THE ECONOMIC CONTRIBUTION OF THE

Waste and Recycling Industry

to the Northern Territory Economy

DECEMBER 2024

Essential for community Essential for environment

WRINT

Essential for community Essential for environment


BUCHER
340
ntrs
waste • recycling
SA 02
• cardboard, paper & plastic recycling
• steel recycling
• general waste
• secure document destruction
• waste oil & filter recycling
• septic
• grease traps

1 Industry Overview

1.1 The Northern Territory's Waste and Recycling Industry (The Industry), provides waste collection processing, resource recovery, recycling and disposal infrastructure and services to the community.

1.2 The Industry recovers valuable secondary resources generated during extraction and manufacturing processes and those later discarded by society, thereby driving a circular economy and directly contributing to the economic growth of the Territory.

1.3 Industry businesses work across all areas including waste transport, processing, fuel manufacture and landfill management. They process all material streams including municipal, commercial, industrial, construction, hazardous and liquids. The Industry processed, recycled and disposed of more than 487,580 tonnes of resources from waste streams in 2023-24.

1.4 The recovery of secondary resources and efficient management of waste in Northern Territory results in a variety of tangible environmental benefits including energy savings, avoidance of greenhouse gas emissions, water savings as well a reduction of emissions to air, water and land.

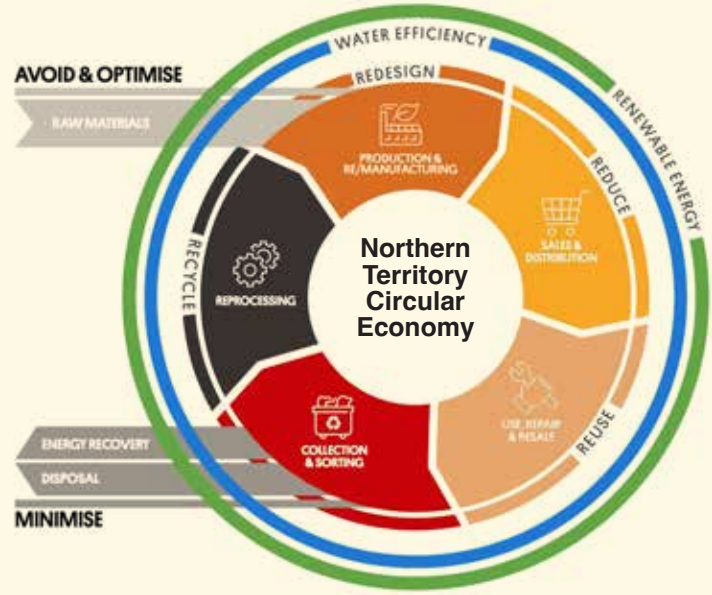
In summary, the Industry is committed to:

- Providing integrated, efficient and dependable services to all waste producers,
- Extracting value from wastes generated where economically practical and viable, and
- Assisting government and regulators to oversee delivery of policy initiatives.

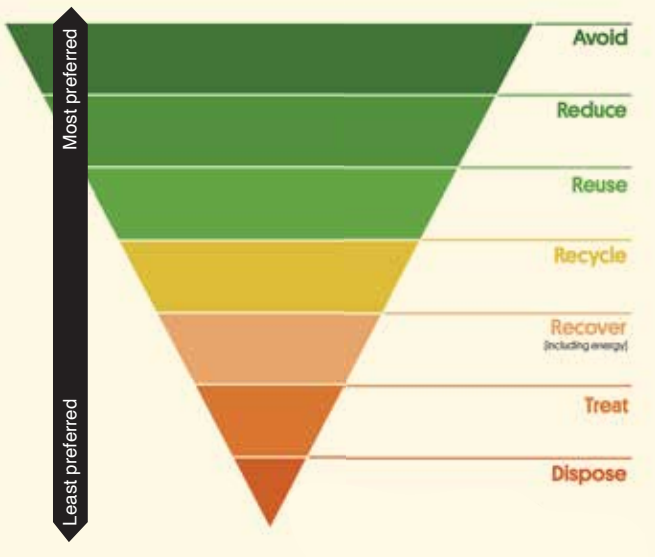
1.5 AEAS was engaged by WRINT to highlight the importance of the Industry to the Northern Territory community in the jobs, investment and economic activity that it generates. Furthermore, the Industry is a contributor of tax and rate revenue to the three tiers of Government enabling the delivery of core and essential frontline services across Northern Territory.

