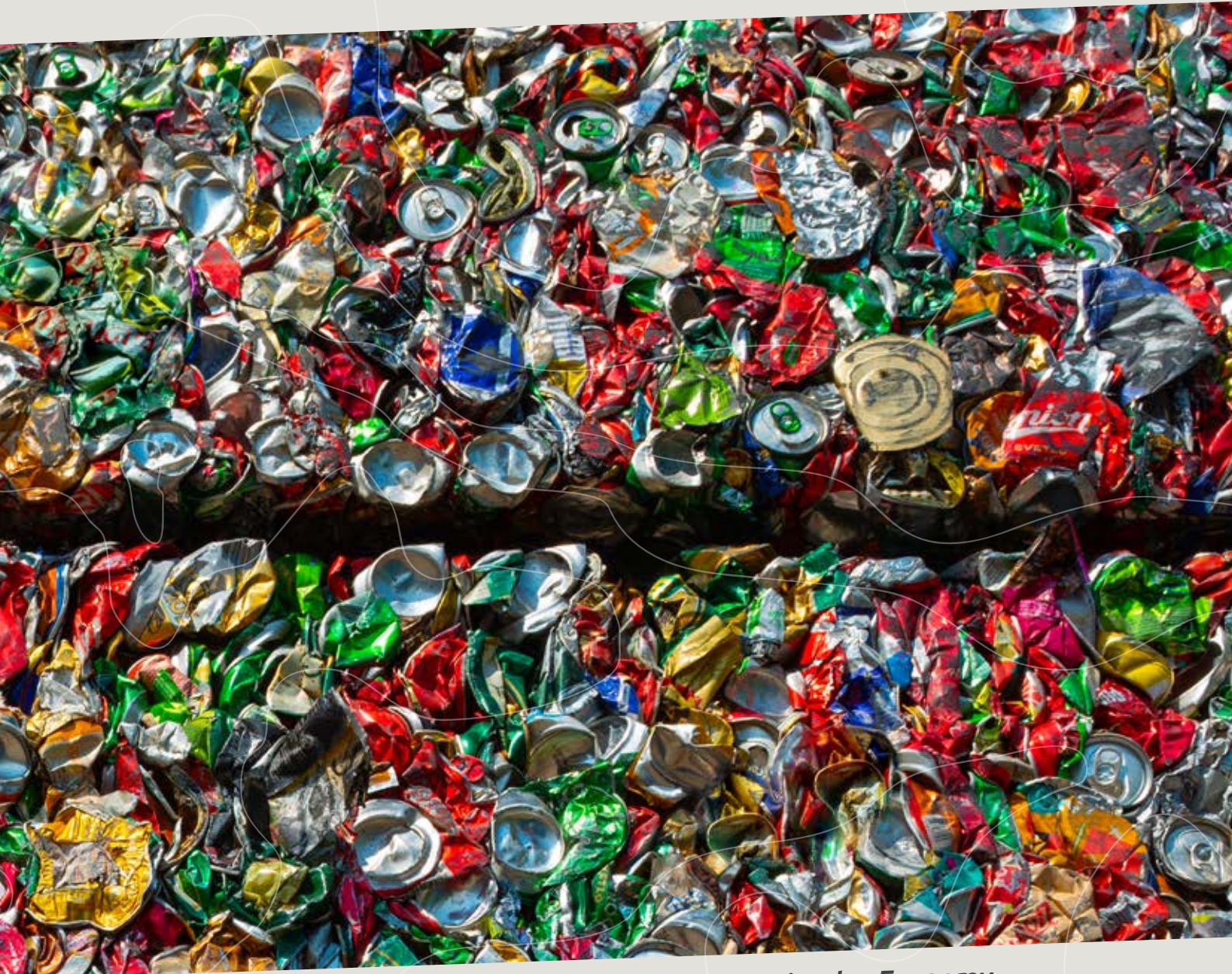


Northern Territory
**CIRCULAR
ECONOMY
STRATEGY**
2022 - 2027



Waste as a Resource - Transitioning to a Circular Economy

Introduction

The Northern Territory Government (NT Government) is committed to rebounding and growing the Territory economy and sustainable development. The Territory Economic Reconstruction Commission Final Report (Report) steps out how the NT Government will achieve its ambition to boost the population beyond 300,000, create 35,000 more jobs and achieve a \$40 billion economy by 2030.

