [Energy from Waste Policy](#)) is best met by facilities based in NSW, and preferably in the region where that waste is generated.

Under the current policy and regulatory settings in NSW the manufacture and export of Refuse Derived Fuel (RDF) is generally more financially attractive than creating facilities. In addition, low landfill gate fees in Qld attract material suitable for RDF or energy recovery (mixed light plastic, timber and cardboard). If policy and regulatory settings are adjusted to support NSW based energy recovery it is likely that up to four large scale energy recovery facilities could service the whole state.

Despite the identified need, small regional energy recovery facilities (<25,000 tpa) currently have a less attractive business case than RDF manufacture and transport to large scale energy recovery facilities. Energy recovery facilities are generally not expected to be developed in regional areas outside Hunter and southern councils.

Packaging Material Recovery Facilities (MRF)

Over the last five years there has been a general trend towards centralisation of packaging MRF capacity as evidenced by councils such as Bega (to Shoalhaven Recycling) and Orange (to Visy) transporting unprocessed material to larger centres. Wagga's Kurrajong Recycling has expanded to process material collected from many neighbouring Local Government Areas. As a result, despite the projected growth in packaging requiring sorting, very few additional MRF may actually be required to meet the expected growth in volume. While the tonnages projected suggest up to four new facilities are required, it is more likely existing MRF will expand with more transfer facilities to meet demand. This is most likely in regional areas.

The implementation of a NSW Container Deposit Scheme (CDS) from December 2017 will enable eligible containers to be redeemed for a 10-cent refund and increase the value of these recyclables. Under the Scheme, MRF operators can claim the refund on containers by:

1. extracting the containers and redeeming them at a collection point
2. claiming the refund directly from the scheme by using a protocol, to be published by the EPA, to estimate the number of eligible containers they process.

Method 1 may require adjustment to infrastructure to facilitate auditing of CDS containers and could encourage more local sorting of recyclables, particularly whole glass containers.

Some recyclables are likely to be recovered outside packaging MRF (fully source separated). It is not yet clear whether the scheme will stem the trend towards centralisation and/or reduce sorting of mixed recyclables overall. For the purpose of the region by region analysis CDS is assumed not to have a large impact on size and distribution of packaging MRF infrastructure.

Construction and Demolition (C&D) Waste Processing

Under the current policy and regulatory settings, commercial operators tend to recover only the heavy fraction of C&D waste, including soil, concrete, brick and tile. This is largely demolition waste. Construction waste contains much higher proportions of cardboard, plastic, timber and composites; the light fraction. This material has a relatively high energy value and includes a large portion of potentially recoverable materials, however nearly all of it is currently landfilled. Overall the state has sufficient capacity to process projected volumes of C&D waste.

In contrast regional areas produce a much greater proportion of construction (light) waste and have lower landfill gate fees (particularly outside of the levy paying area). Aggregation of 5,000–10,000 tonnes per annum (tpa) is often difficult because even larger regional centres struggle to generate these quantities. Such centres are usually 50 to 100 km apart creating significant transport costs for aggregation. The economics of C&D waste processing in regional areas is therefore marginal at best.

As the regional analysis shown below highlights, most of the existing C&D processing capacity is in Sydney. It is preferable to encourage the treatment of waste within the area it is generated. Therefore this analysis recommends significant numbers (22) of new C&D processing facilities.

Some councils have made C&D resource recovery work by stockpiling material and using mobile equipment to process it every six to 12 months. This involves setting up a simple hardstand area, preferably adjacent to landfills or other resource recovery operations, with easy access for heavy equipment. It is a potential solution for the need for a large number of new regional C&D waste processing facilities identified in the regional analysis. Further analysis of C&D waste processing in regional areas is required. Shared mobile equipment could be purchased. However administration, together with the cost of moving equipment between sites, fluctuating commodity prices, the financial burdens of maintenance, security and insurance all represent significant barriers. In addition, clearly defined responsibilities for the testing of outputs, to ensure they comply with exemption requirements, need to be identified.

Organic Recycling Facilities (ORF)

The waste hierarchy promotes source-separated food and garden organics collection in a green lid bin (FOGO) as the optimum outcome for organics waste. However, practical considerations such as access, complexities around servicing multi-unit dwellings (MUDS) and intensive education to reduce contamination, present challenges to the universal adoption of a three-bin system. While there has been strong growth in source-separated collection from homes across NSW, there remain significant untapped opportunities for the increased diversion of organic waste from business.

The EPA's [Organics Infrastructure Fund](#) is driving the increased supply of source-separated food and garden waste from both homes and business, increasing the capacity to process more FOGO and supporting markets for the recycled product.

Most existing ORF are licenced to accept garden organics only. This means that new facilities will generally need to be capable of treating (and licensed to treat) putrescible

organics. As a result, the identified need for garden organics processing can generally be combined with the need for putrescible organics processing. In total, the analysis projects 22 new facilities are needed.