1.6 A vibrant and competitive Waste and Recycling Industry with a social license to operate is crucial to the prosperity and growth of our Territory – it creates employment opportunities, generates wealth and drives economic growth. This Report captures this vital contribution to the Northern Territory community.

NORTHERN TERRITORY CIRCULAR ECONOMY



NORTHERN TERRITORY WASTE HIERARCHY



2 Executive Summary - Northern Territory's waste and secondary resources industry by numbers

The Northern Territory's Waste and Recycling Industry provides infrastructure and services to the community in the collection, processing, recycling and disposal of waste. The Industry is an important contributor to the Northern Territory economy. Results of a macro-economic analysis of the Industry reveal the following.

The Industry each year **directly:**

986

JOBS

Provides 986 jobs to Northern Territory residents

$ 69.8m

PAID IN WAGES/SALARIES

Pays over a $69.8 million in wages and salaries to Territory residents

$ 70,740

PAID IN WAGES/SALARIES

Provides an average livelihood to each employee within the industry

$ 327.8m

COLLECTIVE TURNOVER

$ 199.5m

TO THE ECONOMY

Contributes over $199.5 million in industry value add towards the Territory's economy

$ 68m

INVESTMENTS

Invests $68.0 million in land, buildings, plant and equipment, collection vehicles and collection bins

$ 7.3m

TAXES

Contributes over $7.3 million in Commonwealth and Territory taxes

$ 170.6m

MANAGED ASSETS

Manages $170.6 million in assets

+

191

COLLECTION VEHICLES

including the operation of 191 collection vehicles

Key facts include:

23
BUSINESSES
23 businesses operating

487,580
TONNES
Collected, processed, recycled and disposed of 487,580 tonnes of waste in 2023-24

161,529
TONNES
33.1% was diverted from landfill

99,602
TONNES
was reused and 61,927 tonnes was recycled.

The Industry **indirectly** contributes:

The Industry also indirectly contributes to the Territory through flow-on demand for goods and services through expenditure by waste management business on goods and services supplied by other businesses in the Territory and the expenditure of industry workers' income on goods and services supplied by other Territory businesses. As a result the Industry each year indirectly:

828
JOBS
Provides a further 828 jobs

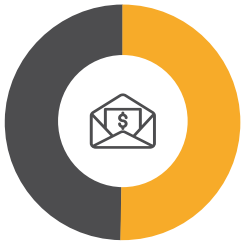
$68.1m
PAID IN WAGES/SALARIES
$68.1 million in wages and salaries

$158.9m
TO THE ECONOMY
To the Northern Territory economy through flow on demand for goods and services

IN TOTAL (BOTH DIRECTLY AND INDIRECTLY) THE INDUSTRY EACH YEAR:

Direct
Indirect

$1,814
JOBS TO NT RESIDENTS
Provides 1,814 jobs to Territory residents (1.3 in every 100 jobs)



$183.6m
PAID IN WAGES/SALARIES
$183.6 million in wages and salaries paid

$358.4m
TO THE NT ECONOMY
Contributes $358.4 million toward the Northern Territory's gross state product or $1.08 in every $100 of the Territory economy

44
BUSINESSES THROUGHOUT NT
Supports 44 businesses across the wide expanse of the Northern Territory.

3 Methodology and Outputs

3.1 AEAS was commissioned by WRINT to determine the economic benefit to the Northern Territory economy based on data provided by waste and recycling companies. This Report provides a detailed summary of the level of economic contribution to the Northern Territory economy by the Waste and Recycling Industry and the multiplier and flow-on effects that are generated by that contribution. The Report was developed in consultation with WRINT and identifies a range of vital statistics that the Industry contributes to the Northern Territory economy and Government including:

- The contribution the Industry makes to Northern Territory Gross State Product in industry value add;
- The number of direct and indirect Northern Territory jobs created by the Industry;
- The value of Northern Territory wages and salaries paid by the Industry;
- Level of investment in buildings and plant and equipment made in Northern Territory by the Industry;
- The value of Commonwealth, Territory and Local Government taxes, rates and charges contributed by the Industry; and
- Total assets held by the Industry in Northern Territory.