As part of its economic planning, the NT Government is exploring the concept of a circular economy and its potential to play a key role in building the Territory's economy. The circular economy approach acknowledges and seeks to minimise the environmental, social, cultural and health impacts that are commonly associated with modern economies.



The Northern Territory Circular Economy Strategy 2022-2027 (Strategy) is the NT Government's plan to:

- modernise the regulatory framework to protect the environment and create the right regulatory settings for growing the circular economy industry
- start the Territory's transition to a circular economy; and
- establish the circular economy industry as a contributor to the Territory's \$40 billion by 2030 vision.

The Strategy adopts a whole-of-government approach, leverages opportunities identified across Government's priority areas, and responds to current and emerging national and local drivers around waste. It recognises the unrealised value of materials currently being discarded into landfill or the environment.

The Strategy's success depends on a coordinated, collaborative and innovative approach across all tiers of government, support and investment by industry and small business, and a willingness by Territorians to make a change. It requires a new, systemic, and innovative approach to the way we live and the way we do business.

The Strategy is a culmination of discussions with local councils, the community and environmental organisations, industry and Land Councils. It builds on the NT Government's existing commitment to improve and expand the Container Deposit Scheme (CDS), strengthen the regulatory framework for waste management, and implement key actions under the National Waste Policy: Less Waste, More Resources 2018 (National Waste Policy).

This Strategy corresponds with several United Nations Sustainable Development Goals (Goal 6 - ensure availability and sustainable management of water and sanitation, Goal 8 - promote sustained, inclusive and sustainable economic growth and Goal 9 - promote inclusive, sustainable industrialisation and foster innovation and Goal 12 - ensure sustainable consumption and production patterns) and is the Territory's roadmap to implement the National Waste Action Plan 2019 (National Action Plan).

The Strategy builds on and supersedes the Northern Territory Environment Protection Authority's Waste Management Strategy for the Northern Territory 2015-2022, and its implementation with consideration to other relevant key Territory policies and strategies.

Why a circular economy for the Territory?

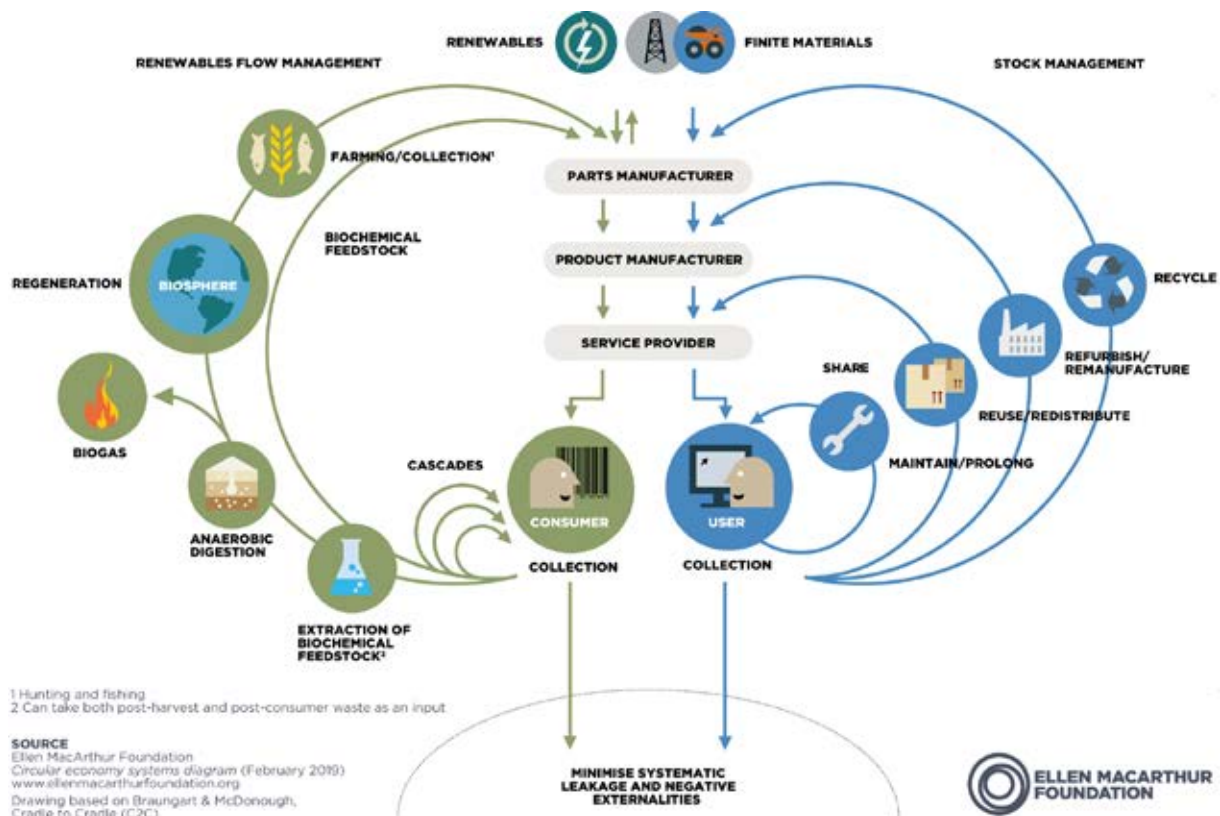
Moving past today's extractive 'take-make-waste' linear model, the circular economy offers a positive vision that aligns with NT Government's economic and environmental reform agenda. A circular economy is an economy in which products are designed to be reused, repaired or repurposed, and natural systems are regenerated. The application of circular economy principles has potential to enhance resource efficiency, reducing the extraction of new material for industrial and household use and preventing waste.