Organic wastes are concentrated in the population centres around Sydney, the Hunter and the Illawarra. Large quantities of recycled organic products are generated in these areas reducing prices in urban markets for soil conditioner and mulch. With large amounts of additional recycled organic products projected, the EPA is working with the industry to develop new agricultural and other markets for the recycled product. Contractors operating in this market have started to set up transfer stations to transport minimally processed material to composting facilities outside the Sydney Basin, closer to agricultural markets. This is likely to expand, thus reducing the need for facilities in the Sydney Basin. A need is anticipated for a mixture of different collection services and processing technologies for the continued growth of organics recovery from both homes and businesses in Sydney region. These include anaerobic digestion, co-digestion, onsite processing equipment and precinct-based tailored collection services.

4.1 Region by region analysis

Sydney Waste Regions

The table below summarises the known expected capacity and projected throughput for waste facilities within the Sydney area in 2021.

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	639	53	3388	4503	808	603	319
2021 Projected throughput ('000 tpa)	1197	286	1943	2973	936	876	585
2021 Gap ('000 tpa)	-558	-234	1445	1,530	-128	-273	-266
No. of new Facilities	3	2	0	0	2	5	4

- The market is responding well to the needs of primarily commercial inert waste through C&D waste processing and non-putrescible MRF. No new facilities are required to meet the projected demand. If completed, some planned non-putrescible MRF capacity may be excess to need.
- Some capacity for energy recovery may need to be developed depending on the uptake of RDF manufacture (and export).
- The capacity of packaging MRF is close to projected need. Up to two new facilities could be developed, although some expansion and upgrade of facilities may be sufficient.
- There is a clear gap for mixed waste treatment processing. Planning approval for these facilities in Sydney is a rigorous process and the business case improves at increased scale. Three facilities may be more practical for the 558,000 tpa of mixed waste treatment needed. However, this scale presents challenges because supply of mixed waste by councils is generally less than 50,000 tpa, making private investment problematic. The most likely sites for mixed waste treatment are Lucas Heights (SUEZ), South Windsor (Hawkesbury Council) and Terrey Hills (Kimbriki). SUEZ gained planning approval for a long planned 100,000 tpa facility at Lucas Heights in early 2017. Transfer to a new facility at Buttonderry (Central Coast Council) is also a possibility for the northern suburbs of Sydney.
- A total of nine mid-sized FOGO treatment facilities could be built to meet projected need. Recent proposals from ANL and Bettergrow/Cleanaway suggest that the private sector sees a business case for transferring minimally treated FOGO out of the Sydney basin to compost in neighbouring regions. Some existing and planned FOGO capacity in the central west might be further developed to take this transferred material. Transfer facilities will still require some land and planning approvals – using existing waste management facilities (including closed landfills) for transfer is an attractive option. This

includes locations like Erskine Park (Cleanaway), Elizabeth Drive (SUEZ) and South Windsor (Hawkesbury Council).

- In new subdivisions the push for narrower roads may also generate demand for smaller collection vehicles which will need to be supported by transfer stations in close proximity.

Hunter and Central Coast

The table below summarises the known expected capacity and projected throughput for waste facilities within the Hunter and Central Coast area in 2021.

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	87	-	377	197	135	312	59
2021 Projected throughput ('000 tpa)	265	61	431	658	196	194	121
2021 Gap ('000 tpa)	-178	-61	-54	-461	-61	118	-62
No. of new Facilities	2	1	1	4	2	0	1

- At least four small C&D waste processing facilities are required to minimise inert waste disposal.
- Considerable new capacity approved for non-putrescible waste recovery means need almost met if it goes ahead.
- Some capacity for energy recovery may need to be developed depending on the uptake of RDF manufacture (and export).
- Lots of established capacity for Garden Organics processing but industry is struggling with approvals for putrescible organics processing.
- Much hinges on approval/construction of FOGO capacity at Tea Gardens (shown in MIDWASTE), Awaba and Buttonderry. These would provide sufficient putrescible organics processing capacity, however upper Hunter would still benefit from a small facility due to the high cost of transport.
- Large amounts of landfill capacity, particularly for Newcastle and Central Coast, makes the business case for mixed waste treatment difficult. There is a significant shortfall of mixed waste treatment capacity and no pipeline of projects.

Southern Councils

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	34	90	-	509	77	86	30
2021 Projected throughput ('000 tpa)	123	29	208	317	91	89	56
2021 Gap ('000 tpa)	-89	61	-208	192	-13	-3	-26
No. of new Facilities	1	1	2	0	0	0	2

- Some existing large C&D recyclers in Illawarra and Shoalhaven have large spare capacity and should meet ongoing need.
- Existing MRF operators have a long history in the region and balance supply and capacity.
- Although there is sufficient putrescible organics processing capacity shown in the region there is nothing yet south of the Shoalhaven and at least two smaller facilities (or transfer arrangements) are still required.
- The region could be served by two small mixed waste treatment facilities with one energy recovery facility. The one large Energy Recovery Facility approved for the region is more likely to draft RDF from Sydney so an addition facility could be justified.