3.2 The preparation of this Report was undertaken in several stages, as outlined below:

- The processes involved in waste management, and a series of definitions for the sector, were identified.
- Desktop research was undertaken to establish the degree of information currently available, for use as a benchmark for AEAS calculated results. A summary of key reference material is provided in Appendix One.
- Due to incomplete and dated industry data available, AEAS circulated an electronic Industry 'Census' questionnaire to Territory waste and recycling companies across the period July to November 2024 in order to obtain credible data on the economic contribution of the sector to the Northern Territory economy in 2023-24. The survey aimed to collect data from WRINT's Territory-based organisations ranging from large multi-national organisations through to small family-operated enterprises as well as local government operated waste and recycling facilities.
- AEAS consulted with WRINT regarding the survey to ensure questions would elicit clear and accurate information. Companies were predominately contacted by email with a link to a web-based survey. Of the 23 businesses operating (ABS Counts of Australian Business 8165.0) in the NT, 21 businesses responded to the survey. Accordingly AEAS has significant confidence in results provided in this Report
- Section Four provides estimates of the direct and flow-on contribution of the Waste and Recycling Industry to the Northern Territory economy in terms of industry value add, employment, income (i.e. wages and salaries) and other indicators. Direct impacts, are the first round of effects from direct operational expenditure on goods and services by the Industry. The flow-on or indirect effects (i.e. the multiplier effects) are estimated in two parts: production-induced and consumption-induced effects. The production-induced effects arise from expenditure by Industry businesses / organisations on goods and services supplied by other firms in Northern Territory. The consumption-induced effects arise from expenditure of Industry workers' income on goods and services supplied by Northern Territory businesses.

2.3 The economic significance estimates in this report are produced using data from the:

- AEAS /WRINT census questionnaire with results calculated to remove the effect of double counting across the value chain;
- The National Waste Report 2022 and 2024;
- Australian Bureau of Statistics data including ABS Catalogue 8155.0, 8165.0, 6202.0 and 5220.0;
- Indirect Waste Industry multiplier estimates for economic activity prepared by EconSearch; and
- Indirect employment multiplier prepared by Deloitte Access Economics.

All estimates are presented in nominal terms (i.e. current prices in the year received), unless otherwise stated.

3.4 AEAS wishes to provide the following limitations of the report's analysis:

Caution should be exercised in comparing results against 2018 version of this report. Both reports were prepared via census questionnaire. However the 2024 process following request from the Northern Territory Government included distribution and completion of the census questionnaire by Local Councils. The following Councils provided responses:

- Alice Springs Town Council
- City of Darwin
- City of Palmerston
- Central Desert Regional Council
- East Arnhem Regional Council
- Katherine Town Council
- West Arnhem Regional Council

These organisations were not included in the 2018 report and accordingly the ability to conduct longitudinal analysis between the reports is compromised. That is results for 2023-24 represent for both local government and the private sector whereas results for 2017-18 were only for private waste and recycling businesses. AEAS has through data quality measures has ensured that only those resources within council allocated to waste and recycling management are included in the survey returns.

AEAS in recognising the importance of examining growth of the Industry across the period 2017-18 to 2023-24 has conducted longitudinal analysis based on the following techniques:

- Establishment of economic contribution, industry turnover and employment creation per tonne of waste processed metrics for 2023-24;
- Discounting monetary values for each year back to 2017-18 where needed;
- Utilisation of the National Waste Report data for NT waste processed between the period 2017-18 and 2022-23; and
- Multiplying $ and job per tonne metrics for 2023-24 by tonnes of waste generated in each year for the period 2017-18 and 2022-23.

The methodology used for this report based on survey returns from 21 of the 23 industry participants enables a high degree of confidence for the findings of this report and accordingly represents an accurate baseline for future results to be analysed against.

4 Defining the Industry

3.1 For the purposes of this Report, waste is defined as any material collected by (or on behalf of) an organisation that has no further use or value to the previous owner in its current state and so has been discarded. Waste therefore includes items that may eventually be recycled and/or reused. In this report, the Waste and Recycling Industry includes the recycling and recovery industries. The four key areas of activity in the Industry are:

- waste collection and transfer;
- sorting of waste;
- recycling (i.e. manufacture of new goods) and reuse; and
- the final disposal of waste that cannot be recycled or reused into landfill.