In 2018 all Australian states and territories developed the National Waste Policy, which is based on circular economy principles to reduce waste, increase the use of waste as a resource, and minimise impact on the environment.

Adopting a circular economy approach will assist the Territory to address existing waste challenges and realise new and emerging economic opportunities. A circular economy will help us to meet the Territory's responsibilities under the National Waste Policy, assist in creating more jobs, delivering the \$40 billion by 2030 vision, while at the same time ensuring our precious Territory environment is protected from the harmful impacts of waste.

Transitioning to a circular economy requires consideration of at least three fundamental principles¹:

1. Designing out waste and pollution.
2. Keeping products and materials in use for as long as possible.
3. Regenerating natural systems.



Applying circular economy principles means turning waste into a valuable resource, which means it is kept out of the environment where it can cause harm, and inside the economy where it can create value, jobs and growth.

A system wide and whole-of-government circular economy approach leverages opportunities identified across NT Government's priority areas and responds to current and emerging national and local drivers around waste. A key driver for the NT Government deploying a circular economy approach is to ensure all stakeholders in the Territory recognise and capture the currently unrealised value of materials that are routinely being discarded into landfill or dumped in an uncontrolled manner in our environment.

A circular economy requires adoption of a new approach to the way we live and the way we do business. Doing so is expected to realise significant economic, environmental, social and cultural benefits.

1 <https://www.ellenmacarthurfoundation.org/explore/the-circular-economy-in-detail>

'Waste' in the Northern Territory

With a relatively small and geographically dispersed population, the Territory currently generates around one percent by weight (approximately 0.44 million tonnes in 2018-19) of Australia's waste (74 million tonnes). Waste generated in the Territory is largely comprised of construction and demolition (C&D) waste (32%), commercial and industrial (C&I) waste (30%) and municipal solid waste (MSW) (38%) (see Figure 2). The amount of waste we generate has remained fairly consistent over the past decade, with periodic increases largely associated with large scale major projects.

The Territory has had important success with recycling and recovery programs in the past. In 2012 the Territory was the second jurisdiction to introduce a Container Deposit Scheme (CDS). The scheme has resulted in the return of around 80% of all containers sold in the Territory and has diverted over 54 kilotonnes (kT) of aluminium, steel and plastics from landfill.