MIDWASTE – Mid North Coast

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	22	91	30	180
2021 Projected throughput ('000 tpa)	23	13	28	43	54	58	32
2021 Gap ('000 tpa)	-23	13	28	22	-37	28	-148
No. of new Facilities	0	0	1	2	0	0	1

- At least two small C&D waste processing facilities are required to minimise inert waste disposal.
- Some councils in the region have procured good packaging MRF capacity from capable private contractors.
- Organic recycling needs of the region are well serviced in most areas – the result is distorted by new approved planned capacity at Tea Gardens (which will address the FOGO gap in the Hunter). The new Mid-Coast Council is likely to establish at least one new FOGO facility (upgraded from garden organics processing).

NETWASTE – Central & Western NSW

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	-	16	44	289
2021 Projected throughput ('000 tpa)	40	23	16	96	78	76	49
2021 Gap ('000 tpa)	-40	-23	-16	-96	-63	-32	241
No. of new Facilities	1	0	0	4	1	0	1

- At least four small C&D waste processing facilities are required to minimise inert waste disposal.
- Despite the lack of listed packaging MRF, councils in this region have found it more cost-effective to transport commingled packaging to Sydney for processing. This gap is likely to be addressed by Sydney capacity, however one larger scale facility servicing the region may prove more cost effective.
- Although there is more than sufficient putrescible organics processing capacity in the region most of it is being used to service Western Sydney and the Blue Mountains. New capacity is approved for Dubbo but at least one other local facility may be beneficial for councils not in close proximity to Blayney (ANL),
- The eastern part of the region could be served by one small mixed waste treatment facility with one energy recovery facility or RDF plant.

NEWASTE – Northern Rivers

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	7	100	25	32
2021 Projected throughput ('000 tpa)	31	16	8	47	57	61	34
2021 Gap ('000 tpa)	-31	-16	-8	-41	44	-36	-3
No. of new Facilities	1	0	0	2	0	0	1

- At least two small C&D waste processing facilities are required to minimise inert waste disposal.
- Some councils have procured good packaging MRF capacity from capable private contractors (or developed it themselves) providing ample capacity for the region.
- With approved capacity at Tweed, expanded capacity at Lismore and capacity at Grafton, putrescible organics processing capacity is largely met. Byron Shire Council may usefully expand and enhance its garden organics facility to treat FOGO.
- The region could be served by one small mixed waste treatment facility with one energy recovery facility or RDF plant.

NIRW – Northern Inland

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	3	-	-	5	23	20	14
2021 Projected throughput ('000 tpa)	25	14	10	56	48	47	30
2021 Gap ('000 tpa)	-21	-14	-10	-51	-25	-27	-15
No. of new Facilities	0	0	0	3	1	1	1

- At least three small C&D waste processing facilities are required to minimise inert waste disposal.
- Some organised councils have procured good packaging MRF capacity from capable private contractors and NFP but there is still a shortfall of capacity overall.
- With approved capacity at Tamworth, expanded capacity at Moree and capacity at Armidale, the region has high levels of putrescible organics processing capacity. Up to two additional small facilities may also be viable in locations such as Glen Innes.
- The region could be served by one small mixed waste treatment facility with one energy recovery facility or RDF plant but material would have to come from across the entire region.

SERRN – South Eastern

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	-	19	2	-
2021 Projected throughput ('000 tpa)	30	17	12	70	59	58	36
2021 Gap ('000 tpa)	-30	-17	-12	-70	-40	-55	-36
No. of new Facilities	1	0	0	3	2	0	3

- At least three small C&D waste processing facilities are required to minimise inert waste disposal.
- While two packaging MRF are indicated the region is partly serviced by the ACT MRF capacity.
- Other than Coompost (Cooma) there is a notable lack of organics processing capacity in this region (and in ACT).
- Woodlawn capacity has all been assigned to the Sydney region – however it is also well located to serve this region.
- Infrastructure needs should be considered in the context of ACT current planning process.

REROC – Riverina Eastern

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	-	30	-	18
2021 Projected throughput ('000 tpa)	14	8	6	38	28	26	17
2021 Gap ('000 tpa)	-14	8	6	38	-2	26	-1
No. of new Facilities	0	0	0	2	0	0	1

- At least two small C&D waste processing facilities are required to minimise inert waste disposal.
- Councils have procured good packaging MRF capacity from capable private contractors and not for profit organisations.
- With approved and existing capacity at Wagga Wagga the need for putrescible organics processing capacity is effectively met.

RAMROC – Riverina Western & Murray

	Mixed Waste Treatment	Energy Recovery Facility	Non-putrescible Waste MRF	C&D Waste Processing	Packaging MRF	Garden Organics Processing	Putrescible Organics Processing
2021 Known capacity ('000 tpa)	-	-	-	-	-	12	30
2021 Projected throughput ('000 tpa)	19	11	8	45	37	36	23
2021 Gap ('000 tpa)	-19	-11	-8	-45	-37	-24	7
No. of new Facilities	0	0	0	2	2	0	1

- At least two small C&D waste processing facilities are required to minimise inert waste disposal.
- Packaging MRF capacity is over the border in Victoria with the recycling from Griffith, Leeton and Narrandera is taken to a MRF in Wagga Wagga.
- Despite approved capacity at Albury there is still a small need for putrescible organics processing. A major composting facility (Howlong) is currently in the planning approvals process.