3.2 The Northern Territory Waste and Recycling Industry is comprised of private firms and local government enterprises. AEAS has used the Australian Bureau of Statistics' Australian and New Zealand Standard Industrial Classification (ANZSIC) Group 291 'Waste Collection Services' and 292 'Waste Treatment, Disposal and Remediation Services' to define the industry.

2911 SOLID WASTE COLLECTION SERVICES

Consists of units mainly engaged in the collection and haulage (except long distance) of domestic, commercial or industrial solid waste (except through sewerage systems). This class also includes units who provide portable toilets, bins and other receptacles for hire to clients as part of a waste collection service:

- Bin hiring and waste collection service
- Garbage collection service
- Hazardous waste, solid, collection service
- Industrial waste, solid, collection service
- Metal barrel/skip hiring and waste collection service
- Night soil collection service
- Portable toilet hiring and waste collection service
- Rubbish collection service
- Solid waste collection service
- Solid waste haulage service (local)
- Waste, solid, collection service

2919 OTHER WASTE COLLECTION SERVICES

Consists of units mainly engaged in the collection and haulage (except long distance) of domestic, commercial or industrial liquid waste and other waste types (except through sewerage systems):

- Hazardous waste (except solid) collection service
- Industrial waste (except solid) collection service
- Liquid waste collection service
- Liquid waste haulage service (local)
- Oil collection service
- Septic tank waste collection service (except repairs and maintenance)
- Waste collection service n.e.c

2921 WASTE TREATMENT AND DISPOSAL SERVICES

Consists of units mainly engaged in the treatment or disposal of solid, liquid and other waste types (including hazardous). Also, included are units mainly engaged in operating landfills, combustors, incinerators, compost dumps and other treatment facilities (except sewage treatment facilities), including waste transfer stations:

- Garbage disposal service
- Hazardous waste treatment or disposal service
- Operating landfills
- Operating other waste treatment facilities
- Rubbish dump or tip operation
- Sanitary disposal service
- Septic tank pumping or cleaning service (except repairs and maintenance)

2922 WASTE REMEDIATION AND MATERIALS RECOVERY SERVICES

Consists of units mainly engaged in the remediation and clean up of contaminated buildings and mine sites, mine reclamation activities, removal of hazardous material such as asbestos and lead paint and other toxic material abatement. This class also includes units mainly engaged in providing materials recovery and sorting services:

- Asbestos removal service
- Hazardous material removal
- Lead paint abatement service
- Materials recovery station operation
- Materials separating and sorting operation
- Mine reclamation
- Remediation service, environmental
- Toxic material abatement
- Waste remediation

5 Economic Significance Estimates

5.1 Aggregate survey responses are presented in this section with associated interpretation of the results. The survey data collected by AEAS aimed to provide an industry wide picture of Waste and Recycling Industry activities and employment. The Industry overall is confirmed to be an important contributor to the Northern Territory economy. Results of a macro-economic analysis of the Industry reveal:

5.2 BUSINESS COUNT

According to the Australian Bureau of Statistics there are 23 businesses operating in the Northern Territory Waste and Recycling Industry. The majority of these businesses are classified as a small business employing less than 20 employees however there were six businesses employing significantly greater than 20 employees.

Industry sector	Number of businesses
Solid Waste Collection Services	6
Other Waste Collection Services	3
Waste Treatment and Disposal Services	4
Waste Remediation and Materials Recovery Services	10

5.3 NUMBER OF EMPLOYEES

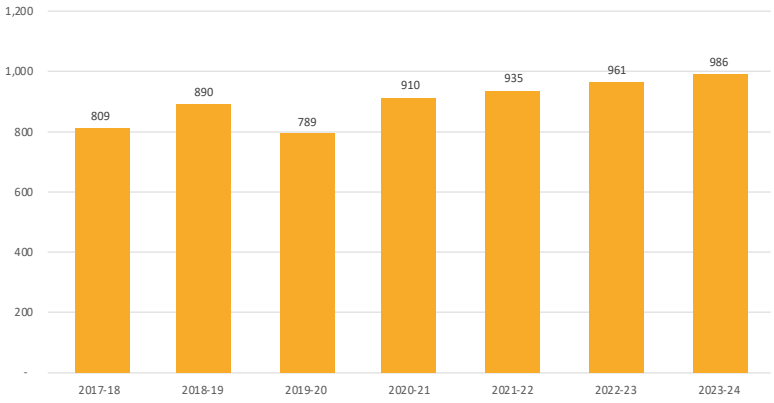
Survey participants were asked to provide their current number of employees. Based on survey results, the estimated direct jobs provided by the Waste and Recycling Industry at present is 986 employees. On average each Northern Territory Industry employee handles a 494.5 tonnes of headline waste each year.