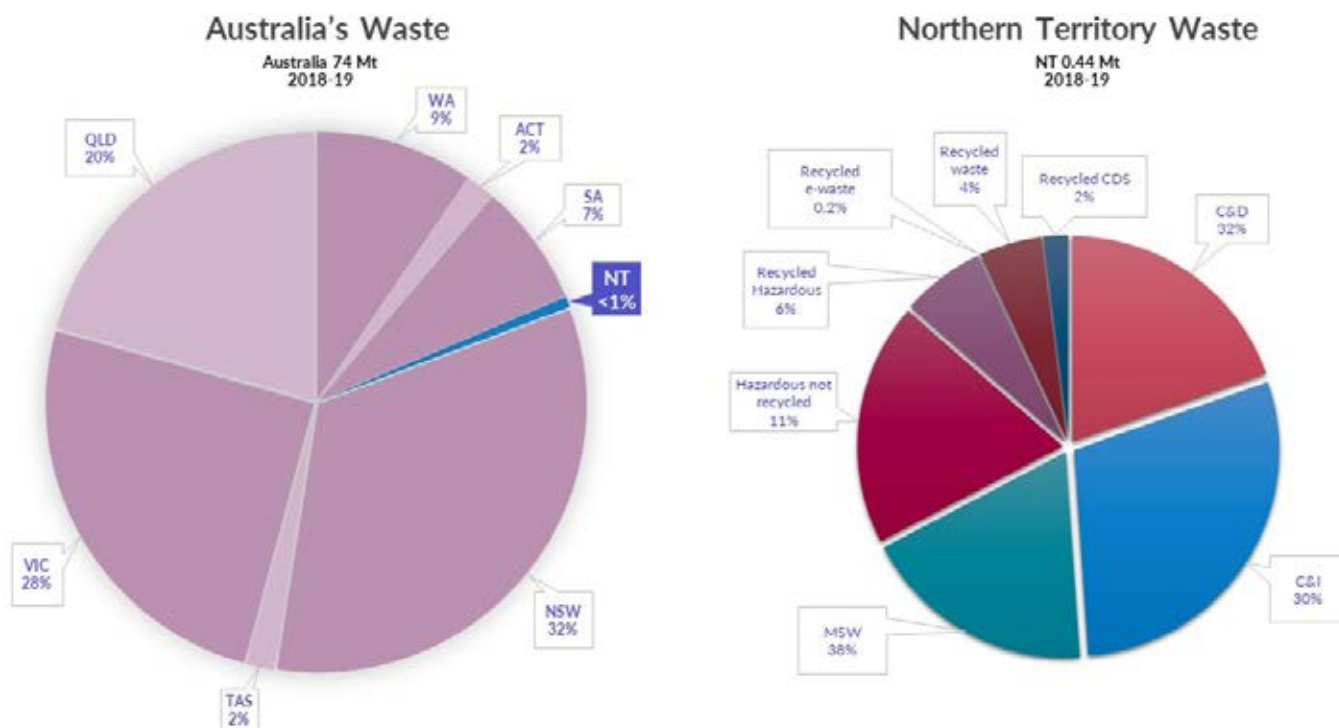
Recovery and recycling of other waste streams (C&D, C&I and MSW) has not been as successful. Recycling rates across the Territory for these waste streams are comparatively low (19%) compared to the national recycling rate (63%). These rates have been consistently low for over a decade.

With the right levers and incentives in place, including those set out in this Strategy, we can significantly increase recovery and recycling rates in the Territory. Economic activity and job growth will be supported by investing in businesses and systems that increase the Territory's overall recovery and recycling rate.

Reducing waste and adopting circular economy principles is the responsibility of all Territorians, industry, businesses and all tiers of government. Local councils in particular play an important role in managing waste. The Territory has nine large regional councils and 67 local authorities in remote communities, representing the smallest number of local government councils of any jurisdiction in Australia.

These councils service some of the largest local government areas in the nation and in most cases are not adequately funded to do so. The environmental regulator, regional and shire councils and the NT Grants Commissioner have voiced consistent concerns that the waste management facilities in regional and remote areas are not adequate to properly manage waste and pose a risk to the environment and human health in the communities. In many cases, these waste management facilities require significant urgent upgrades and/or remediation.

Figure 2. The Territory's Waste Composition 2018-19



National Waste Report 2020, Department of Agriculture, Water and the Environment. p14. Annual waste data collected from licence and approval holders including wastes collected through container deposit scheme and landfills. Northern Territory Environment Protection Authority.



National and international drivers

In light of growing international pressure to take action on waste all Australian states and territories developed the National Waste Policy, which is based on circular economy principles to reduce waste, increase the use of waste as a resource, and protect the environment.

The National Action Plan was subsequently agreed to by states and territories. The National Action Plan operationalises the National Waste Policy through 7 targets, 17 strategies and 78 actions.