Industry employment covers a broad range of categories, WRINT estimates the most predominant being: truck and forklift drivers; recycling and rubbish collectors; earth moving plant operators; factory process workers; and general and production managers. In addition the Industry also provides an entry point in the workforce for many younger persons through apprenticeships that it offers.

The Waste and Recycling Industry also indirectly contributes to employment in Northern Territory through flow-on demand for goods and services.

AEAS has used an indirect employment multiplier calculated by Deloitte Access Economics from ABS Input-Output tables of 1.84 to estimate the indirect employment created by the Industry. AEAS estimates that a further 828 indirect jobs are provided through flow on activity.

NORTHERN TERRITORY WASTE INDUSTRY EMPLOYMENT



In total (both directly and indirectly), the Waste and Recycling Industry both directly and indirectly is estimated to provide 1,814 jobs to the Northern Territory. That is, the Waste and Secondary Resources Industry provides for 1.3 in every 100 jobs in Northern Territory.

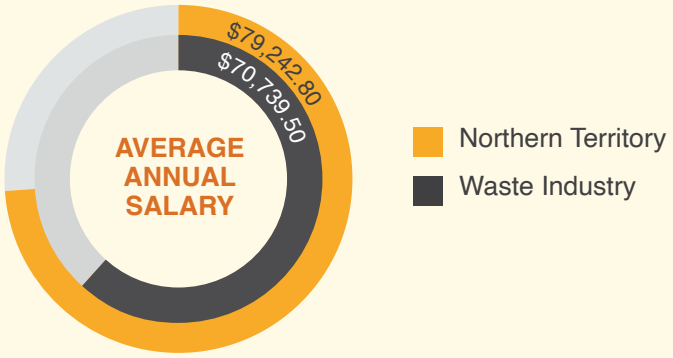
5.4 WAGES AND SALARIES

Survey participants were asked to provide the amount of wage and salaries paid to employees in the 2023-24 financial year. Based on responses the Waste and Recycling Industry provides $69.8 million in wage and salaries with an average salary to each employee of $70,740.

This contrasts to Northern Territory average weekly earnings (annualised) of $79,242.80.

In addition AEAS estimates that an additional $7.3 million was paid by businesses operating in the Waste and Recycling Industry towards employee Superannuation.

NORTHERN TERRITORY WASTE INDUSTRY ANNUAL EARNINGS ($)



5.5 INDUSTRY TURNOVER

Survey participants were asked to provide their annual turnover for the last financial year. Based on responses the annual turnover of the Waste and Recycling Industry in the Northern Territory is estimated at approximately $327.8 million.

Expressed alternatively the NT Waste and Recycling Industry turnover is estimated at around $672.30 per tonne of headline waste.

NORTHERN TERRITORY WASTE AND RECYCLING INDUSTRY TURNOVER ($ MILLION)

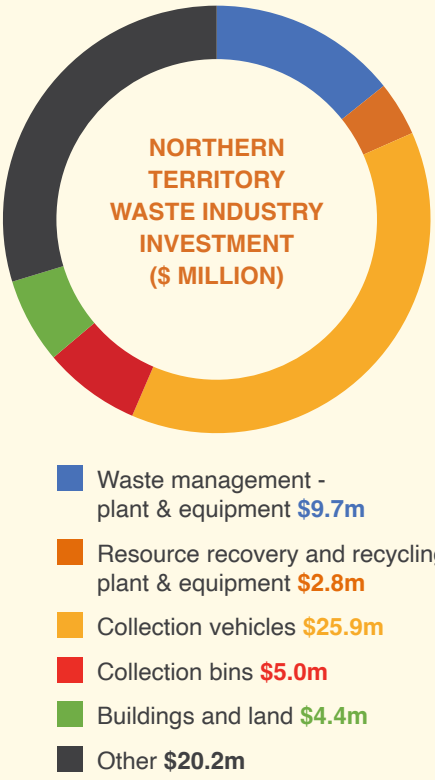
5.6 CAPITAL EXPENDITURE, NUMBER OF VEHICLES AND ASSET BASE

Survey participants were asked to provide their level of capital expenditure for the last financial year. Based on responses the Waste and Recycling Industry in the Northern Territory invested approximately $68.0 million in land, buildings, plant and equipment, collection vehicles and collection bins.

The highest level of investment occurred in the area of collection vehicles $25.9 million followed by waste management plant and equipment ($9.7 million); collection bins ($5.0 million); buildings and land ($4.4 million) and resource recovery and recycling plant and equipment ($2.8 million).

Other investment was estimated at 20.2 million and comprised primarily of investment in a land fill.

The Waste and Recycling Industry in the Northern Territory is estimated to manage $170.6 million worth of assets. Included among these are 191 collection vehicles.



5.7 TAX CONTRIBUTION

Survey participants were asked to provide the value of Commonwealth, and Territory Government taxes paid in the last financial year. Based on responses the Waste and Recycling Industry in the Northern Territory contributed $7.3 million in Commonwealth and Northern Territory Government taxes fees and charges.

$3.9 million was contributed in Commonwealth taxes including company tax and fringe benefits tax, $2.8 million was contributed in Territory taxes including payroll tax, land tax and duties and $0.6 million paid to Local Government in rates and charges.

NORTHERN TERRITORY WASTE INDUSTRY TAXATION PAID ($ MILLION)

COMMONWEALTH TAXES (e.g. company tax, FBT etc)	$3.9m
TERRITORY TAXES (e.g. payroll tax, land tax, stamp duties, vehicle rego)	$2.8m
LOCAL GOVERNMENT RATES & CHARGES	$0.6m

5.8 INDUSTRY VALUE ADDED

While gross income or turnover is an easy concept to understand, 'value added' is a better measure in the context of an industry's contribution to the Territory's economy. Value added for an industry is comprised of wages and salaries, gross operating surplus of business operating in the industry and indirect taxes (e.g. payroll tax). From the data, the direct value added attributable to the Northern Territory Waste and Recycling Industry's was estimated.

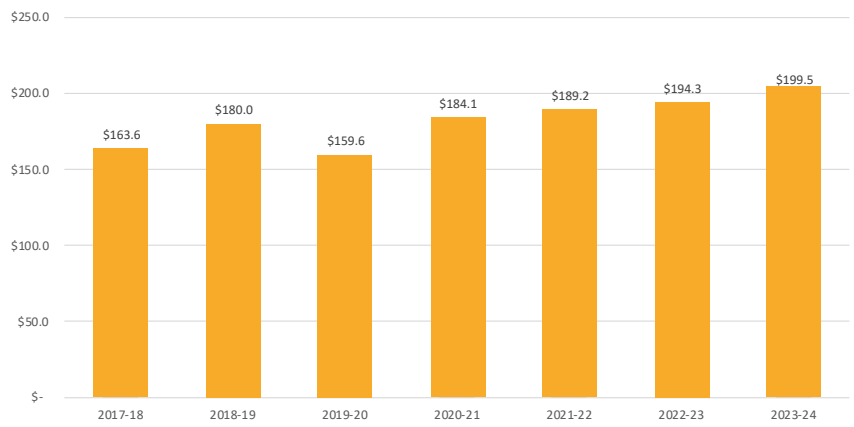
The Waste and Recycling Industry's direct value add (contribution to GSP) in the last financial year is estimated by AEAS at $199.5 million. The estimate of industry value add compares with and is consistent with analysis of ABS data estimating 'Waste collection, treatment and disposal services' industry value add.

In addition to the direct contribution of the Northern Territory economy, the Waste and Recycling Industry is estimated to have contributed a further $158.9 million in industry value add to Northern Territory's GSP through flow-on demand for goods and services, including production induced and consumption induced effects.

The flow-on or indirect effects (i.e. the multiplier effects) are estimated in two parts: production-induced and consumption-induced effects. The production-induced effects arise from expenditure by waste management business / organisations on goods and services supplied by other firms in Northern Territory.

The consumption-induced effects arise from expenditure of industry workers' income on goods and services supplied by Northern Territory businesses. AEAS has utilised research conducted as part of the review of the South Australia's Waste Strategy with an industry multiplier of 1.8 to calculate Northern Territory flow-on effects.