The seven targets of the National Action Plan are:

1. Ban on export of waste plastic, paper, glass and tyres, commencing in the second half of 2020.
2. Reduce total waste generated in Australia by 10% per person.
3. 80% average resource recovery rate from all waste streams.
4. Significantly increase the use of recycled content by governments and industry by 2030.
5. Phase out problematic and unnecessary plastics by 2025.
6. Make comprehensive, economy-wide and timely data publicly available to support better consumer, investment and policy decisions.
7. Halve the volume of organic waste sent to landfill for disposal by 2030.

In 2020 the Council of Australian Governments agreed to ban the export of unprocessed plastic, paper, glass and tyres. This signalled Australia's commitment to taking responsibility for its own waste, much of which was previously being exported. The ban commenced with prohibiting export of glass in July 2021 and the ban will be fully implemented for all waste streams by mid 2024. As part of implementing the waste export ban, the Commonwealth is partnering with states and territory governments to help build and improve resource recovery and recycling infrastructure so that we can manage and process our waste locally.

The NT, along with other states, territories, local government, industries (packaging, manufacturing, waste and recycling) and non-government organisations are working to deliver the National Action Plan.

The NT Government will support delivery of the National Waste Policy and National Action Plan through the three strategic priorities set out in this Strategy.



Local drivers

The waste sector can play a major role in rebuilding the Territory's economy

The Waste Recycling Industry Association of NT (WRINT) is the Territory's lead waste and recycling industry association and represents operators in the waste and recycling industry. In 2017 the NT Government supported WRINT to determine the economic benefit of the industry to the NT economy. Key industry highlights for 2017-18 included:

- Direct contribution to the NT economy was estimated to be \$54 million.
- An estimated 633 jobs were provided by WRINT members.
- Twenty-eight private sector businesses operating across the NT.
- Provided \$46.1 million in wages and salaries.
- Estimated annual turnover of \$152 million.

There is an opportunity to increase the waste and recycling industry's contribution to the Territory economy. More can be done with the Territory's existing and emerging waste streams. C&I and C&D waste represent the greatest opportunity. Most of these waste streams currently go to landfill. Crushed glass and concrete can be used in road base, treated wastewater can be reused in industrial processes or green spaces irrigation (avoiding the need for water extraction), and crumbed rubber can be used in asphalt. Biosolids, organics, food and wastes from primary productions can be turned into compost and/or soil enhancers.

In 2020, the NT Government explored opportunities for growing the waste sector in the Territory. Various opportunities were identified including: building an industrial liquids waste treatment plant, industrial water management; mixed paper (fibre) processing; plastics processing; organics processing; tyre recycling (derived aggregate or crumb processing); glass processing; and e-waste recycling.

Concerns about the environmental, cultural and health impacts associated with waste

Government, industry, community, local government, Land Councils and non-government organisations are all committed to protecting the environment from the impacts of waste. The culture of a throw-away society (including of single use plastics and e-waste) is a concern for many Territorians.

There have always been challenges with the appropriate management of waste in regional and remote areas. Littering, illegal dumping and accumulating legacy wastes, including C&D waste that contain asbestos and end-of-life tyres, have been particularly problematic for local councils and the environmental regulator. Poorly designed, equipped and managed landfills in remote areas create large volumes of leachate, which often contains heavy metals and other toxic chemicals such as PFAS, which can leak into groundwater, local creeks and rivers.

Landfill fires result in the release of toxic smoke, and subsurface fires can burn undetected for long periods of time (months or years), causing landfills to become unstable and/or collapse, exposing waste. The costs to local government councils to repair the landfill and remediate the environment are extensive and the risks to the environment and human health are significant.

Waste solar panels and batteries are some of the fastest growing waste streams in the Territory and our landfills are not currently equipped to handle these emerging waste streams. The problem will only get worse as large new solar power projects come online. Existing and new industries, housing programs and day to day living continues to generate streams of waste, some with new challenges to address and opportunities to be realised.





Strategic Priorities

The NT Government will work in partnership with local governments, industry, non-government organisations and communities towards the following three strategic priorities.

Priority 1

Modernise the regulatory framework to protect the environment and create the right regulatory settings for growing the circular economy industry

Priority 2

Start transitioning the Territory to a circular economy.