NORTHERN TERRITORY WASTE AND RECYCLING INDUSTRY VALUE ADD ($ MILLION)



Combined (both directly and indirectly), the Waste and Recycling Industry is estimated to contribute $358.4 million in value add to Northern Territory's Gross State Product in 2023-24 through direct and flow-on activity or 1.1 per cent of total GSP. That is the Waste and Recycling Industry provides $1.08 in every $100 dollars in the Northern Territory economy.

In addition, AEAS estimates that the Waste and Recycling Industry supports a total of 44 private sector businesses across the wide expanse of Northern Territory.

6 Northern Territory Material Flow Analysis

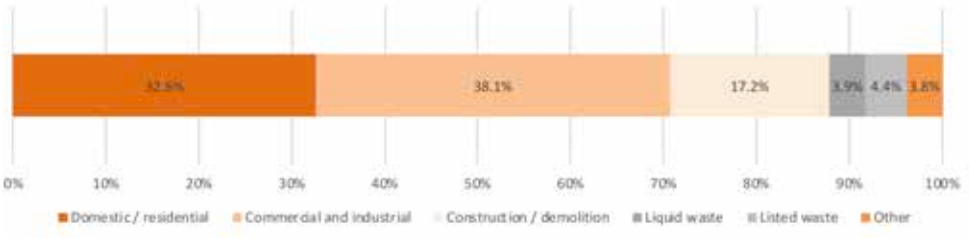
Of the 487,580 tonnes of Northern Territory waste processed in 2023-24:

- 158,900 tonnes or 32.6% was sourced from domestic / residential households; 185,800 tonnes or 38.1% was sourced from commercial and industrial businesses; 83,645 tonnes or 17.2% was construction / demolition waste; 19,025 tonnes or 3.9% was liquid waste; 21,545 tonnes or 4.4% was listed waste.
- 275,190 tonnes or 56.4% goes to landfill; 99,600 tonnes or 20.4% is reused; 61,930 tonnes or 12.7% is recycled; and 50,865 tonnes or 10.4% is either stockpiled or transported elsewhere.

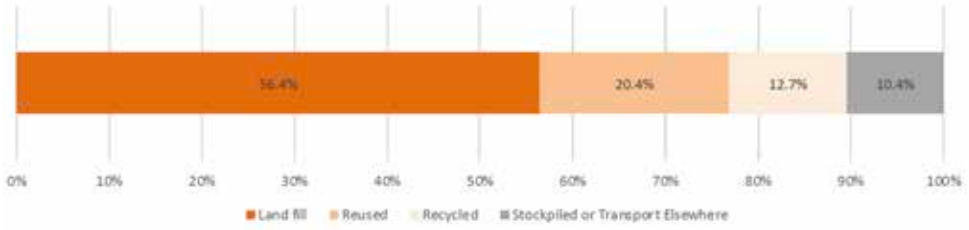
Of the 61,930 tonnes that was recycled in 2023-24:

- 25,291 tonnes or 40.8% was metal; 11,719 tonnes or 18.9% was paper and cardboard; 265 tonnes or 0.4% was organics; 4,933 tonnes or 8.0% was plastics; 740 tonnes or 1.2% was glass; 5,212 tonnes or 8.4% was tyres; and 13,766 tonnes or 22.2% was aggregates.
- 15,597 tonnes or 25.2% stays in the Northern Territory; 17,456 tonnes or 28.2% is exported overseas; and 28,874 tonnes is sent interstate.

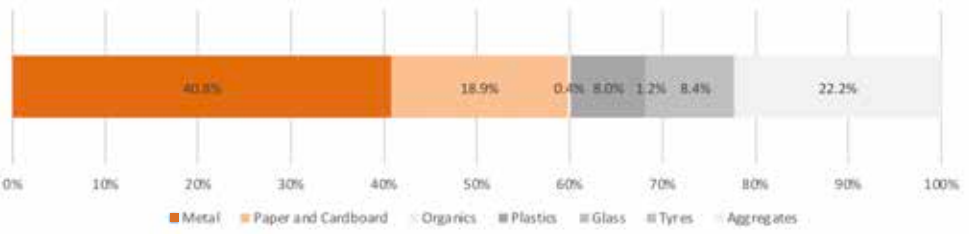
NORTHERN TERRITORY PROCESSED MATERIAL BY SOURCE (%)