Priority 3

Establish the circular economy industry as a contributor to the Territory's \$40 billion by 2030 vision.

Priority 1

Modernise the regulatory framework to protect the environment and support investment

Modernising the regulatory framework for waste and pollution will enable the NT Government to ensure development occurs in a way that ensures the environment is also protected for current and future generations.

Outputs

Achieving Strategic Priority 1 will:

- support the environmental regulator to address challenges posed by waste, including legacy waste, littering and illegal dumping throughout the Territory, particularly in regional and remote areas.
- ensure the regulatory regime provides a solid foundation to support the growth of a local recycling and waste recovery industry.

A. Strengthen the regulatory framework for waste and pollution in the Territory

A robust legal framework is required to ensure that development occurs in a way that protects the Territory's environment. Clear and transparent laws also create certainty for industry to invest in waste and recovery infrastructure, and to ensure adverse impacts of waste and pollution in the Territory is minimised.

The NT Government will:

1. Phase out and ban certain Problematic Single Use Plastics (PSUPs) by 2025. Single use plastics that are proposed to be banned in the Territory include:
 - plastic bags
 - plastic straws
 - plastic utensils and stirrers
 - plastic bowls and plates
 - expanded polystyrene (EPS) consumer food containers
 - microbeads in personal health care products
 - EPS consumer goods packaging (loose fill and moulded)
 - helium balloons.

What we will do

To achieve Strategic Priority 1, the NT Government will strengthen the regulatory framework for waste and pollution in the Territory and develop and implement programs to increase compliance with that framework. Further detail on the actions to be undertaken are outlined below.

2. Implement a risk-based licensing and registration scheme to ensure regulatory oversight of the waste and recycling industry. This will create certainty for the waste industry and incentivise investment in waste and recycling infrastructure.
3. Introduce a new regulatory framework to manage the environmental impacts, including the waste and pollution associated with mining and industrial projects.
4. Strengthen law and policy around the storage and disposal of hazardous waste, including the development of waste acceptance criteria for importing waste into the Territory.



B. Increase compliance with the regulatory framework

The goal of the regulatory framework for waste and pollution is to minimise the harmful impacts of waste on the Territory's environment. The NT Government understands how damaging illegal dumping and legacy waste can be on communities, the environment and the local and shire councils charged with managing waste, particularly in remote and regional areas.

The NT Government will:

1. Through partnerships and collaboration with key stakeholders, increase community and business awareness about the impacts of waste and pollution on the environment and the benefits of transitioning to a circular economy.
2. Develop and implement targeted and risk-based environmental compliance programs to ensure compliance with approvals under the Territory's waste and pollution laws and to deter, detect and address unlawful waste and pollution activities.
3. Deter unlawful disposal of waste through transparent and real time tracing of waste from generation to disposal.
4. Ensure current and future development and planning decisions are informed by the best available information. This includes, for example, a strategic risk assessment for Darwin Harbour, to better understand the capacity of Darwin Harbour to accept industrial waste water.
5. Provide advice to local communities and councils to support them to address problems with littering and illegal dumping in regional and remote areas.



Plastic Free Beaches.

The NT is working in partnership with City of Darwin and Boomerang Alliance to introduce the Plastic Free Beaches Program into the Territory.

The program works with local businesses to facilitate the phasing out of problematic single use plastics.



What does success look like?

Year 2

- Plastic Free Beaches established in the Darwin region.
- Delivery of education and awareness programs around waste reduction and circular economy principles.
- Compliance and Enforcement framework for the environmental regulator.
- Online waste tracking system implemented.
- Darwin Harbour wastewater strategy completed to ensure robust and evidence-based decision making.

Year 5

- Law and policy reform completed, including a risk-based licensing regime for the waste industry.
- PSUPs banned from sale in the NT.
- Strong rules around hazardous waste are implemented.

Priority 2

Start the transition to a Circular Economy

The NT Government recognises the opportunities created by transitioning from a linear to a circular economy. The first step on this journey is to understand our current systems and material flows. That will pave the way for transitioning to a circular economy.

Outputs

Achieving Strategic Priority 2 will:

- Embed the idea that waste material can be a valuable resource in Government policy, regulation and services.
- Identify opportunities for material recovery and reuse in the built environment, including residential, commercial, and industrial.

What we will do

To achieve Strategic Priority 2, the NT Government will:

- a. Develop circular economy principles appropriate for the Territory context.
- b. Map and understand 'waste' material flows to determine waste availability and logistics for retrieval across the Territory.
- c. Review and develop incentives and programs to encourage demand and local markets that encourage material recovery and reuse.
- d. Develop a Circular Economy Indicators Framework to monitor, record and report on the status of the NT's transition to a circular economy.

Further detail on the actions we will take to achieve Strategic Priority 2 are outlined on the next page.



A. Develop circular economy principles

This Strategy outlines key areas and actions the NT Government will pursue to start the Territory's transition away from a linear approach towards a more sustainable circular economy. To ensure opportunities are realised, the NT Government will collaboratively develop principles which are suited to the Territory's environmental, social, cultural and economic context.

B. Map material flows and processes in the Territory

An understanding of current systems and processes is required to determine what transitioning to a circular economy may involve and how success can be achieved. The NT Government will analyse the flow of waste material across our economy and its physical distribution across the Territory. This study will gather the best available data on the movement of materials, goods and services into and across the Territory. This will allow us to understand how individuals, governments and businesses currently operate and identify opportunities to capture materials inside the economy and improve resource efficiencies. This analysis will also help identify barriers to achieving a circular economy and the opportunities for cooperation between stakeholders.

C. Review and develop incentives and programs to create demand and local markets that encourage material recovery and reuse

The NT Government has a key role to play in incentivising material recovery, reprocessing and remanufacture. To demonstrate its commitment to transitioning the Territory to a circular economy, the NT Government will:

1. Work collaboratively with key stakeholders to identify priority waste streams for resource reuse, which will inform targets for high and low value material recovery, recycling and reprocessing.
2. Implement reforms to the Container Deposit Scheme in the Environment Protection (Beverage Containers and Plastic Bags) Act 2011 to expand its scope (including to include wine bottles and milk containers) and increase accessibility to the scheme in regional and remote areas.
3. Review the NT Government Procurement Framework to consider how it may achieve better outcomes in relation to:
 - a. Generating demand for recovered, reprocessed and remanufactured materials

- b. Clarifying expectations for disposal of material used in the provision of goods and services, including by ensuring that C&D waste produced in community as a result of government projects is appropriately disposed of.
3. Develop and implement policy, standards and guidelines for the use of recovered resources, including in the construction of infrastructure and roads for NT Government funded projects.
4. Work with nationally accredited product stewardship schemes to identify opportunities to increase the recovery of priority and problematic wastes in the Territory (e.g. tyres, batteries, solar panels and other e-wastes) and consider options for new Territory-based product stewardship schemes.
5. Support the concept of a 'Right to Repair', through the development of a discussion paper to consider the findings of the Productivity Commission Inquiry into the regulated Right to Repair and how Territorians could have access to competitive repair and/or replacement services for goods.
6. Investigate and develop how to design and implement a waste levy framework suitable for the Territory context to incentivise materials recovery and reprocessing, deter landfilling of waste, and ensure a revenue stream to support the improvement of waste and recycling infrastructure in the Territory.

D. Develop a framework to monitor, record and report on the status of the Territory's transition to a circular economy.

Using circular economy indicators will help us track our progress as we transition towards a circular economy. Developing and adopting a Territory specific circular economy indicator framework will provide guidance and support to government, community and businesses to make the transition. Circular economy indicators also ensure accountability and transparency, and support investor certainty. Based on international best practice, the circular economy indicator framework is expected to include indicators for economy and business, environment, governance, infrastructure, innovation and technology and society.

What does success look like?

Year 2

- Circular economy principles developed.
- Materials flow analysis of the Territory's Waste undertaken to establish a baseline of current systems and processes operating in, and connected to the Territory.
- Review of NT Procurement Framework undertaken and identified opportunities implemented.
- 'Right to Repair' discussion paper developed and options identified.
- Feasibility study, including infrastructure baseline assessment, cost benefit analysis and stakeholder consultation undertaken to inform design and development of a waste levy framework.
- Development of circular economy indicators framework and public tracking of indicators commenced.