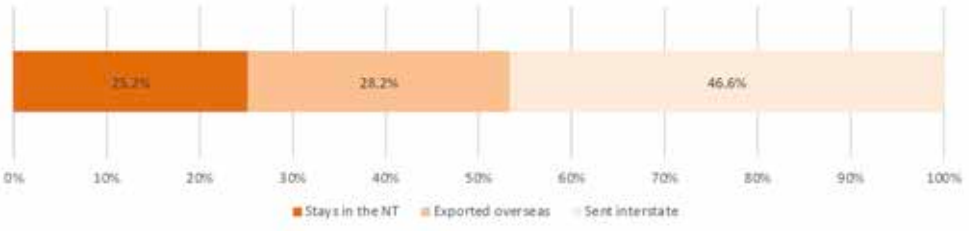
NORTHERN TERRITORY PROCESSED MATERIAL BY END OF LIFE OUTCOME (%)



NORTHERN TERRITORY RECYCLED MATERIAL BY TYPE (%)



NORTHERN TERRITORY RECYCLED MATERIAL BY END OF LIFE DESTINATION (%)



The recycled material that is retained in the Northern Territory is used as an input for further value add in the local economy. On this basis

- $465 in net economic activity is created for every one tonne of material recycled;
- One job is supported for every 431 tonnes of material recycled in NT; and
- Estimated to support a further $7.3 million in net economic activity supporting another 36 jobs.


KOBELCO
TANA
SHARK GROUT


KOMATSU
OZZY-PACK
KICKASS

7 Definitions

COLLECTION The consolidation, loading, transport and delivery of waste and recyclable materials.

EMPLOYMENT Refers to the part-time and full-time employment positions generated by the economic contribution, both directly and indirectly through flowon activity, and is additionally expressed in terms of full time equivalent (FTE 37.5 hours) positions.

FLOW-ON IMPACTS Comprise the second and subsequent round effects of increased purchases by suppliers in response to increased sales. Flowon impacts are disaggregated to: Industry Support Effects (Type I), which represent the production induced support activity as a result of additional expenditure by the waste industry on goods and services, and subsequent round effects of increased purchases by suppliers. Household Consumption Effects (Type II), represent the consumption induced activity from additional household expenditure on goods and services resulting from additional wages and salaries being paid within the economy.

INCOME Measures the level of wages and salaries paid to employees of the industry under consideration and to other industries through flow-on activity.

INDUSTRY VALUE ADDED Industry value added (IVA) is the measure of the contribution by businesses in each industry to gross domestic product. IVA is an estimate of the difference between the market value of the output of an industry and the purchases of materials and expenses incurred in the production of that output.

LANDFILL A site for the disposal of waste materials which have been collected and cannot be recycled.

MATERIAL TRANSFER The physical movement of material within or between organisations, separate from any transport involved in the initial waste collection and sorting process.

MATERIAL TRANSFORMATION The process of transforming a material from a waste input into a different material/good that has economic value.

OUTPUT Refers to the gross value of goods and services transacted, including the costs of goods and services used in the development and provision of the final product. Output typically overstates the economic impacts as it counts all goods and services used in one stage of production as an input to later stages of production, hence counting their contribution more than once.

RECYCLING Processing and transforming used materials into new products to reduce the consumption of fresh raw materials and reduce the amount of substances going to landfill.

REUSE A form of recycling, where materials or products are used more than once without any transformation. The item can be used for the same function or a new function e.g. second hand clothing, building materials.

WASTE INPUT Any material collected by (or on behalf of) an organisation that has been discarded or is no longer valued by its previous owner. This includes items that may eventually be recycled and reused and may be referred to as headline waste.

WASTE MANAGEMENT Management of the collection, recovery, transport, recycling, processing and disposal of waste.

WASTE SOURCES Domestic and municipal - includes all household waste & waste collected in public places; commercial and industrial - includes the waste from all business and industry activities and public institutions; and construction & demolition - includes all waste from the building and construction industry.

This report was prepared by AEAS

Australian Economic Advocacy Solutions delivers services in economic analysis, research and advocacy in Australia for businesses, industry sectors, projects, and local and state government. AEAS provides:

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The Report was prepared by Australian Economic Advocacy Solutions utilising an electronic Industry 'Census' questionnaire circulated to WRINT members in July-November 2024 collecting data from Northern Territory-based companies ranging from large multi-national organisations and local Councils through to small family-operated enterprises, as well as local Councils from across the NT.