Year 5

- Achievable and cost effective targets for recycled content in buildings and civil construction developed and implemented.
- NT Government operating to circular economy principles including service delivery, procurement and governance.
- Subject to a cost benefit analysis, a waste levy framework finalised and implemented.
- New markets created to recover material within the Territory, with associated economic opportunities and environmental benefits being realised.



Priority 3

Realise Economic Opportunities

The circular economy industry can be a major contributor to the NT Government's vision to achieve a \$40 billion economy by 2030. Strategic Priority 3 is about capturing the value of waste material and leveraging that to encourage innovation and investment, which will create new local jobs and business opportunities. Strategic Priority 3 builds on and complements the actions outlined in Strategic Priorities 1 and 2 and captures opportunities that are immediately available.

Outputs

Achieving Strategy Priority 3 will:

- Encourage the establishment and growth of businesses operating in the resource recovery and remanufacturing sector.
- Encourage emergence of local markets for recovered products that can be recycled or reused.
- Support sustainable job creation and business growth across the economy through reducing the reliance on interstate waste processing and waste going to landfill.

A. Encourage innovation and facilitate adoption of recovery and recycling technology

The NT Government will:

1. Contribute to research into the use of recycled materials in building and road construction to assess the feasibility of these materials in the NT.
2. Fund activities through business innovation grants for the commercialisation of new products, services and processes.

What we will do

To achieve Strategic Priority 3, the NT Government will:

- a. Encourage innovation and facilitate adoption of resource recovery and recycling technology.
- b. Support business creation and industry development and investment in resource reuse and recycling.
- c. Investigate business cases for sector specific or specialist waste facilities such as medical/health waste and food waste.

Further detail on the actions we will take are outlined below.

B. Support business creation and industry development and investment in resource reuse and recycling infrastructure

The NT Government will:

1. With the support of the Commonwealth, undertake a competitive grants program to support projects that enhance tyres, plastic, glass, paper and cardboard recycling and reuse capacity and capability based in the Territory.
2. With support of the Commonwealth and subject to a feasibility study, build a waste and recycling facility in a regional part of the Territory that enhances tyre, plastic, glass and paper recycling and reuse capacity and capability.
3. Through its existing partnership with the Advanced Manufacturing Growth Centre (AMGC), work with national and Territory businesses to identify and consider new value-adding opportunities, including material recovery, material reprocessing and material remanufacture based in the Territory, including through opportunities for these projects to be considered through a competitive grants fund.

4. Ensure investors receive the best facilitation and support to advance their business interests in the NT through Investment Attraction and Facilitation Services.
5. Provide funding through the Local Jobs Fund – Priority Sector Collaborative Grants for consortia (consisting of three or more parties), within Territory priority and emerging growth and regional sectors, to collaboratively progress sector-wide initiatives which will advance local industry capability, innovation and business developments including infrastructure, innovation solutions, demonstration of pilot plant, and feasibility studies.
6. Provide support through its workforce development support programs for Territory employers to up-skill or reskill existing workers through skill sets or qualifications in occupations or industry sectors affected by change.
7. Provide funding through its Business Growth Programs to enhance Territory business performance, profitability, workforce levels and market access.
8. Support the development of new industries through strengthening existing markets and developing a new International Engagement, Trade, and Investment Strategy 2022-26 for access to new markets.

C. Investigate and support business case development

The NT Government will:

1. Investigate a private sector facility to provide waste processing and disposal services for the Department of Health.
2. Investigate alternative markets for non-specification food to reduce food waste.



What does success look like

Year 2

- Appropriate resource recovery and reuse advanced manufacturing projects supported through the AMGC fund.
- Facilitated business opportunities through international engagement and access to new markets.
- Investigation of a private sector facility to provide waste processing and disposal services for Department of Health completed and options considered.
- Alternative markets for food such as mangoes to reduce food waste investigated and options developed.
- Feasibility study of a regional materials recovery facility completed and options developed.
- New business opportunities identified from material flows analysis.

Year 5

- Opportunities for the reuse and recovery of materials across priorities sectors identified, ecosystem development underway and sustainable jobs created.
- New regional Materials Recovery Facility constructed and operational.
- New recycling infrastructure established and recycling capacity increased.
- Reduced need to transport waste interstate for processing and reduced waste into landfill.

depws.nt.gov.au/circular-economy



Department of
ENVIRONMENT, PARKS AND WATER SECURITY

